DRAFT

Final Environmental Impact Report

1M Warehouse Project

State Clearinghouse No. 2023020285

OCTOBER 2024

Prepared for:

TOWN OF APPLE VALLEY
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1 Introduction

1.1 Introduction

This Final Environmental Impact Report (EIR) was prepared for the 1M Warehouse Project (Project) in accordance with the California Environmental Quality Act (CEQA) (California Public Resources Code Sections 21000-21177).

Project Overview

The Project involves construction and operation of a 1,080,125-square-foot industrial/warehouse building on a 67.3-acre undeveloped site located at the northeast corner of Central Road and Lafayette Street in the Town of Apple Valley, California. The Project would involve associated improvements, including loading docks, truck and vehicle parking, and landscaped areas. Approximately 15,000 square feet of office space would be provided within the building. The building would have a maximum building height of 50 feet, measured from the finished floor to the top of building parapets. The building would have a floor area ratio (FAR) of 0.369. The Project would include improvements along Central Road, Lafayette Street and Johnson Road, including construction of new roadways, frontage landscaping and pedestrian improvements (See Section 4.12, Transportation, Threshold C). A variety of trees, shrubs, plants, and land covers would be planted within the Project frontage's landscape setback area, as well as within the landscape areas found around the proposed industrial/warehouse building and throughout the Project site.

A detailed description of the Project is contained in the Draft EIR in Chapter 3, Project Description. As described below, the Draft EIR is incorporated herein as part of the Final EIR but provided under a separate cover.

Contents and Use of a Final EIR

As described in CEQA and the CEQA Guidelines, public agencies are charged with the duty to avoid or substantially lessen significant environmental effects, with consideration of other conditions, including economic, social, technological, legal, and other benefits. As required by CEQA, this Final EIR assesses the significant direct and indirect environmental effects of the Project, as well as the significant cumulative impacts that could occur from implementation of the Project. This Final EIR is an informational document only, the purpose of which is to identify the significant effects of the Project on the environment; to indicate how those significant effects could be avoided or significantly lessened, including feasible mitigation measures; to identify any significant and unavoidable adverse impacts that cannot be mitigated to less than significant; and to identify reasonable and feasible alternatives to the Project that would avoid or substantially lessen any significant adverse environmental effects associated with the Project and achieve the fundamental objectives of the Project.

Before approving a project, CEQA requires the lead agency to prepare and certify a Final EIR. The contents of a Final EIR are specified in Section 15132 of the CEQA Guidelines, as follows:

1. The draft EIR or a revision of the draft.
2. Comments and recommendations received on the draft EIR either verbatim or in summary.
3. A list of persons, organizations, and public agencies commenting on the draft EIR.

4. The responses of the Lead Agency to significant environmental points raised in the review and consultation process.
5. Any other information added by the Lead Agency.

In accordance with the above-listed requirements, this Final EIR for the Project incorporates the publicly circulated Draft EIR, which is provided under a separate cover, and consists of the following:

1. All agency and public comments received during the public review comment period for the Project.
2. Responses to public comments.
3. Changes to the Draft EIR since it was circulated for public review.
4. The Project's Mitigation Monitoring and Reporting Program.

This Final EIR, in combination with the Draft EIR, as amended by text changes, constitute the EIR that will be considered for certification by the Town and may be used to support approval of the proposed Project, either in whole or in part, or one of the alternatives to the Project discussed in the Draft EIR.

As required by Section 15090 (a) (1)-(3) of the CEQA Guidelines, a lead agency, in certifying a Final EIR, must make the following three determinations:

1. The Final EIR has been completed in compliance with CEQA.
2. The Final EIR was presented to the decision-making body of the lead agency, and the decision-making body reviewed and considered the information in the Final EIR prior to approving the project.
3. The Final EIR reflects the lead agency's independent judgment and analysis.

As required by Section 15091 of the CEQA Guidelines, no public agency can approve or carry out a project for which an EIR has been certified that identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings (Findings of Fact) for each of those significant effects, accompanied by a brief explanation of the rationale for each finding, supported by substantial evidence in the record. The possible findings are as follows:

1. Changes or alterations have been required in, or incorporated into the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR.
2. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
3. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

Additionally, pursuant to Section 15093(b) of the CEQA Guidelines, when a lead agency approves a project that would result in significant unavoidable impacts that are disclosed in the Final EIR, the agency must state in writing the reasons supporting the action. The Statement of Overriding Considerations must be supported by substantial evidence in the lead agency's administrative record.

The Draft Findings of Fact and Statement of Overriding Considerations are provided as a separate document that may be considered for adoption by the Town at the time at which the Project is considered.

1.2 Contents and Organization

The Final EIR will be used by the Town as an informational document for the proposed Project. The Final EIR, in compliance with Section 15132 of the CEQA Guidelines, is organized as follows:

Chapter 1, Introduction. This chapter provides general information on, and the procedural compliance of, the proposed Project and the Final EIR.

Chapter 2, Changes to the Draft Environmental Impact Report. This chapter contains several sections of the EIR where changes have been made since publication of the Draft EIR as a result of comments received. Revisions clarify information presented in the Draft EIR, and only minor technical changes or additions have been made. These text changes provide additional clarity in response to comments received on the Draft EIR, but do not change the significance of the conclusions presented in the Draft EIR. Changes are signified by strikeout text (i.e., ~~strikeout~~) where text was removed and by underlined text (i.e., underline) where text was added. The following sections are provided in the Final EIR because changes were made since publication of the Draft EIR:

- Chapter 1, Executive Summary
- Chapter 3, Project Description
- Section 4.2, Air Quality
- Section 4.3, Biological Resources
- Section 4.6, Greenhouse Gas Emissions
- Section 4.10, Noise
- Section 4.12, Transportation
- Chapter 6, Other CEQA Considerations
- Chapter 7, Alternatives

The Town has determined that none of this material constitutes significant new information that requires recirculation of the Draft EIR for further public comment under CEQA Guidelines Section 15088.5. The additional material clarifies existing information prepared in the Draft EIR and does not present any new substantive information. None of this new material indicates that the project would result in a significant new environmental impact not previously disclosed in the Draft EIR. Additionally, none of this material indicates that there would be a substantial increase in the severity of a previously identified environmental impact that would not be mitigated, or that there would be any of the other circumstances requiring recirculation described in Section 15088.5.

Chapter 3, Responses to Comments. This chapter includes a list of public agencies and individuals who provided comments on the Draft EIR during the public review period. Appendix A includes the comments received on environmental issues raised during the public review process for the Draft EIR and the City's responses to these comments. Each comment letter is numbered and presented with brackets indicating how the letter has been divided into individual comments. Each comment is given a binomial with the number of the comment letter appearing first, followed by the comment number. For example, comments in Letter 1 are numbered A-1, A-2, A-3, and so on. Responses to specific comments are included in Chapter 3 of this Final EIR, each with binomials that correspond to the bracketed comments.

Chapter 4, Mitigation Monitoring and Reporting Program. This chapter provides the Mitigation Monitoring and Reporting Program for the proposed Project. The Mitigation Monitoring and Reporting Program is presented in table

format and identifies mitigation measures for the proposed Project, the party responsible for implementing the mitigation measures, the timing of implementing the mitigation measures, and the monitoring and reporting procedures for each mitigation measure. Project design features that were identified in the EIR are also included in this chapter to verify that these features are incorporated within the Project.

Draft EIR (Under Separate Cover). This Final EIR incorporates the Draft EIR as circulated during public review. The Draft EIR includes a detailed description of the Project, an analysis of the Project's environmental impacts, and a discussion of alternatives to the Project. The Draft EIR is available for review on the Town's website at https://www.applevalley.org/services/planning-division/environmental. Copies of the Draft EIR are also available for public review at the following locations:

Apple Valley Town Hall, Planning Department
14955 Dale Evans Parkway
Apple Valley, California 92307

San Bernardino County Library
14901 Dale Evans Parkway
Apple Valley, California 92307

1.3 California Environmental Quality Act Review

In accordance with Section 15082 of the CEQA Guidelines, the Town released an Initial Study and Notice of Preparation on February 3, 2023, through March 6, 2023, for the required 30-day review period to interested agencies, organizations, and individuals. The purpose of the Notice of Preparation is to provide notification that an EIR for the Project was being prepared, and to solicit guidance on the scope and content of the document.

The Notice of Preparation was sent to the State Clearinghouse at the California Governor's Office of Planning and Research. The State Clearinghouse assigned a state identification number (SCH No. 2023020285) to the Project. The Notice of Preparation was also posted at the County Clerk's office and on the Town's website at https://www.applevalley.org/services/planning-division/environmental. A public scoping meeting was held on February 13, 2023, at Apple Valley Town Hall to gather additional public input on the scope of the environmental document.

Comments received during the 30-day public scoping period and during the scoping meeting were considered during preparation of the Draft EIR. Copies of the comment letters received on the Initial Study and Notice of Preparation are provided in Appendix A of the Draft EIR.

A Notice of Availability of the Draft EIR was sent to agencies and interested parties on September 15, 2023, and the Draft EIR was circulated for a public review period from September 15, 2023 through October 30, 2023. The Notice of Availability was also posted at the County Clerk's office and both the Notice of Availability and Draft EIR were posted on the Town's website. Copies of the Notice of Availability were distributed to all applicable agencies and tribes on the Town's noticing list. Hard copies of the Draft EIR were made available for review at both the Apple Valley Town Hall, Planning Department (14955 Dale Evans Parkway, Apple Valley, California 92307) and the San Bernardino County Library (14901 Dale Evans Parkway, Apple Valley California, 92307).

The Town received 8 comment letters during the 2023 Draft EIR public review period. A list of the comments received, copies of the comment letters received, and responses to comments are included in Chapter 3 of this Final EIR.

Per CEQA Guidelines Section 15088, responses to comments submitted by public agencies are required to be provided to the commenting agency at least 10 days prior to the public hearing at which the EIR and Project will be considered. However, no comments were received by the Town from public agencies. Notwithstanding, the Town has distributed a NOA of a Final EIR to all parties that were previously provided a NOA of the Draft EIR, as well as parties that commented on the Draft EIR. The Town has also posted this Final EIR on the Town's website. Hard copies of the Final EIR were made available for review at the Town's Planning Department.

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2 Changes to the Draft Environmental Impact Report

2.1 Introduction

As provided in Section 15088(c) of the CEQA Guidelines, responses to comments may take the form of a revision to a Draft EIR or may be a separate section in the Final EIR. This section complies with the latter option and provides changes to the Draft EIR in this chapter shown as strikethrough text (i.e., ~~strikethrough~~) signifying deletions and underlined text (i.e., underline) signifying additions. These changes are meant to provide clarification, corrections, or minor revisions made to the Draft EIR initiated by the Lead Agency, Town of Apple Valley, reviewing agencies, the public, and/or consultants based on their review. Text changes are presented in the section and page order in which they appear in the Draft EIR. None of the corrections or additions constitutes significant new information or substantial project changes that, in accordance with CEQA Guidelines Section 15088.5, would trigger the need to recirculate portions or all of the Draft EIR.

2.2 Changes to the Draft Environmental Impact Report

- Chapter 1, Executive Summary
- Chapter 3, Project Description
- Section 4.2, Air Quality
- Section 4.3, Biological Resources
- Section 4.4, Cultural Resources
- Section 4.6, Greenhouse Gas Emissions
- Section 4.10, Noise
- Section 4.12, Transportation
- Chapter 6, Other CEQA Considerations
- Chapter 7, Alternatives

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1 Executive Summary

1.1 Introduction

This environmental impact report (EIR) has been prepared by the Town of Apple Valley (Town) as lead agency pursuant to the California Environmental Quality Act (CEQA) (Section 15367)~~ and the CEQA~~. This EIR has been prepared to evaluate the environmental impacts associated with implementation of the 1M Warehouse Project (Project).

This EIR is an informational document intended for use by the Town, other public agencies, and members of the public in evaluating the potential environmental effects of the Project.

CEQA requires that local government agencies, before taking action on projects over which they have discretionary approval authority, consider the environmental consequences of such projects. An EIR is a document designed to provide to the public and to local and state governmental agency decision makers an analysis of potential environmental consequences of a project to support informed decision making.

The Town prepared this EIR to provide the public and responsible agencies information about the potential adverse impacts on the local and regional environment associated with implementation of the Project. This EIR was prepared pursuant to CEQA, codified as California Public Resources Code Section 21000 et seq., and the CEQA Guidelines in the California Code of Regulations, Title 14, Section 15000 et seq.

This summary provides a brief synopsis of the Project, results of the environmental analysis contained within this environmental document, alternatives to the Project that were considered, and major areas of controversy and issues to be resolved by decision-makers. This summary does not contain the extensive background and analysis found throughout the individual chapters within the EIR. Therefore, the reader should review the entire document to fully understand the Project and its environmental effects.

1.2 Project Location

The approximately 67.3-acre Project site is located in the northern part of the Town, which is within the Victor Valley region of San Bernardino County. The Project site is located at the northeast corner of Central Road and Lafayette Street. The Project site is located south of Johnson Road, west of Sycamore Lane, north of Lafayette Street, and east of Central Road. The Project site consists of Assessor's Parcel Numbers (APNs) 0463-241-02 and 0463-241-03. The Project also includes an approximately 1.75-mile off-site utilities alignment within developed roadways for proposed water and sewer lines. Regional access to the Project site is provided via Interstate 15, located approximately 4.6 miles west of the Project site.

1.3 Project Description

Project Summary

The Project involves construction and operation of a 1,080,125-square-foot industrial/warehouse building on a 67.3-acre undeveloped site located at the northeast corner of Central Road and Lafayette Street in the Town of Apple Valley, California. Construction of the Project is anticipated to commence in December 2023 and conclude in October

2025, lasting approximately 22 months. A tenant for the proposed industrial warehouse building has not yet been identified, but the Project would operate as an unrefrigerated warehouse and/or distribution facility.

The Project would include improvements along Lafayette Street and Johnson Road, including frontage landscaping and pedestrian improvements. A variety of trees, shrubs, plants, and land covers would be planted within the Project frontage's landscape setback area, as well as within the landscape areas found around the proposed industrial/warehouse building and throughout the Project site.

The Project would support a variety of activities associated industrial/warehouse building, including the ingressing and egressing of passenger vehicles and trucks, the loading and unloading of trucks with designated truck courts/loading areas, and the internal and external movement of materials around the Project site via forklifts, pallet jacks, yard hostlers, and similar equipment. In addition, the office space would support general internal office activities related to the industrial/warehouse uses.

1.4 Project Objectives

Consistent with the Project's purpose and need, the primary objectives sought by the Project are as follows:

- **Objective 1:** Develop an industrial building approximately 1,000,000 square feet ± in size to meet the existing and growing demand for large-format logistics and warehouse buildings in the region.
- **Objective 2:** Develop a fiscally sound, jobs-producing, and tax-generating land use in north Apple Valley.
- **Objective 3:** Concentrate nonresidential uses near existing roadways, highways, and freeways in an effort to isolate and reduce any potential environmental impacts related to truck traffic congestion, air emissions, industrial noise, and biological resources to the greatest extent feasible.
- **Objective 4:** Create a project that takes advantage of and enhances existing infrastructure, including the proximity to major regional roadways, railroad service corridors, and other similar infrastructure.
- **Objective 5:** Implement the development patterns envisioned in the North Apple Valley Industrial Specific Plan.

1.5 Discretionary Actions

Consistent with the Town's General Plan and Municipal Code, the Project requires certain entitlements be submitted, reviewed, and approved by the Town. The requested entitlements include:

Discretionary Approvals

Planning Commission

- **Site Plan Review.** The Community Development Director has authority to approve a Site Plan Review application, which can be appealed to the Planning Commission (NAVISP P. 111-52).~~A review by the Planning Commission is held in order to evaluate the Project's consistency with the General Plan, North Apple Valley Industrial Specific Plan, and applicable Development Code standards.~~
- ~~**Lot Line Adjustment.** The Planning Commission will review and approve or deny the proposed lot line adjustment to modify the boundaries of the two parcels within the Project site.~~

- **Certification of EIR.** The ~~Planning Commission~~ Community Development Director will review this EIR and certify or reject it. If the ~~Planning Commission~~ Director decides to certify this EIR, it will make the appropriate CEQA Findings and adopt the mitigation monitoring and reporting program.

The Town would use this EIR and associated documentation in its decision to approve or deny the required discretionary permits. Other responsible and/or trustee agencies can use this EIR and supporting documentation in their decision-making process to issue additional approvals. These additional approvals may include approvals such as a site-specific Stormwater Pollution Prevention Plan.

1.6 Summary of Impacts

Table 1-1 presents a summary of the Project's significant environmental impacts and mitigation measures that would reduce or avoid those effects, and the level of significance of the impact after implementation of the mitigation measures. With the exception of those specific impacts identified in Table 1-1, the Project would result in less than significant or no impacts with regard to all other resource areas evaluated.

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
Air Quality			
Would the Project conflict with or obstruct implementation of the applicable air quality plan?	Potentially significant impact	**MM-AQ-1.** The Project shall implement the following measures in order to reduce operational off-road equipment, stationary source, and on-road vehicle air pollutant emissions to the extent feasible: ▪ **Solar Power.** ~~At a minimum, the roofs of the warehouse building shall be designed to provide the structural capacity to accommodate roof top solar panels.~~ The Project shall ~~be designed to~~ include rooftop solar panels that generate sufficient power to meet at least ~~50~~90% of the Project's total operational base energy requirements from within the Project's building envelope. The Town of Apple Valley shall verify the size and scope of the solar energy system based upon the analysis of the projected power requirements and generating capacity as well as the available solar panel installation space. In the event sufficient space is not available on the Project site to accommodate the needed number of solar panels to produce the operation's base power use, the Project Applicant or success or interest shall demonstrate how all available space has been maximized (e.g., roof, parking areas) for solar energy system use. Areas that provide for truck movement may be excluded from these calculations unless otherwise deemed acceptable by the supplied reports and applicable building standards. The Project Applicant or successor in interest, or as contractually delegated by the Project Applicant or successor in interest, shall install the solar energy system when the Town of Apple Valley has approved building permits and the necessary equipment has arrived. The operation of the system shall commence only when it has received permission to operate from the applicable utility. The solar energy system owner shall be responsible for maintaining the system at not less than 80% of the rated power for 20 years. At the end of the 20-year period, the owners, operators, or tenants shall install a new photovoltaic system meeting the capacity and operational requirements of this measure, or continue to maintain the existing system, for the life of the Project. As the Project's demand for solar power increases, additional solar panels may be added to the Project.	Less-than-significant impact

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
		▪ **Electrical Infrastructure for Electric Equipment and Vehicles.** The Project shall be designed to include electrical infrastructure to accommodate the required number of electric vehicle charging stations, the anticipated number charging stations for electric cargo handling equipment, and the potential installation of additional automobile and truck electric vehicle charging stations. Electrical conduit shall be installed within reasonable locations (e.g., parking areas, at or near dock doors) at the time of building construction to satisfy this requirement. The Project's electrical rooms shall be of sufficient size to accommodate the upsizing of electrical equipment to accommodate potential future electrical loads. ▪ **Electric Vehicle Charging Stations.** Prior to issuance of a Certificate of Occupancy, Level 2 (or faster) electric vehicle charging stations shall be installed on site for employees for the percentage of employee parking spaces commensurate with Title 24 requirements in effect at the time of building permit issuance plus additional charging stations equal to 5% of the total employee parking spaces in the building permit, whichever is greater. By January 1, 2030, Level 2 (or faster) electric vehicle charging stations shall be installed for 25% of the employee parking spaces required. Furthermore, the Applicant shall install at minimum two Level 3 electric chargers at the Project site in a place convenient for heavy-duty truck access prior to beginning Project operation. ▪ **Sustainable Energy, Waste, and Water Design Measures.** The Project Applicant or successor in interest shall implement the following measures: - The Project's landscape plan shall emphasize drought-tolerant plants and use water-efficient irrigation techniques - All heating, cooling, lighting, and appliance fixtures shall be Energy Star-rated - All fixtures installed in restrooms and employee break areas would be U.S. Environmental Protection Agency WaterSense Certified or equivalent	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
		- Structures shall be equipped with outdoor electric outlets in the front and rear of the structures to facilitate use of electrical lawn and garden equipment - Provide storage areas for recyclables and green waste, as well as food waste storage if a pick-up service is available - Buildings shall include high efficiency particulate air (HEPA) filtration systems within in all warehouse facilities ▪ **Zero-Emission or Near-Zero-Emission Equipment.** The following measure shall be implemented during all ongoing business operations and shall be included as part of contractual lease agreement language to ensure that tenants and operators of the Project are informed of the following operational responsibility: - All equipment and appliances operating on the Project site shall be zero-emission or near-zero-emission equipment. This requirement shall apply to indoor and outdoor equipment such as forklifts, handheld landscaping equipment, yard equipment, office appliances, etc. The building manager or their designee shall be responsible for enforcing these requirements. ▪ **Truck Requirements and Restrictions.** The following measure shall be implemented during all ongoing business operations and shall be included as part of contractual lease agreement language to ensure that tenants and operators of the Project are informed of the following operational responsibility: - Only haul trucks meeting California Air Resources Board (CARB) model year 2010 engine emission standards shall be used for the on-road transport of materials to and from the Project site. In addition, tenants shall be in, and monitor compliance with, all current air quality regulations for on-road trucks including CARB's Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation, Periodic Smoke Inspection Program, and the Statewide Truck and Bus Regulation. The building manager or their designee shall be responsible for enforcing these requirements.	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
		▪ **Idling Time Restriction.** The following measure shall be implemented during all ongoing business operations and shall be included as part of contractual lease agreement language to ensure that tenants and operators of the Project are informed of the following operational responsibility: - Upon commencement of operations, the tenant/operator of the Project shall be required to restrict truck idling on site to a maximum of 3 minutes, subject to exceptions defined by the California Air Resources Board's commercial vehicle idling requirements. The building manager or their designee shall be responsible for enforcing this requirement. ▪ **Anti-Idling Implementation Measures.** The following measures shall be implemented to reduce air pollutant emissions from idling: - **Signage.** Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas that identify the Project's 3-minute idling restriction. At a minimum, each sign shall include: (1) instructions for truck drivers to shut off engines when not in use; (2) instructions for drivers of diesel trucks to restrict idling to no more than 3 minutes once the vehicle is stopped, the transmission is set to "neutral" or "park," and the parking brake is engaged; (3) telephone numbers of the building facilities manager and California Air Resources Board (CARB) to report violations; and (4) that penalties apply for violations. Prior to the issuance of an occupancy permit, the Town of Apple Valley shall conduct a site inspection to ensure that the signs are in place. - **Efficient Load Management.** The facility operator(s) shall be required to train managers and employees on efficient scheduling and load management to eliminate unnecessary queuing and idling of trucks. - **Anti-Idling Training.** Tenants and operators on the Project site shall ensure that site enforcement staff in charge of keeping the daily log and monitoring for excess idling will be trained/certified in diesel health effects and technologies, for example, by requiring attendance at CARB-approved courses (such as the free, 1-day Course No. 512).	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
		~~▪ Transportation Demand Management Plan.~~ For a detailed synopsis of this measure, please refer to MM-TRANS-1 (Section 4.12).~~For occupants with more than 250 employees, a Transportation Demand management Program to reduce employee commute vehicle emissions shall be established, subject to review and approval by the Town of Apple Valley. The Transportation Demand Management Plan shall apply to Project tenants through tenant leases. The TDM plan shall discourage single occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking. Examples of trip reduction measures may include, but are not limited to:~~ ~~- Transit passes~~ ~~- Car sharing programs~~ ~~- Telecommuting and alternative work schedules~~ ~~- ▪ Ride sharing programs~~	
Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	Potentially significant impact	MM-AQ-1	Less-than-significant impact
Would the Project expose sensitive receptors to substantial pollutant concentrations?	Potentially significant impact	MM-AQ-1	Less-than-significant impact
Would the Project have a cumulative effect on air quality resources?	Potentially significant impact	MM-AQ-1	Less-than-significant impact
Biological Resources			
Would the Project have a substantial adverse effect,	Potentially significant impact	MM-BIO-1. Conservation of Western Joshua Tree Lands. Mitigation for direct impacts to ~~one~~ 3 western Joshua trees will be fulfilled through a payment of	Less-than-significant impact

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		the elected fees as described in Section 1927.3 (d) of The Western Joshua Tree Conservation Act. In conformance with the fee schedule, mitigation will consist of payment of $1,000 for each western Joshua tree 5 meters or greater in height, and $~~500~~ 200 for each western Joshua tree 1 meter or greater but less than 5 meters in height, and $150 for each western Joshua tree less than ~~5~~ 1 meters in height. Alternatively, mitigation will occur through off-site conservation or through a CDFW approved mitigation bank, or as required by an Incidental Take Permit, if received. The project will comply with Section 1927.3 of The Western Joshua Tree Conservation Act, regardless of transplantation required by the Town of Apple Valley. **MM-BIO-2. Relocation of Desert Native Plants.** Prior to the issuance of grading permits, the Project applicant shall submit an application and applicable fee paid to the Town of Apple Valley for removal or relocation of protected native desert plants under Town of Apple Valley Municipal Code Chapter 9.76, as required, and shall schedule a pre-construction site inspection with the appropriate authority. In addition, a plot plan shall be approved by the appropriate Town of Apple Valley Review Authority (County Certified Plant Expert, Planning Commission, or Town Council) indicating exactly which trees or plants are authorized to be removed. The application shall include certification from a qualified western Joshua tree and native desert plant expert(s) to determine that proposed removal or relocation of protected native desert plants are appropriate, supportive of a healthy environment, and in compliance with the Town of Apple Valley Municipal Code. Protected plants subject to Town of Apple Valley Municipal Code Chapter 9.76 may be relocated on site or within an area designated for the species. The application shall include a detailed plan for removal of all protected plants on the Project site. The plan shall be prepared by a qualified western Joshua tree and native desert plant expert(s). The plan shall include the following measures: ▪ Salvaged plants shall be transplanted expeditiously to either their final on-site location, or to an approved off-site area. If the plants cannot be	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
		expeditiously taken to their permanent relocation area at the time of excavation, they may be transplanted in a temporary area (stockpiled) prior to being moved to their permanent relocation site(s). ▪ Western Joshua trees shall be marked on their north facing side prior to excavation. Transplanted western Joshua trees shall be planted in the same orientation as they currently occur on the Project site, with the marking on the north side of the trees facing north at the relocation site(s). ▪ Transplanted plants shall be watered prior to and at the time of transplantation. The schedule of watering shall be determined by the qualified tree expert and desert native plant expert(s) to maintain plant health. Watering of the transplanted plants shall continue under the guidance of qualified tree expert and desert native plant expert(s) until it has been determined that the transplants have become established in the permanent relocation site(s) and no longer require supplemental watering. **MM-BIO-3: Designated Biologist Authority.** The Designated Biologist shall have authority to immediately stop any activity that does not comply with the biological resources mitigation measures and/or to order any reasonable measure to avoid the unauthorized take of an individual western Joshua tree. **MM-BIO-4: Compliance Monitoring.** The Designated Biologist shall be on site daily when impacts occur. The Designated Biologist shall conduct compliance inspections to minimize incidental take of western Joshua trees and impacts to other sensitive biological resources; prevent unlawful take of western Joshua trees; and ensure that signs, stakes, and fencing are intact, and that impacts are only occurring within the permitted impact footprint. Weekly written observation and inspection records that summarize oversight activities and compliance inspections and monitoring activities required by the Incidental Take Permit shall be prepared. **MM-BIO-5: Education Program.** An education program (Worker Environmental Awareness Program [WEAP]) for all persons employed or otherwise working in the Project area shall be administered before	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
		performing impacts. The WEAP shall consist of a presentation from the Designated Biologist that includes a discussion of the biology and status of western Joshua tree, burrowing owl, and loggerhead shrike; and other biological resources mitigation measures described in the CEQA document. Interpretation for non-English-speaking workers will be provided, and the same instruction shall be provided to any new workers before they are authorized to perform work in the Project area. Upon completion of the WEAP, employees shall sign a form stating they attended the program and understand all protection measures. This training shall be repeated at least once annually for long-term and/or permanent employees who will be conducting work in the Project area. **MM-BIO-6: Construction Monitoring Notebook.** The Designated Biologist shall maintain a construction-monitoring notebook on site throughout the construction period, which shall include a copy of the biological resources mitigation measures with attachments and a list of signatures of all personnel who have successfully completed the education program. The permittee shall ensure that a copy of the construction monitoring notebook is available for review at the Project site upon request by the California Department of Fish and Wildlife. **MM-BIO-7: Delineation of Property Boundaries.** Before beginning activities that would cause impacts, the contractor shall, in consultation with the Designated Biologist, clearly delineate the boundaries, consistent with the grading plan, within which the impacts will take place with fencing, stakes, or flags. All impacts within the fenced, staked, or flagged areas shall be avoided, and all fencing, stakes, and flags shall be maintained until the completion of impacts in that area. **MM-BIO-8: Hazardous Waste.** The Applicant shall immediately stop work and, pursuant to pertinent state and federal statutes and regulations, arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills at the time of occurrence, or as soon as it is safe to do so.	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
		MM-BIO-9: Herbicides. The Applicant shall limit herbicide use for invasive plant species and shall use herbicides only if it has been determined that hand or mechanical efforts are infeasible. To prevent drift, the Applicant shall apply herbicides only when wind speeds are less than 7 miles per hour. All herbicide application shall be performed by a licensed applicator and in accordance with all applicable federal, state, and local laws and regulations. **MM-BIO-10. Pre-construction Clearance Surveys for Mojave Desert Tortoise and Avoidance.** Two consecutive pre-construction clearance survey in accordance with current U.S. Fish and Wildlife Service (USFWS) protocol shall be conducted to reevaluate locations of potential Mojave desert tortoise burrows within the Project limits so take of Mojave desert tortoise can be avoided. The first pre-construction clearance survey shall be conducted in areas supporting potentially suitable habitat 14 to 21 days prior to the start of construction activities, and a second survey shall be repeated within 72 hours prior to the start of construction activities; or alternatively, pre-construction clearance surveys may be conducted at any time following construction of a desert tortoise–proof fence encompassing the Project site that would ensure that tortoises cannot enter the Project after clearance surveys are completed. If no Mojave desert tortoises are found during the surveys, no further mitigation would be required; however, desert tortoise–proof fence encompassing the Project site shall remain in place until Project construction is completed and shall be monitored by a qualified biologist in compliance with current USFWS protocol. Should Mojave desert tortoise be located during the clearance survey, all methods used for handling desert tortoises during the clearance surveys must be in accordance with the USFWS Desert Tortoise Field Manual or Project-specific guidance contained in a biological opinion or Incidental Take Permit. No take of Mojave desert tortoise shall occur without authorization in the form of an Incidental Take Permit pursuant to California Fish and Game Code Section 2081 and a biological opinion or Habitat Conservation Plan. The Project applicant shall adhere to measures and conditions set forth within the Incidental Take Permit. Anyone who handles	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
		desert tortoises during clearance activities must have the appropriate authorizations from USFWS. The area cleared and number of Mojave desert tortoises found within that area shall be reported to the local USFWS and appropriate state wildlife agency. Notification shall be made in accordance with the conditions of the biological opinion or Incidental Take Permit. Should Mojave desert tortoise be located during the clearance survey, the Project would result in the loss of 75.1 acres of suitable habitat for Mojave desert tortoise. Mitigation for direct impacts to 75.1 acres shall be fulfilled through conservation of suitable Mojave desert tortoise habitat through the purchase of credits at a minimum of 1:1 in-kind habitat replacement of equal or better functions and values to those impacted by the Project, for a total of 75.1 acres or as otherwise determined through coordination with the USFWS and/or California Department of Fish and Wildlife. **MM-BIO-11: Restoration of Temporary Impacts.** Site construction areas subjected to temporary ground disturbance from the off-site utility improvement areas (e.g., trenching for installation of associated off-site utilities including sewer and gas), shall be recontoured to natural grade (if the grade was modified during the temporary disturbance activity), The Project does not include revegetation or restoration of temporary impacts after Project completion. However, natural vegetation will be allowed to regenerate in temporary disturbed areas. Furthermore, if topsoil is removed during construction, the segregated topsoil will be replaced, and the native seed will be allowed to regenerate naturally. This measure does not apply to situations that are urban/developed that are temporarily impacted and will be returned to an urban/developed land use. **MM-BIO-12: Pre-construction Surveys for Burrowing Owl and Avoidance.** One pre-construction burrowing owl survey shall be completed no more than 14 days before initiation of site preparation or grading activities, and a second survey shall be completed within 24 hours of the start of site preparation or grading activities. If ground-disturbing activities are delayed or suspended for more than 30 days after the pre-construction surveys, the Project site and off-site improvement areas shall be resurveyed. Surveys for burrowing owl shall be conducted in accordance with protocols established	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
		in the California Department of Fish and Wildlife's 2012 (or most recent version) Staff Report on Burrowing Owl Mitigation. If burrowing owls are detected, the Burrowing Owl Relocation Plan shall be implemented in consultation with the California Department of Fish and Wildlife (CDFW). As required by the Burrowing Owl Relocation Plan, disturbance to burrows shall be avoided during the nesting season (February 1 through August 31). Buffers shall be established around occupied burrows in accordance with guidance provided in CDFW's Staff Report on Burrowing Owl Mitigation. No Project activities shall be allowed to encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until it is determined that occupied burrows have been vacated or the nesting season has completed. Outside of the nesting season, passive owl relocation techniques approved by CDFW shall be implemented. Owls shall be excluded from burrows in the immediate Project area and within a buffer zone by installing one-way doors in burrow entrances. These doors shall be placed at least 48 hours prior to ground-disturbing activities. The Project site shall be monitored daily for 1 week to confirm owl departure from burrows prior to any ground-disturbing activities. Compensatory mitigation for permanent loss of owl habitat shall be provided following the guidance in CDFW's Staff Report on Burrowing Owl Mitigation. Where possible, burrows shall be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe shall be inserted into the tunnels during excavation to maintain an escape route for any wildlife inside the burrow. Should burrowing owl be located during the clearance survey, the Project would result in the loss of 75.1 acres of suitable habitat for burrowing owl. Mitigation for direct impacts to 75.1 acres shall be fulfilled through conservation of suitable burrowing owl habitat through the purchase of credits at a minimum of 1:1 in-kind habitat replacement of equal or better functions and values to those impacted by the Project, for a total of 75.1 acres.	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
		MM-BIO-13: Pre-construction Nesting Bird Surveys and Avoidance. Special-status bird species that were observed within the Project include burrowing owl and LeConte's thrasher, and two additional special-status bird species have a moderate to high potential to occur: Bendire's thrasher and loggerhead shrike. The Project also contains trees, shrubs, and other vegetation that provide opportunities for other non-sensitive birds and raptors to nest on site. Construction activities shall avoid the migratory bird nesting season (typically February 1 through August 31) to reduce any potential significant impact to birds that may be nesting in the survey area. If construction activities must occur during the migratory bird nesting season, an avian nesting survey of the Project site and within 500 feet of all impact areas must be conducted to determine the presence/absence of protected migratory birds and active nests. The avian nesting survey shall be performed by a qualified wildlife biologist within 72 hours prior to the start of construction in accordance with the Migratory Bird Treaty Act and California Fish and Game Code Sections 3503, 3503.5, and 3513. If an active bird nest is found, the nest shall be flagged and mapped on the construction plans, along with an appropriate buffer established around the nest, which shall be determined by the biologist based on the species' sensitivity to disturbance (typically 300 feet for passerines and 500 feet for raptors and special-status species). The nest area shall be avoided until the nest is vacated, and the juveniles have fledged. The nest area shall be demarcated in the field with flagging and stakes or construction fencing. On-site construction monitoring shall be conducted when construction occurs in close proximately to an active nest buffer. No Project activities shall encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until it is determined that the nestlings have fledged, and the nest is no longer active. **MM-BIO-14. Pre-construction Survey for American Badger and Avoidance.** A pre-construction survey for American badger shall be conducted within 10 days before initiation of site preparation or grading activities to determine the presence/absence of American badger. If discovered during the survey, an American badger mitigation and monitoring plan shall be developed. The mitigation and monitoring plan shall include avoidance and minimization	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
		measures to reduce potential impacts, as well as compensatory mitigation to offset direct or indirect impacts. The plan shall be developed in consultation with the California Department of Fish and Wildlife. At a minimum, the plan shall do the following: ▪ Identify pre-construction survey methods for American badger ▪ Describe feasible pre-construction and construction-phase avoidance methods ▪ Describe pre-construction and construction-phase relocation methods, including the possibility for passive relocation ▪ For burrows that will not be impacted by the Project, identify an appropriate construction exclusion zone for both active and natal burrows **MM-BIO-15. Pre-construction Survey for Desert Kit Fox and Avoidance.** A pre-construction survey for desert kit fox shall be conducted within 10 days before initiation of site preparation or grading activities to determine the presence/absence of desert kit fox. If desert kit fox is detected, the desert kit fox relocation and mitigation plan shall be implemented. As required by the desert kit fox relocation and mitigation plan, if an active non-natal desert kit fox den is detected, a 200-foot no disturbance buffer shall be established around the active den, unless otherwise authorized by the California Department of Fish and Wildlife (CDFW). Where required buffering will not be feasible, passive relocation, as outlined in the desert kit fox relocation and mitigation plan, shall be allowed with concurrence from the County of San Bernardino, CDFW, and U.S. Fish and Wildlife Service. If an active natal desert kit fox den is detected, an initial 200-foot no disturbance buffer shall be established around the natal den, and this buffer shall be maintained until the den can be verified to not host pups. Construction activities shall not be permitted in this area until the den has been vacated. Once the den is vacated, and if in danger by construction, it can be collapsed, if deemed necessary by a qualified biologist.	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
		A report to evaluate the success of the relocation efforts and any subsequent re-occupation, if applicable, shall be provided (including a comprehensive summary, tables, maps, and other necessary materials) at the end of the construction period. Data shall be readily available to the CDFW upon request. If an injured, sick, or dead desert kit fox is detected on any area associated with the Project, the designated CDFW personnel at both the Ontario office and the Wildlife Investigation Lab shall be notified as described within the desert kit fox relocation and mitigation plan. **MM-BIO-16. Trash and Debris.** The following avoidance and minimization measures shall be implemented during Project construction: ▪ Fully covered trash receptacles that are animal-proof shall be installed and used by the operator to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. Trash contained within the receptacles shall be removed at least once a week from the Project site. ▪ Construction work areas shall be kept clean of debris, such as cable, trash, and construction materials. All construction/contractor personnel shall collect all litter, vehicle fluids, and food waste from the Project site on a daily basis. **MM-BIO-17. Invasive Plant Management.** To reduce the spread of invasive plant species, landscape plants within 200 feet of native vegetation communities shall not be on the most recent version of the California Invasive Plant Council's Inventory of Invasive Plants (http://www.cal-ipc.org/ip/inventory/index.php). Post-construction, the Project applicant shall continually remove invasive plant species on site by hand or mechanical methods, as feasible. **MM-BIO-18. Lighting.** Lighting for construction activities and operations within 50 feet of the outside edge of the impact footprint containing habitat for special-status wildlife shall be directed away from natural areas. **MM-BIO-19. Aquatic Resources Mitigation.** The Project site supports aquatic resources that are considered jurisdictional under the Regional Water Quality Control Board (RWQCB) and the California Department of Fish and	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
		Wildlife (CDFW). Prior to construction activity, the applicant shall coordinate with the Lahontan RWQCB (Region 6) to ensure conformance with the requirements of the Porter–Cologne Water Quality Control Act (waste discharge requirement). Prior to activity within CDFW jurisdictional streambed or associated riparian habitat, the applicant shall coordinate with CDFW (Inland Deserts Region 6) relative to conformance to the Lake and Streambed Alteration permit requirements. The Project shall mitigate to ensure no-net-loss of waters at a minimum of 1:1 with purchase of credits (0.58 acres RWQCB/CDFW; specifically, 0.464 acres of on-site permanent impacts, 0.083 acres of permanent impacts within off-site improvement areas, and 0.033 acres of temporary impacts within off-site improvement areas) for impacts to aquatic resources as part of an overall strategy to ensure no net loss. Mitigation shall be completed through use of a mitigation bank (e.g., West Mojave Mitigation Bank) or other applicant-sponsored mitigation. Final mitigation ratios and credits shall be determined in consultation with RWQCB and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process. Additionally, the 0.033 acres of temporary impacts within the off-site improvement areas shall be recontoured to pre-Project contours, and a native seed mix shall be applied. Should applicant-sponsored mitigation be implemented, a Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared in accordance with State Water Resources Control Board guidelines and approved by the agencies in accordance with the proposed program permits. The HMMP shall include a conceptual planting plan including planting zones, grading, and irrigation, as applicable; a conceptual planting plant palette; a long-term maintenance and monitoring plan; annual reporting requirements; and proposed success criteria. Any off-site applicant-sponsored mitigation shall be conserved and managed in perpetuity. Best management practices shall be implemented to avoid any indirect impacts on jurisdictional waters, including the following: ▪ Vehicles and equipment shall not be operated in ponded or flowing water except as described in permits.	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
		▪ Water containing mud, silt, or other pollutants from grading or other activities shall not be allowed to enter jurisdictional waters or be placed in locations that may be subjected to high storm flows. ▪ Spoil sites shall not be located within 30 feet from the boundaries of jurisdictional waters or in locations that may be subject to high storm flows, where spoils might be washed back into drainages. ▪ Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife resources resulting from Project-related activities shall be prevented from contaminating the soil and/or entering avoided jurisdictional waters. ▪ No equipment maintenance shall be performed within 100 feet of jurisdictional waters, including wetlands and riparian areas, where petroleum products or other pollutants from the equipment may enter these areas. Fueling of equipment shall not occur on the Project site	
Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	Potentially significant impact	MM-BIO-3 MM-BIO-4 MM-BIO-5 MM-BIO-6 MM-BIO-7 MM-BIO-9	Less-than-significant impact
Would the Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Potentially significant impact	MM-BIO-3 MM-BIO-4 MM-BIO-5 MM-BIO-6 MM-BIO-7 MM-BIO-8 **MM-BIO-19. Aquatic Resources Mitigation.** The Project site supports aquatic resources that are considered jurisdictional under the Regional Water Quality Control Board (RWQCB) and the California Department of Fish and	Less-than-significant impact

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
		Wildlife (CDFW). Prior to construction activity, the applicant shall coordinate with the Lahontan RWQCB (Region 6) to ensure conformance with the requirements of the Porter–Cologne Water Quality Control Act (waste discharge requirement). Prior to activity within CDFW jurisdictional streambed or associated riparian habitat, the applicant shall coordinate with CDFW (Inland Deserts Region 6) relative to conformance to the Lake and Streambed Alteration permit requirements. The Project shall mitigate to ensure no-net-loss of waters at a minimum of 1:1 with purchase of credits (0.580 acres RWQCB/CDFW) for impacts to aquatic resources as part of an overall strategy to ensure no net loss. Mitigation shall be completed through use of a mitigation bank (e.g., West Mojave Mitigation Bank) or other applicant-sponsored mitigation. Final mitigation ratios and credits shall be determined in consultation with RWQCB and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process. Should applicant-sponsored mitigation be implemented, a Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared in accordance with State Water Resources Control Board guidelines and approved by the agencies in accordance with the proposed program permits. The HMMP shall include a conceptual planting plan including planting zones, grading, and irrigation, as applicable; a conceptual planting plant palette; a long-term maintenance and monitoring plan; annual reporting requirements; and proposed success criteria. Any off-site applicant-sponsored mitigation shall be conserved and managed in perpetuity. Best management practices shall be implemented to avoid any indirect impacts on jurisdictional waters, including the following: ▪ Vehicles and equipment shall not be operated in ponded or flowing water except as described in permits. ▪ Water containing mud, silt, or other pollutants from grading or other activities shall not be allowed to enter jurisdictional waters or be placed in locations that may be subjected to high storm flows.	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
		▪ Spoil sites shall not be located within 30 feet from the boundaries of jurisdictional waters or in locations that may be subject to high storm flows, where spoils might be washed back into drainages. ▪ Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife resources resulting from Project-related activities shall be prevented from contaminating the soil and/or entering avoided jurisdictional waters. ▪ No equipment maintenance shall be performed within 100 feet of jurisdictional waters, including wetlands and riparian areas, where petroleum products or other pollutants from the equipment may enter these areas. Fueling of equipment shall not occur on the Project site.	
Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Potentially significant impact	**MM-BIO-18**	Less-than-significant impact
Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Potentially significant impact	**MM-BIO-1** **MM-BIO-2**	Less-than-significant impact
Would the Project have a cumulative effect on biological resources?	Potentially significant impact	**MM-BIO-1** through **MM-BIO-19**	Less-than-significant impact
Cultural Resources			
Would the Project cause a substantial adverse change in the significance of an	Potentially significant impact	**MM-CUL-1. Cultural Resource Monitoring and Inadvertent Discovery Plan.** Prior to ground disturbance activities, the Applicant and/or subsequent responsible parties shall retain a Principal Investigator/Archaeologist,	Less-than-significant impact

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
archaeological resource pursuant to §15064.5?		meeting the Secretary of the Interior's Standards, and with experience in California prehistoric and historic resources (including experience within San Bernardino County preferred) Consulting Tribes to provide cultural resources services included monitoring and resource evaluation. The Principal Investigator will ~~, to~~ compose a Cultural Resource Monitoring and Inadvertent Discovery Plan (Plan). The Plan shall be submitted to the Lead Agency for dissemination to Consulting Tribes, including the Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN, also known as San Manuel Band of Mission Indians) and the Morongo Band of Mission Indians (MBMI). Once all parties review and approve the plan, it shall be adopted by the Lead Agency – the plan must be adopted prior to permitting for the project. The purpose of the Plan is to outline cultural monitoring protocols and a program of treatment and mitigation in the case of an inadvertent discovery of cultural resources during ground-disturbing phases and to provide for the proper identification, evaluation, treatment, and protection of any cultural resources in accordance with CEQA throughout the duration of the Project. Existence and importance of adherence to this Plan should be stated on all Project site plans intended for use by those conducting the ground disturbing activities. **MM-CUL-2. Workers Environmental Awareness Program (WEAP) Training.** All construction personnel and monitors ~~who are not trained archaeologists~~ shall be briefed regarding unanticipated discoveries prior to the start of construction activities. A basic presentation should be prepared and presented by a qualified ~~archaeologist~~ Archaeologist and Tribal Monitor to inform all personnel working on the Project about the archaeological sensitivity of the area. The purpose of the WEAP training is to provide specific details on the kinds of archaeological materials that may be identified during construction of the Project and explain the importance of and legal basis for the protection of significant archaeological resources. Each worker should also learn the proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection, and the immediate contact of the ~~on-call a~~Archaeologist and if appropriate, Tribal ~~representative~~Monitor. Tribal Monitors from the	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
		Consulting Tribes, such as YSMN and MBMI will be given ten days' notice prior to the training. Necessity of training attendance should be stated on all construction plans. **MM-CUL-3. ~~On-Call and Periodic Archaeological~~Cultural Resource Construction Monitoring.** In consideration of the general sensitivity of the proposed Project site for cultural resources, a qualified Archaeologist and regionally associated Tribal Monitor~~archaeologist~~ shall be retained to conduct on-site full-time cultural ~~periodic spot~~ monitoring ~~as well as on-call response in the case of~~and to respond to any inadvertent discovery of archaeological resources. The Archaeologist and Tribal Monitor will attend a pre-grade meeting with the grading contractors to explain and coordinate the requirements of the monitoring plan. ~~A qualified a~~The Archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, should oversee and adjust monitoring efforts as needed (increase, decrease, or discontinue monitoring frequency) based on the observed potential for construction activities to encounter cultural deposits, in consultation with the Tribal Monitor. The ~~archaeologist~~ Archaeologist should be responsible for maintaining monitoring logs. Following the completion of construction, the qualified ~~archaeologist~~ Archaeologist should provide an archaeological monitoring report, including any significance testing or data recovery results, to the Lead Agency and Consulting Tribes for review and comment. Following approval by all parties, the report and all resource records will be submitted to the SCCIC, the Lead Agency, and Consulting Tribes~~to the lead agency and the SCCIC with the results of the cultural monitoring program.~~ **MM-CUL-4. Inadvertent Discovery of Archaeological Resources.** In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Project, any project personnel have the authority to stop all construction work occurring within 100 feet of the find and notify the Archaeologist and Tribal Monitor if they are not already present. The Archaeologist and Tribal Monitor will direct the demarcation or barrier of an Environmentally Sensitive Area (ESA). ~~shall immediately stop until a~~The qualified ~~archaeologist~~Archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, ~~can~~ will evaluate the	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
		significance of the find and determine whether or not additional study is warranted. Depending upon the significance of the find under the California Environmental Quality Act (14 CCR 15064.5(f); California PRC Section 21082), the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under CEQA, additional work, such as preparation of an archaeological treatment plan, testing, or data recovery, may be warranted. If the discovery is Native American in nature, consultation with ~~and/or monitoring by a~~the Tribal ~~representative~~ Monitor will~~may~~ be necessary. In addition, Consulting Tribes, including the YSMN and MBMI, shall be notified of any pre-contact archeological discoveries that may occur during project construction. Should any pre-contact archaeological inadvertent discoveries occur that are not covered by the CRMIDP, the Tribe and the Town shall consult in good faith on the appropriate treatment and evaluation of the site and the reburial and/or curation of the cultural materials.	
Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?	Potentially significant impact	**MM-CUL-54. Inadvertent Discovery of Human Remains.** In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the county coroner shall be immediately notified of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the county coroner has determined the appropriate treatment and disposition of the human remains. If the county coroner determines that the remains are, or are believed to be, Native American, he or she shall follow all required protocols according to California Public Resources Code, Section 5097.98.	Less-than-significant impact
Geological (Paleontological Resources)			
Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?	Potentially significant impact	**MM-GEO-1.** Prior to commencement of any grading activity on site, the applicant shall retain a qualified paleontologist per the SVP (2010) guidelines. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the Project. The PRIMP shall be consistent with the SVP (2010) guidelines and should outline requirements for preconstruction meeting attendance and worker environmental awareness training, where monitoring is required within the proposed	Less-than-significant impact

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
		Project site based on construction plans and/or geotechnical reports, procedures for adequate paleontological monitoring and discoveries treatment, and paleontological methods (including sediment sampling for microvertebrate fossils), reporting, and collections management. The qualified paleontologist shall attend the preconstruction meeting and a qualified paleontological monitor shall be on site during all rough grading and other significant ground-disturbing activities (including augering) in previously undisturbed, fine-grained Pleistocene alluvial deposits. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will remove the rope and allow grading to recommence in the area of the find. Salvaged fossils deemed to be significant shall be donated to an accredited repository with retrievable storage such as the San Bernardino County Museum, Natural History Museum of Los Angeles County, or the Western Science Center. Costs for preparing the fossils for accessioning into the accredited repository and any associated curation fees shall be paid by the Project proponent.	
Greenhouse Gas Emissions			
Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Potentially significant impact	~~MM-AQ-1~~ ~~MM-AQ-2~~ MM-GHG-1. The Project shall require tenants to subscribe to the Apple Valley Choice Energy 100% Renewable Energy Plan, which is 100% renewable and 100% carbon-free, for the duration of occupancy. At each lease or change of building ownership, the new lessee or owner shall also be automatically enrolled in the Apple Valley Choice Energy 100% Renewable Energy Plan, which shall be verified by the Town prior to issuance of each Certificate of Occupancy. Proof of election of the 100% renewable service option shall be provided to the Town upon request, which requirement shall be contained in all tenant lease agreements. MM-TRANS-1	Significant and unavoidable impact

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less-than-significant impact	MM-AQ-1 ~~MM-AQ-2~~ ~~MM-AQ-3~~ MM-GHG-1 MM-TRANS-1	Less-than-significant impact
Would the Project have a cumulative effect on greenhouse gas emissions?	Potentially significant impact	MM-AQ-1 ~~MM-AQ-2~~ MM-GHG-1 MM-TRANS-1	Significant and unavoidable impact
Transportation			
Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	Potentially significant impact	MM-TRANS-1. The Project shall implement the following measures in order to reduce operational air pollutant emissions to the extent feasible: ▪ Transportation Demand Management Plan. For occupants with more than 250 employees, a Transportation Demand Management Program to reduce employee commute vehicle emissions shall be established, subject to review and approval by the Town of Apple Valley prior to issuance of each future Certificate of Occupancy. The Transportation Demand Management Plan shall apply to Project tenants through tenant leases. The TDM plan shall discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking, depending on future availability of pedestrian and bicycle facilities and transit stops within the Project vicinity and the employee scheduling needs of occupant. Examples of trip reduction measures may include, but are not limited to: - Transit passes - Car-sharing programs - Telecommuting and alternative work schedules - Ride sharing programs - Employer sponsored vanpool - Financial incentives to workers for use of alternate transportation	Significant and unavoidable impact

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
		- End-of-trip bike facilities~~MM AQ 1~~	
Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Potentially significant impact	The Project could result in potentially significant impacts associated with increasing hazards due to a geometric design feature related to queuing. Improvement measures required to mitigate Project's impact would include fair-share contribution to Intersection No. 5. Since the Town does not have jurisdiction over these facilities, these improvements cannot be assumed to be in place prior to Project's occupancy.	Significant and unavoidable impact
Would the Project have a cumulative effect with regard to transportation?	Potentially significant impact	The Project could result in potentially significant impacts associated with increasing hazards due to a geometric design feature related to queuing. Improvement measures required to mitigate Project's impact would include fair-share contribution to Intersections No. 5. Since the Town does not have jurisdiction over these facilities, these improvements cannot be assumed to be in place prior to Project's occupancy. ~~MM AQ 1~~	Significant and unavoidable impact
Tribal Cultural Resources			
Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:			
(a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	Potentially significant impact	MM-CUL-1 MM-CUL-2 MM-CUL-3 MM-CUL-4 MM-CUL-5	Less-than-significant impact
(b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section	Potentially significant impact	MM-CUL-1 MM-CUL-2 MM-CUL-3 MM-CUL-4 MM-CUL-5	Less-than-significant impact

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measures	Level of Significance After Mitigation
5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?			

Significant and Unavoidable Impacts

As identified in Table 1-1, the Project would result in significant and unavoidable impacts with regard to greenhouse gas emissions and transportation. These impacts are discussed in further detail below.

- **Greenhouse Gas Emissions.** Construction and operation of the Project would result in the generation of approximately 22,145 metric tons of carbon dioxide (CO_2) equivalent, which would exceed the numerical greenhouse gas threshold established by the South Coast Air Quality Management District of 3,000 metric tons of CO_2 equivalent per year. While the Project is located within the jurisdiction of the Mojave Desert Air Quality Management District, because the South Coast Air Quality Management District's thresholds are more stringent and are backed by substantial evidence from an expert agency, the South Coast Air Quality Management District's recommended thresholds have been utilized for determining the significance of the Project's greenhouse gas emission impacts. Implementation of mitigation measures~~s~~ MM-AQ-1 ~~and MM-AQ-2~~ would also reduce operation-related GHG emissions. However, the effectiveness of the mitigation and the associated emission reductions cannot be accurately quantified at this time or taken credit for at this time. Additionally, GHG emissions impacts are inherently cumulative in nature. As such, impacts on the Project level and cumulatively would remain significant and unavoidable.
- **Transportation.** An intersection in the vicinity of the Project site is expected to experience periodic queuing issues during peak hours, which can lead to potential operational deficiency if a significant speed differential exists between queue vehicles and vehicles proceeding beyond the queue. The Project would result in additional traffic that would exacerbate these conditions under the Horizon Year (2040) Plus Project Conditions (queueing issues would continue to occur without Project-generated traffic for many intersections regardless of the Project). Improvement measures have been identified for which the Project would be required to either construct or contribute fair-share costs to address these conditions. However, this intersection is not within the Town's jurisdiction, but rather within the jurisdiction of other agencies, such as the California Department of Transportation. Since the Town does not have jurisdiction over these facilities, these improvements cannot be assumed to be in place prior to Project's occupancy, and these impacts are considered significant and unavoidable. ~~Additionally,~~

1.7 Alternatives to the Project

Section 15126.6(a) of the CEQA Guidelines states that an EIR shall describe "a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project," as well as provide an evaluation of "the comparative merits of the alternatives." Under CEQA Guidelines Section 15126.6(a), an EIR does not need to consider alternatives that are not feasible, nor does it need to address every conceivable alternative to the project. The range of alternatives "is governed by the 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice" (14 CCR 15126.6[f]).

No Project/No Development Alternative (Alternative 1)

Under Alternative 1, construction of the Project would not occur. The Project site would remain unchanged, and development activities related to construction and operation of the proposed industrial/warehouse buildings, associated office spaces, surface parking and loading areas, and all other proposed on- and off-site improvements would not occur.

In the short term, consistent with the existing conditions, the Project site would continue to be undeveloped. Under Alternative 1, the Project site would remain vacant, undeveloped land, although the site would presumably continue to be subject to illegal dumping, trespassing, and unpermitted off-road vehicle use, similar to the existing conditions.

Other Development Project Alternative (Alternative 2)

Under Alternative 2, the Project site would be redeveloped with other land uses, consistent with the property's I-SP designation.

Permitted uses in the I-SP designation include manufacturing facilities with showrooms and offices, regional warehousing facilities, and support services for manufacturing and warehousing. The North Apple Valley Industrial Specific Plan lists several different uses that are either specially or conditionally permitted under the I-SP designation. These include commercial storage facilities/mini-warehouses (i.e., self-storage facilities), offices, manufacturing, small and large equipment sales and rental, schools, vehicle rental and sales, minor and major vehicle repair, and vehicle wash facilities.

No zoning variances are being requested as part of the Project, and thus, the Project would be constructed consistent with the design requirements set forth for the I-SP designation in the North Apple Valley Industrial Specific Plan. It is assumed that Alternative 2 would involve development of a land use that would be permissible either by right or by a conditional use permit. For purposes of this analysis, it assumed that Alternative 2 would consist of a 900,000 square-foot warehouse and 100,000 square-foot showroom (i.e., Ikea or similar). It is also assumed that this alternative would share a similar development intensity/floor-area-ratio/site coverage as the Project. Land uses that are expressly not allowed under the I-SP designation—specifically residential—would not be considered under Alternative 2.

Reduced Development Intensity Alternative (Alternative 3)

In an effort to reduce the Project's significant and unavoidable impacts, the Town considered a Reduced Development Intensity Alternative (Alternative 3). A Reduced Development Alternative would reduce project-related impacts associated with air quality, energy, GHG emissions, and trip generation.

Under Alternative 3, the Project would be constructed and operated as planned on the Project site, with the exception that the size of the proposed development would be reduced by 60%, equating to an industrial/warehouse project consisting of approximately 432,050 square feet, compared to the Project's 1,080,125 square feet. Since the building footprint would be reduced by 648,075 square feet (approximately 14.8 acres), this extra space on the Project site would remain vacant. All other on- and off-site improvements proposed as part of the Project are assumed to still be required under Alternative 3.

Environmentally Superior Alternative

Section 15126(e)(2) of the State CEQA Guidelines requires an EIR to identify an "environmentally superior alternative." If the No Project/No Development Alternative is the environmentally superior alternative, the EIR must also identify an environmentally superior alternative from among the other Project alternatives.

Each of the three Project alternatives considered herein would lessen at least one environmental impact relative to the Project. As previously addressed, if the No Project/No Development Alternative is the environmentally superior alternative—which is the case in this analysis—the EIR must also identify another environmentally superior alternative among the remaining alternatives.

Based on a comparison of Alternative 2 and Alternative 3, environmental impacts associated with aesthetics, air quality, energy and GHG emissions, would be less under Alternative 3 compared to Alternative 2. Impacts associated with biological resources, cultural, tribal cultural, and paleontological resources, hazards and hazardous materials, hydrology and water quality, transportation, and utilities and services systems would be similar under Alternative 3 compared to Alternative 2. Although Alternative 3 would reduce impacts compared to the proposed project, it would not avoid or substantially lessen impacts to below a level of significance. Alternative 2 would result in similar impacts as the project, but with a slight increase in trip generation rates, and would meet all of the project objectives.

However, Alternative 3 would not meet project Objective 1 of developing an industrial building approximately 1,000,000 square feet in size. Alternative 3 would also not meet Objective 2 to the same extent as the proposed project. Alternative 3 would produce less jobs and generate less tax revenue compared to the proposed project. In addition, Alternative 3 would also not meet Objective 5 to the same extent as the proposed project. Therefore, while Alternative 3 would have reduced impacts compared to the proposed project, it would not eliminate any of the significant and unavoidable impacts and it would not meet all project objectives.

1.8 Areas of Controversy/Issues to Be Resolved

The scope of this EIR includes the potential environmental impacts identified in the initial study/notice of preparation (IS/NOP) that was available for public review from February 3, 2023, through March 6, 2023; comments received during a public scoping meeting held on February 13, 2023, at Apple Valley Town Hall; and agency and public written comment received in response to the NOP.

A summary of these written comment letters is provided in Table 1-2. The written comments and the NOP are included as Appendix A of this EIR.

Table 1-2. Summary of Initial Study/Notice of Preparation Comments

Commenter	Date	Summary of Environmental Issues Raised	EIR Chapter/Section Where Comment is Addressed
State Agency			
State of California Department of Justice	February 23, 2023	▪ Concerns regarding Project impacts on air quality, noise, transportation, and hazards. ▪ Recommendations for best practices and mitigation measures for warehouse projects.	Section 4.2, Air Quality; Section 4.7, Hazards and Hazardous Materials; Section 4.10, Noise; Section 4.12, Transportation
Quechan Indian Tribe	February 23, 2023	▪ States that the Quechan Indian Tribe does not wish to comment on the Project.	4.4, Cultural, Tribal Cultural, and Paleontological Resources
Southern California Association of Governments (SCAG)	March 14, 2023	▪ Recommends the Project be evaluated for consistency with the adopted 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS or Connect SoCal). ▪ Provides demographic and growth forecasts.	Section 4.9, Land Use and Planning

Table 1-2. Summary of Initial Study/Notice of Preparation Comments

Commenter	Date	Summary of Environmental Issues Raised	EIR Chapter/Section Where Comment is Addressed
		▪ Recommends the Connect SoCal Final Program Environmental Impact Report be reviewed for guidance and mitigation measures.	
Organizations and Individuals			
Dale Wedge	March 5, 2023	▪ Concerns regarding impacts on transportation, pollution, and noise.	Section 4.2, Air Quality; Section 4.6, Greenhouse Gas Emissions; Section 4.8, Hydrology and Water Quality; Section 4.10, Noise
Californians Allied for a Responsible Economy ("CARE CA")	March 13, 2023	▪ Concerns regarding Project objectives, the unspecified uses of the building, the potential for cold storage to be used, and air quality impacts.	Chapter 1, Executive Summary; Chapter 3, Project Description; Section 4.2, Air Quality; Section 4.6, Greenhouse Gas Emissions

Issues to be Resolved by Lead Agency

Section 15123(b)(3) of the CEQA Guidelines requires that an EIR contain a discussion of issues to be resolved. With respect to the proposed Project, the key issues to be resolved include decisions by the Town, as lead agency, as to the following:

- Whether this environmental document adequately describes the environmental impacts of the Project.
- Whether the recommended mitigation measures should be modified and/or adopted.
- Whether there are other mitigation measures or alternatives that should be considered for the Project besides those identified in the Draft EIR.

3 Project Description

This chapter describes the objectives of the 1M Warehouse Project (Project) and the environmental impact report (EIR) and provides a detailed description of the Project characteristics. This chapter also discusses the required development approvals and discretionary actions necessary to implement the Project.

As discussed in further detail below, the Project involves the construction and operation of a 1,080,125-square-foot industrial/warehouse building on a 67.3-acre undeveloped site located at the northeast corner of Central Road and Lafayette Street in the Town of Apple Valley (Town), California. Construction of the Project is anticipated to commence in December 2023 and conclude in October 2025, lasting approximately 22 months. A tenant for the proposed industrial warehouse building has not yet been identified, but the Project would operate as an unrefrigerated warehouse and/or distribution facility.

3.1 Project Location

The approximately 67.3-acre Project site is located in the northern part of the Town, which is within the Victor Valley region of San Bernardino County (Figure 3-1, Regional Project Location, Figure 3-2, Vicinity Map). The Project site is located at the northeast corner of Central Road and Lafayette Street. The Project site is located south of Johnson Road, west of Sycamore Lane, north Lafayette Street, and east of Central Road. The Project site consists of Assessor's Parcel Numbers (APNs) 0463-241-02 and 0463-241-03. Specifically, the Project site is located in Section 23, Township 6N, Range 3W, as depicted on the U.S. Geological Survey Apple Valley North, California 7.5-minute topographic quadrangle maps. The Project includes an approximately 1.75-mile off-site utilities alignment within developed roadways for proposed water and sewer lines. This alignment is depicted in Figure 3-3, Project Aerial, and is located within portions of Johnson Road, Central Road, and Lafayette Street.

Regional access to the Project site is provided via Interstate 15, located approximately 4.6 miles west of the Project site.

3.2 Environmental Setting

1M Warehouse Project Summary

Description: 1,080,125-square-foot industrial/warehouse building
Location: Northeast corner of Central Road and Lafayette Street in north Apple Valley
Existing Setting: 67.3 acres of undeveloped land with low densities of native brush/scrub vegetation

Town of Apple Valley

The Town is approximately 72 square miles in the Victor Valley region of San Bernardino County. The Town is located within the Mojave Desert, which is a region containing desert plains, dry lakebeds, and scattered mountains. The Town of Apple Valley is located primarily on alluvial slopes of the Mojave River floodplain, at the southern edge of the Mojave Desert. Elevations in the Town range from approximately 2,800 feet above sea level near the Mojave River, to approximately 3,200 feet above sea level at the northeast corner of Town. The topography gradually inclines toward the Juniper Flats foothills of the San Bernardino Mountains to the south, as well as to the scattered knolls and mountains to the north and east of the Town. Turtle and Black Mountains are located to the north of the planning area, Fairview Mountain to the northeast and the Granite Mountains to the southeast. Generally, the Town is a rural community with a broad mix of land uses, including housing, commercial, office, industrial, agriculture, and public-serving uses. The majority of the Town contain generally rural residential uses.

Commercial uses follow Highway 18, Bear Valley Road, and areas along I-15. Industrial uses are located in the northern portion of the Town and along I-15.

The Town is bordered by the City of Victorville to the west, the City of Hesperia to the southwest, and unincorporated San Bernadino County to the north and east. Two highways provide direct access to the Town: I-15 runs north–south on the west side of the Town; and Highway 18 runs east-west through the center of the Town (Town of Apple Valley 2009).

Existing Project Site

The approximately 67.3-acre Project site consists of vacant, undeveloped land. According to the Town's General Plan, the Project site falls within the North Apple Valley Industrial Specific Plan land use designation (Town of Apple Valley 2015, 2021) (see Figure 3-4, Land Use Designations, and Figure 3-5, Zoning). According to the North Apple Valley Industrial Specific Plan, the land use designation for the site is Specific Plan Industrial (Town of Apple Valley 2012) (see Figure 3-6, Specific Plan Land Use Designations).

Photos of the Project site and off-site utilities alignment are included in Figures 3-6 through 3-7B, Existing Conditions. As depicted within these figures, ground surface cover on the Project site consists of low densities of native brush and shrub growth. The off-site utilities alignment is located within public rights-of-way comprising developed asphalt roadways primarily surrounded by undeveloped areas with vegetation compositions similar to the Project site.

The site's surface elevation ranges between approximately 3,130 and 3,170 feet above mean sea level. Land uses surrounding the Project site consist of vacant land and relatively small developments. Specific land uses located in the immediate vicinity of the Project site include the following:

- **North:** Johnson Road and vacant land
- **East:** Sycamore Lane and primarily vacant land with a few residential uses
- **South:** Lafayette Street and the Apple Valley Fire Center
- **West:** Central Road and vacant land

In the broader Project vicinity, development includes commercial uses, warehouse/industrial buildings, and the Apple Valley Airport. Figure 3-8, Project Development Setting, depicts existing development within the vicinity of the Project site.

As discussed in further detail below in Section 3.4.1, utility infrastructure would be installed along Central Road, Johnson Road, and Lafayette Street and would be connected to the existing utility infrastructure around the Project site. Local connectivity to the Project site from the center of the Town and surrounding urban communities is provided via Central Road (directly west of the Project site) I-15, (approximately 4.6 miles west of the Project site), and Highway 18 (approximately 6.5 miles south of the Project site). Additionally, as discussed in Section 4.12, Transportation, the Project is currently served by the Victor Valley Transit Authority, a public agency serving the Victor Valley area within San Bernardino County, with bus service along Central Road, Highway 18, Corwin Road, and Johnson Road.

Cumulative Setting

In many cases, the impact of an individual project may not be significant, but its cumulative impact may be significant when combined with impacts from other related projects. California Environmental Quality Act (CEQA) Guidelines Section 15355 defines cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." CEQA Guidelines Section

15130(b) states that "the discussion [of cumulative impacts] need not provide as great detail as is provided for the effects attributable to the project alone." Section 15130(b) further states that a cumulative impacts discussion "should be guided by standards of practicality and reasonableness."

Cumulative impacts can also occur from the interactive effects of a single project. For example, the combination of noise and dust generated during construction activities can be additive and can have a greater impact than either noise or dust alone. However, substantial cumulative impacts more often result from the combined effect of past, present, and future projects located in proximity to a proposed project. Thus, it is important for a cumulative impacts analysis to be viewed over time and in conjunction with other related past, present, and reasonably foreseeable future projects, the impacts of which might compound or interrelate with those of the project under review.

As provided by CEQA Guidelines Section 15130(b), the following elements are necessary to an adequate discussion of cumulative impacts:

- Either: (A) a list of past, present, and reasonably anticipated future projects producing related or cumulative impacts, including those projects outside the control of the agency; or (B) a summary of projections contained in an adopted general plan or related planning document that is designed to evaluate regional or area wide conditions. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.
- A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available.

A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable options for mitigating or avoiding any significant cumulative effects of the proposed projects.

This Draft EIR assesses potential cumulative impacts of the Project in combination with other projects anticipated to occur by the year 2040[1]. The cumulative analysis in this Draft EIR utilizes a combined "list" and "projections" method, pursuant to State CEQA Guidelines Section 15130(b)(1). The list incorporates available information about existing and reasonably foreseeable development in the vicinity of the Project site, including implementation of the draft North Apple Valley Specific Plan. The projections are regional projections regarding anticipated changes in population and employment.

The geographic scope of the Draft EIR's analysis varies by topic, depending on the nature of potential impacts and where physical changes would occur. Impacts have been assessed at a level of specificity based on available information for each of the components of the proposed Project. Cumulative projects analyzed are identified below in Table 3-1.

Table 3-1. Cumulative Projects

Project Name	Location	Total Square Feet	Status	Acres
Apple Valley 143 - Covington Development	N~~n~~orth side of Stoddard Wells Road,	2.6-million-square-foot industrial warehousing distribution development	Scheduled Approval for November 2023	143

[1] This EIR uses the 2040 traffic volume forecasts method by using the countywide transportation model of the San Bernardino County Transit Authority (SBCTA) San Bernardino County Transportation Analysis Model and existing traffic volumes, which reflect past, present, and future developments expected by year 2040. (Additional detail provided in Section 4.12, Transportation and Circulation). Cumulative land use, population, and employment assumptions rely on the Southern California Association of Government's (SCAG's) Connect SoCal projections for year 2040.

Table 3-1. Cumulative Projects

Project Name	Location	Total Square Feet	Status	Acres
	2,500 feet east of Interstate 15 Freeway			
Redwood Industrial – The Development	Located southeast corner of Lafayette Street and Dale Evans Parkway	1.2-million-square-foot warehouse distribution center	Scheduled Approval for August/ September 2023	76
Loves Travel Center	Llocated north of Stoddard Wells Road and east of Interstate 15 Freeway	Travel center and RV park	Project Approved July 2023	33.5
Inland Empire Logistics Center	Parcel A is southeast of I-15/Outer Highway 15 South and south of Norco Street in the Town of Apple Valley, CA. Parcel B is north of I-15 in the City of Victorville, CA.	3.9-million-square-foot logistics center	Two draft EIRs anticipated Summer 2023	Unknown
Quarry	Southwest corner of Flint Road/Quarry Road.	1.46 million-square-foot industrial development in the NAVISP	Consolidated Draft EIR anticipated Summer 2023	76
Cordova	Southwest corner of Cardova Road/Navajo Road	1.56 million-square-feet industrial development in the NAVISP		
Green Trucking Solutions Cold Storage	Northwest corner of Lafayette Street and Navajo Road.	400,000-square-foot cold storage facility	Scheduled Approval for October 2023	86

3.3 Project Objectives

CEQA Guidelines Section 15124 requires an EIR to include a statement of objectives sought by the Project. The objectives assist the Town in developing a reasonable range of alternatives to be evaluated in the EIR. The Project objectives also aid decision makers in preparing Findings of Fact and a Statement of Overriding Considerations, if necessary. The statement of objectives also is to include the underlying purpose of a project and may discuss a project's benefits.

Purpose and Need

The High Desert/Victor Valley region has long been identified as an area having a low jobs–housing ratio (i.e., an area that has more potential workers living in a community than there are jobs for them),[2] resulting in high numbers of residents commuting out of the region for work. A low jobs-to-housing ratio can result in adverse environmental and economic effects on local communities. Long-distance commutes result in increased traffic and air quality and

[2] A jobs–housing ratio is a commonly used economic metric used to determine whether or not a community or region provides a sufficient number of jobs for its residents. The metric is calculated by finding the relationship between where people work ("jobs") and where they live ("housing"). As of 2021, the Town had a jobs/housing ratio of 1.07, which is below regional targets ranging from 1.25–1.50 (SCAG 2021; APA 2003).

greenhouse gas emissions, and out-of-region commuters often take a share of their purchasing power with them when they make purchases away from home.

Recognizing these trends, community leaders and officials have long sought to stimulate economic development within the High Desert region and provide residents with local employment opportunities. One strategy that community leaders and planners have used is to attract development of warehousing and distribution centers, which can provide hundreds of jobs per million square feet of development. Conventional and e-commerce retailers are continuing to embrace the strategy of creating and staffing large regional fulfillment centers, with the goal of quickly responding to online consumers. Because of its available land and infrastructure for large logistics facilities, many companies are locating their regional operations to the High Desert area.

As such, the Project would help meet the needs of the growing logistics sector while producing new jobs in a region that is typically viewed as housing rich and jobs poor.

Project Objectives

Consistent with the Project's purpose and need, the primary objectives sought by the Project are as follows:

- **Objective 1:** Develop an industrial building approximately 1,000,000 square feet ± in size to meet the existing and growing demand for large-format logistics and warehouse buildings in the region.
- **Objective 2:** Develop a fiscally sound, jobs-producing, and tax-generating land use in north Apple Valley.
- **Objective 3:** Concentrate nonresidential uses near existing roadways, highways, and freeways in an effort to isolate and reduce any potential environmental impacts related to truck traffic congestion, air emissions, industrial noise, and biological resources to the greatest extent feasible.
- **Objective 4:** Create a project that takes advantage of and enhances existing infrastructure, including the proximity to major regional roadways, railroad service corridors, and other similar infrastructure.
- **Objective 5:** Implement the development patterns envisioned in the North Apple Valley Industrial Specific Plan.

3.4 Project Characteristics

3.4.1 Project Components

The Project would include construction of a 1,080,125-square-foot industrial/warehouse building and associated improvements on 67.3 acres of vacant land (see Figure 3-10, Building Site Plan; Figure 3-11, Overall Project Site Plan). The Project would involve associated improvements, including loading docks, truck and vehicle parking, and landscaped areas.

Approximately 15,000 square feet of office space would be provided within the building. The building would have a maximum building height of 50 feet, measured from the finished floor to the top of building parapets. The building would have a floor area ratio (FAR) of 0.369.

The Project would include improvements along Central Road, Lafayette Street and Johnson Road, including construction of new roadways, frontage landscaping and pedestrian improvements (See Section 4.12, Transportation, Threshold C). A variety of trees, shrubs, plants, and land covers would be planted within the Project frontage's landscape setback area, as well as within the landscape areas found around the proposed industrial/warehouse building and throughout the Project site.

To account for the maximum potential disturbance associated with all on-site and off-site improvements, a maximum disturbance footprint has been developed, as shown on Figure 3-10, Building Site Plan and Figure 3-11, Overall Project Site Plan. Areas in which lateral utility connections may occur or where other roadway and pedestrian improvements may be necessary are also depicted. This maximum disturbance footprint was developed by accounting for all known improvements. In some cases, the exact location of some off-site utility lines within rights-of-way has not yet been confirmed with a high degree of certainty. Thus, to account for the possible movement of utility lines (which may occur if there are existing utility lines that conflict with the currently proposed alignments), the maximum disturbance area includes the full right-of-way in which improvements may occur. For the purposes of this EIR, it is conservatively assumed that the Project may result in ground disturbance within the full Potential Maximum Disturbance Footprint.

Together, the Project's off-site improvements are referred to as the Off-Site Street and Utility Improvements. The Off-site Street and Utility Improvements are discussed in detail in sections below and are summarized in Table 3-2.

Table 3-2. Project Components

Improvement Area	Project Components
Project Site	A 1,080,125-square-foot industrial/warehouse building (inclusive of 15,000 square feet of office/mezzanine space), internal roadways, trailer/automobile parking, landscaping, and stormwater facilities
Off-Site Street and Utility Improvements	▪ **Off-Site Water Line** ▪ One **16-inch water line** within **Johnson Road**, starting approximately 1,500 feet west of the intersection of Johnson Road and Central Road, extending to the northeast corner of the Project site at the intersection of Johnson Road and Sycamore Lane ▪ One **16-inch water line** within **Central Road**, starting at the intersection of Johnson Road and Central Road, extending to the southwest corner of the Project site at the intersection of Central Road and Lafayette Street ▪ **Off-Site Sewer Line** ▪ One **12-inch sewer line** within **Johnson Road**, starting at the intersection of Johnson Road and Central Road, extending to the southwest corner of the Project site at the intersection of Central Road and Lafayette Street ▪ One **12-inch sewer line** within **Lafayette Street**, starting at the intersection of Navajo Road and Lafayette Street, extending to the southwest corner of the Project site at the intersection of Central Road and Lafayette Street ▪ **Off-Site Street Improvements** ▪ **Construction** of **Central Road** from the eastern edge of the existing pavement surface to Central Road's eastern ROW from Johnson Road/Central Road to Central Road/Lafayette Street ▪ **Construction** of **Johnson Road** to varying widths from Johnson Road/Central Road to Johnson Road/Sycamore Lane ▪ **Construction** of **Lafayette Street** from its northern ROW boundary to approximately 6 feet south of its centerline from Lafayette Street/Central Road to Lafayette Street/Sycamore Lane

Note: See Figure 3-10, Building Site Plan and Figure 3-11, Overall Project Site Plan; ROW = right-of-way.

Site Access, Circulation, and Parking

Access to the Project site would be provided by four driveways (Figure 3-12, Vehicular Circulation and Access Plan). Two driveways would be located on Lafayette Street, one driveway would be located on Central Road, and one

driveway would be located on Johnson Road. All driveways would be 40 feet wide and would provide full access for passenger vehicles and trucks.

Consistent with Section 9.72.070 of the Town's Municipal Code (Town of Apple Valley 2022), all Project driveways have been designed to accommodate the turning radii of large trucks with trailers, fire trucks, and garbage trucks. Signage and striping would be provided to demarcate fire lanes and clear spaces throughout the site. The Project's two truck courts would include gated entrances. These gated entryways would be equipped with rapid-access Knox boxes to provide emergency access to these areas.

Paved passenger vehicle parking areas would be provided along the southern and northern portions of the building, while tractor-trailer stalls and loading docks would be provided along the western and eastern portions of the building. In total, the Project would provide approximately 224 loading dock positions, approximately 317 tractor-trailer stalls, and approximately 1,262 passenger vehicle parking spaces. Parking areas would include designated areas for electric vehicles and these spaces would be equipped with automobile electric vehicle (EV) charging stations.

Off-Site Street Improvements

To facilitate adequate on-site circulation, sufficient site access for both passenger vehicles and trucks, and to ensure efficient off-site circulation on nearby roadway facilities, the Project would involve the following off-site street improvements.

- **Central Road.** The Project would involve the construction of Central Road from the eastern edge of the existing pavement surface to Central Road's eastern ROW, starting at the intersection of Johnson Road and Central Road, extending to the southwest corner of the Project site at the intersection of Central Road and Lafayette Street. The portion of this improved roadway along the Project's frontage would include a curb, gutter, and sidewalk. The remaining undeveloped ROW on the western portion of the ROW would be completed at a future time, either by the Town or a future developer that is constructing a project fronting this ROW.
- **Johnson Road.** The Project would involve the construction of Johnson Road to varying widths, starting at the intersection of Johnson Road and Central Road, extending to the northeast corner of the Project site at the intersection of Johnson Road and Sycamore Lane. A portion of this road would be protected by an approximately 500-foot by 20-foot area of rip rap within the northern portion of Johnson Road's ROW to protect against flooding from a drainage, referred to as the N-02 drainage in the Apple Valley Master Plan of Drainage, in the north. A portion of this improved roadway along the Project's frontage and near the Project's northeast driveway would include a curb, gutter, and sidewalk. The remaining undeveloped ROW on the northern portion of the ROW would be completed at a future time, either by the Town or a future developer that is constructing a project fronting this ROW. When this occurs, the rip rap feature may be removed to accommodate the ultimate construction of Johnson Road.
- **Lafayette Street.** The Project would involve the construction of Lafayette Street from its northern ROW boundary to approximately 6 feet south of its centerline, starting at the intersection of Lafayette Street and Central Road, extending to the southeast corner of the Project site at the intersection of Lafayette Street and Sycamore Lane. The portion of this improved roadway along the Project's frontage would include a curb, gutter, and sidewalk. The remaining undeveloped roadway area within the southern portion of the ROW would be completed at a future time, either by the Town or a future developer that is constructing a project fronting this ROW.

Utility Improvements

Given the vacant, undeveloped nature of the Project site, both wet and dry utilities, including domestic water, sanitary sewer, and electricity, would need to be extended onto the Project site. Figure 3-13, Conceptual Utility Plan, depicts existing and proposed utilities that would serve the Project. These utilities are described in detail below.

Domestic Water

Domestic water service would be provided by Liberty Utilities. As part of the Project, new off-site water lines would be installed along Central Road and Johnson Road. Within Johnson Road, a 16-inch water line would be installed from an existing water line approximately 1.500 feet west of the intersection of Johnson Road and Central Road, extending to the northeast corner of the Project site at the intersection of Johnson Road and Sycamore Lane. Within Central Road, a 16-inch water line within be installed from the proposed 16-inch water line within Johnson Road to the southwest corner of the Project site at the intersection of Central Road and Lafayette Street. The proposed warehouse building would connect laterally to these proposed off-site water line improvements. To ensure adequate water pressure, an underground booster pump station would be located within the Project site in coordination with Liberty Utilities.

Sanitary Sewer

Sanitary sewer service would be provided the Victor Valley Wastewater Reclamation Authority (VVWRA). As part of the proposed Project, new sewer lines would be installed along Central Road and Lafayette Street. Within Johnson Road, a 12-inch sewer line would be installed starting at the intersection of Johnson Road and Central Road, extending to the southwest corner of the Project site at the intersection of Central Road and Lafayette Street. Within Lafayette Street, a 12-inch sewer line would be installed within Lafayette Street, starting at the intersection of Navajo Road and Lafayette Street, extending to the southwest corner of the Project site at the intersection of Central Road and Lafayette Street.

Storm Drainage

A new stormwater drainage system would be constructed on the Project site to collect and treat on-site stormwater (see Figure 3-14, Conceptual Stormwater Plan).

Under the existing conditions, the Project site is vacant and undeveloped. Central Road, along the site's western border, is a paved road with dirt shoulders. Johnson Road and Lafayette Street, along the site's northern and southern borders, respectively, are graded and unpaved roads. The N-02 drainage extends across the Project site's northwest corner, coming from northeast of the site, crossing Johnson Road, and flowing towards the southwest. The drainage crosses Central Road, flows further southwest, and becomes undefined near the Apple Valley Airport. Within the balance of the Project site outside of the N-02 drainage, stormwater sheet flows from the northeast towards the southwest, sheet flowing outside of the Project site across Central Road and Lafayette Street.

Under Project conditions, the Project's stormwater system involves capturing, treating, and infiltrating stormwater on site; conveying flows that exceed the capacity of the stormwater system off site onto and across Central Road; and collecting and rerouting run-on flows off site towards their historical flow areas.

On-Site Capture, Treatment, and Infiltration of Stormwater

Stormwater flows would fall throughout the Project site onto the building's roof, paved areas, landscaped surfaces, and aboveground stormwater detention basins. Stormwater flowing onto the building's roofs would flow on the roof

structure towards roof drains and downspouts that would drain to paved areas. These flows, along with flows falling onto paved surfaces, would flow towards a series of gutters and catch basins. Catch basins would include best management practice (BMP) features that would treat stormwater and filter trash and debris and separate oils from water. Catch basins would be connected via underground storm drains to a series of aboveground and underground detention basins along the eastern, western, and southern frontages of the Project site. These basins would be feature -amended soils and bases to allow for stormwater to infiltrate and recharge the underlying groundwater basin. The on-site stormwater drainage system would capture and attenuate stormwater consistent with Town and San Bernadino County stormwater requirements, including requirements in the San Bernardino County Hydrology Manual and Mojave Watershed Technical Guidance. Consistent with these requirements, the stormwater system would treat flows collected under a 2-year design storm and would attenuate flows for a 100-year design storm. For storms above the 2-year design storm, during which the proposed infiltration basins reach their capacity, excess flows would overflow onto Central Road via an outflow pipe located at the top of the western basins. These flows would flow onto and across Central Road towards the N-02 drainage west of Central Road, consistent with the existing hydrological patterns.

Collecting and Rerouting Run-On Flows Offsite

Run-on refers to surface runoff from an external area that flows on to an area of interest. The Project site receives run-on flows from the north from the N-02 drainage as well as from the east via downgradient sheet flow. The Project would involve the construction of an engineered drainage channel along the northwestern corner of the site. Run-on flows coming from the north, which cross over Johnson Road, would run onto the site and into the drainage channel. As part of the Project, Johnson Road would be paved and feature an approximately 500-foot by 20-foot area of rip rap on its north side to slow run-on flow velocities. After passing through the rip rap feature, flowing over Johnson Road, and flowing into the drainage channel, flows would be routed within the channel in a southwesterly direction towards the channel's termination point at the center of the site's western boundary, north of the driveway on Central Road. At this termination area, the channel would transition to an approximately 300- to 400-foot-wide apron area where flows would sheet flow onto and across Central Road towards the N-02 drainage west of Central Road, consistent with the existing hydrological condition.

The on-site drainage channel would feature an above-grade earthen berm on the westerly side to protect the Project site from run-on flows, a slightly below-grade earthen bottom to route flows, and an at-grade easterly downslope to allow from run-on flows to be collected.

For additional information, see Section 4.8, Hydrology and Water Quality.

Gas, Electric, and Telecommunication Facilities

Upgrades would be required with respect to electric power, natural gas, and telecommunication facilities (i.e., cable television services). These utilities would be part of a dry utility package that would be installed on site from their locations immediately fronting the Project site to provide service to the Project.

Architecture

The Project's design employs a variety of architectural strategies to create a contemporary, unified, and high-quality business park environment. Building façades would feature a complementary neutral color palette and a variety of building materials, similar to other industrial development located throughout the Town and region. Building elevations include vertical and horizontal elements that would break up the overall massing of the buildings (Figure 3-15, Conceptual Elevations).

In an effort to ensure that current and future development within the Town is designed and constructed to conform to existing visual character and quality of the surrounding built environment, the Town of Apple Valley Development Code (Title 9 of the Town's Municipal Code) includes design standards related to building size, height, floor area ratio, and setbacks, as well as landscaping, signage, and other development standards that have an effect on visual considerations. These design standards help adjacent land uses to be visually consistent with one another and their surroundings and reduces the potential for aesthetic conflict. The design specifications of all development proposals submitted to the Town are reviewed for compliance with all applicable provisions set forth by the Development Code. As part of the Town's development review process, the Project's architectural plans are reviewed by Town staff and the Planning Commission to determine whether Project design conforms to the Development Code and promotes the visual character and quality of the surrounding area.

Landscaping and Lighting Improvements

As depicted in Figure 3-16, Landscape Plan, approximately 43,998 square feet of landscaping is proposed for the passenger vehicle parking areas, around the portions of the buildings visible from off-site areas, as well as the site's frontages along Lafayette Street and Central Road. Landscaping along the site's frontages would include a mixture of trees, shrubs, and groundcover. All proposed trees are 24-inch box trees and include blue palo verde, desert willow, Afghan pine, Chinese pistache, London plane, Chilean mesquite, scrub oak, African sumac, California pepper, and Brisbane box. The Project's landscaping would also include a number of shrubs as well as accent and groundcover plants. Plant materials were selected for low water and minimal maintenance. The Project's overall landscaping plan has designed to be consistent with Chapter 9.75 of the Town's Municipal Code, which contains landscaping regulations for development.

Project lighting would feature a mix of pole-mounted and wall-mounted lighting fixtures. Consistent with Section 9.47.090 of the Town's Municipal Code, exterior lighting would be located and designed to avoid direct glare onto adjacent properties.

Sustainability Features and Project Design Features

The Project has been designed to include a number of Project Design Features (PDFs) to incorporate best management practices for warehouse facilities. These PDFs are included within the Project. To ensure that these PDFs are implemented during construction and operation, they will be tracked within the Project's Mitigation Monitoring and Reporting Program. These PDFs are provided below and organized by site and building design, construction, and operation.

PDF-AQ-1 Construction

- **Heavy-Duty Off-Road Construction Equipment Requirements/Restrictions.** During Project construction, all internal combustion engines/construction equipment greater than ~~150~~ 25 horsepower operating on the Project site shall meet U.S. Environmental Protection Agency-certified Tier 4 ~~Interim~~ Final emissions standards. The Project Applicant or successor in interest shall include this requirement in applicable bid documents, purchase orders, and contracts with successful contractors. Successful contractors must demonstrate the ability to supply the compliant construction equipment for use prior to any ground-disturbing and construction activities. An exemption from these requirements may be granted by the Town of Apple Valley in the event that the Project Applicant or successor in interest documents that equipment with the required tier is not reasonably available and corresponding reductions in criteria air pollutant

emissions are achieved from other construction equipment.[3] Before an exemption may be considered by the Town of Apple Valley, the Project Applicant or successor in interest shall be required to demonstrate that at least two construction fleet owners/operators in the High Desert and San Bernardino Region were contacted and that those owners/operators confirmed Tier 4 ~~Interim~~ Final or better equipment could not be located within the High Desert and San Bernardino Region. In the event that Tier 4 Final construction equipment is not available, the Project Applicant may utilize Tier 4 Interim or Tier 3 construction equipment outfitted with Best Available Control Technology (BACT) devices, including but not limited to CARB-certified Level 3 Diesel Particulate Filters (DPF).

- **Provision of Electrical Infrastructure for Construction and Use of Electric Construction Equipment.** After the grading phase of Project construction, the Project Applicant or successor in interest shall provide temporary electrical hook ups to the power grid, rather than diesel-fueled generators, for contractors' electric construction tools, such as saws, drills, and compressors. The use of diesel-fueled generators for on-site construction activities shall be prohibited unless electrical infrastructure is not yet available on the Project site. Diesel-fueled generators may be used for off-site construction work. All off-road equipment with a power rating below 19 kilowatts (e.g., plate compactors, pressure washers) used on site during Project construction must be electric-powered. The Project Applicant or successor in interest shall include these requirements in applicable bid documents, purchase orders, and contracts with successful contractors.
- **Construction Equipment Idling Restrictions.** The idling of heavy construction equipment for more than 5 minutes shall be prohibited. Signage shall be posted throughout the construction site informing construction personnel of the idling time limit. Idling time limits shall be noted in construction specifications. Subject to all other idling restrictions, heavy construction equipment shall not be left in the "on position" for more than 10 hours per day.
- **Construction Haul Truck Requirements.** All haul trucks entering the Project construction site during the grading and building construction phases shall meet California Air Resources Board model year 2014 engine emission standards. All heavy-duty haul trucks should also meet CARB's lowest optional low oxides of nitrogen (NO_x) standard.
- **Dust Control Measures.** ~~In~~ The Project will be in compliance with all applicable Rules and Regulations of the Mojave Desert Air Quality Management District (MDAQMD), including, but not limited to Rules 401 (Visibile Emissions), 402 (Nuisance), and 403 (Fugitive Dust). To ensure compliance with these Rules and Regulations, the Project Applicant or successor in interest shall prepare and submit a Dust Control Plan to the MDAQMD for approval. The Dust Control Plan shall document the best management practices (BMPs) that will be implemented during Project construction to prevent, to the maximum extent practicable, wind and soil erosion. BMPs that will be included in the Dust Control Plan shall include, but are not limited to, covering soil stockpiles when not in use and watering soils during earth-moving activities. On days when the hourly average wind speed for north Apple Valley exceeds 20 miles per hour, additional dust control measures shall be implemented, such as increased surface watering. Grading and excavation shall be prohibited when sustained wind speed exceeds 30 miles per hour.

  In addition, the Project applicant or its designee shall provide to all Project construction employees the fact sheet entitled "Preventing Work-Related Coccidioidomycosis (Valley Fever)" by the California Department of Public Health and ensure all employees are aware of the potential risks the site poses. The Project

[3] For example, if a Tier 4 Interim piece of equipment is not reasonably available at the time of construction and a lower tier equipment is used instead (e.g., Tier 3), another piece of equipment could be upgraded from a lower tier to a Tier 4 or replaced with an alternative-fueled (not diesel-fueled) equipment to offset the emissions associated with using a piece of equipment that does not meet Tier 4 Interim standards.

applicant or its designee shall inform all Project construction employees of all occupational responsibilities and requirements contained in these measures to reduce potential exposure to *Coccidioide*s spores.

The training shall include all the following topics:

a. What Valley Fever is and how it is contracted.
b. High-risk areas and types of work and environmental conditions during which the risk of contracting Valley Fever is highest.
c. Personal risk factors that may create a higher risk for some individuals.
d. Personal and environmental exposure prevention methods.
e. Importance of early detection, diagnosis, and treatment.
f. Recognizing common signs and symptoms of Valley Fever.
g. Importance of reporting symptoms to the employer and seeking medical attention.
h. Common treatment and prognosis for Valley Fever.

Furthermore, the Project shall implement the following actions related to Valley Fever:

- An Injury Prevention Program, which shall include measures to prevent exposure to Valley Fever spores and the worker awareness training described in Labor Code Section 6709 (c) and (d).
- National Institute for Occupational Safety and Health (NIOSH)-approved respirators for workers with a history of Valley Fever.
- Half-face respirators equipped with a minimum N-95 protection factor for workers engaged in or working near soil disturbance activities.
- The Applicant shall prevent transport of cocci outside the Project area during Project construction by (a) thoroughly cleaning vehicles and equipment before they are moved off-site to other work locations; (b) providing workers with coveralls, lockers or other daily changing facilities to keep work and street clothing and shoes separate; and (d) post warnings of potential Valley Fever exposure onsite and consider limiting access to visitors, especially those without adequate training and respiratory protection.

The Applicant shall provide prompt access to medical care to construction workers who have symptoms of Valley Fever.

- **Construction Waste Recycling and Management.** Consistent with Section 5.408.1 of the California Green Building Standards Code Part 11, a minimum of 65% of the nonhazardous construction and demolition waste shall be recycled and/or salvage for reuse.
- **Architectural Coating Requirements.** Architectural and industrial maintenance coatings (e.g., paints) applied on the Project site shall have volatile organic compound levels of less than 10 grams per liter (g/L).
- **Construction Charging Area.** An area in the construction site shall be designated where electric-powered construction vehicles and equipment can charge.
- **Construction Employee Meal Options.** Meal options onsite or shuttles between the facility and nearby meal destinations shall be provided for construction employees.

- **Construction Logs.** The Project's construction manager shall maintain on the construction site construction logs detailing the following:
  - An inventory of construction equipment, maintenance records, and datasheets, including design specifications and emission control tier classifications
  - Verification that construction equipment operators have been advised of idling time limits and photographic evidence that signage with idling time limits have been posted around the construction site
  - Evidence that construction contractors have been provided with transit and ridesharing information for construction workers
- Construction logs shall be made available in the event that local, regional, or state officials (e.g., officials from the Town of Apple Valley, Mojave Desert Air Quality Management District, or California Air Resources Board) conduct an inspection at the Project site.

PDF-AQ-2 Site Design

- **Sustainable Design/LEED Measures.** The Project shall be designed so that it is able to achieve Leadership in Energy and Environmental Design (LEED) certification at the time of building permit application. Documentation shall be provided to the Town of Apple Valley demonstrating that the Project meets this requirement prior to the issuance of building permits.
- **Design of Ingress/Egress Points.** Entry gates into the loading dock/truck court areas shall be sufficiently positioned to ensure that all truck and other vehicles are contained on site and inside the property line. Queuing, or circling of vehicles, on public streets immediately pre- or post-entry to the Project shall be strictly prohibited unless queuing occurs in a deceleration lane or right turn lane exclusively serving the Project site. Signs shall be posted at every truck exit driveway providing directional information for the truck route.
- **Measures to Reduce the Urban Heat Island Effect.** The following measures shall be implemented to reduce the urban heat island effect:
  - The Project's roof structures shall be designed to include "cool roof" materials with a minimum aged reflectance and thermal emittance values that are equal to or greater than those specified in the current edition of the California Green Building Standards (CALGreen), Table A5.106.11.2.3 for Tier 1 standards.
  - Sufficient shade trees shall be provided throughout the Project site so that at least 30% of the automobile parking areas will be shaded within 15 years after Project construction is complete (excluding the truck courts where trees cannot be planted due to interference with truck maneuvering).

PDF-AQ-3 Operation

- **Truck Routing Plan.** The Project Applicant or successor in interest shall establish and submit for approval to the Town of Apple Valley a Truck Routing Plan that provides for routes between the Project site and the State Highway System. The Truck Routing Plan shall include measures, such as signage, pavement markings, and enforcement, for preventing truck queuing, circling, stopping, and parking on public streets. The Truck Routing Plan shall make every effort to avoid passing sensitive receptors, to the greatest extent possible, unless otherwise superseded by an applicable truck routing ordinance adopted by the Town of Apple Valley. The tenant/operator of the Project shall be responsible for enforcement of the Truck Routing Plan. A revised plan shall be submitted to the Town of Apple Valley prior to a business license being issued by the Town of Apple Valley for any new tenant/operator of the Project site. The revised plan shall expand upon the original Truck Routing Plan and describe the operational characteristics of the use of the tenant/operator, including, but not limited to, hours of operations, types of items to be stored within the

building, and whether any modifications to the Project's designated truck routes are necessary. The Town of Apple Valley shall have discretion to determine if changes to the Truck Routing Plan are necessary including any additional measures to alleviate truck routing and parking issues that may arise during the life of the Project. Signs and drive aisle pavement markings shall clearly identify the on-site circulation pattern to minimize unnecessary on-site vehicular travel.

- **Yard Sweeping to Reduce Fugitive Dust.** The following measure shall be implemented during all ongoing business operations and shall be included as part of contractual lease agreement language to ensure that tenants and operators of the Project are informed of the following operational responsibility:
  - Yard and parking area sweeping shall be periodically conducted to minimize dust generation from the Project site. The building manager or their designee shall be responsible for enforcing this requirement.
- **Restriction on Cold and/or Refrigerated Space.** Operations involving cold or refrigerated storage shall be prohibited unless additional environmental review, including a Health Risk Assessment, is conducted and certified pursuant to the California Environmental Quality Act.
- **Solar-Powered Water Heaters.** Solar-powered water heaters shall be installed on the Project site.
- **Timed Lighting.** A timer system for lighting to ensure that lights shall be switched off during times of non-operation shall be installed on the Project site.
- **Provision of Information Regarding Programs to Reduce Emissions from Trucks.** Prior to tenant occupancy, the Project Applicant or successor in interest shall provide documentation to the Town of Apple Valley demonstrating that occupants/tenants of the Project site have been provided informational documentation regarding:
  - Funding opportunities that provide incentives for using cleaner-than-required engines and equipment, such as the Carl Moyer Program and Voucher Incentive Program
  - The U.S. Environmental Protection Agency (EPA) SmartWay Program, which assists freight shippers, carriers, logistics companies, and other stakeholder partners with the U.S. EPA, to measure, benchmark, and improve logistics operations and reduce air pollutant emissions from the transport of cargo.
- ~~**Provision of Information Regarding Reducing Emissions from Area and Energy Sources.** Prior to tenant occupancy, the Project Applicant or successor in interest shall provide documentation to the Town of Apple Valley demonstrating that occupants/tenants of the Project site have been provided informational documentation regarding:~~
  - ~~Information regarding energy efficiency, energy efficient lighting and lighting control systems, energy management, and existing energy incentive programs~~
  - ~~Information regarding and a recommendation to use cleaning products that are water based or containing low quantities of volatile organic compounds~~
  - ~~Information regarding and a recommendation to use electric or alternatively fueled sweepers with high efficiency particulate air (HEPA) filters.~~

As noted above, during process of preparing this Draft EIR, certain measures have been identified as required to reduce the Project's environmental impacts with regard to air quality, greenhouse gas emissions, and energy. These measures are identified as mitigation measures within the applicable environmental analysis chapters.

Lot Line Adjustment

The Project consists of two parcels (APNs 0463-241-02 and 0463-241-03), as depicted on Figure 3-17, Existing and Proposed Property Lines. The Project involves a lot line adjustment to reconfigure the property lines on the

Project site. A lot line adjustment generally involves modifying the boundary line between two or more adjacent legal parcels to take land from one parcel and add it to another parcel. As part of the Project's proposed lot line adjustment, the portion of APN 0463-241-02 that is north of Lafayette Street and west of Sycamore Lane would be added to the Project site. After accounting for the portion of property granted to APN 0463-241-02, the balance of this property would remain the same and unaffected by the Project. The lot line adjustment is subject to coordination and approval by the owners of both properties.

Operational Characteristics

A tenant for the proposed industrial warehouse building has not been identified. Notwithstanding, based on the Project Applicant's experience developing, owning, and operating similar warehouse buildings, business operations would be expected to be conducted within the enclosed building, with the exception of the ingressing an egressing of trucks and passenger vehicles accessing the site, passenger and truck parking, the loading and unloading of trailers within designated truck courts/loading areas, and the internal and external movement of materials around the Project site via forklifts, pallet jacks, yard hostlers, and similar equipment. While operational hours are anticipated to follow common working hours (e.g., 8-12 hours per day), this EIR assumes that the facility could be operated 24 hours a day, 7 days a week. Cold or refrigerated storage would not be permitted in the proposed building. Should cold or refrigerated storage be required in the future, the addition of such space would be subject to additional environmental review and approval by the Town.

Because an end user of the building has not yet been identified, specific details regarding future operational activities on the Project site are not yet available. However, for the purposes of CEQA, this EIR assumes development of a "high-cube" warehouse. High-cube warehouses or distribution centers are primarily used for the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations and other warehouses. Thus, the modeling assumptions used for the air quality, health risk assessment, greenhouse gas, energy, and traffic impact analyses summarized in subsequent chapter of this EIR assume a "high-cube, non-sort" warehouse use.

3.4.2 Project Construction

Based on information provided by the Project Applicant, it is assumed that construction of the Project would begin December 2023 and would conclude towards the end of October 2025,[4] lasting approximately 22 months. On-site facility development and off-site improvements were accounted for within this schedule. The analysis contained herein is based on the following assumptions (duration of phases is approximate):

- Site preparation: December 2023 -- January 2024
- Grading: January 2024 – March 2024
- Pipeline installation: March 2024 – August 2024
- Building construction: September 2024 – May 2025
- Paving: May 2025 – July 2025
- Architectural coating: July 2025 – October 2025

[4] The analysis assumes a construction start date of December 2023, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant and greenhouse gas emissions, because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

Construction activities would include site preparation (e.g., vegetation clearing, grubbing, tree removal, discing), grading, building construction, paving, and architectural coating.

Construction activities would generally occur across six phases: site preparation (e.g., vegetation clearing, grubbing, tree removal, discing), grading, building construction/utility installation, paving, and architectural coating. With the exception of architectural coating (which would only occur on the Project site), all phases would occur both on the Project site and within the Off-Site Street and Utility Improvements.

For on-site and off-site development, it was assumed that approximately 150,000 cubic yards and 2,288 cubic yards of soil would be exported, respectively. For the analysis, it was generally assumed that heavy-duty construction equipment would be operating at the site 5 days per week.

The six phases of construction are described in detail below and activities are differentiated between activities on the Project site and activities occurring within the Off-Site Street and Utilities Improvements alignments.

Site Preparation

Project Site

Site Preparation generally refers to the removal of debris, organic materials, deleterious materials, and loose and unusable soils from a site prior to grading. During the site preparation phase, construction crews would use tractors/mowers, loaders, backhoes, and rubber-tired dozers to uproot and remove vegetation. Removed vegetation would be chipped/mulched and would be loaded into trucks that would transport the organic waste to an approved disposal facility. In addition, the Project would involve the relocation of certain plant specimens pursuant to Town and state regulations. For these affected plant specimens, construction crews would excavate the specimens from their current locations and stockpile them in a storage area that would be approved by a certified arborist or desert native plant expert. Specimens would be removed from their current locations with the use of a front-end loader, hydraulic tree spade, or through the use of hand tools and manual digging. Additional detail about this process is provided in Section 4.3, Biological Resources, and the Joshua Tree Preservation, Protection, and Relocation Plan, and Desert Native Plant Relocation Plan for the 1M Warehouse Project (Appendix B of Appendix C, Biological Resources Technical Report). Plant specimens within the Project site that cannot be transplanted would be removed in the same manner as other trees and shrubs on the site.

Site preparation activities would occur throughout the entirety of the Project site.

Off-Site Street and Utility Improvements

The same site preparation activities described above would occur. It is assumed these activities would occur within the full extent of the public right-of-way. Given that the majority of these areas are already dirt roads, site preparation activities would largely be limited to removing vegetation and debris on the edges of the existing roadways, up to the edge of the public right-of-way.

Where utility lines would be installed within existing paved roadways, no site preparation activities would occur.

The relocation of plant specimens pursuant to Town and state relocation requirements is not anticipated to be required within the Off-Site Street and Utility Improvements areas.

Grading

Project Site

Following the site preparation phase, grading would occur. Grading generally refers to the process of using heavy machinery to alter the surface of a site to obtain a specified slope. Grading would involve the use of several pieces of heavy machinery, including bulldozers, track-hoe excavators, front-end loaders, dump trucks, motor graders, water trucks, and rollers for compaction. All grading would be done in accordance with a formal stormwater pollution prevention plan for the Project, which would employ best management practices, such as using hay bales and diversion ditches, to control stormwater runoff during construction.

Off-Site Street and Utility Improvements

For the areas where off-site roadways and utilities would be constructed, the same grading activities described above for the Project site would occur directly within the footprint of proposed roadway improvements. All grading activities would occur within the footprint of areas that have already been disturbed as part of the site preparation phase.

Grading would not be necessary for the off-site utility alignments that would not be covered by a proposed roadway.

Building Construction/Utility Installation

Project Site

After the site has been graded, underground utility lines would be installed, and the buildings would be constructed. Installation of lateral utility lines would involve trenching using a backhoe, the placement of pipelines using a crane or tractors/loaders/backhoes, and the backfilling of the trenches. Subsequently, the building foundations would be poured, and the buildings would be constructed. The proposed building would be constructed with a tilt-up construction method. With tilt up construction, slabs of concrete, which comprise load-bearing sections of a building envelope or elevation, are cast horizontally on a concrete slab-on-ground. The slabs are then lifted (tilted) with a crane after the concrete has reached sufficient strength. The crane sets the panels, most often in a vertical orientation, on prepared foundations, thus forming the desired wall line from a series of consecutive panels standing next to each other. Roof structures and other internal features would subsequently be installed.

Off-Site Street and Utility Improvements

All off-site utilities would be installed within the footprints of existing roadways. These utilities would be installed in the same manner as the utilities on the Project site.

Paving

Project Site

Following building construction, roadways and pavement surfaces would be constructed using pavers, paving equipment, and rollers. All parking spaces would be striped.

Off-Site Utility Improvements

During this phase, asphalt trenching would be required to install the water and sewer infrastructure along Johnson Road, Central Road, and Lafayette Street. During construction of off-site utilities, a traffic control plan would be implemented to ensure sufficient circulation in the area is maintained. Once the infrastructure has been installed, asphalt trenching repair that complies with the Town's standards would be conducted to return affected street areas back to operating conditions.

Architectural Coating

Project Site

Architectural coatings would be applied to the Project site using paint sprayers powered by compressors. Coatings would be applied manually by construction crews. Landscaping would also be installed during this phase.

Off-Site Street and Utility Improvements

Architectural coatings would not be applied for this phase/area. Off-site landscaping is not proposed.

3.5 Activities Subject to Regulatory Permitting

The Project involves several components that are subject to regulatory permitting by local, regional, and state agencies. Table 3-3 below provides a summary of the Project components subject to these regulations, describes which activities trigger permitting, the regulatory agencies tasked with issuing permits, anticipated permits required, and summarizes anticipated mitigation measures included within this EIR to address permit requirements.

Table 3-3. Activities Subject to Regulatory Permitting

Project Component	Description of Activity	Regulating Agency	Anticipated Permits Required	Applicable Regulations	Summary of Anticipated MMs	Additional Notes
Removal of western Joshua tree	▪ Removal of 1 western Joshua tree during site preparation phase of construction	CDFW	Incidental Take Permit	CFG §2081 *et seq.*	MM-BIO-2: Conservation of Western Joshua Tree Lands MM-BIO-3: Relocation of Desert Native Plants	Relocation of western Joshua tree is not anticipated to be required per the requirements of an Incidental Take Permit or the CDNPA; AVMC requires relocation of impacted trees. Affected trees would be stockpiled and incorporated into the landscape plan pursuant to Town requirements.
		SBC	Native Plant Removal Permit	CNDPA §8000 *et seq.*	MM-BIO-3	
		Town of Apple Valley	Native Tree or Plant Removal Permit	AVMC Chapter 9.76 *et seq.*	MM-BIO-3	
Removal of Wiggin's Cholla and Branched Pencil Cholla	▪ Removal of 7 Wiggins' cholla and 12 branched pencil cholla during the site preparation phase of construction	SBC	Native Plant Removal Permit	CDNPA §8000 *et seq.*	MM-BIO-3	Relocation of Wiggin's Cholla and Branched Pencil Cholla is not anticipated to be required per the CDNPA; AVMC requires relocation of these impacted plants. Affected plants would be stockpiled and incorporated into the landscape plan pursuant to Town requirements.
		Town of Apple Valley	Native Tree or Plant Removal Permit	AVMC §9.76 *et seq*	MM-BIO-3	
Improvements within N-02 drainage and modification of N-02 Drainage	▪ Grading and drainage reconfiguration ▪ Construction of Johnson Road ▪ Placement of rip rap north of Johnson Road	CDFW	Lake and Streambed Alteration Agreement	CFG §1602 *et seq.*	MM-BIO-19: Aquatic Resources Mitigation	N/A
		RWQCB	Waste Discharge	CWC §13260	MM-BIO-19	

Table 3-3. Activities Subject to Regulatory Permitting

Project Component	Description of Activity	Regulating Agency	Anticipated Permits Required	Applicable Regulations	Summary of Anticipated MMs	Additional Notes
	▪ Improvements to Central Road Installation of sewer line within unnamed drainage		Requirements Program			

Notes: CDFW = California Department of Fish and Wildlife; CFG = California Fish and Game Code; § - Section; SBC = San Bernardino County; CNDPA = California Desert Native Plants Act; AVMC = Town of Apple Valley Municipal Code; MM = Mitigation Measure; RWQCB = Regional Water Quality Control Board.

3.~~5~~6 Standard Requirements and Conditions of Approval

The Project has been reviewed in detail by Town staff. Various Town departments and divisions are responsible for reviewing land use applications for compliance with Town codes and regulations. These departments and divisions were also responsible for reviewing this EIR for technical accuracy and compliance with CEQA. The following Town departments and divisions were responsible for technical review:

- Town of Apple Valley, Planning Division
- Town of Apple Valley, Building and Safety Division
- Town of Apple Valley, Department of Public Works
- Town of Apple Valley, Engineering Department
- Apple Valley Fire Protection District

This review of the Project by the Town departments and divisions listed above resulted in a comprehensive set of draft Conditions of Approval that will be available for public review prior to consideration of the Project by the Apple Valley Planning Commission. These conditions will be considered by the Planning Commission in conjunction with its consideration of the Project. If approved, the Project will be required to comply with all imposed Conditions of Approval.

Where applicable, Conditions of Approval and other applicable regulations, codes, and requirements to which the Project is required to comply and that result in the reduction or avoidance of an environmental impact are specified in each subsection of Chapter 4, Environmental Analysis, of this EIR. In addition, the Project is required by state law to comply with the California Building Standards Code and its California Green Building Standards (CALGreen) component (Title 24), which includes mandatory building standards aimed at reducing energy use.

3.~~6~~7 Requested Actions

The Town has primary approval responsibility for the Project. As such, the Town is serving as the lead agency for this EIR, pursuant to CEQA Guidelines Section 15050.

The following discretionary and ministerial actions under the jurisdiction of either the Town of Apple Valley or a responsible or trustee agency would be required. This EIR covers all federal, state, and local government and quasi-government approvals that may be needed to implement the Project, whether or not they are explicitly listed herein or elsewhere in this EIR (14 CCR 15124[d]).

Town of Apple Valley

Discretionary Approvals

Planning Commission

- **Site Plan Review.** The Community Development Director has authority to approve a Site Plan Review application, which can be appealed to the Planning Commission (NAVISP P. 111-52).
- **Lot Line Adjustment.** The Planning Commission will review and approve or deny the proposed lot line adjustment to modify the boundaries of the two parcels within the Project site.

Ministerial Approvals - Subsequent Implementing Approvals

- Lot Line Adjustment
- Remove and relocate on-site protected native desert plants
- Issue grading permits
- Issue building permits
- Issue encroachment permits

Liberty Utilities

- Approvals for water and sewer infrastructure

California Department of Fish and Wildlife

- Incidental Take Permit for take of western Joshua tree
- Lake and Streambed Alteration Agreement for discharge of fill materials into potentially jurisdictional waters

Regional Water Quality Control Board

- Waste Discharge Requirements Program for discharge of fill materials into potentially jurisdictional waters

3.~~7~~8 References

APA (American Planning Association). 2003. Planning advisory Service Report Number 516: Jobs-Housing Balance. November 2003. http://planning-org-uploaded-media.s3.amazonaws.com/publication/download_pdf/PAS-Report-516.pdf

SCAG (Southern California Association of Governments. 2021. Pre-Certified Local Housing Data for the Town of Apple Valley. Updated 2021. https://scag.ca.gov/sites/main/files/file-attachments/apple-valley-he-0421.pdf?1620801830

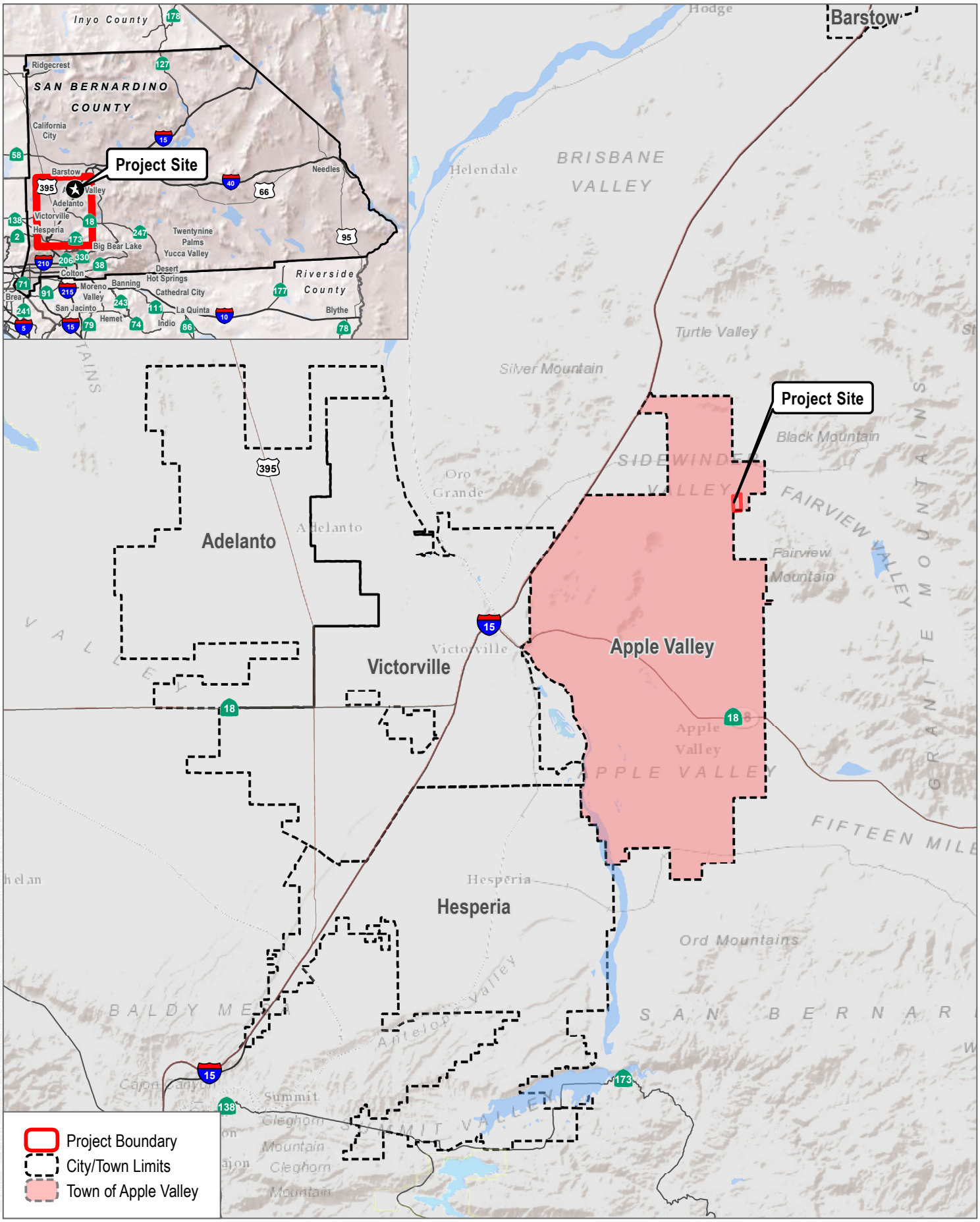
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Town of Apple Valley. 2021. Zoning Map. Printed December 17, 2021. https://www.applevalley.org/home/showpublisheddocument/31600/637757741520900000

Town of Apple Valley. 2022. Town of Apple Valley Municipal Code. Updated September 7, 2022. https://library.municode.com/ca/apple_valley/codes/code_of_ordinances?nodeId=TOAPVACAMUCO.



SOURCE: DigitalGlobe 2017; San Bernadino County 2021

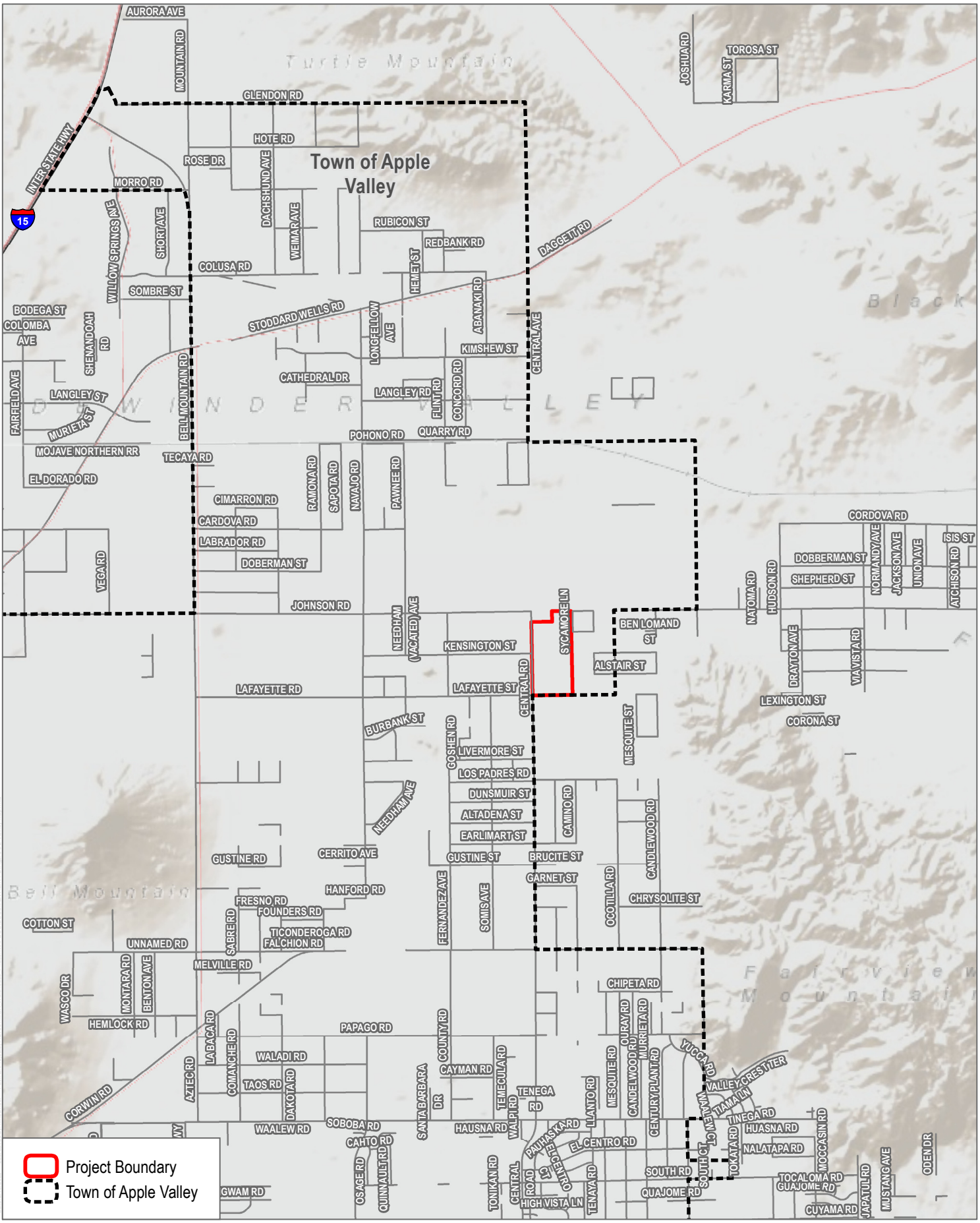
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FIGURE 3-1

Regional Project Location

1M Warehouse Project

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SOURCE: DigitalGlobe 2017; San Bernadino County 2021

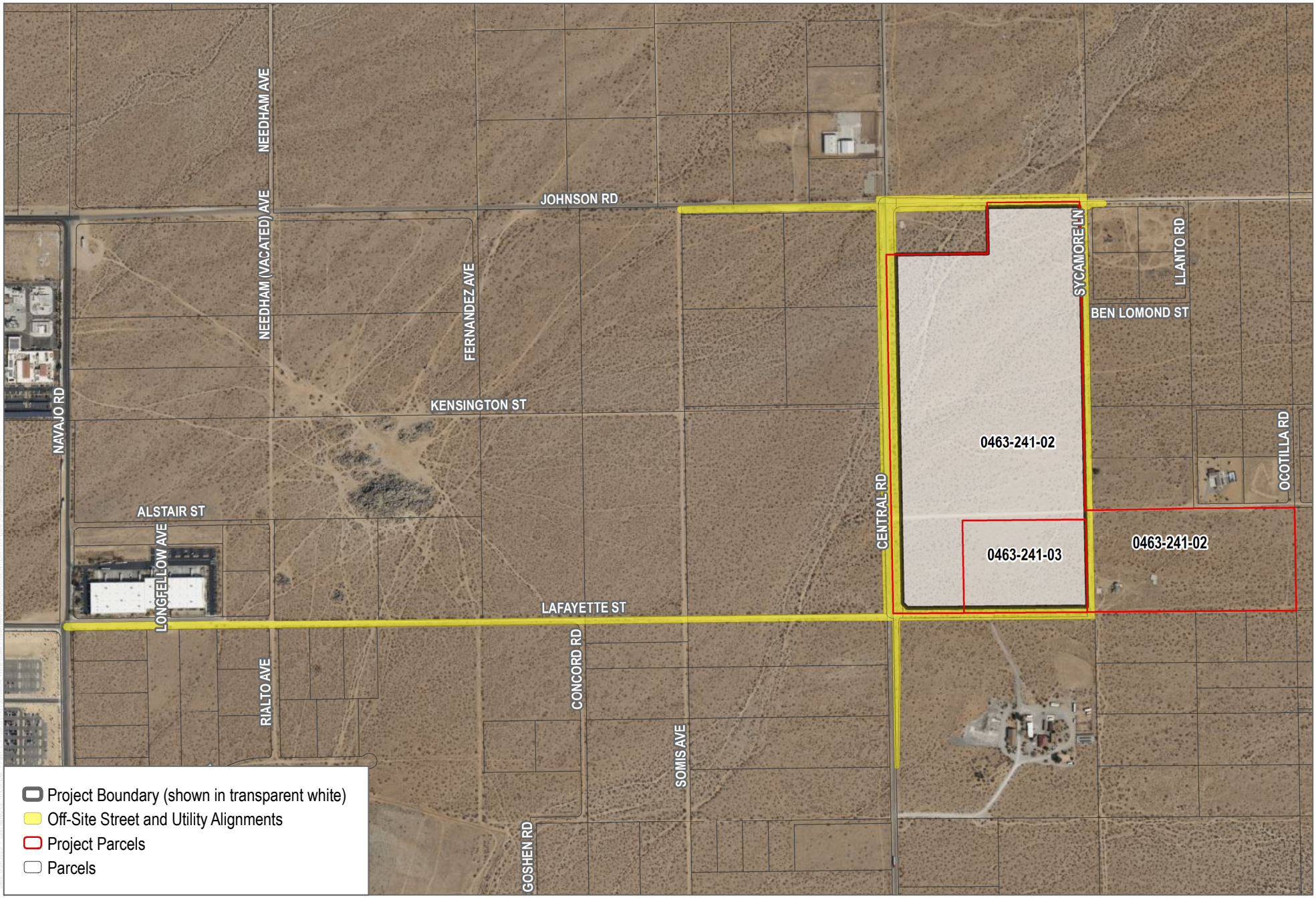
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FIGURE 3-2

Vicinity Map

1M Warehouse Project

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SOURCE: DigitalGlobe 2017; San Bernadino County 2021

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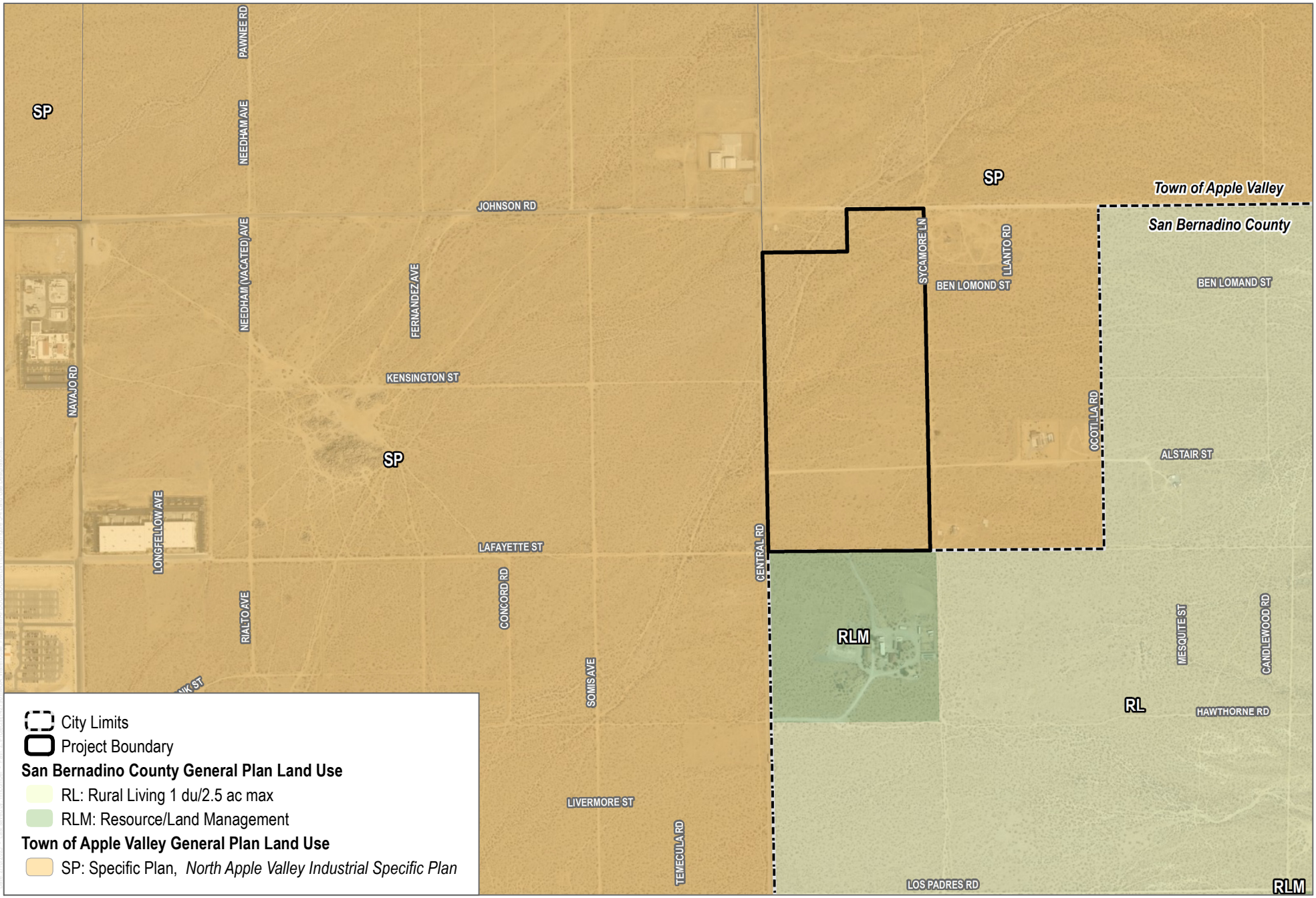
0 420 840 Feet

FIGURE 3-3

Project Aerial

1M Warehouse Project

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SOURCE: DigitalGlobe 2017; San Bernadino County 2021; Town of Apple Valley 2009

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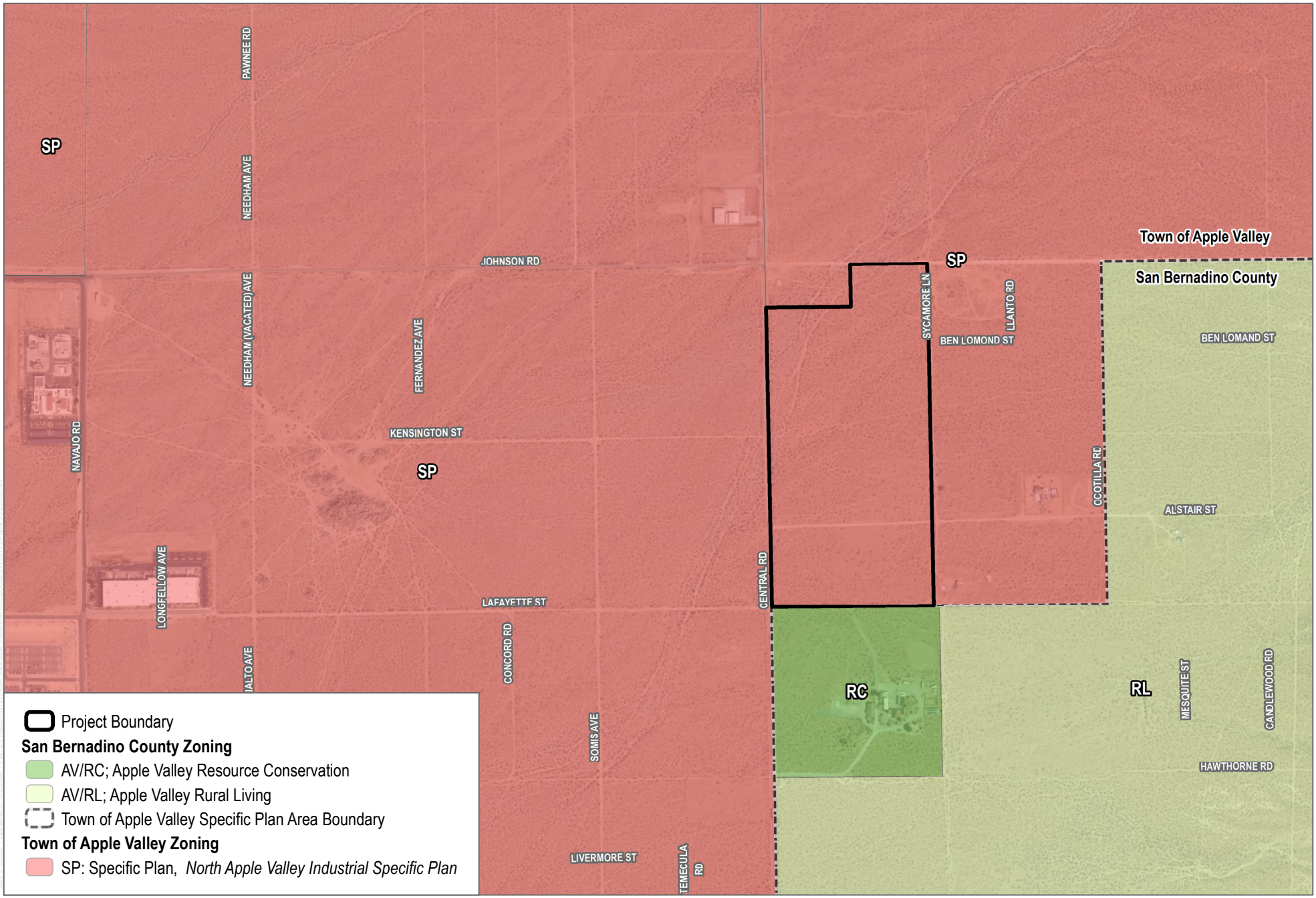
0 500 1,000 Feet

FIGURE 3-4

Land Use Designations

1M Warehouse Project

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SOURCE: DigitalGlobe 2017; San Bernadino County 2021; Town of Apple Valley 2009

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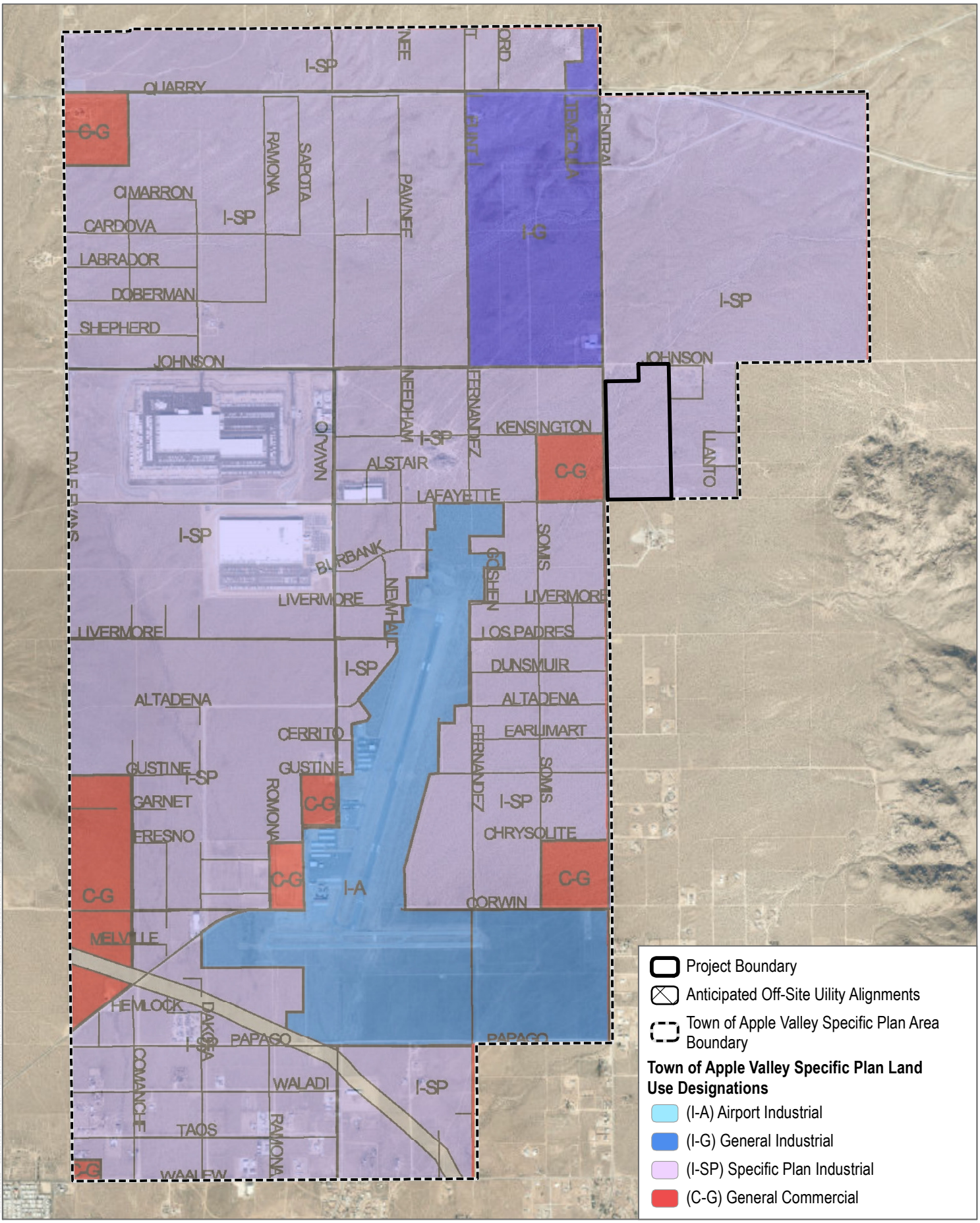
0 500 1,000 Feet

FIGURE 3-5

Zoning

1M Warehouse Project

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SOURCE: DigitalGlobe 2017; San Bernadino County 2021; Town of Apple Valley 2009

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0 1,250 2,500 Feet

FIGURE 3-6

Specific Plan Land Use Designations

1M Warehouse Project

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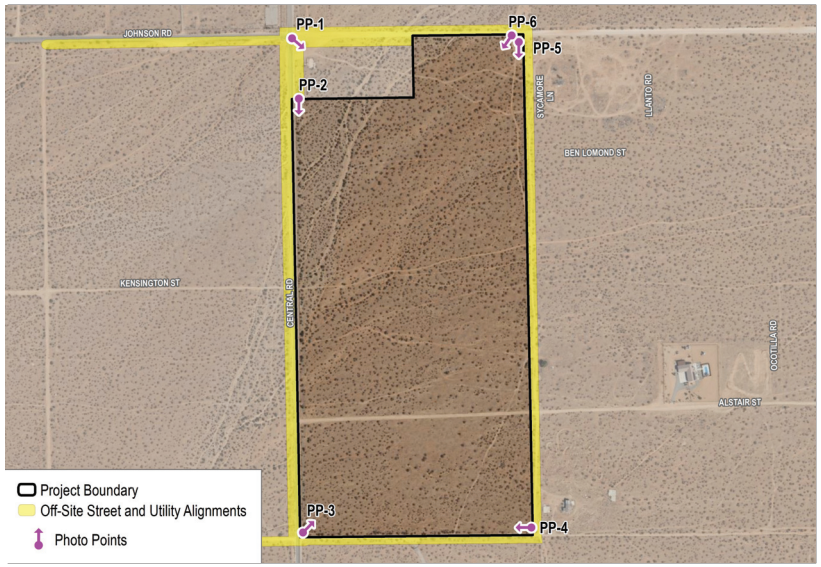


Photo Key



Photo Point 1.



Photo Point 2.



Photo Point 3.

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FIGURE 3-7A

Existing Conditions

1M Warehouse Project

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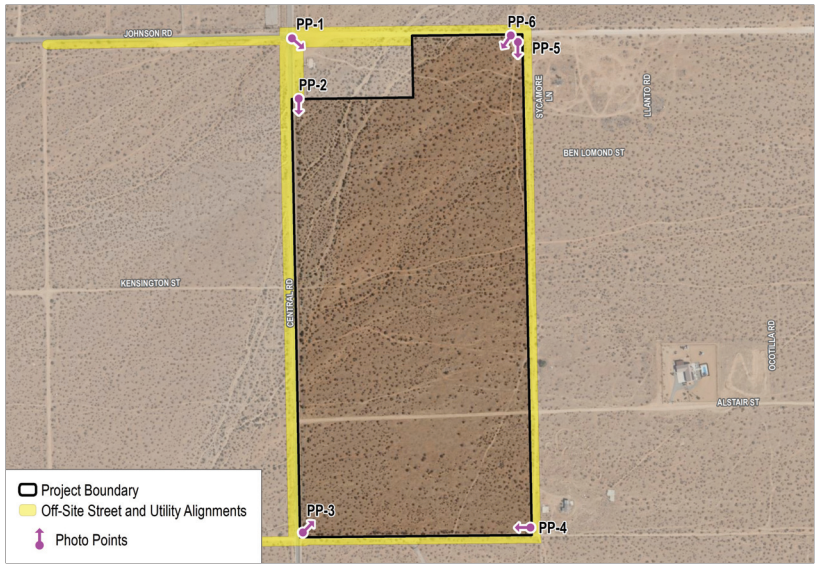


Photo Key



Photo Point 4.



Photo Point 5.



Photo Point 6.

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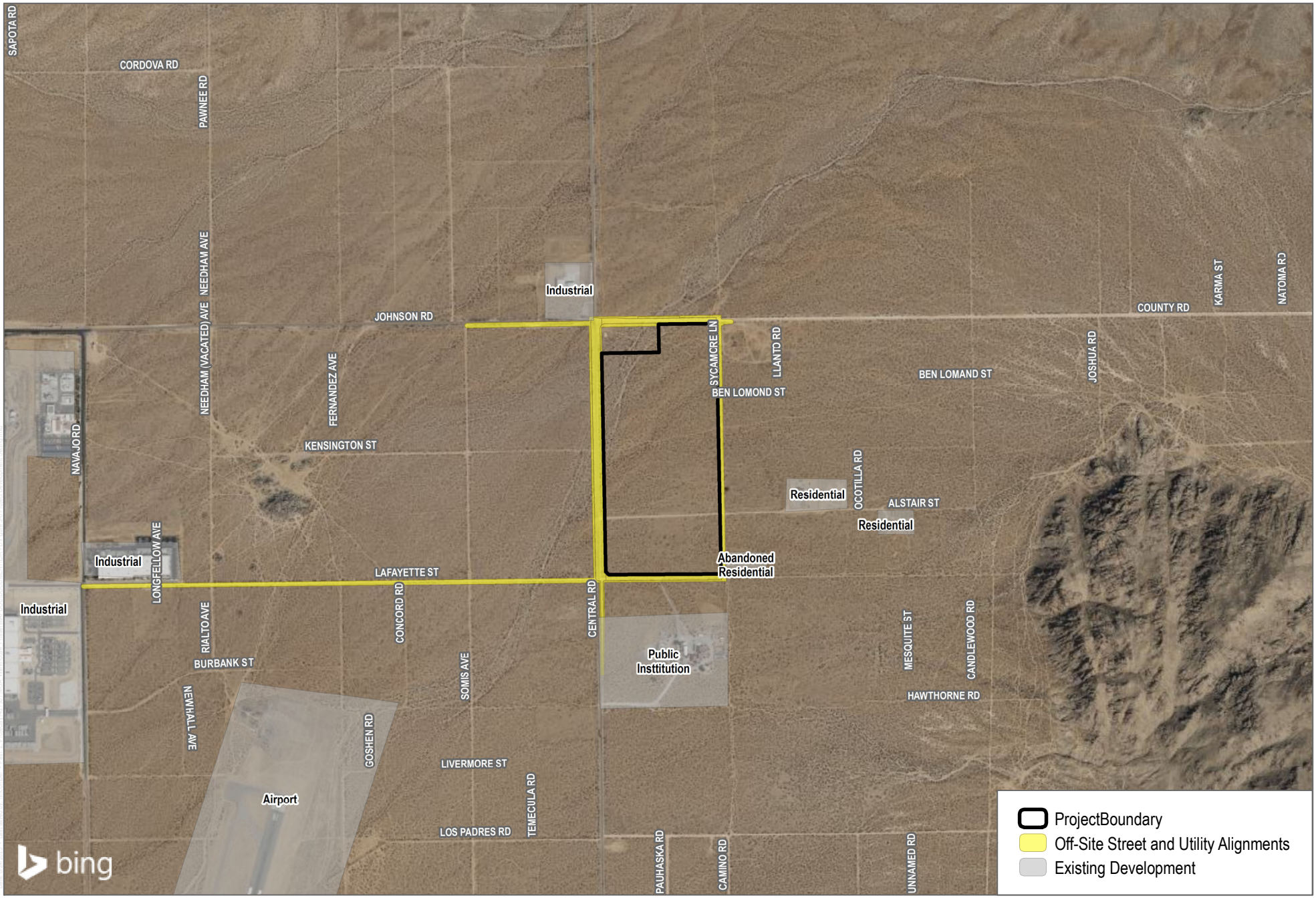
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FIGURE 3-7B

Existing Conditions

1M Warehouse Project

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SOURCE: Bing Maps (accessed 2022); San Bernadino County 2021

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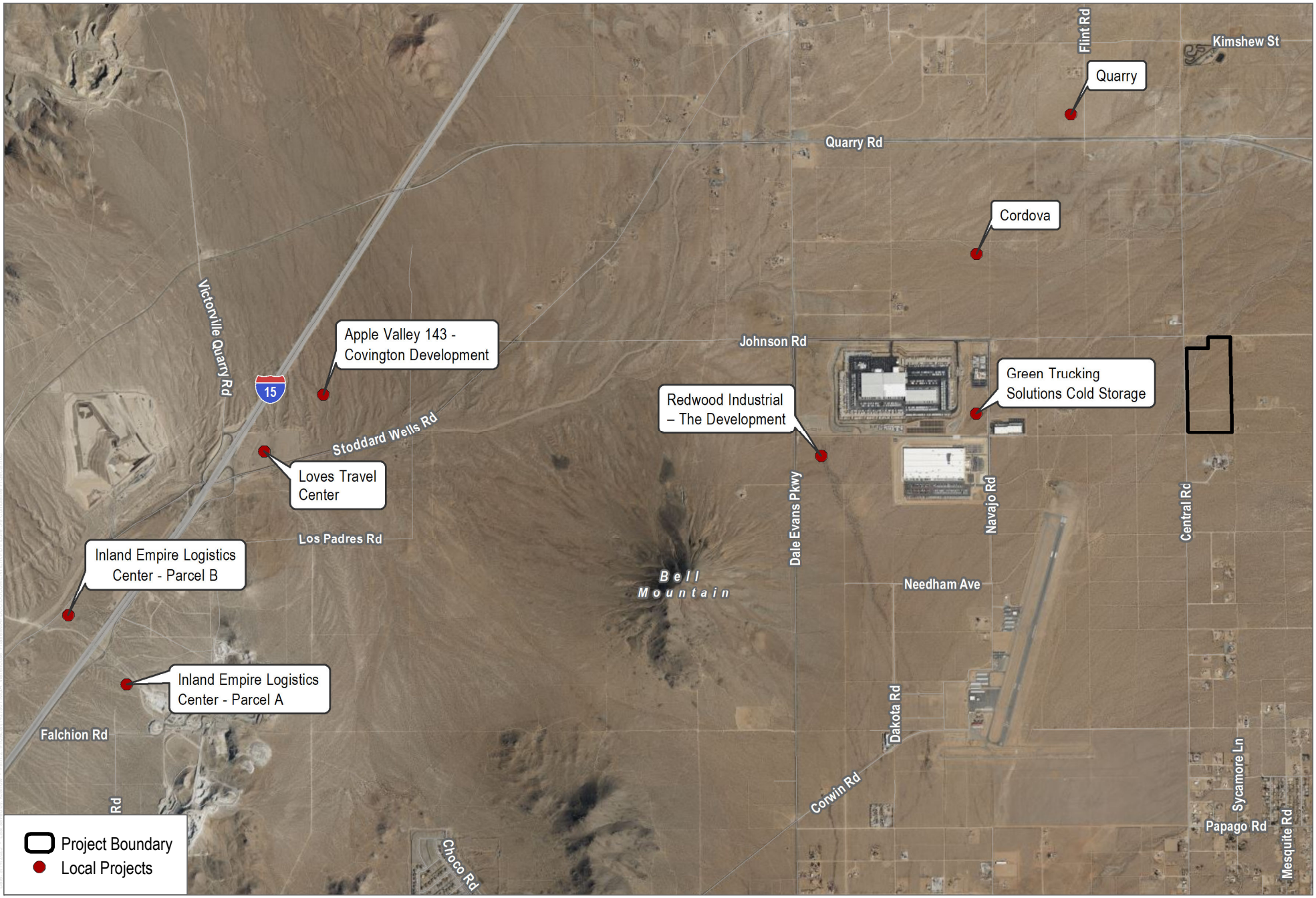
0 650 1,300 Feet

FIGURE 3-8

Project Development Setting

1M Warehouse Project

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SOURCE: Bing Maps (accessed 2023); Open Streets Map 2019

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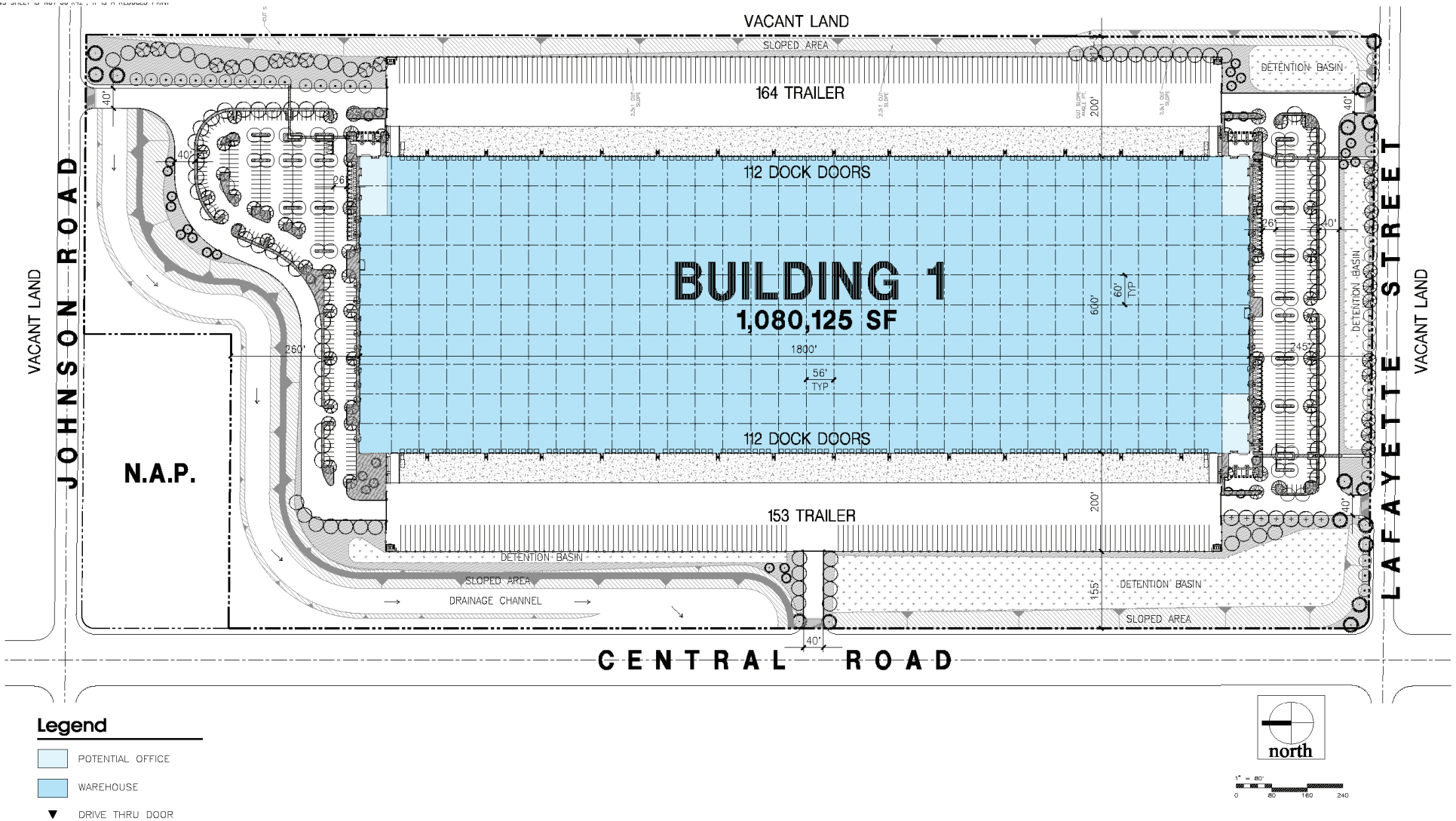
0 1,500 3,000 Feet

FIGURE 3-9

Cumulative Projects

1M Warehouse Project

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SOURCE: HPA Architecture 2022

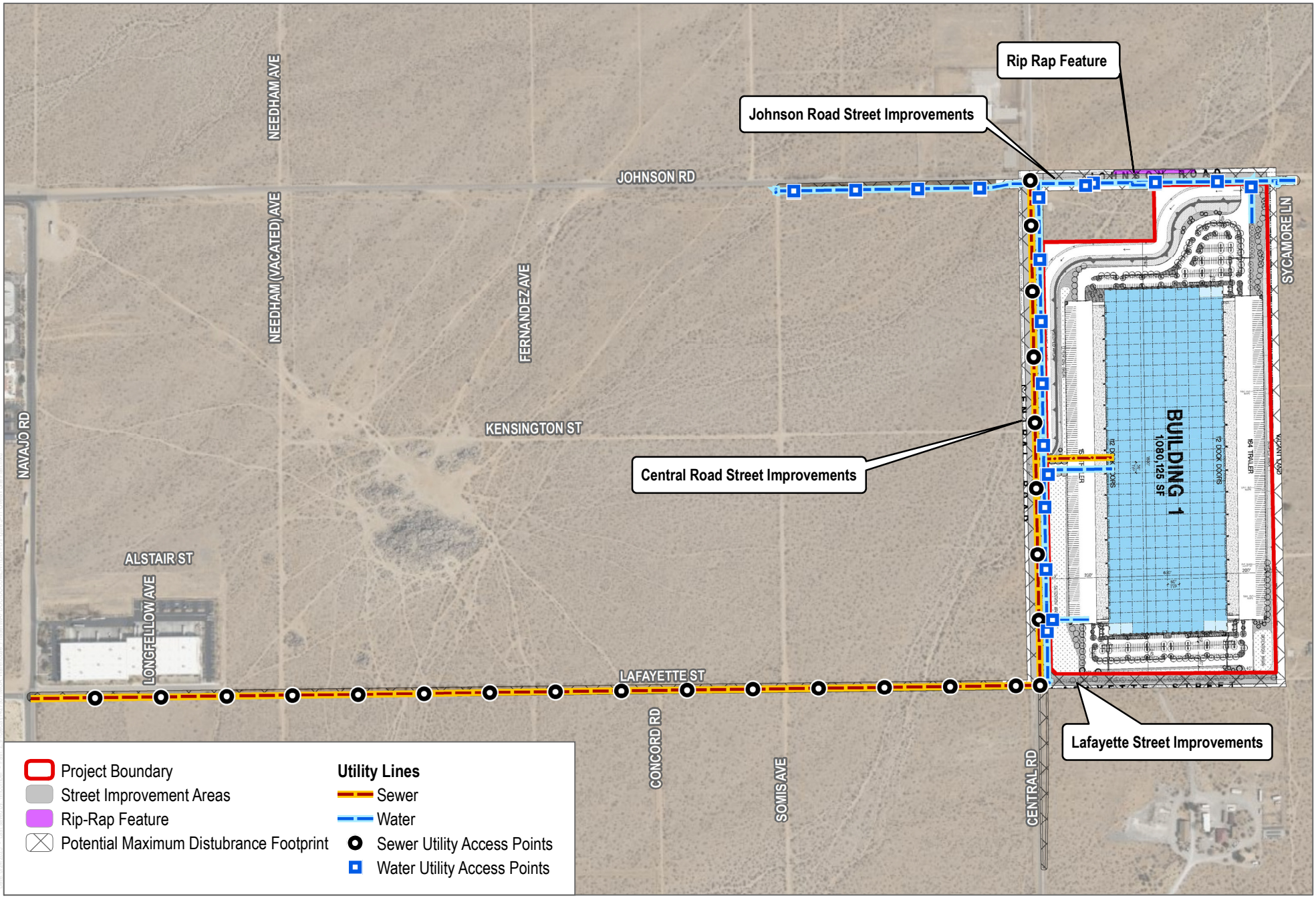
FIGURE 3-10

Building Site Plan

1M Warehouse Project

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SOURCE: DigitalGlobe 2017; San Bernadino County 2021

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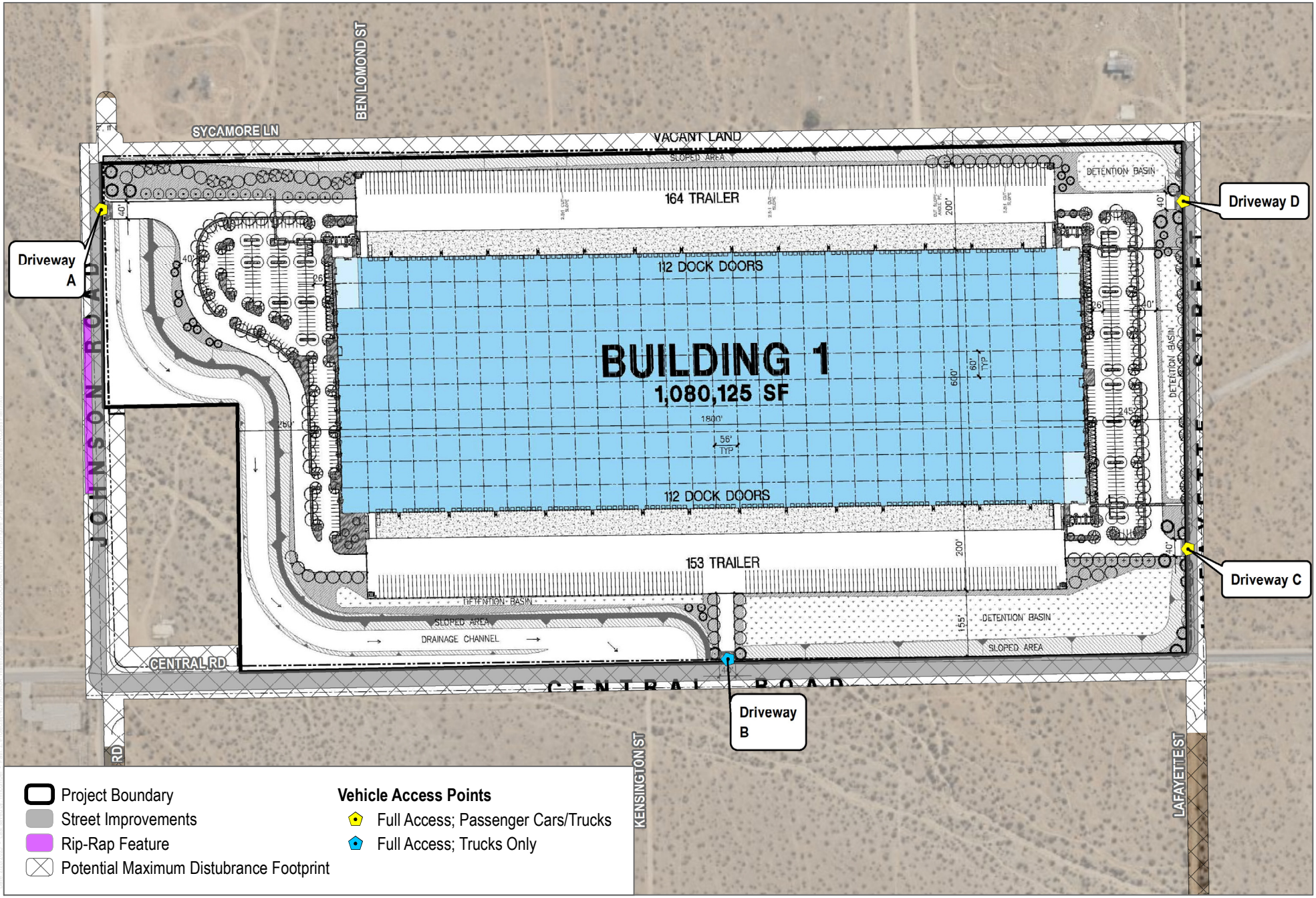
0 345 690 Feet

FIGURE 3-11

Overall Project Site Plan

1M Warehouse Project

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SOURCE: DigitalGlobe 2017; San Bernadino County 2021

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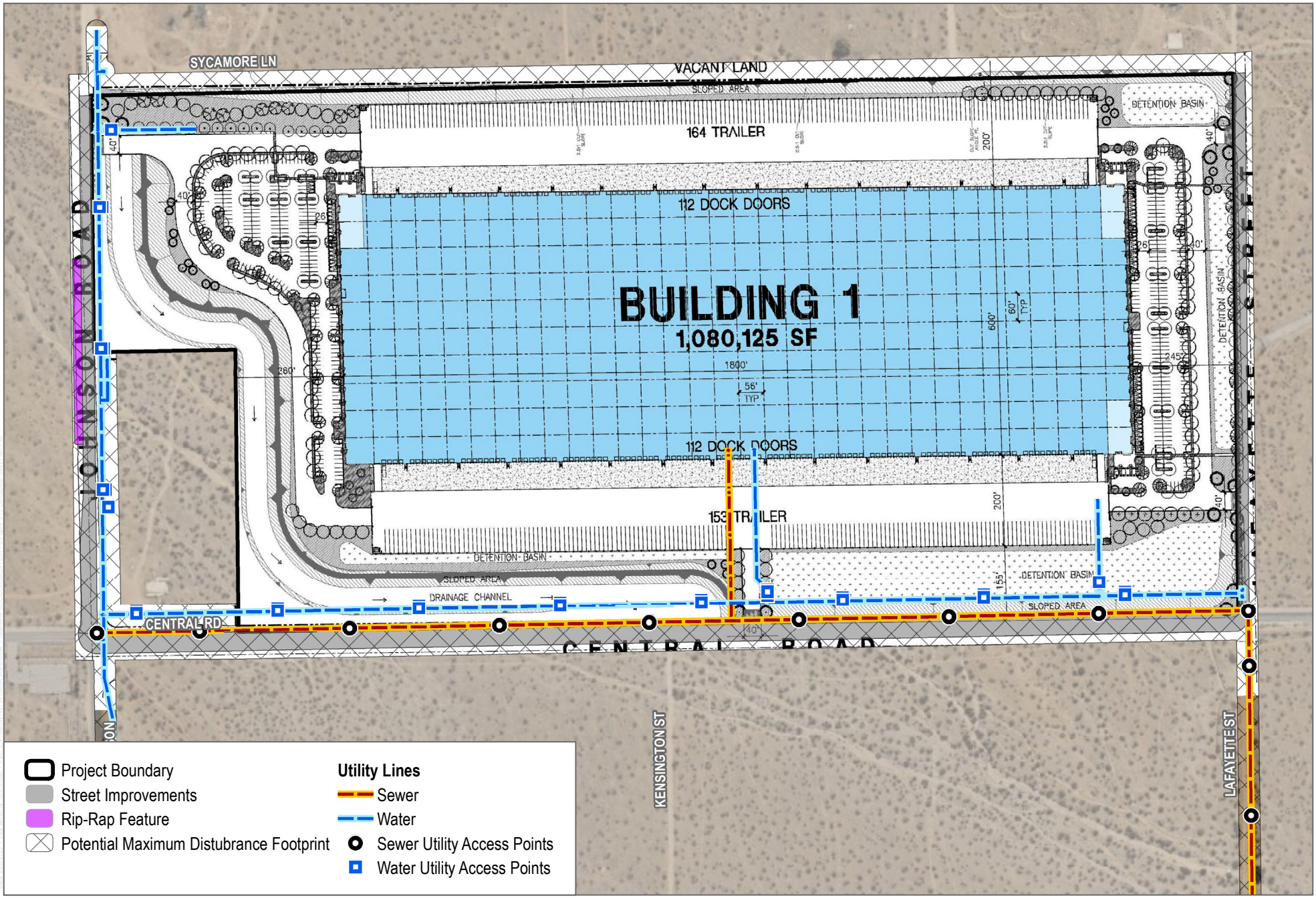
0 160 320 Feet

FIGURE 3-12

Vehicular Circulation and Access Plan

1M Warehouse Project

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SOURCE: DigitalGlobe 2017; San Bernadino County 2021

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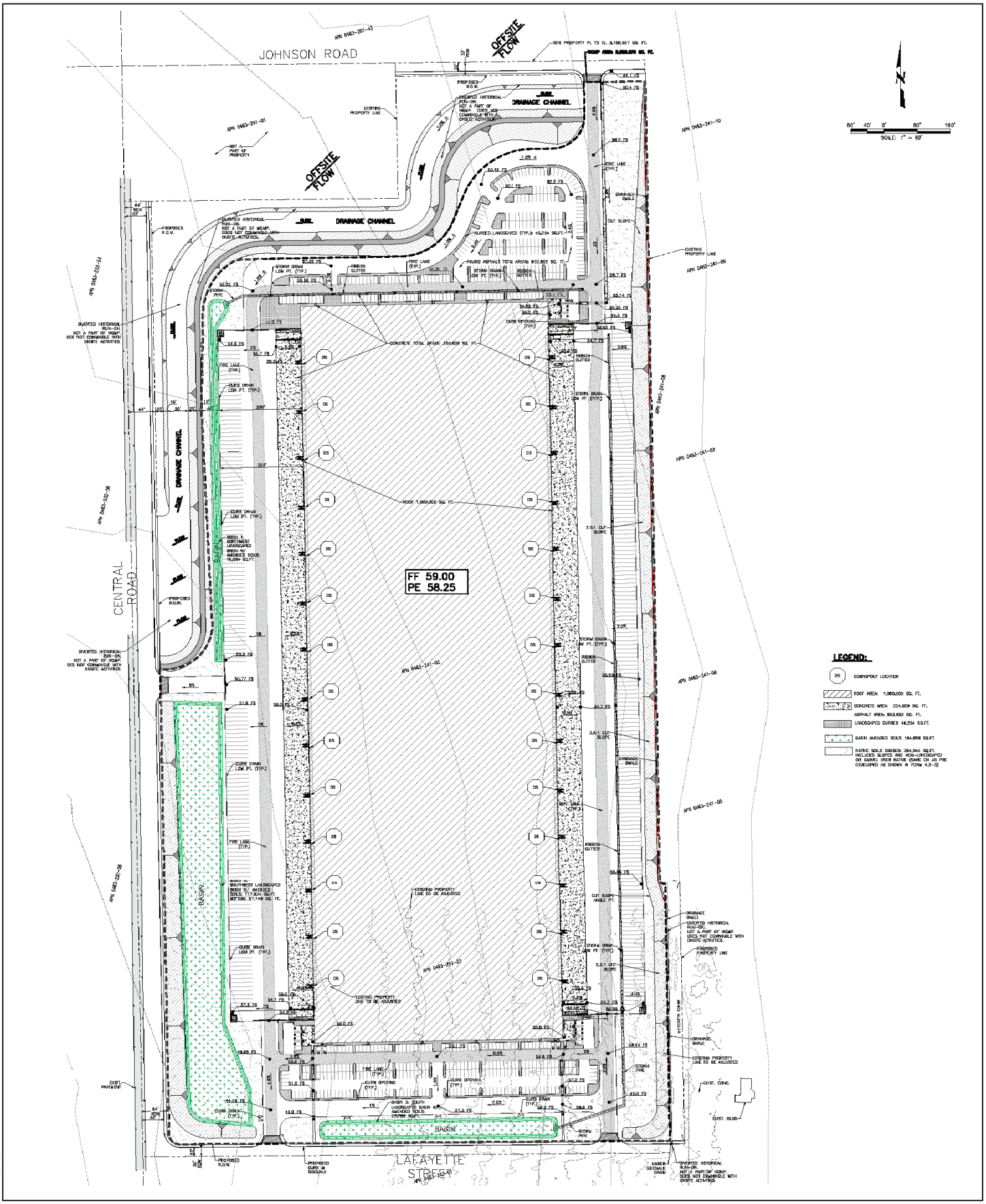
0 150 300 Feet

FIGURE 3-13

Conceptual Utility Plan

1M Warehouse Project

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SOURCE: Merrell Johnson Engineering, Inc. 2023

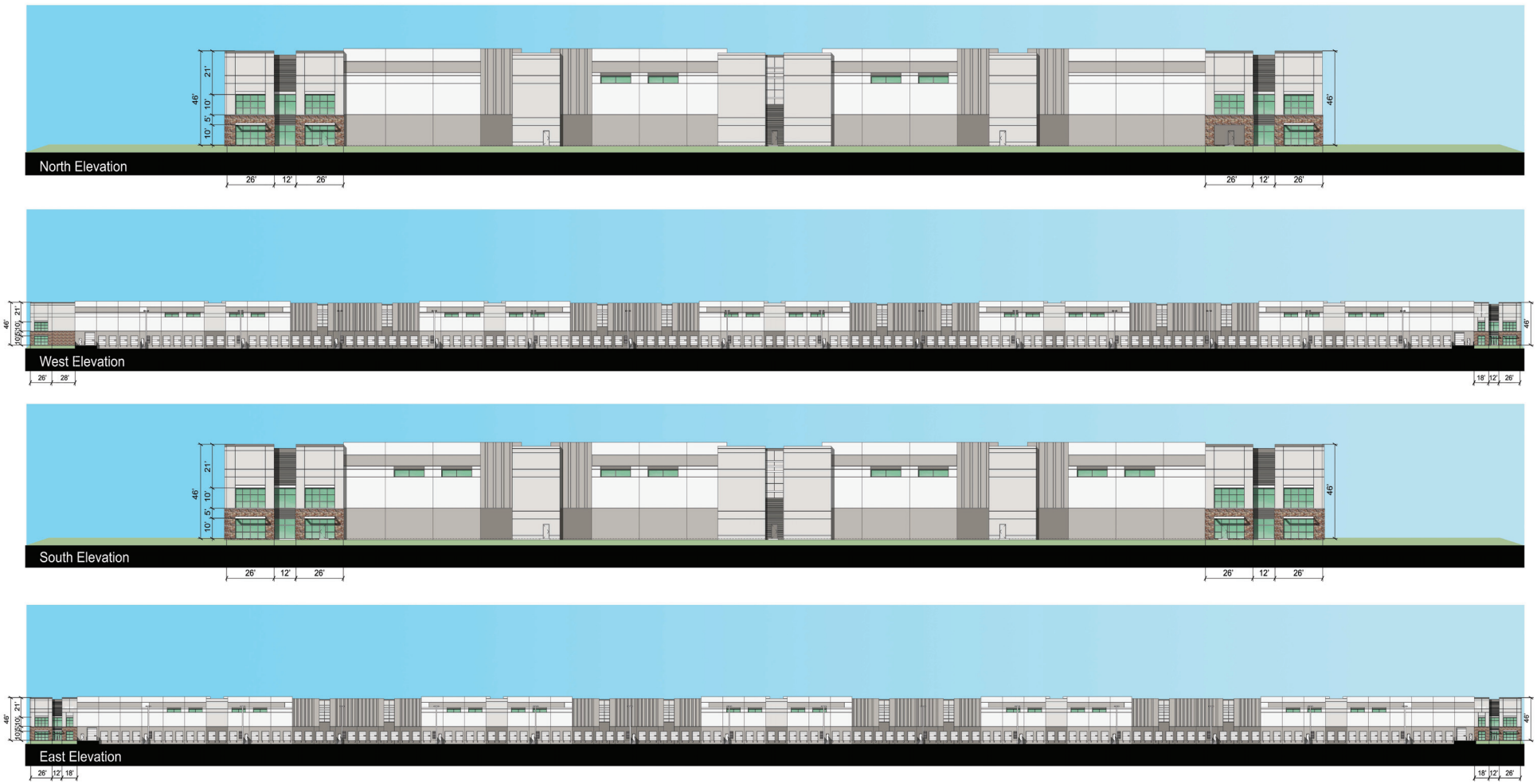
FIGURE 3-14

Conceptual Stormwater Plan

1M Warehouse Project

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SOURCE: HPA Architecture 2022

FIGURE 3-15

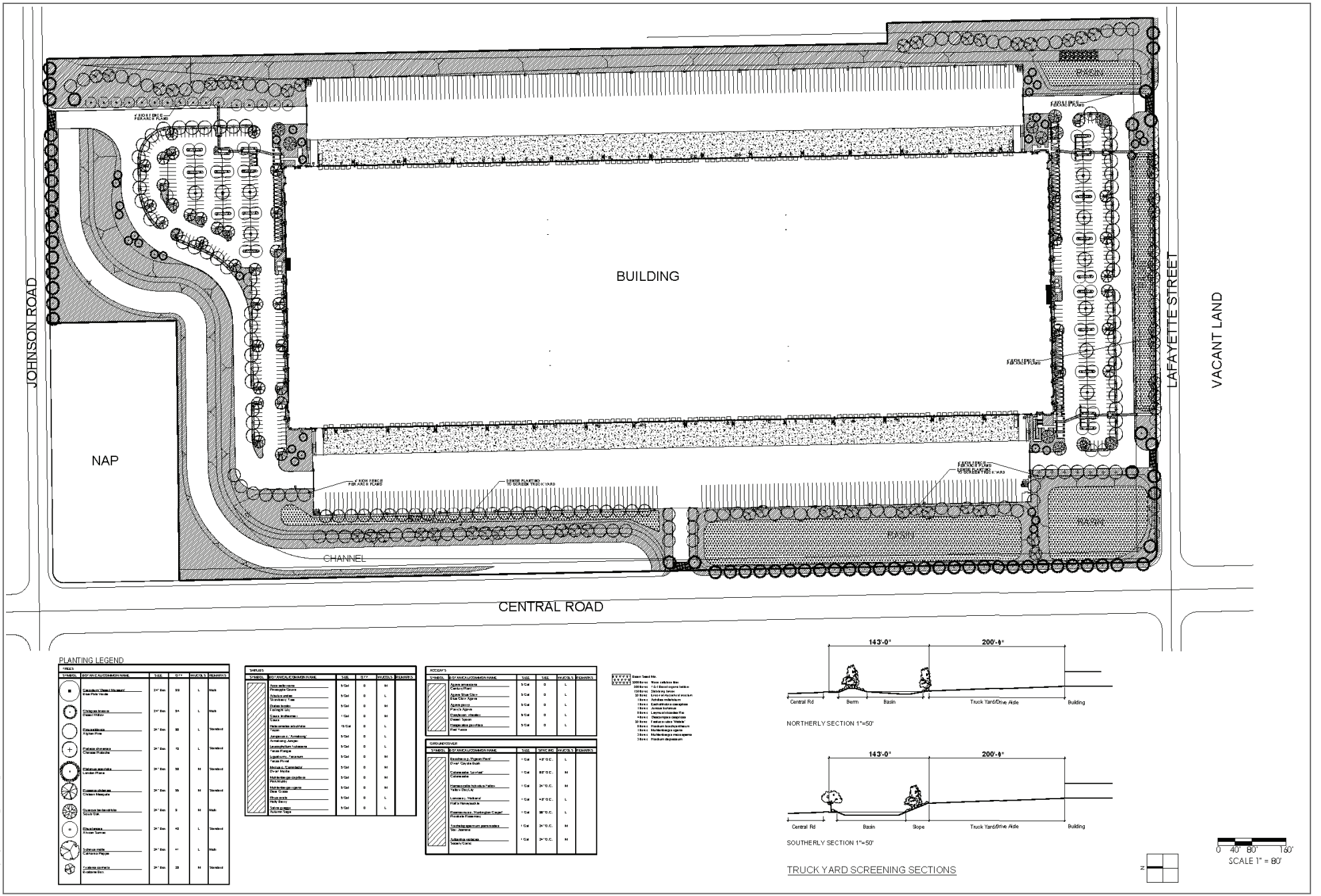
Conceptual Elevations

1M Warehouse Project

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SOURCE: Hunter Landscape 2023

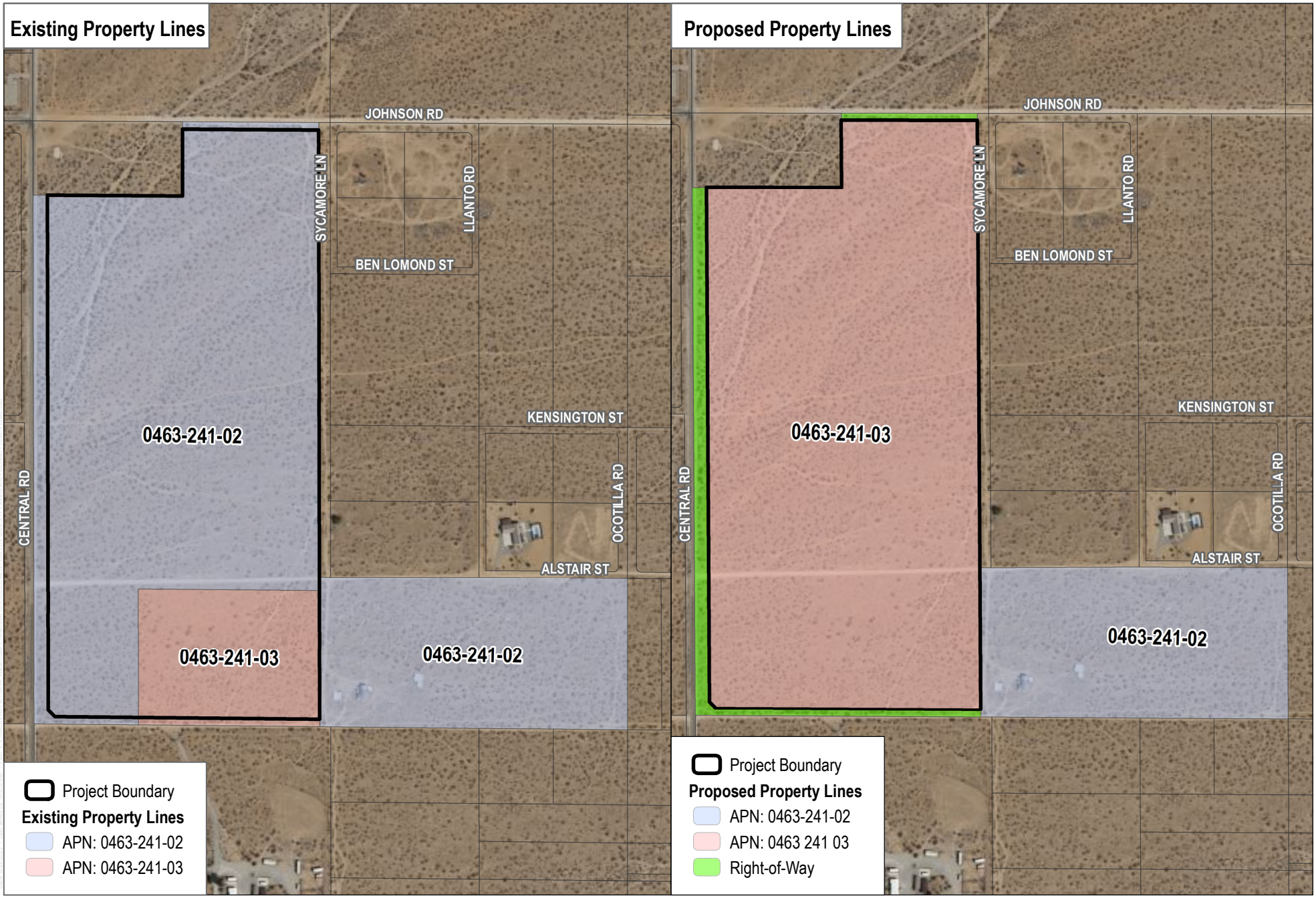
FIGURE 3-16

Landscaping Plan

1M Warehouse Project

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SOURCE: DigitalGlobe 2017; San Bernadino County 2021

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0 285 570 Feet

FIGURE 3-17

Existing and Proposed Property Lines

1M Warehouse Project

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4.2 Air Quality

This section describes the existing air quality conditions of the 1M Warehouse Project (Project) site and vicinity, identifies associated regulatory requirements, evaluates potential air quality impacts, and identifies mitigation measures (MMs) related to implementation of the Project.

In addition to the documents incorporated by reference (see Section 2.7 of Chapter 2 of this environmental impact report [EIR]), the following analysis is based, in part, on the following sources:

- Air Quality, Greenhouse Gas Emissions, and Energy Modeling Inputs and Outputs, prepared by Dudek in May 2023 (Appendix B-1).
- Health Risk Assessment, prepared by Dudek in May 2023 (Appendix B-2).
- Health Effects of Criteria Air Pollutants Associated with the 1M Warehouse Project prepared by Dudek in February 2023 (Appendix B-3).
- Transportation Impact Analysis, prepared by Dudek in January 2023 (Appendix J).

4.2.1 Existing Conditions

Meteorological and Topographical Conditions

The Project site is located within the Mojave Desert Air Basin (MDAB).[1] The MDAB includes the desert portions of Los Angeles, Kern, San Bernardino, and Riverside Counties. Most of this area is commonly referred to as the high desert because elevations range from approximately 2,000 to 5,000 feet above mean sea level. The MDAB is generally above the regional inversion layer and experiences relatively good dispersion conditions.

The MDAB is separated from Southern California coastal regions and Central California valley regions by mountains extending up to 10,000 feet above mean sea level. As a result, the Mojave Desert is removed from the cooling effects of the Pacific Ocean and is characterized by extreme temperatures. The MDAB consists of an assemblage of mountain ranges interspersed with valleys that often contain dry lakes. Lower-elevation mountains scattered throughout the basin are generally 1,000 feet to 4,000 feet high. Mountain passes form channels for air masses flowing from the west and southwest, and the prevailing winds from the west and southwest are caused by the proximity of the MDAB to coastal and central regions and to the blocking effect of the Sierra Nevada to the north.

This MDAB region is characterized by hot, dry summers and cool winters, with little precipitation. During the summer, the MDAB is generally influenced by a Pacific subtropical high-pressure cell that resides off the coast of California. This high-pressure cell prevents cloud formation and engenders daytime solar heating. The MDAB is rarely influenced by the cold air masses that move south from Canada and Alaska, as these frontal systems diffuse by the time they reach the MDAB. Most moisture arrives in frequent warm, moist, unstable air masses from the south. The MDAB averages between 3 and 7 inches of precipitation per year (from 16 to 30 days with at least 0.01 inches of precipitation). The Victorville California Irrigation Management Information System station recorded an average annual precipitation of 2.9 inches of precipitation between November 2020 and October 2021 (CIMIS 2021). The

[1] The description of the MDAB climate and topography is based on the Mojave Desert Air Quality Management District (MDAQMD) 2016 CEQA and Federal Conformity Guidelines (MDAQMD 2016). The description of the Western Mojave Desert ozone (O_3) nonattainment area is based the MDAQMD Federal 8-Hour Ozone Attainment Plan for the Western Mojave Desert Non-Attainment Area (MDAQMD 2008).

MDAB is classified as a dry–hot desert climate, with portions classified as dry–very hot desert, to indicate at least 3 months have maximum average temperatures over 100.4°F (MDAQMD 2008).

The Project is also located within the Mojave Desert Air Quality Management District (MDAQMD) portion of the Western Mojave Desert ozone (O_3) nonattainment area (MDAQMD 2008), which includes the following San Bernardino County communities: Phelan, Hesperia, Adelanto, Victorville, Apple Valley, Barstow, Joshua Tree, Yucca Valley, and Twentynine Palms (the southwestern portion of the MDAQMD).

Pollutants and Effects

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established minimum ambient air quality standards (AAQS), or criteria, for outdoor pollutant concentrations in order to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}), particulate matter with an aerodynamic diameter equal to or less than 2.5 microns ($PM_{2.5}$), and lead (Pb). These pollutants, as well as toxic air contaminants (TACs), are discussed below.[2] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone. O_3 is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors. These precursors are mainly oxides of nitrogen (NO_x) and volatile organic compounds (VOCs) (also referred to as reactive organic gases). The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere O_3 layer (stratospheric O_3) and at Earth's surface in the lower atmosphere (tropospheric O_3).[3] The O_3 that the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) regulate as a criteria air pollutant is produced close to ground level, where people live, exercise, and breathe. Ground-level O_3 is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" O_3. Stratospheric, or "good," O_3 occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O_3 layer, plant and animal life would be seriously harmed.

Adverse Health Effects: O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O_3 can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2020). Inhalation of O_3 causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms. Exposure to O_3 can reduce the volume of air that the lungs breathe in and can cause shortness of breath. O_3 in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins

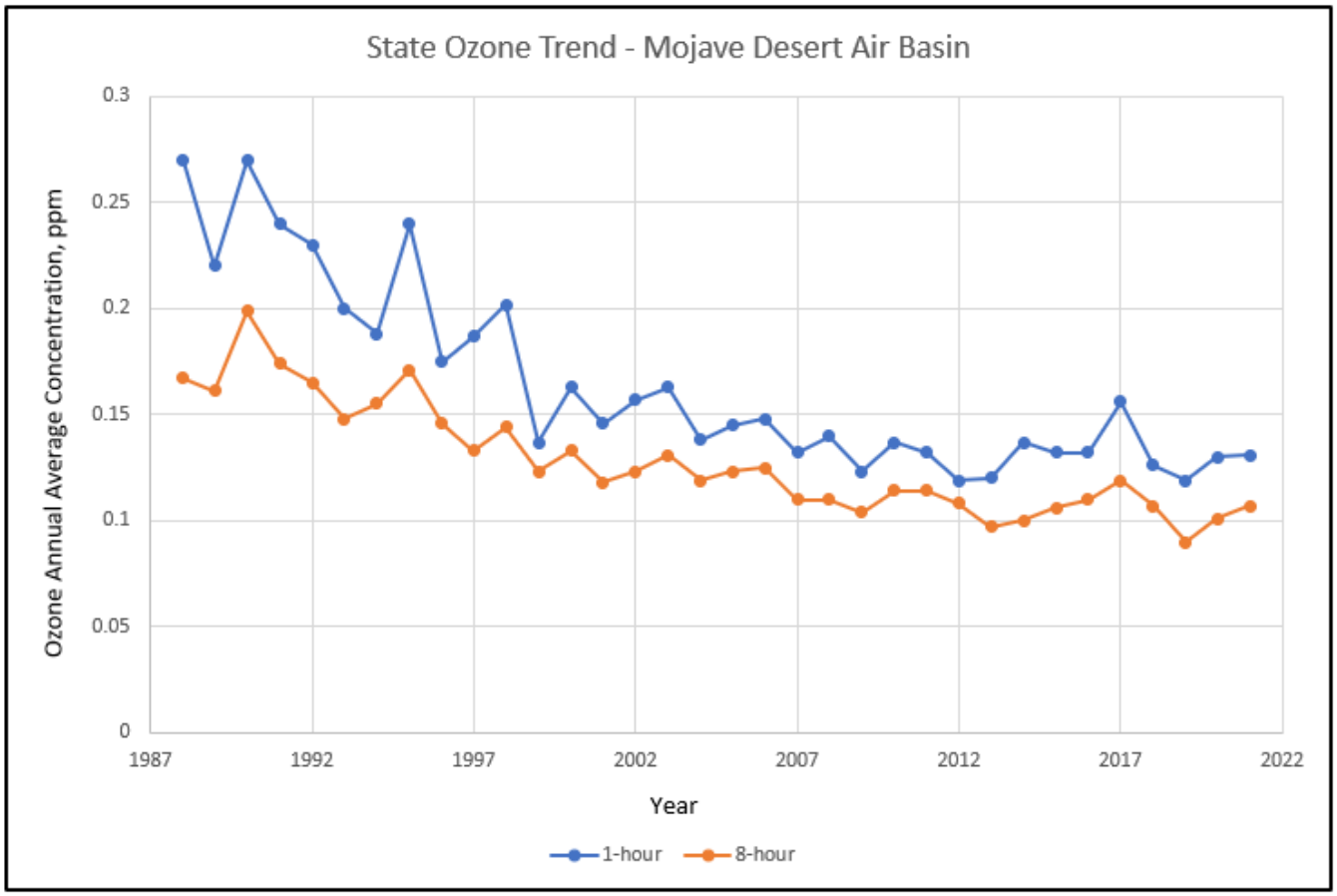
[2] The descriptions of the criteria air pollutants and associated health effects are based on the U.S. Environmental Protection Agency's "Criteria Air Pollutants" (EPA 2021a), as well as the California Air Resources Board's "Glossary" (CARB 2021a)

[3] The troposphere is the layer of Earth's atmosphere nearest to the surface of Earth, extending outward approximately 5 miles at the poles and approximately 10 miles at the equator.

and microorganisms. The occurrence and severity of health effects from O_3 exposure vary widely among individuals, even when the dose and the duration of exposure are the same. Research shows adults and children who spend more time outdoors participating in vigorous physical activities are at greater risk from the harmful health effects of O_3 exposure. While there are relatively few studies of O_3's effects on children, the available studies show that children are no more or less likely to suffer harmful effects than adults. However, there are a number of reasons why children may be more susceptible to O_3 and other pollutants. Children and teens spend nearly twice as much time outdoors and engaged in vigorous activities as adults. Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults. Also, children are less likely than adults to notice their own symptoms and avoid harmful exposures. Further research may be able to better distinguish between health effects in children and adults. Children, adolescents, and adults who exercise or work outdoors, where O_3 concentrations are the highest, are at the greatest risk of harm from this pollutant (CARB 2021b).

Air quality in the MDAB has generally improved since the inception of air pollutant monitoring. This improvement is mainly a result of lower-polluting on-road motor vehicles, more stringent regulation of industrial sources, and the implementation of emission reduction strategies by the MDAQMD and nearby air districts including the South Coast Air Quality Management District (SCAQMD) and the San Joaquin Valley Air Pollution Control District, as well as CARB and EPA. This general trend toward cleaner air within the state, including the MDAB, has occurred in spite of continued population growth. Exhibit 4.2-1 State Ozone Trend – Mojave Desert Air Basin, demonstrates the reduction in O_3 over time.

Exhibit 4.2-1. State 1-Hour and 8-Hour Ozone Concentration Trend in MDAB (ppm)



Source: CARB 2022, iADAM Air Quality Statistics. Units = parts per million (ppm).

Nitrogen Dioxide. NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO), which is a colorless, odorless gas. NO_x, which includes NO_2 and NO, plays a major role, together with VOC, in the atmospheric reactions that produce O_3. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_2 is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources (such as electric utility and industrial boilers).

Adverse Health Effects: A large body of health science literature indicates that exposure to NO_2 can induce adverse health effects. The strongest health evidence, and the health basis for the AAQS for NO_2, results from controlled human exposure studies that show that NO_2 exposure can intensify responses to allergens in allergic asthmatics. In addition, a number of epidemiological studies have demonstrated associations between NO_2 exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses. Infants and children are particularly at risk because they have disproportionately higher exposure to NO_2 than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration. Several studies have shown that long-term NO_2 exposure during childhood, the period of rapid lung growth, can lead to smaller lungs at maturity in children with higher compared to lower levels of exposure. In addition, children with asthma have a greater degree of airway responsiveness compared with adult asthmatics. In adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease (CARB 2021c).

Carbon Monoxide. CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

Adverse Health Effects: CO is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion and reduced mental alertness, light-headedness, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects. Unborn babies, infants, elderly people, and people with anemia or with a history of heart or respiratory disease are most likely to experience health effects with exposure to elevated levels of CO (CARB 2021d).

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels.

Adverse Health Effects: Controlled human exposure and epidemiological studies show that children and adults with asthma are more likely to experience adverse responses with SO_2 exposure, compared with the non-asthmatic

population. Effects at levels near the 1-hour standard are those of asthma exacerbation, including bronchoconstriction accompanied by symptoms of respiratory irritation such as wheezing, shortness of breath, and chest tightness, especially during exercise or physical activity. Also, exposure at elevated levels of SO_2 (above 1 part per million [ppm]) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality. The elderly and people with cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most likely to experience these adverse effects (CARB 2021e).

SO_2 is of concern both because it is a direct respiratory irritant and because it contributes to the formation of sulfate and sulfuric acid in particulate matter (NRC 2005). People with asthma are of particular concern, both because they have increased baseline airflow resistance and because their SO_2-induced increase in airflow resistance is greater than in healthy people, and it increases with the severity of their asthma (NRC 2005). SO_2 is thought to induce airway constriction via neural reflexes involving irritant receptors in the airways (NRC 2005).

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Coarse particulate matter (PM_{10}) is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter ($PM_{2.5}$) is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles, power generation, and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides, NO_x, and VOCs.

Adverse Health Effects: $PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the bloodstream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

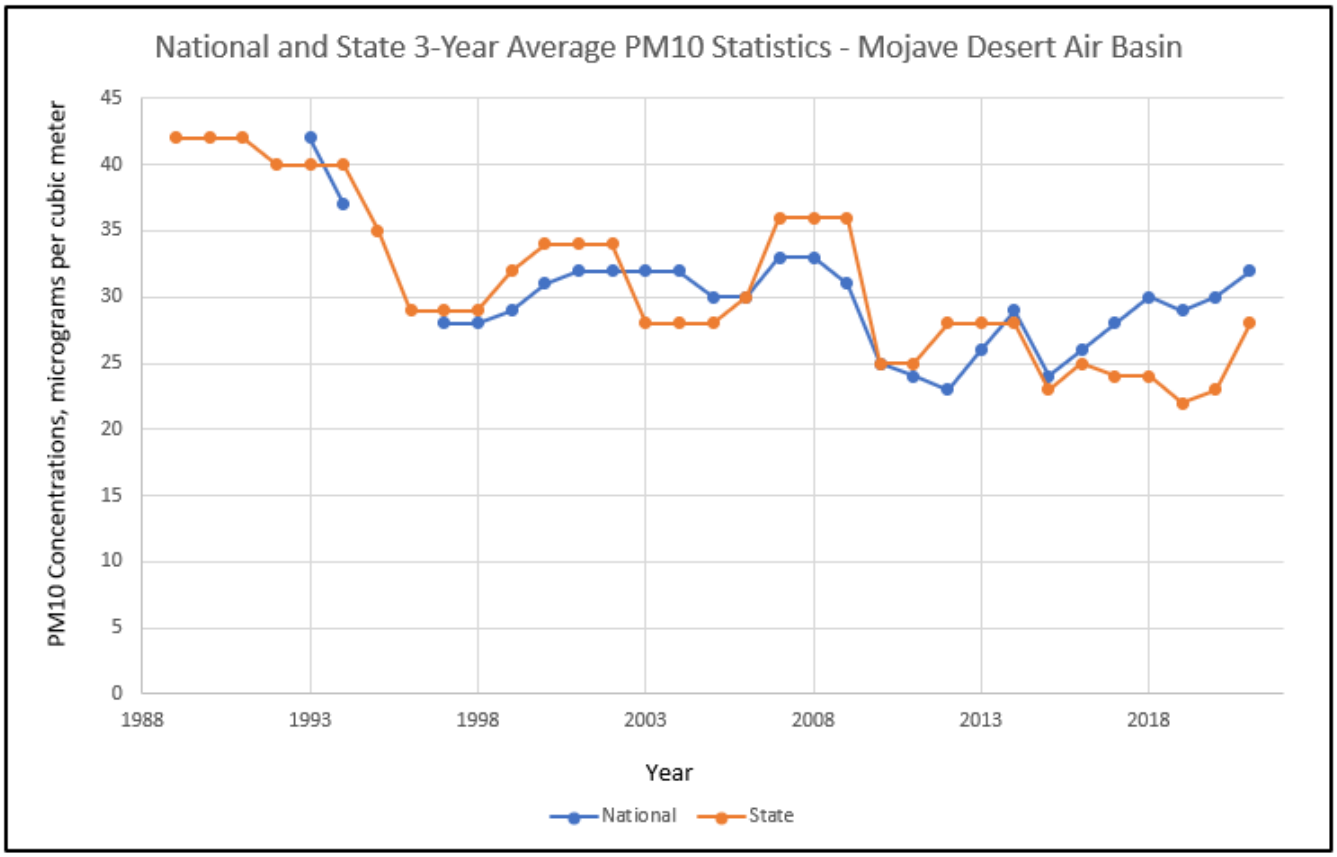
A number of adverse health effects have been associated with exposure to both $PM_{2.5}$ and PM_{10}. For $PM_{2.5}$, short-term exposures (up to 24-hour duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases. In addition, of all of the common air pollutants, $PM_{2.5}$ is associated with the greatest proportion of adverse health effects related to air pollution, both in the United States and worldwide based on the World Health Organization's Global Burden of Disease Project. Short-term exposures to PM_{10} have been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits (CARB 2021f).

Long-term exposure (months to years) to $PM_{2.5}$ has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children. The effects of long-term exposure to PM_{10} are less clear, although several studies suggest a link between long-term PM_{10} exposure and respiratory

mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that particulate matter in outdoor air pollution causes lung cancer (CARB 2021f).

As discussed for Ozone, air quality in the MDAB has generally improved since the inception of air pollutant monitoring including PM_{10} ambient concentrations. Exhibit 4.2-2, National and State 3-Year Average PM10 Statistics – Mojave Desert Air Basin, demonstrates the reduction in PM_{10} trend over time.

Exhibit 4.2-2. National and State 3-Year Average PM_{10} Statistics – Mojave Desert Air Basin



Source: CARB 2022a, iADAM Air Quality Statistics. Units = micrograms per cubic meter.

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phase out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Adverse Health Effects: Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and, in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood, because children are highly susceptible to the effects of lead. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth.

Sulfates. Sulfates are the fully oxidized form of sulfur, which typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO_2 in the atmosphere.

Adverse Health Effects: Sulfates can result in respiratory impairment, as well as reduced visibility.

Vinyl Chloride. Vinyl chloride is a colorless gas with a mild, sweet odor, which has been detected near landfills, sewage plants, and hazardous waste sites, due to the microbial breakdown of chlorinated solvents.

Adverse Health Effects: Short-term exposure to high levels of vinyl chloride in air can cause nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer.

Hydrogen Sulfide. Hydrogen sulfide is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of hydrogen sulfide include geothermal power plants, petroleum refineries, sewers, and sewage treatment plants.

Adverse Health Effects: Exposure to hydrogen sulfide can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.

Visibility-Reducing Particles. Visibility-reducing particles are any particles in the air that obstruct the range of visibility. Sources of visibility-reducing particles are the same as for $PM_{2.5}$ described above.

Adverse Effects: Effects of reduced visibility can include obscuring the viewshed of natural scenery, reducing airport safety, and discouraging tourism.

Volatile Organic Compounds. Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O_3 are referred to and regulated as VOCs. Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the main sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

Adverse Health Effects: The primary health effects of VOCs result from the formation of O_3 and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate health standards for VOCs as a group.

Non-Criteria Air Pollutants

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources,

location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Examples of TACs include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills.

Adverse Health Effects: Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel Particulate Matter. Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70 the diameter of a human hair), and thus is a subset of $PM_{2.5}$ (CARB 2021g). DPM is typically composed of carbon particles (soot, also called black carbon) and numerous organic compounds, including over 40 known carcinogenic organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2021g). In August 1998, CARB classified "particulate emissions from diesel-fueled engines" (i.e., DPM) (17 CCR 93000) as a TAC. DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others.

Adverse Health Effects: Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000). Because it is part of PM2.5, DPM also contributes to the same noncancer health effects as PM2.5 exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2021g). Those most vulnerable to noncancer health effects are children, whose lungs are still developing, and the elderly, who often have chronic health problems.

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. In a phenomenon known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Valley Fever. Coccidioidomycosis, more commonly known as "Valley Fever," is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline, sandy soils. San Bernardino County is not considered a highly endemic region for Valley Fever as the latest report from the California Department of Public Health listed San Bernardino County as having 11.4 cases per 100,000 people (CDPH 2022).~~San Bernardino County is not considered a highly endemic region for Valley Fever as the latest report from the California Department of Public Health listed San Bernardino County as having 1.8 cases per 100,000 people (CDPH 2017).~~

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005). The MDAQMD identifies sensitive receptors as residences, schools, playgrounds, childcare centers, and medical facilities (MDAQMD 2016).

Local Ambient Air Quality

Mojave Desert Air Basin Attainment Designation

Pursuant to the 1990 federal Clean Air Act amendments, the EPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutant, based on whether the National Ambient Air Quality Standards (NAAQS) have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "nonattainment" for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as "unclassified" or "unclassifiable." The designation of "unclassifiable/attainment" means that the area meets the standard or is expected to meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are re-designated as maintenance areas and must have approved maintenance plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, called for the designation of areas as "attainment" or "nonattainment," but based on California Ambient Air Quality Standards (CAAQS) rather than the NAAQS. Table 4.2-1 depicts the current attainment status of the Project area with respect to the NAAQS and CAAQS. Notably, the MDAB has experienced a substantial reduction in maximum 8-hour concentrations of O_3 over time, as well as reductions in PM_{10}, from strategies including implementation of Reasonable Available Control Technology, vehicle emission standards, and other measures, as described in the respective MDAQMD O_3 attainment plan (MDAQMD 2008) and PM_{10} attainment demonstration and maintenance plan (MDAQMD 1995).

Table 4.2-1. Mojave Desert Air Basin Attainment Classification

Pollutant	Designation/Classification[a]	
	Federal Standards	State Standards
O_3 – 1 hour	No federal standard	**Nonattainment**
O_3 – 8 hours	**Severe nonattainment[b]**	**Nonattainment**
NO_2	Unclassifiable/attainment	Attainment
CO	Unclassifiable/attainment	Attainment
SO_2	Unclassifiable/attainment	Attainment
PM_{10}	**Moderate nonattainment[c]**	**Nonattainment**
$PM_{2.5}$	Unclassifiable/attainment	Attainment[d]
Lead	Unclassifiable/attainment	Attainment
Hydrogen sulfide	No federal standard	Unclassified[e]
Sulfates	No federal standard	Attainment
Visibility-reducing particles	No federal standard	Unclassified
Vinyl chloride	No federal standard	No designation

Sources: EPA 2021b (federal); CARB 2021h (state).

Notes: O_3 = ozone; NO_2 = nitrogen dioxide; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.

[a] Designations/classifications in **bold** type indicate nonattainment.

[b] West Mojave Desert portion of the MDAB, where the Project is located, is designated severe nonattainment. The Kern County portion of the MDAB is designated moderate nonattainment, and the remaining areas of the MDAB are designated unclassifiable/attainment.

[c] The Project is located in an area designated moderate nonattainment in the MDAB.

[d] The Project is located in an area designated attainment in the MDAB.

[e] The entire MDAB is designated unclassified, except for the Searles Valley portion of the basin, which is designated nonattainment.

Definitions: attainment = meets the standards; attainment/maintenance = achieve the standards after a nonattainment designation; nonattainment = does not meet the standards; unclassified or unclassifiable = insufficient data to classify; unclassifiable/attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.

In summary, the Project is located in an area of the MDAB that is designated as a nonattainment area for federal and state O_3 standards and federal and state PM_{10} standards, and unclassifiable/attainment for all other criteria air pollutants (EPA 2021b; CARB 2021h).

Despite the current nonattainment status for O_3 and PM_{10}, air quality in the MDAB has generally improved since the inception of air pollutant monitoring as discussed previously and presented in Exhibit 4.2-1 and Exhibit 4.2-2, for O_3 and PM_{10}, respectively.

The MDAQMD is downwind of the Los Angeles basin, and to a lesser extent, is downwind of the San Joaquin Valley. Prevailing winds transport O_3 and O_3 precursors from both regions into and through the MDAB during the summer O_3 season and these transport couplings have been officially recognized by CARB. While local MDAQMD emissions contribute to exceedances of both the NAAQS and CAAQS for O_3, because the MDAQMD is overwhelmingly impacted by O_3 transported from the South Coast Air Basin, the MDAB would likely be in attainment of O_3 standards without the influence of this transported air pollution from upwind regions (MDAQMD 2008). Nonetheless, the MDAQMD has experienced a substantial reduction in maximum 8-hour ozone concentrations. Per the O_3 indicator values between 1995 and 2006 within the Western Mojave Desert, all indicators, including number of exceedance days, have decreased since 1995, indicating overall improvements in the various measures of O_3 air quality (MDAQMD 2008). The three stations closest to the South Coast Air Basin have the highest historical O_3 concentrations (Phelan, Hesperia and Victorville), while the more distant or isolated stations (Barstow and Twentynine Palms) have much lower O_3 concentrations and are experience concentrations in attainment of the NAAQS (MDAQMD 2008).

Regarding PM, which is a primary and secondary pollutant, the MDAQMD believes that local sources contribute to PM_{10} concentrations in the Mojave Desert Planning Area as the monitoring sites are located in and around anthropogenic sources of dust (e.g., primary PM); however, O_3 precursor transport from upwind air basins include some nitrate and sulfate aerosol or secondary particulates, which contribute to PM concentrations. Because the Mojave Desert Planning Area contains relatively limited NO_x and sulfur sources, transport contributions are estimated as half of the measured total nitrate and sulfate content, which contribute to overall PM concentrations (MDAQMD 1995).

Accordingly, it is important to note that the SCAQMD, which has jurisdiction over the South Coast Air Basin, has also experienced an improvement in air quality over the last few decades. The SCAQMD implements air quality plans, such as the 2016 Air Quality Management Plan and the draft 2022 Air Quality Management Plan, which are comprehensive documents that outline their air pollution control program for attaining all CAAQS and NAAQS. Specifically, the SCAQMD draft 2022 Air Quality Management Plan addresses attainment of the 2015 8-hour O_3 standard (70 parts per billion) for the South Coast Air Basin and the Coachella Valley. PM_{10} levels have declined almost 50% since 1990 within the South Coast Air Basin, and $PM_{2.5}$ levels have also declined 50% since measurements began in 1999 (SCAQMD 2015). Similar improvements are observed with O_3 within the SCAB, although the rate of O_3 decline has slowed in recent years (SCAQMD 2013). Despite great strides in cleaning the

air over the past several decades, the Los Angeles area still has the highest levels of O_3 in the nation and meeting the O_3 standards within the South Coast Air Basin will require federal action and zero- and low-emission technologies to reduce NO_x. Overall, improvements within the South Coast Air Basin will also result in improvements within the MDAB. Lastly, the MDAQMD continues to implement available control technologies and rules and regulations to further reduce sources of O_3 and PM within their jurisdictional boundaries including attainment plans and rule development, as explained in Section 4.2.2 (Local).

Local Ambient Air Quality Conditions

CARB, air districts, and other agencies monitor ambient air quality at approximately 250 air quality monitoring stations across the state. The MDAQMD monitors local ambient air quality in the Project area. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. The most recent background ambient air quality data from 2019 to 2021 are presented in Table 4.2-2. The Victorville monitoring station, located at 14306 Park Avenue, Victorville, California, is the nearest air quality monitoring station to the Project site, and is located approximately 10.5 miles southwest of the Project. The data collected at this station are considered representative of the air quality experienced in the Project vicinity. Air quality data for O_3, NO_2, CO, SO_2, PM_{10}, and $PM_{2.5}$ from the Victorville monitoring station are provided in Table 4.2-2. The number of days exceeding the AAQS is also shown in Table 4.2-2.

Table 4.2-2. Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2019	2020	2021	2019	2020	2021
Ozone (O_3)										
Victorville	ppm	Maximum 1-hour concentration	State	0.09	0.104	0.112	0.112	3	4	8
	ppm	Maximum 8-hour concentration	State	0.070	0.082	0.095	0.098	34	38	35
			Federal	0.070	0.081	0.094	0.098	29	35	34
Nitrogen Dioxide (NO_2)										
Victorville	ppm	Maximum 1-hour concentration	State	0.18	0.056	0.059	0.056	0	0	0
			Federal	0.100	0.056	0.059	0.056	0	0	0
	ppm	Annual concentration	State	0.030	0.011	0.012	0.012	0	0	0
			Federal	0.053	0.011	0.012	0.012	0	0	0
Carbon Monoxide (CO)										
Victorville	ppm	Maximum 1-hour concentration	State	20	1.2	1.6	1.5	0	0	0
			Federal	35	1.2	1.6	1.5	0	0	0
	ppm	Maximum 8-hour concentration	State	9.0	1.1	1.4	1.0	0	0	0
			Federal	9	1.1	1.4	1.0	0	0	0

Table 4.2-2. Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2019	2020	2021	2019	2020	2021
Sulfur Dioxide (SO2)										
Victorville	ppm	Maximum 1-hour concentration	Federal	0.075	0.004	0.004	0.003	0	0	0
	ppm	Maximum 24-hour concentration	Federal	0.14	0.003	0.002	0.002	0	0	0
	ppm	Annual concentration	Federal	0.030	0.001	0.001		0	0	0
Coarse Particulate Matter (PM_{10})[a]										
Victorville	µg/ m^3	Maximum 24-hour concentration	State	50	—	—	—	—	—	—
			Federal	150	170.0	261.4	591.6	1.9 (2)	1.9 (2)	1.0 (1)
	µg/ m^3	Annual concentration	State	20	—	—	—	—	—	—
Fine Particulate Matter ($PM_{2.5}$)[a]										
Victorville	µg/ m^3	Maximum 24-hour concentration	Federal	35	17.8	48.4	87.1	0.0 (0)	4.0 (4)	1.0 (1)
	µg/ m^3	Annual concentration	State	12	7.0	10.4	10.3	0	0	0
			Federal	12.0	7.0	9.7	10.2	0	0	0

Sources: CARB 2022; EPA 2022.

Notes: ppm = parts per million; µg/m^3 = micrograms per cubic meter; — = not available.

Data taken from CARB iADAM (CARB 2021i) and EPA AirData (EPA 2021b) represent the highest concentrations experienced over a given year.

Exceedances of federal and state standards are only shown for O_3 and particulate matter. Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed federal or state standards during the years shown. There is no federal standard for 1-hour ozone, annual PM_{10}, or 24-hour SO_2, nor is there a state 24-hour standard for $PM_{2.5}$.

[a] Measurements of PM_{10} and $PM_{2.5}$ are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

4.2.2 Relevant Plans, Policies, and Ordinances

Federal

Criteria Air Pollutants

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the Clean Air Act, including setting NAAQS for major air pollutants; setting hazardous air pollutant (HAP) standards; approving state attainment plans; setting motor vehicle emission standards; issuing stationary source emission standards and permits; and establishing acid

rain control measures, stratospheric O_3 protection measures, and enforcement provisions. Under the Clean Air Act, NAAQS are established for the following criteria pollutants: O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the public. The NAAQS (other than for O_3, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O_3, NO_2, SO_2, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. The Clean Air Act requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan that demonstrates how those areas will attain the standards within mandated time frames.

Hazardous Air Pollutants

The 1977 federal Clean Air Act amendments required the EPA to identify national emission standards for HAPs to protect public health and welfare. HAPs include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 federal Clean Air Act amendments, which expanded the control program for HAPs, 189 substances and chemical families were identified as HAPs.

State

Criteria Air Pollutants

The federal Clean Air Act delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products.

CARB has established the CAAQS, which are generally more restrictive than the NAAQS. As stated previously, an ambient air quality standard defines the maximum amount of a pollutant averaged over a specified period of time that can be present in outdoor air without harm to the public's health. For each pollutant, concentrations must be below the relevant CAAQS before a basin can attain the corresponding CAAQS. Air quality is considered “in attainment” if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, 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 air districts have based their thresholds of significance for California Environmental Quality Act (CEQA) purposes on the levels that scientific and factual data demonstrate that the air basin can accommodate without affecting the attainment date for the NAAQS or CAAQS. Since an ambient air quality standard is based on maximum pollutant levels in outdoor air that would not harm the public's health, and air district thresholds pertain to attainment of the ambient air quality standard, this means that the thresholds established by air districts are also protective of human health. The NAAQS and CAAQS are presented in Table 4.2-3.

Table 4.2-3. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	Primary[c,d]	Secondary[c,e]
O_3	1 hour	0.09 ppm (180 µg/m³)	—	Same as primary standard[f]
	8 hours	0.070 ppm (137 µg/m³)	0.070 ppm (137 µg/m³)[f]	
NO_2[g]	1 hour	0.18 ppm (339 µg/m³)	0.100 ppm (188 µg/m³)	Same as primary standard
	Annual arithmetic mean	0.030 ppm (57 µg/m³)	0.053 ppm (100 µg/m³)	
CO	1 hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	None
	8 hours	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	
SO_2[h]	1 hour	0.25 ppm (655 µg/m³)	0.075 ppm (196 µg/m³)	—
	3 hours	—	—	0.5 ppm (1,300 µg/m³)
	24 hours	0.04 ppm (105 µg/m³)	0.14 ppm (for certain areas)[g]	—
	Annual	—	0.030 ppm (for certain areas)[g]	—
PM_{10}[i]	24 hours	50 µg/m³	150 µg/m³	Same as primary standard
	Annual arithmetic mean	20 µg/m³	—	
$PM_{2.5}$[i]	24 hours	—	35 µg/m³	Same as primary standard
	Annual arithmetic mean	12 µg/m³	12.0 µg/m³	15.0 µg/m³
Lead[j,k]	30-day average	1.5 µg/m³	—	—
	Calendar quarter	—	1.5 µg/m³ (for certain areas)[k]	Same as primary standard
	Rolling 3-month average	—	0.15 µg/m³	
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m³)	—	—
Vinyl chloride[j]	24 hours	0.01 ppm (26 µg/m³)	—	—
Sulfates	24 hours	25 µg/m³	—	—
Visibility reducing particles	8 hours (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%	—	—

Source: CARB 2016.

Notes: O_3 = ozone; ppm = parts per million by volume; µg/m³ = micrograms per cubic meter; NO_2 = nitrogen dioxide; CO = carbon monoxide; mg/m³= milligrams per cubic meter; SO_2 = sulfur dioxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; PST = Pacific Standard Time.

[a] California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended particulate matter (PM_{10}, $PM_{2.5}$), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 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/m³ is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on 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.

[d] National primary standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[e] National secondary standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] On October 1, 2015, the national 8-hour O_3 primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[g] To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of 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.

[h] 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 national 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[i] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/m³ to 12.0 μg/m³. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/m³, as was the annual secondary standard of 15 μg/m³. The existing 24-hour PM_{10} standards (primary and secondary) of 150 μg/m³ were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.

[j] CARB has identified lead and vinyl chloride as TACs 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.

[k] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 μg/m³ as a quarterly average) remains in effect until 1 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.

Toxic Air Contaminants

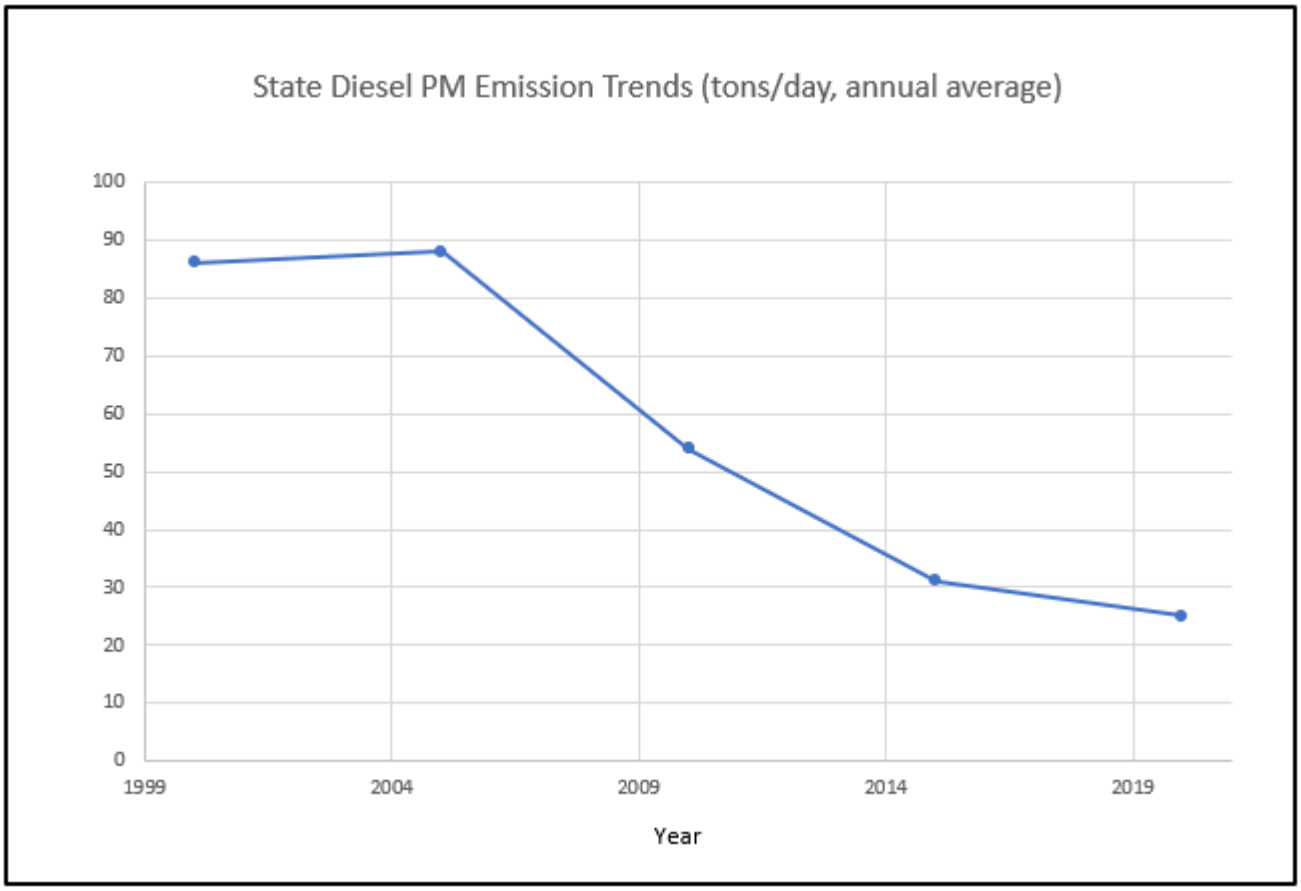
The state Air Toxics Program was established in 1983 under AB 1807 (Tanner). The California TAC list identifies more than 200 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (federal) HAPs. In 1987, the Legislature enacted the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) to address public concern over the release of TACs into the atmosphere. AB 2588 law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years. TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment (HRA), and if specific thresholds are exceeded, the facility operator is required to communicate the results to the public in the form of notices and public meetings. As a result of the state Air Toxics Program, more than 30,000 facilities have reduced their toxic emissions which has led to the reduction of cancer risk in California by about 80% since 1990 (CARB 2022).

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines (CARB 2000). The regulation is anticipated to result in an 80% decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000. Additional regulations apply

to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment Program. These regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. There are several Airborne Toxic Control Measures that reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

In 2013 CARB published the California Almanac of Emissions and Air Quality. The Almanac contains 20-year trend summaries of air quality and emissions data for five criteria pollutants: ozone, PM_{10}, CO, NO_2, and SO_2. Data are summarized for the State as a whole and for the five most populated air basins (South Coast, San Francisco Bay Area, San Joaquin Valley, San Diego, and Sacramento Valley). In addition to information on criteria pollutants, the Almanac provides information on air quality and emissions for DPM. Exhibit 4.2-3 provides a graphical depiction of the diesel particulate matter emissions trend for the State based on the CARB California Almanac of Emissions and Air Quality 2013 report. As shown the trend of DPM is decreasing significantly since 2005 to report projected year 2020, 88 tons per day, annual average to 25 tons per day, annual average, respectively.

Exhibit 4.2-3. Statewide Diesel Particulate Matter Trends



Source: CARB 2013, California Almanac of Emissions and Air Quality 2013.

California Health and Safety Code Section 41700

Section 41700 of the California Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance

to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any of those persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors

Local

Mojave Desert Air Quality Management District

The MDAQMD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the San Bernardino County portion of the MDAB, where the Project is located. The MDAQMD operates monitoring stations in the MDAB, develops rules and regulations for stationary sources and equipment, prepares emissions inventory and air quality management planning documents, and conducts source testing and inspections. The MDAQMD's air quality management plans include control measures and strategies to be implemented to attain state and federal AAQS in the MDAB. The MDAQMD then implements these control measures as regulations to control or reduce criteria pollutant emissions from stationary sources or equipment. The MDAQMD's most recent air quality plans are the PM_{10} attainment demonstration and maintenance plan (MDAQMD 1995) and the O_3 attainment plan (MDAQMD 2008).

Applicable Rules. Emissions that would result from mobile, area, and stationary sources during construction and operation of the Project are subject to the rules and regulations of the MDAQMD. The MDAQMD rules applicable to the Project may include, but are not limited to, the following:

- **Rule 219 – Equipment Not Requiring a Permit:** The rule identifies equipment exempt from permit requirements of District Rules 201 and 203.
  - District permit required for Internal combustion engines with manufacturer's maximum continuous rating greater than or equal to 50 brake horsepower
- **Rule 401 – Visible Emissions:** This rule establishes the limit for visible emissions from stationary sources.
- **Rule 402 – Nuisance:** This rule prohibits the discharge of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property.
- **Rule 403 – Fugitive Dust Control for the Mojave Desert Planning Area:** This rule ensures that the NAAQS for PM_{10} will not be exceeded due to anthropogenic sources of fugitive dust within the Mojave Desert Planning Area and implements the control measures contained in the Mojave Desert Planning Area Federal PM_{10} Attainment Plan. Rule 403 includes requirements for a Dust Control Plan, signage and fencing requirements, as well as surface watering and stabilization with chemicals, gravel and asphaltic pavement to eliminate visible fugitive dust from vehicular travel and wind erosion.
- **Rule 431 – Sulfur Content of Liquid Fuels:** The purpose of this rule is to limit the sulfur content in diesel and other liquid fuels for the purpose of reducing the formation of SO_x and particulates during combustion and of enabling the use of add-on control devices for diesel-fueled internal combustion engines. The rule applies to all refiners, importers, and other fuel suppliers such as distributors, marketers, and retailers, as well as to users of diesel, low-sulfur diesel, and other liquid fuels for stationary-source applications in the MDAQMD. The rule also affects diesel fuel supplied for mobile sources.
- **Rule 442 – Usage of Solvents:** The purpose of this rule is to reduce VOC emissions from VOC-containing materials or equipment that is not subject to limits of any rule found in District Regulation XI – Source Specific Standards.

- **Rule 1113 – Architectural Coatings.** This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (MDAQMD 2020a).

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SCAG serves as the federally designated metropolitan planning organization for the Southern California region and is the largest metropolitan planning organization in the United States.

On April 7, 2016, SCAG's Regional Council adopted the 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS). The 2016 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The 2016 RTP/SCS charts a course for closely integrating land use and transportation so that the region can grow smartly and sustainably. The 2016-2040 RTP/SCS was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, nonprofit organizations, businesses, and local stakeholders within Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. In June 2016, SCAG received its conformity determination from the Federal Highway Administration and the Federal Transit Administration indicating that all air quality conformity requirements for the 2016 RTP/SCS and associated 2015 Federal Transportation Improvement Program Consistency Amendment through Amendment 15-12 have been met (SCAG 2016).

SCAG has developed Connect SoCal, the 2020–2045 RTP/SCS, which is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. Connect SoCal charts a path toward a more mobile, sustainable, and prosperous region by making connections between transportation networks, planning strategies, and the people whose collaboration can improve the quality of life for Southern Californians. Connect SoCal embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses, and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. SCAG's 2020–2045 RTP/SCS was adopted on September 3, 2020 (SCAG 2020).

Town of Apple Valley General Plan

The Town of Apple Valley General Plan contains the following goals and policies applicable to air quality and the Project (Town of Apple Valley 2009):

Air Quality Element

Goal: To preserve and enhance local and regional air quality.

Policy 1.A. The Town shall cooperate with the MDAQMD to assure compliance with air quality standards.

Policy 1.B. The Town shall proactively regulate local pollutant emitters by coordinating and cooperating with local, regional and federal efforts to monitor, manage and decrease the levels of major pollutants affecting the Town and region, with particular emphasis on PM10 and ozone emissions, as well as other emissions associated with diesel-fueled equipment and motor vehicles.

Policy 1.C. The Town shall coordinate land use planning efforts to assure that sensitive receptors are reasonably separated from polluting point sources including mineral extraction operations.

Policy 1.D. All proposals for development activities within the Town shall be reviewed for their potential to adversely impact local and regional air quality and shall be required to mitigate any significant impacts.

Policy 1.E. The use of clean and/or renewable alternative energy sources for transportation, heating and cooling, and construction shall be encouraged by the Town.

Policy 1.F. The Town shall support, encourage, and facilitate the development of projects that enhance the use of alternative modes of transportation, including pedestrian-oriented retail and activity centers, dedicated bicycle paths and lanes, and community-wide multi-use trails.

Policy 1.G. Future residential, commercial, and industrial development and remodeling projects, shall strive to exceed Title 24 standards by 15% and/or achieve LEED certification or similar performance standards for buildings.

Policy 1.H. Residential, commercial, and industrial projects that reduce vehicle miles traveled (VMTs) by providing alternative transportation options, home office and live/work spaces, and/or promote employees living close to work are preferred.

Policy 1.I. The Town shall continue to reduce waste generation, enhance recycling or reuse programs, and expand grey water systems for landscape irrigation.

Policy 1.J. The Town shall promote the use of solar and alternative energies and give priority to projects that include the use of solar cells and other alternative energy sources in their designs.

4.2.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to air quality are based on CEQA Guidelines Appendix G. According to CEQA Guidelines Appendix G, a significant impact related to air quality would occur if the Project would:

A. Conflict with or obstruct implementation of the applicable air quality plan.
B. Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard.
C. Expose sensitive receptors to substantial pollutant concentrations.
D. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.
E. Result in cumulatively considerable air quality impacts.

CEQA Guidelines Appendix G indicates that, where available, significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to determine whether the Project would have a significant impact on air quality. As outlined in the MDAQMD's CEQA and Federal Conformity Guidelines (MDAQMD 2016), a project would result in a significant environmental impact if it:

1. Would generate total emissions (direct and indirect) in excess of the established significance thresholds (presented as Table 4.2-4)
2. Would generate a violation of any ambient air quality standard when added to the local background

3. Does not conform with the applicable attainment or maintenance plan
4. Would expose sensitive receptors to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to 10 in a million (10×10^{-6}) and/or a hazard index (noncarcinogenic) greater than or equal to 1

Residences, schools, daycare centers, playgrounds, and medical facilities are considered sensitive receptor land uses. The following project types proposed for sites within the specified distance to an existing or planned sensitive receptor land use must be evaluated using Threshold 4:

- Any industrial project within 1,000 feet
- A distribution center (40 or more trucks per day) within 1,000 feet
- A major transportation project (50,000 or more vehicles per day) within 1,000 feet
- A dry cleaner using perchloroethylene within 500 feet
- A gasoline dispensing facility within 300 feet

The MDAQMD CEQA Air and Federal Conformity Guidelines (MDAQMD 2016) sets forth quantitative emission significance thresholds for criteria air pollutants below which a project would not have a significant impact on ambient air quality. Project-related air quality emissions estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 4.2-4 are exceeded. The emission-based thresholds for O_3 precursors are intended to serve as a surrogate for an "ozone significance threshold" (i.e., the potential for adverse O_3 impacts to occur) because O_3 itself is not emitted directly. MDAQMD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions.

Table 4.2-4. Mojave Desert Air Quality Management District Daily Air Quality Significance Thresholds

Pollutant	Daily Threshold (pounds per day)
VOC	137
NO_x	137
CO	548
SO_x	137
PM_{10}	82
$PM_{2.5}$	65
Hydrogen sulfide[a]	54
Lead[a]	3

Source: MDAQMD 2016.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.

[a] The Project includes typical equipment and on-road vehicles, which result in negligible (if any) emissions of hydrogen sulfide and lead. Therefore, these pollutants are not discussed in this analysis.

Regarding localized CO, although the MDAQMD does not have screening levels for intersection traffic that could result in potential CO hotspots, several other air districts have established these levels, which are described below to provide context of the magnitude of hourly volumes that could result in significant localized CO:

- The SCAQMD conducted CO modeling for its 2003 Air Quality Management Plan (SCAQMD 2003) for the four worst-case intersections in the South Coast Air Basin. At the time the 2003 Air Quality Management Plan was prepared, the intersection of Wilshire Boulevard and Veteran Avenue was the most congested

intersection in Los Angeles County, with an average daily traffic volume of approximately 100,000 vehicles per day. Using CO emission factors for 2002, the peak modeled CO 1-hour concentration was estimated to be 4.6 ppm at the intersection of Wilshire Boulevard and Veteran Avenue. Accordingly, CO concentrations at congested intersections would not exceed the 1-hour or 8-hour CO CAAQS unless projected daily traffic would be at least more than 100,000 vehicles per day.

- The Bay Area Air Quality Management District (BAAQMD) determined that projects would result in a less-than-significant impact to localized CO concentrations if (1) project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour, or (2) project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway) (BAAQMD 2017).

Based on the Project's proximity to the South Coast Air Basin, the SCAQMD screening criterion of 100,000 vehicles per day has been applied to this Project as a metric to evaluate CO hotspots.

Methodology

Emissions from construction and operation of the Project and existing land uses were estimated using the California Emissions Estimator Model (CalEEMod) Version 2022.1.[4] CalEEMod input parameters, including the Project land use type and size and construction schedule, were based on information provided by the Project Applicant, or default model assumptions if Project specifics were unavailable.

Project Design Features

The following project design features (PDFs) would be included as part of the Project:

PDF-AQ-1 (Construction)

- **Heavy-Duty Off-Road Construction Equipment Requirements/Restrictions.** During Project construction, all internal combustion engines/construction equipment greater than ~~150~~ 25 horsepower operating on the Project site shall meet U.S. Environmental Protection Agency-certified Tier 4 ~~Interim~~ Final emissions standards. The Project Applicant or successor in interest shall include this requirement in applicable bid documents, purchase orders, and contracts with successful contractors. Successful contractors must demonstrate the ability to supply the compliant construction equipment for use prior to any ground-disturbing and construction activities. An exemption from these requirements may be granted by the Town of Apple Valley in the event that the Project Applicant or successor in interest documents that equipment with the required tier is not reasonably available and corresponding reductions in criteria air pollutant emissions are achieved from other construction equipment.[5] Before an exemption may be considered by the Town of Apple Valley, the Project Applicant or successor in interest shall be required to demonstrate that at least two construction fleet owners/operators in the High Desert and San Bernardino Region were contacted and that those owners/operators confirmed Tier 4 ~~Interim~~ Final or better equipment could not be located within the High Desert and San Bernardino Region. In the event that Tier 4 Final construction

[4] CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant emissions associated with the construction and operational activities from a variety of land use projects, such as residential, commercial, and industrial facilities.

[5] For example, if a Tier 4 ~~Interim~~ Final piece of equipment is not reasonably available at the time of construction and a lower tier equipment is used instead (e.g., Tier 3), another piece of equipment could be upgraded from a lower tier to a higher tier (i.e., Tier 4) or replaced with an alternative-fueled (not diesel-fueled) equipment to offset the emissions associated with using a piece of equipment that does not meet Tier 4 ~~Interim~~ Final standards.

equipment is not available, the Project Applicant may utilize Tier 4 Interim or Tier 3 construction equipment outfitted with Best Available Control Technology (BACT) devices, including but not limited to CARB-certified Level 3 Diesel Particulate Filters (DPF).

- **Provision of Electrical Infrastructure for Construction and Use of Electric Construction Equipment.** After the grading phase of Project construction, the Project Applicant or successor in interest shall provide temporary electrical hook ups to the power grid, rather than diesel-fueled generators, for contractors' electric construction tools, such as saws, drills and compressors. The use of diesel-fueled generators for on-site construction activities shall be prohibited unless electrical infrastructure is not yet available on the Project site. Diesel-fueled generators may be used for off-site construction work. All off-road equipment with a power rating below 19 kilowatts (e.g., plate compactors, pressure washers) used on site during Project construction must be electric-powered. The Project Applicant or successor in interest shall include these requirements in applicable bid documents, purchase orders, and contracts with successful contractors.
- **Construction Equipment Idling Restrictions.** The idling of heavy construction equipment for more than 3~~5~~ minutes shall be prohibited. Signage shall be posted throughout the construction site informing construction personnel of the idling time limit. Idling time limits shall be noted in construction specifications. Subject to all other idling restrictions, heavy construction equipment shall not be left in the "on position" for more than 10 hours per day.
- **Construction Haul Truck Requirements.** All haul trucks entering the Project construction site during the grading and building construction phases shall meet California Air Resources Board model year 2014 engine emission standards. All heavy-duty haul trucks should also meet CARB's lowest optional NO_x standard.
- **Dust Control Measures.** ~~In~~ The Project will be in compliance with all applicable Rules and Regulations of the Mojave Desert Air Quality Management District (MDAQMD), including, but not limited to Rules 401 (Visibile Emissions), 402 (Nuisance), and 403 (Fugitive Dust). To ensure compliance with these Rules and Regulations, the Project Applicant or successor in interest shall prepare and submit a Dust Control Plan to the MDAQMD for approval. The Dust Control Plan shall document the best management practices (BMPs) that will be implemented during Project construction to prevent, to the maximum extent practicable, wind and soil erosion. BMPs that will be included in the Dust Control Plan shall include, but are not limited to, covering soil stockpiles when not in use and watering soils during earth-moving activities. On days when the hourly average wind speed for north Apple Valley exceeds 20 miles per hour, additional dust control measures shall be implemented, such as increased surface watering. Grading and excavation shall be prohibited when sustained wind speed exceeds 30 miles per hour.

  In addition, the Project applicant or its designee shall provide to all Project construction employees the fact sheet entitled "Preventing Work-Related Coccidioidomycosis (Valley Fever)" by the California Department of Public Health and ensure all employees are aware of the potential risks the site poses. The Project applicant or its designee shall inform all Project construction employees of all occupational responsibilities and requirements contained in these measures to reduce potential exposure to *Coccidioides* spores.

  The training shall include all the following topics:

  a. What Valley Fever is and how it is contracted.
  b. High-risk areas and types of work and environmental conditions during which the risk of contracting Valley Fever is highest.
  c. Personal risk factors that may create a higher risk for some individuals.
  d. Personal and environmental exposure prevention methods.
  e. Importance of early detection, diagnosis, and treatment.

f. Recognizing common signs and symptoms of Valley Fever.

g. Importance of reporting symptoms to the employer and seeking medical attention.

h. Common treatment and prognosis for Valley Fever.

Furthermore, the Project shall implement the following actions related to Valley Fever:

- An Injury Prevention Program, which shall include measures to prevent exposure to Valley Fever spores and the worker awareness training described in Labor Code Section 6709 (c) and (d).
- National Institute for Occupational Safety and Health (NIOSH)-approved respirators for workers with a history of Valley Fever.
- Half-face respirators equipped with a minimum N-95 protection factor for workers engaged in or working near soil disturbance activities.
- The Applicant shall prevent transport of cocci outside the Project area during Project construction by (a) thoroughly cleaning vehicles and equipment before they are moved off-site to other work locations; (b) providing workers with coveralls, lockers or other daily changing facilities to keep work and street clothing and shoes separate; and (d) post warnings of potential Valley Fever exposure onsite and consider limiting access to visitors, especially those without adequate training and respiratory protection.
- The Applicant shall provide prompt access to medical care to construction workers who have symptoms of Valley Fever.

- **Construction Waste Recycling and Management.** Consistent with Section 5.408.1 of the California Green Building Standards Code Part 11, a minimum of 65% of the nonhazardous construction and demolition waste shall be recycled and/or salvage for reuse.
- **Architectural Coating Requirements.** Architectural and industrial maintenance coatings (e.g., paints) applied on the Project site shall have volatile organic compound levels of less than 10 grams per liter (g/L).
- **Construction Charging Area.** An area in the construction site shall be designated where electric-powered construction vehicles and equipment can charge.
- **Construction Employee Meal Options.** Meal options onsite or shuttles between the facility and nearby meal destinations shall be provided for construction employees.
- **Construction Logs.** The Project's construction manager shall maintain on the construction site construction logs detailing the following:
  - An inventory of construction equipment, maintenance records, and datasheets, including design specifications and emission control tier classifications
  - Verification that construction equipment operators have been advised of idling time limits and photographic evidence that signage with idling time limits have been posted around the construction site
  - Evidence that construction contractors have been provided with transit and ridesharing information for construction workers
  - Construction logs shall be made available in the event that local, regional, or state officials (e.g., officials from the Town of Apple Valley, MDAQMD, or CARB) conduct an inspection at the Project site.

PDF-AQ-2 (Site Design)

- **Sustainable Design/LEED Measures.** The Project shall be designed so that it is able to achieve Leadership in Energy and Environmental Design (LEED) certification at the time of building permit application. Documentation shall be provided to the Town of Apple Valley demonstrating that the Project meets this requirement prior to the issuance of building permits.
- **Design of Ingress/Egress Points.** Entry gates into the loading dock/truck court areas shall be sufficiently positioned to ensure that all truck and other vehicles are contained onsite and inside the property line. Queuing, or circling of vehicles, on public streets immediately pre- or post-entry to the Project shall be strictly prohibited unless queuing occurs in a deceleration lane or right turn lane exclusively serving the Project site. Signs shall be posted at every truck exit driveway providing directional information for the truck route.
- **Measures to Reduce the Urban Heat Island Effect.** The following measures shall be implemented to reduce the urban heat island effect:
  - The Project's roof structures shall be designed to include "cool roof" materials with a minimum aged reflectance and thermal emittance values that are equal to or greater than those specified in the current edition of the California Green Building Standards (CALGreen), Table A5.106.11.2.3 for Tier 1 standards.
  - Sufficient shade trees shall be provided throughout the Project site so that at least 30% of the automobile parking areas will be shaded within 15 years after Project construction is complete (excluding the truck courts where trees cannot be planted due to interference with truck maneuvering).

PDF-AQ-3 (Operation)

- **Truck Routing Plan.** The Project Applicant or successor in interest shall establish and submit for approval to the Town of Apple Valley a Truck Routing Plan that provides for routes between the Project site and the State Highway System. The Truck Routing Plan shall include measures, such as signage, pavement markings, and enforcement, for preventing truck queuing, circling, stopping, and parking on public streets. The Truck Routing Plan shall make every effort to avoid passing sensitive receptors, to the greatest extent possible, unless otherwise superseded by an applicable truck routing ordinance adopted by the Town of Apple Valley. The tenant/operator of the Project shall be responsible for enforcement of the Truck Routing Plan. A revised plan shall be submitted to the Town of Apple Valley prior to a business license being issued by the Town of Apple Valley for any new tenant/operator of the Project site. The revised plan shall expand upon the original Truck Routing Plan and describe the operational characteristics of the use of the tenant/operator, including, but not limited to, hours of operations, types of items to be stored within the building, and whether any modifications to the Project's designated truck routes are necessary. The Town of Apple Valley shall have discretion to determine if changes to the Truck Routing Plan are necessary including any additional measures to alleviate truck routing and parking issues that may arise during the life of the Project. Signs and drive aisle pavement markings shall clearly identify the onsite circulation pattern to minimize unnecessary on-site vehicular travel.
- **Yard Sweeping to Reduce Fugitive Dust.** The following measure shall be implemented during all ongoing business operations and shall be included as part of contractual lease agreement language to ensure that tenants and operators of the Project are informed of the following operational responsibility:
  - Yard and parking area sweeping shall be periodically conducted to minimize dust generation from the Project site. The building manager or their designee shall be responsible for enforcing this requirement.
- **Restriction on Cold and/or Refrigerated Space.** Operations involving cold or refrigerated storage shall be prohibited unless additional environmental review, including a Health Risk Assessment, is conducted and certified pursuant to the California Environmental Quality Act.

- **Solar-Powered Water Heaters.** Solar-powered water heaters shall be installed on the Project site.
- **Timed Lighting.** A timer system for lighting to ensure that lights shall be switched off during times of non-operation shall be installed on the Project site.
- **Provision of Information Regarding Programs to Reduce Emissions from Trucks.** Prior to tenant occupancy, the Project Applicant or successor in interest shall provide documentation to the Town of Apple Valley demonstrating that occupants/tenants of the Project site have been provided informational documentation regarding:
  - Funding opportunities that provide incentives for using cleaner-than-required engines and equipment, such as the Carl Moyer Program and Voucher Incentive Program
  - The U.S. EPA SmartWay Program, which assists freight shippers, carriers, logistics companies, and other stakeholder partner with the U.S. EPA to measure, benchmark, and improve logistics operations and reduce air pollutant emissions from the transport of cargo.

Construction

For the purpose of estimating Project emissions, construction was modeled beginning in December 2023 and concluding in toward the end of October 2025,[6] lasting approximately 22 months. On-site facility development and off-site improvements were accounted for in the modeling. The analysis contained herein is based on the following schedule assumptions (duration of phases is approximate):

- Site preparation: December 2023 -- January 2024
- Grading: January 2024 – March 2024
- Pipeline installation: March 2024 – August 2024
- Building construction: September 2024 – May 2025
- Paving: May 2025 – July 2025
- Architectural coating: July 2025 – October 2025

Construction modeling assumptions for equipment and vehicles are provided in Table 4.2-5. For the analysis, it was generally assumed that heavy-duty construction equipment would be operating at the site 5 days per week. For on-site and off-site development, it was assumed that approximately 152,288 cubic yards of soil would be exported. After the modeling was completed, a new grading plan was released that stated the project would result in a net import of 13,400 cubic yards of material. Because the new grading plan results in the transport of significantly less material, and therefore fewer haul trucks, the modeling is conservative and has not been changed for this analysis.

Table 4.2-5. Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Average Daily Haul Truck Trips	Equipment Type	Quantity	Daily Usage Hours
	18	4	0	Rubber Tired Dozers	3	8

[6] The analysis assumes a construction start date of December 2023, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant and greenhouse gas emissions, because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

Table 4.2-5. Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Average Daily Haul Truck Trips	Equipment Type	Quantity	Daily Usage Hours
Site Preparation				Tractors/Loaders/ Backhoes	4	8
Grading	20	4	418	Excavators	2	8
				Graders	1	8
				Rubber Tired Dozers	1	8
				Scrapers	2	8
				Tractors/Loaders/ Backhoes	2	8
Pipeline Installation	24	4	2	Air Compressors	1	8
				Concrete/Industrial Saws	1	8
				Excavators	1	8
				Forklifts	1	8
				Pavers	1	8
				Paving Equipment	1	8
				Pumps	1	8
				Rollers	1	8
				Tractors/Loaders/ Backhoes	1	8
Building Construction	454	178	0	Cranes	1	7
				Forklifts	3	8
				Generator Sets	1	8
				Tractors/Loaders/ Backhoes	3	7
				Welders	1	8
Paving	16	4	0	Pavers	2	8
				Paving Equipment	2	8
				Rollers	2	8
Architectural Coating	92	4	0	Air Compressors	10	6

Source: Appendix B-1.

Operation

Emissions from the operational phase of the Project were estimated using CalEEMod. Operational year 2025 was assumed consistent with the assumptions in the EIR's transportation analysis (Appendix J).

Area Sources

CalEEMod was used to estimate operational emissions from area sources, including emissions from consumer product use, architectural coatings, and landscape maintenance equipment. Emissions associated with natural gas usage in space heating and water heating are calculated in the building energy use module of CalEEMod, as described in the following text.

Consumer products are chemically formulated products used by household and institutional consumers, including detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. Other paint products, furniture coatings, or architectural coatings are not considered consumer products (CAPCOA 2022). Consumer product VOC emissions were estimated in CalEEMod based on the floor area of buildings and default factor of pounds of VOC per building square foot per day. The CalEEMod default values for consumer products were assumed.

VOC off-gassing emissions result from evaporation of solvents contained in surface coatings, such as in paints and primers used during building maintenance. CalEEMod calculates the VOC evaporative emissions from the application of surface coatings based on the VOC emission factor, the building square footage, the assumed fraction of surface area, and the reapplication rate. The VOC emissions factor is based on the VOC content of the surface coatings, and MDAQMD Rule 1113, Architectural Coatings (MDAQMD 2020a), governs the VOC content for interior and exterior coatings. This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories. Based on the limits in Rule 1113 of 50 g/L VOC content for flat and nonflat coatings, 50 g/L VOC content was assumed for all coatings used in the Project. CalEEMod default values were assumed for the surface area to be painted and the reapplication rate of 10% of area per year.

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chainsaws, and hedge trimmers. The emissions associated with landscape equipment use were estimated based on CalEEMod default values for emission factors (grams per square foot of building space per day) and number of summer days (when landscape maintenance would generally be performed) and winter days.

Mobile Sources

The Project would generate criteria pollutant emissions from mobile sources (vehicular traffic) as a result of the employee passenger vehicles (workers) and truck traffic associated with the operation of the warehouse.

Emissions from the mobile sources during operation of the Project were estimated in CalEEMod. The maximum daily trip rates, taken from the EIR's transportation analysis (Appendix J), were 1,955 total non-PCE trips per day, of which 1,417 trips would be passenger vehicles and 538 trips would be trucks, both of which were assumed 7 days per week. The passenger vehicle trip lengths were assumed to be CalEEMod default trip length of 34 miles for commercial-work trips (i.e., trips made by someone who is employed by the warehouse land use) and assumed to be 100% of primary trips.

To identify an appropriate trip length assumption for heavy-duty truck trips, two different methods of estimation were evaluated: (1) Project-specific EMFAC-based estimate, and (2) SCAQMD recommendations. For method 1, to determine an average operational truck trip distance, EMFAC data and the distance to the Port of Long Beach was examined. EMFAC data was queried for San Bernardino County for operational year 2025 for light-heavy duty (LHDT1

and LHDT2), medium heavy duty (MHDT), and heavy-heavy duty trucks (HHDT) for total VMT and number of vehicle trips. Based on the EMFAC data it is estimated that MHDTs average 4.36 miles per trip and HHDTs average 9.77 miles per trip in San Bernardino County. LHDT1 and LHDT2s have a shorter EMFAC trip distance compared to MHDT, therefore, as a conservative assumption, LHDT1 and LHDT2 were assumed to have the same trip distance as MHDTs. The estimated trip distance from the Port of Long Beach to the Project was estimated to be 104 miles. Based on the EIR's transportation analysis, HHDT make up 60.6% of the total truck trips for the Project and LHDT1, LHDT2, and MHDTs make up 39.4% of truck trips. Conservatively assuming all HHDTs originate from the Port of Long Beach, then 50% of HHDT truck trips, arrival trips, are assumed to be of a distance of 104 miles. The other 50% making up the HHDT departure from the Project are assumed to have trip distance equal to the average EMFAC San Bernardino County trip distance of 9.78 miles. To determine an average total truck distance for use in CalEEMod, HHDT trips are averaged with the other 39.4% of the trucks (and LHDT1, LHDT2, and MHDTs) to determine an overall weighted average truck trip distance, which equates to about 35 miles. See Table 4.2-6 for calculation details.

Table 4.2-6. Operational Truck Trip Distance

Vehicle	Percent of Trucks Trips (%)[1]	EMFAC Data			Trip Distance
		EMFAC Truck Classification	Countywide VMT	Countywide Vehicle Trips	VMT per Trip
2-3 Axle Trucks (Arriving and Departing)	39.4	LHDT1, LHDT2, and MHDT	740,923[2]	232,755[2]	4.36
4+ Axle Trucks (Arriving from Port)	30.3 (50% of total HHDT Trips[4])	HHDT	N/A	N/A	104[3]
4+ Axle Trucks (Departing)	30.3 (50% of total HHDT Trips[4])	HHDT	2,718,529	278,293	9.77
				Weighted Average (All Truck Trips)	35.37

Notes: VMT = vehicle miles traveled; LHDT = light-heavy duty; MHDT = medium-heavy duty; HHDT = heavy-heavy duty.

1 Based on Project traffic impact analysis, Appendix J.

2 LHDT1, LHDT2, and MHDT conservatively based on EMFAC VMT and Trip data for MHDT.

3 Based on the distance from the Project site to the Port of Long Beach.

4 Percent of truck trips represents arrival and departure trips, therefore 50% of trips (arrival) conservatively assumed to originate at the Port of Long Beach. 50% of trips assumed to depart the Project facility and estimated truck trip distance is based on EMFAC countywide average HHDT truck VMT per trip.

For method 2, the truck trip lengths were based on the SCAQMD recommendation of 40 miles and assumed to be 100% of primary trips.[7] While method 1 provides a tailored trip length estimate based on the Project's location and the reasonably anticipated origin and destination of operational truck trips and goods movement, because method 2 yields a higher trip length, it is conservatively applied in this analysis to estimate mobile source emissions.

Vehicle emissions occur during startup, operation (running), and idling, as well as from evaporative losses when the engines are resting. The emissions factors for trucks and passenger vehicles were determined using CalEEMod.

7 The average trip length for heavy-duty trucks were based on implementation of the Facility-Based Mobile Source Measures adopted in the SCAQMD's 2016 AQMP. SCAQMD's "Draft Truck Emission Rate Calculations" assumed a heavy-heavy-duty truck trip length of 39.9 miles (SCAQMD 2021), and the default commercial-nonwork trip length for trucks in CalEEMod is 6.6 miles. Therefore, the conservatively assumed trip length of 40 miles is used for this analysis.

Project truck idling would be limited to 5 minutes in accordance with CARB's adopted Airborne Toxic Control Measure; however, for modeling purposes, it was conservatively assumed that the trucks would idle for a total of 15 minutes: idling which occurs while the trucks are waiting to pull up to the loading dock, at the loading dock, and prior to entering and exiting the site.

Energy Source Emissions

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for greenhouse gas emissions in CalEEMod, since criteria pollutant emissions would occur at the site of power plants, which are not on the Project site. However, natural gas combustion would occur at the Project site itself, in association with equipment that uses natural gas. The emissions associated with natural gas use were calculated using CalEEMod default parameters, which are reflective of the 2019 Title 24 standards to the extent CEC accounted for them in the underlying Commercial Forecast assumed in CalEEMod. Using CalEEMod default values are conservative as the Project would be required to comply with the more stringent 2022 Title 24 standards, which became effective January 1, 2023.

Off-Road Equipment

The most common type of cargo handling equipment are forklifts, pallet jacks, and yard trucks, which are designed for moving cargo containers. Yard trucks are also known as yard goats, utility tractors, hustlers, yard hostlers, and yard tractors. For this particular Project, based on the maximum square footage of building space permitted by the Project, on-site modeled operational equipment includes a total of 130 forklifts (forklifts and pallet jacks, with a mix of 25% diesel and 75% Compressed Natural Gas [CNG]) and 3 diesel-fueled yard trucks operating at 24 hours a day for 365 days of the year. See Appendix B-1 for detailed calculations.

Stationary Sources (Emergency Generators)

The Project would operate one diesel-fueled 300-horsepower (hp) fire pump for a maximum of 50 hours per year for routine testing and maintenance.

Health Risk Assessments

Construction Health Risk Assessment

An HRA was performed to evaluate potential health risk associated with construction of the Project. The following discussion summarizes the dispersion modeling and HRA methodology; supporting construction HRA documentation, including detailed assumptions, is presented in Appendix B-2.

For risk assessment purposes, PM_{10} in diesel exhaust is considered DPM, originating mainly from off-road equipment operating at a defined location for a given length of time at a given distance from sensitive receptors. Less-intensive, more-dispersed emissions result from on road vehicle exhaust (e.g., heavy-duty diesel trucks).

The air dispersion modeling methodology was based on MDAQMD's generally accepted modeling practices (MDAQMD 2020b). Air dispersion modeling was performed using the EPA's American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) Version 22112 modeling system (computer software) with the Lakes Environmental Software implementation/user interface, AERMOD View Version 11.2.0. The HRA followed the Office of Environmental Health Hazard Assessment (OEHHA) 2015 guidelines (OEHHA 2015) and MDAQMD guidance to calculate the health risk impacts at all proximate receptors as further discussed below.

The dispersion modeling included the use of standard regulatory default options. AERMOD parameters were selected consistent with the MDAQMD and EPA guidance and identified as representative of the Project site and Project activities. Principal parameters of this modeling are presented in Table 4.2-7.

Table 4.2-7. American Meteorological Society/Environmental Protection Agency Regulatory Model Principal Parameters

Parameter	Details
Meteorological Data	AERMOD-specific meteorological data for the Barstow-Daggett Airport air monitoring station (KDAG) was used for the dispersion modeling based on the recommendation of the MDAQMD. A meteorological data set from 2015 through 2020 was obtained from the CARB in a preprocessed format suitable for use in AERMOD.
Urban versus Rural Option	The rural dispersion option was selected due to the undeveloped nature of the Project area.
Terrain Characteristics	Digital elevation data were imported into AERMOD and elevations were assigned to receptors and emission sources, as necessary. Digital elevation data were obtained through the AERMOD View in the U.S. Geological Survey's National Elevation Dataset format with a resolution of 1 arc-second resolution.
Source Release Characterizations	Air dispersion modeling of DPM emissions was conducted assuming the off-road equipment and trucks would operate in accordance with the modeling scenario estimated in CalEEMod (Appendix B-1), based on the best information available at the time of analysis: • Off-road equipment and diesel trucks were modeled as a line of adjacent volume sources across the Project site with a release height of 5 meters, a plume height of 10 meters, and plume width of 10 meters.
Receptors	Discrete receptors were placed at the nearest receptor locations in all directions to the Project site.

Notes: AERMOD = American Meteorological Society/Environmental Protection Agency Regulatory Model; MDAQMD = Mojave Desert Air Quality Management District; CARB = California Air Resources Board; DPM = diesel particular matter; CalEEMod = California Emissions Estimator Model.
See Appendix B-2.

The health risk calculations were performed using the Hotspots Analysis and Reporting Program Version 2 (HARP2) Air Dispersion and Risk Tool (ADMRT, Version 22118). AERMOD was run with all sources emitting unit emissions (1 gram per second) to obtain the necessary input values for HARP2. The line of volume sources was partitioned evenly based on the 1 gram per second emission rate. The ground-level concentration plot files were then used to estimate the long-term cancer health risk to an individual, and the non-cancer chronic health indices. Notably, there is no reference exposure level for acute health impacts from DPM, and, thus, acute risk was not evaluated.

Operational Heath Risk Assessment

Emissions from the operation of the Project include truck trips, truck idling emissions, off-road diesel- and CNG-fueled equipment, and routine testing and maintenance of the diesel fire pump. Truck idling would be limited to 5 minutes in accordance with CARB's adopted Airborne Toxic Control Measure; however, truck idling was conservatively assumed to idle for 15 minutes.[8] Therefore, the analysis conservatively overestimates DPM emissions from idling. All deliveries would occur Monday through Sunday.

[8] Although the Project is required to comply with CARB's idling limit of 5 minutes, on-site idling emissions was estimated for 15 minutes of truck idling, which would take into account on-site idling while the trucks are waiting to pull up to the loading dock, idling at the loading dock, and idling during check-in and check-out.

Dudek evaluated the Project's potential cancer and noncancer health impacts using exposure periods appropriate to evaluate long-term emission increases (third trimester of pregnancy to 30 years). Emissions dispersion of DPM and gaseous TACs from CNG were modeled using AERMOD, then cancer risk and noncancer health impacts subsequently using the CARB HARP2. The health risk results were then compared to MDAQMD thresholds to assess Project significance. Principal parameters of this modeling are presented in Table 4.2-8.

Table 4.2-8. Operational Health Risk Assessment American Meteorological Society/U.S. Environmental Protection Agency Regulatory Model Operational Principal Parameters

Parameter	Details
Meteorological Data	AERMOD-specific meteorological data for the Barstow-Daggett Airport air monitoring station (KDAG) was used for the dispersion modeling based on the recommendation of the MDAQMD. A meteorological data set from 2015 through 2020 was obtained from the CARB in a preprocessed format suitable for use in AERMOD.
Urban versus Rural Option	The rural dispersion option was selected due to the undeveloped nature of the Project area.
Terrain Characteristics	Digital elevation data were imported into AERMOD and elevations were assigned to receptors and emission sources, as necessary. Digital elevation data were obtained through the AERMOD View in the U.S. Geological Survey's National Elevation Dataset format with a resolution of 1 arc-second resolution.
Source Release Characterizations	The following operational source modeling parameters were based on the best information available at the time of analysis: ▪ Diesel truck travel was modeled as a line of adjacent volume sources to the west (65%), north (15%), and south (20%) of the Project with a release height of 3.4 meters, a plume height of 6.8 meters, and plume width of 9.7 meters. ▪ Truck idling was modeled as a line of adjacent volume sources along each side of the warehouse building with loading docks, with a release height of 3.4 meters, a plume height of 6.8 meters, and plume width of 3.7 meters. ▪ Cargo handling equipment were modeled as a line of adjacent volume sources along each side of the warehouse building with loading docks, with a release height of 3.4 meters, a plume height of 6.8 meters, and plume width of 9.7 meters. ▪ The fire pump was modeled as a point source at the southeast corner of the building. The 300-hp fire pump was assumed to have a vertical stack with a height of 2.50 meters, inside stack diameter of 12.19 centimeters, gas exhaust temperature of 931 degrees Fahrenheit, and gas exhaust of 51.79 cubic meters per minute.
Receptors	Discrete receptors were placed at the nearest receptor locations to the Project site and haul routes.

Source: See Appendix B-2.
Note: AERMOD = American Meteorological Society/Environmental Protection Agency Regulatory Model; MDAQMD = Mojave Desert Air Quality Management District; CARB = California Air Resources Board.

4.2.4 Impacts Analysis

Threshold A: Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Potentially Significant Impact Before Mitigation. The Federal Particulate Matter Attainment Plan and Ozone Attainment Plan for the Mojave Desert set forth a comprehensive set of programs that will lead the MDAB into compliance with federal and state air quality standards. The control measures and related emission reduction estimates within the Federal Particulate Matter Attainment Plan and Ozone Attainment Plan are based upon emissions projections for a future development scenario derived from land use, population, and employment

characteristics defined in consultation with local governments. A project is non-conforming with an air quality plan if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming if it complies with all applicable MDAQMD rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan). Zoning changes, specific plans, general plan amendments and similar land use plan changes that do not increase dwelling unit density, do not increase vehicle trips, and do not increase vehicle-miles traveled (VMT) are also deemed to comply with the applicable air quality plan (MDAQMD 2016).

The Project would be required to comply with all applicable MDAQMD Rules and Regulations, including, but not limited to Rules 401 (Visibile Emissions), 402 (Nuisance), and 403 (Fugitive Dust Control for the Mojave Desert Planning Area). According to the Town's General Plan, the land use designation and zoning for the Project site is Specific Plan (SP), referring to its presence within the boundaries of the North Apple Valley Industrial Specific Plan. Since the Project site is within this overlay, the proposed warehouse facility is an allowable use under the existing general plan land use designation.

As discussed below, Project construction-source emissions would not exceed applicable MDAQMD regional thresholds. However, Project operational-source air pollutant emissions would result in exceedances of regional thresholds for emissions of NO_x (304 pounds per day above threshold) and CO (2,374 pounds per day above threshold). As such, NO_x and CO operational emissions are considered significant the Project would have the potential to increase the frequency or severity of a violation in the federal or state ambient air quality for on-going Project operations. The health effects of criteria air pollutants are discussed in depth under the next impact criterion and in depth in Appendix B-3.

Based on the preceding considerations, the Project would conform to local land use plans and would comply with all applicable MDAQMD Rules and Regulations. However, Project operational-source emissions have the potential to increase the frequency or severity of a violation in the federal or state ambient air quality standards. On this basis, the Project is considered to potentially conflict with the Federal Particulate Matter Attainment Plan and Ozone Attainment Plan for the MDAB. Therefore, impacts associated with the conflicting with the MDAQMD would be potentitally significant before mitigation. However, as identified under Threshold B below, implementation of MM-AQ-1 would reduce Project-related criteria air pollutant emissions to a less than significant level. As such, the Project would not conflict with or obstruct implementation of the applicable air quality plan after mitigation.

Threshold B: Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?

Potentially Significant Impact Before Mitigation. Construction and operation of the Project would result in emissions of criteria air pollutants from mobile, area, and stationary sources, which may cause exceedances of federal and state AAQS or contribute to existing nonattainment of AAQS. The following discussion identifies potential short-term construction and long-term operational impacts that would result from implementation of the Project.

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the MDAQMD develops and implements plans for future attainment of AAQS. Although the area of the MDAB where the Project is located is currently designated a nonattainment area for federal and state O_3 standards and federal and state PM_{10} standards, the MDAB has experienced a substantial reduction in maximum 8-hour concentrations of O_3 over the past 30 years, as well as reductions in PM_{10} over time, as described in the respective MDAQMD O_3 and PM_{10} attainment plans. CEQA thresholds are established at levels that the air

basin can accommodate without affecting the attainment date for the AAQS. Based on these considerations, Project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality.

Short-Term Construction Impacts

Construction of the Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing from architectural coatings) and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts.

As discussed in the Methodology – Construction subsection of Section 4.2.3, Thresholds of Significance, criteria air pollutant emissions associated with temporary construction activity were quantified using CalEEMod. CalEEMod calculates maximum daily emissions for summer and winter periods. The estimated maximum daily construction emissions without mitigation are summarized in Table 4.2-9. Detailed construction model outputs are presented in Appendix B-1.

Table 4.2-9. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions - Unmitigated

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds Per Day					
Summer						
2023	--	--	--	--	--	--
2024	3.063.68	10.4417.45	57.9657.76	0.070.07	7.587.88	1.932.21
2025	19.4520.52	9.9916.53	54.5354.28	0.070.07	7.587.82	1.932.16
Winter						
2023	0.601.06	2.8615.37	29.5629.10	0.050.05	8.048.26	4.114.31
2024	2.753.38	39.3555.00	44.5744.37	0.260.26	12.3012.63	4.144.43
2025	19.3620.42	10.5317.07	42.1841.93	0.070.07	7.587.82	1.932.16
Maximum Daily Emissions	**20.5219.45**	**55.0039.35**	**57.9676**	**0.26**	**12.3063**	**4.1443**
MDAQMD Threshold	*137*	*137*	*548*	*137*	*82*	*65*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Appendix B-1.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; MDAQMD = Mojave Desert Air Quality Management District.
Includes compliance with the construction measures specified in PDF AQ-1.

As depicted in Table 4.2-9, regional construction emissions would not exceed the applicable MDAQMD thresholds of significance for any criteria pollutant. Therefore, short-term impacts associated with a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment would be less than significant.

Long-Term Operational Impacts

Operation of the Project would generate criteria pollutant emissions from area sources (consumer products, architectural coatings, landscaping equipment), energy sources (natural gas combustion for space and water heating), mobile sources (vehicular traffic), off-road equipment (forklifts and yard trucks), and stationary sources (emergency diesel generator testing and maintenance). Table 4.2-10 summarizes the unmitigated maximum daily operational emissions associated with the Project. Detailed operational model outputs are presented in Appendix B-1.

Table 4.2-10. Estimated Maximum Daily Operation Criteria Air Pollutant Emissions - Unmitigated

Emissions Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Summer						
Mobile	6.72	67.41	152.10	0.95	53.40	14.68
Area	31.18	0.40	46.97	0.00	0.08	0.06
Energy	0.30	5.52	4.63	0.03	0.42	0.42
Offroad Equipment	9.06	342.44	2698.56	0.18	4.21	3.87
Stationary	7.88	22.02	20.08	0.04	1.16	1.16
Total Daily Summer Emissions	**55.14**	**437.78**	**2,922.35**	**1.20**	**59.27**	**20.19**
Winter						
Mobile	6.13	71.41	104.06	0.91	53.40	14.68
Area	23.48	--	--	--	--	--
Energy	0.30	5.52	4.63	0.03	0.42	0.42
Offroad Equipment	9.06	342.44	2,698.56	0.18	4.21	3.87
Stationary	7.88	22.02	20.08	0.04	1.16	1.16
Total Daily Winter Emissions	**46.85**	**441.38**	**2827.33**	**1.16**	**59.19**	**20.13**
Maximum Daily Emissions	**55.14**	**441.38**	**2,922.35**	**1.20**	**59.27**	**20.19**
MDAQMD Threshold	*137*	*137*	*548*	*137*	*82*	*65*
Threshold Exceeded?	**No**	**Yes**	**Yes**	**No**	**No**	**No**

Source: See Appendix B-1 for complete results.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; MDAQMD = Mojave Desert Air Quality Management District.

As shown in Table 4.2-10, the Project would exceed the numerical thresholds of significance established by the MDAQMD for emissions of NO_x and CO. This impact would be potentially significant without mitigation.

Mitigation measures are required to minimize operational-related air quality impacts. As depicted in Table 4.2-10 above, most criteria air pollutants associated with the Project are generated by off-road cargo handling equipment (diesel and CNG fueled) and on-road vehicles. MM-AQ-1 includes the requirement for all off-road cargo handling equipment to be zero-emission, which would reduce the long-term criteria air pollutant emissions substantially. Other site design requirements of MM-AQ-1 were not quantified, however, including the provision of infrastructure to support on-road electric vehicles (EVs) and electric landscaping equipment. In addition, neither the Project Applicant nor the Town of Apple Valley can substantively or materially affect reductions in Project on-road mobile source emissions beyond what is already required by regulation. Table 4.2-11 summarizes the mitigated maximum

daily operational emissions associated with the Project. Detailed operational model outputs are presented in Appendix B-1.

Table 4.2-11. Estimated Maximum Daily Operation Criteria Air Pollutant Emissions - Mitigated

Emissions Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Summer						
Mobile	6.72	67.41	152.10	0.95	53.40	14.68
Area	31.18	0.40	46.97	0.00	0.08	0.06
Energy	0.30	5.52	4.63	0.03	0.42	0.42
Offroad Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Stationary	7.88	22.02	20.08	0.04	1.16	1.16
Total Daily Summer Emissions	**46.08**	**95.34**	**223.79**	**1.02**	**55.06**	**16.32**
Winter						
Mobile	6.13	71.41	104.06	0.91	53.40	14.68
Area	23.48	--	--	--	--	--
Energy	0.30	5.52	4.63	0.03	0.42	0.42
Offroad Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Stationary	7.88	22.02	20.08	0.04	1.16	1.16
Total Daily Winter Emissions	**37.78**	**98.94**	**128.78**	**0.98**	**54.98**	**16.25**
Maximum Daily Emissions	**46.08**	**98.94**	**223.79**	**1.02**	**55.06**	**16.32**
MDAQMD Threshold	*137*	*137*	*548*	*137*	*82*	*65*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: See Appendix B-1 for complete results.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; MDAQMD = Mojave Desert Air Quality Management District;.
Includes implementation of Mitigation Measure (MM)-AQ-1.

After implementation of MM-AQ-1, the Project would not exceed the MDAQMD thresholds for NO_x and CO. Therefore, with the incorporation of mitigation, long-term impacts associated with a cumulatively considerable net increase of criteria pollutants for which the Project region is non-attainment would be less than significant.

Health Effects of Criteria Air Pollutants

Construction of the Project would result in emissions that would not exceed the MDAQMD thresholds for criteria air pollutants. Operation of the Project, however, would result in emissions that would exceed the MDAQMD thresholds for criteria air pollutants without mitigation, including NO_x (304 pounds per day above threshold) and CO (2,374 pounds per day above threshold). However, as described above, incorporation of MM-AQ-1 would substantially reduce long-term emissions to below thresholds.

As discussed in Section 4.2.1, Existing Conditions, under the heading Pollutants and Effects, health effects associated with O_3 include respiratory symptoms, worsening of lung disease leading to premature death, and damage to lung tissue. VOCs and NO_x are precursors to O_3, for which the MDAB is designated as nonattainment with respect to the NAAQS and CAAQS. The contribution of VOCs and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the MDAB due to O_3 precursor

emissions tend to be found downwind of the source location because of the time required for the photochemical reactions to occur. Further, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the VOC emissions would occur, because exceedances of the O_3 NAAQS and CAAQS tend to occur between April and October when solar radiation is highest. Due to the lack of quantitative methods to assess this complex photochemistry, the holistic effect of a single project's emissions of O_3 precursors is speculative. As the Project would not exceed the MDAQMD threshold for NO_x after implementation of MM-AQ-1, the Project is not anticipated to contribute to health effects associated with O_3.

Health effects associated with NO_x and NO_2 (which is a constituent of NO_x) include lung irritation and enhanced allergic responses (see Section 4.2.1). Since the mitigated Project would not result in NO_x emissions that would exceed the MDAQMD mass daily thresholds and because the MDAB is a designated attainment area for NO_2 (and NO_2 is a constituent of NO_x) and the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards,[9] it is not anticipated that the Project would cause an exceedance of the NAAQS and CAAQS for NO_2 or result in potential health effects associated with NO_2 and NO_x.

Health effects associated with CO include chest pain in patients with heart disease, headache, light-headedness, and reduced mental alertness (see Section 4.2.1). CO tends to be a localized impact associated with congested intersections. The potential for CO hotspots is discussed under the subsequent impact criterion below and determined to be less than significant.

Health effects associated with PM_{10} include premature death and hospitalization, primarily for worsening of respiratory disease (see Section 4.2.1). Operation of the Project would not exceed the MDAQMD threshold for PM_{10}. Because the Project does not emit substantial particulate matter during operation, the Project would not result in associated health effects.

The California Supreme Court's *Sierra Club v. County of Fresno* (2018) 6 Cal. 5th 502 decision (referred to herein as the Friant Ranch decision; issued on December 24, 2018), addresses the need to correlate mass emission values for criteria air pollutants to specific health consequences, and contains the following direction from the California Supreme Court: "The Environmental Impact Report (EIR) must provide an adequate analysis to inform the public how its bare numbers translate to create potential adverse impacts or it must explain what the agency *does* know and why, given existing scientific constraints, it cannot translate potential health impacts further" (italics original). Currently, MDAQMD, CARB, and EPA have not approved a quantitative method to reliably, meaningfully, and consistently translate the mass emission estimates for the criteria air pollutants resulting from the Project to specific health effects. In addition, there are numerous scientific and technological complexities associated with correlating criteria air pollutant emissions from an individual project to specific health effects or potential additional nonattainment days.

In connection with the judicial proceedings culminating in issuance of the Friant Ranch decision, the SCAQMD and the San Joaquin Valley Air Pollution Control District (SJVAPCD) filed amicus briefs attesting to the extreme difficulty of correlating an individual project's criteria air pollutant emissions to specific health impacts. Both the SJVAPCD and the SCAQMD have among the most sophisticated air quality modeling and health impact evaluation capabilities of the air districts in the state. The key, relevant points from the SCAQMD and SJVAPCD briefs are summarized herein.

In requiring a health impact type of analysis for criteria air pollutants, it is important to understand how O_3 and PM is formed, dispersed, and regulated. The formation of O_3 and PM in the atmosphere, as secondary pollutants,[10] involves complex

[9] See Table 4.2-2, which shows that ambient concentrations of NO_2 at the Victorville monitoring station have not exceeded the NAAQS or CAAQS between 2019 and 2021.

[10] Air pollutants formed through chemical reactions in the atmosphere are referred to as secondary pollutants.

chemical and physical interactions of multiple pollutants from natural and anthropogenic sources. The O_3 reaction is self-perpetuating (or catalytic) in the presence of sunlight because NO_2 is photochemically reformed from nitric oxide (NO). In this way, O_3 is controlled by both NO_x and VOC emissions (NRC 2005). The complexity of these interacting cycles of pollutants means that incremental decreases in one emission may not result in proportional decreases in O_3 (NRC 2005). Although these reactions and interactions are well understood, variability in emission source operations and meteorology creates uncertainty in the modeled O_3 concentrations to which downwind populations may be exposed (NRC 2005). Once formed, O_3 can be transported long distances by wind and due to atmospheric transport, contributions of precursors from the surrounding region can also be important (EPA 2008). Because of the complexity of O_3 formation, a specific tonnage of VOCs or NO_X emitted in a particular area does not equate to a particular concentration of O_3 in that area (SJVAPCD 2015). PM can be divided into two categories: directly emitted PM and secondary PM. Secondary PM, like O_3, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as SO_x and NO_x (SJVAPCD 2015). Because of the complexity of secondary PM formation, including the potential to be transported long distances by wind, the tonnage of PM-forming precursor emissions in an area does not necessarily result in an equivalent concentration of secondary PM in that area (SJVAPCD 2015). This is especially true for individual projects, like the Project, where Project-generated criteria air pollutant emissions are not derived from a single "point source," but from construction equipment and mobile sources (passenger cars and trucks) driving to, from and around the Project site.

Another important technical nuance is that health effects from air pollutants are related to the concentration of the air pollutant that an individual is exposed to, not necessarily the individual mass quantity of emissions associated with an individual project. For example, health effects from O_3 are correlated with increases in the ambient level of O_3 in the air a person breathes (SCAQMD 2015). However, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient O_3 levels over an entire region (SCAQMD 2015). The lack of link between the tonnage of precursor pollutants and the concentration of O_3 and $PM_{2.5}$ formed is important because it is not necessarily the tonnage of precursor pollutants that causes human health effects; rather, it is the concentration of resulting O_3 that causes these effects (SJVAPCD 2015). Indeed, the ambient air quality standards, which are statutorily required to be set by EPA at levels that are requisite to protect the public health, are established as concentrations of O_3 and $PM_{2.5}$ and not as tonnages of their precursor pollutants (EPA 2018a). Because the ambient air quality standards are focused on achieving a particular concentration region-wide, the tools and plans for attaining the AAQS are regional in nature. For CEQA analyses, project-generated emissions are typically estimated in pounds per day or tons per year and compared to mass daily or annual emission thresholds. While CEQA thresholds are established at levels that the air basin can accommodate without affecting the attainment date for the AAQS, even if a project exceeds established CEQA significance thresholds, this does not mean that one can easily determine the concentration of O_3 or PM that will be created at or near the Project site on a particular day or month of the year, or what specific health impacts will occur (SJVAPCD 2015).

Regarding regional concentrations and air basin attainment, the SJVAPCD emphasized that attempting to identify a change in background pollutant concentrations that can be attributed to a single project, even one as large as the entire Friant Ranch Specific Plan, is a theoretical exercise. The SJVAPCD brief noted that it "would be extremely difficult to model the impact on NAAQS attainment that the emissions from the Friant Ranch project may have" (SJVAPCD 2015). The situation is further complicated by the fact that background concentrations of regional pollutants are not uniform either temporally or geographically throughout an air basin but are constantly fluctuating based upon meteorology and other environmental factors. SJVAPCD noted that the currently available modeling tools are equipped to model the impact of all emission sources in the San Joaquin Valley Air Basin on attainment (SJVAPCD 2015). The SJVAPCD brief then indicated that, "Running the photochemical grid model used for predicting O_3 attainment with the emissions solely from the Friant Ranch project (which equate to less than one-tenth of one percent of the total NO_x and VOC in the Valley) is not likely to yield valid information given the relative scale involved" (SJVAPCD 2015).

SCAQMD and SJVAPCD have indicated that it is not feasible to quantify project-level health impacts based on existing modeling (SCAQMD 2015; SJVAPCD 2015). Even if a metric could be calculated, it would not be reliable because the models are equipped to model the impact of all emission sources in an air basin on attainment and would likely not yield valid information or a measurable increase in O_3 concentrations sufficient to accurately quantify O_3-related health impacts for an individual project.

Nonetheless, following the Supreme Court's Friant Ranch decision, some EIRs where estimated criteria air pollutant emissions exceeded applicable air district thresholds have included a quantitative analysis of potential project-generated health effects using a combination of a regional photochemical grid model (PGM)[11] and the EPA Benefits Mapping and Analysis Program (BenMAP or BenMAP–Community Edition [CE]).[12] The publicly available health impact assessments (HIAs) typically present results in terms of an increase in health incidences and/or the increase in background health incidence for various health outcomes resulting from a project's estimated increase in concentrations of O_3 and $PM_{2.5}$.[13] To date, the five publicly available HIAs reviewed (and discussed in detail in Appendix B-3) have concluded that the evaluated projects' health effects associated with the estimated project-generated increase in concentrations of O_3 and $PM_{2.5}$ represent a small increase in incidences and a very small percentage of the number of background incidences, indicating that these health impacts are negligible and potentially within the models' margin of error. It is also important to note that while the results of the five available HIAs conclude that project emissions do not result in a substantial increase in health incidences, the estimated emissions and assumed toxicity is also conservatively inputted into the HIA and thus, overestimate health incidences, particularly for $PM_{2.5}$.

As explained in the SJVAPCD brief and noted previously, running the PGM used for predicting O_3 attainment with the emissions solely from an individual project like the Friant Ranch project or the Project is not likely to yield valid information given the relative scale involved. The five examples reviewed support the SJVAPCD's brief contention that consistent, reliable, and meaningful results may not be provided by methods applied at this time. Accordingly, additional work in the industry and more importantly, air district participation, is needed to develop a more meaningful analysis to correlate Project-level mass criteria air pollutant emissions and health effects for decision makers and the public. Furthermore, at the time of writing, no HIA has concluded that health effects estimated using the PGM and BenMAP approach are substantial provided that the estimated Project-generated incidences represent a very small percentage of the number of background incidences, potentially within the models' margin of error.

Notably, there are numerous scientific and technological complexities associated with correlating criteria air pollutant emissions from an individual project to specific health effects or potential additional nonattainment days, and methods available to quantitatively evaluate health effects may not be appropriate to apply to emissions associated with the Project, which cannot be estimated with a high-level of accuracy (see Appendix B-3). However, based on the preceding considerations, because construction and operation of the Project would not result in the

11 The first step in the publicly available HIAs includes running a regional PGM, such as the Community Multiscale Air Quality (CMAQ) model or the Comprehensive Air Quality Model with extensions (CAMx) to estimate the increase in concentrations of O_3 and $PM_{2.5}$ as a result of project-generated emissions of criteria and precursor pollutants. Air districts use photochemical air quality models for regional air quality planning. These photochemical models are large-scale air quality models that simulate the changes of pollutant concentrations in the atmosphere using a set of mathematical equations characterizing the chemical and physical processes in the atmosphere (EPA 2017).

12 After estimating the increase in concentrations of O_3 and $PM_{2.5}$, the second step in the five examples includes use of BenMAP or BenMAP-CE to estimate the resulting associated health effects. BenMAP estimates the number of health incidences resulting from changes in air pollution concentrations (EPA 2018b). The health impact function in BenMAP-CE incorporates four key sources of data: (i) modeled or monitored air quality changes, (ii) population, (iii) baseline incidence rates, and (iv) an effect estimate. All of the five example HIAs focused on O_3 and $PM_{2.5}$.

13 The following CEQA documents included a quantitative HIA to address Friant Ranch: (1) California State University Dominguez Hills 2018 Campus Master Plan EIR (CSUDH 2019), (2) March Joint Powers Association K4 Warehouse and Cactus Channel Improvements EIR (March JPA 2019), (3) Mineta San Jose Airport Amendment to the Airport Master Plan EIR (City of San Jose 2019), (4) City of Inglewood Basketball and Entertainment Center Project EIR (City of Inglewood 2019), and (5) San Diego State University Mission Valley Campus Master Plan EIR (SDSU 2019).

emissions of criteria air pollutants that would exceed the applicable MDAQMD significance thresholds, and because the MDAQMD thresholds are based on levels that the MDAB can accommodate without affecting the attainment date for the NAAQS and CAAQS, and the NAAQS and CAAQS are established to protect public health and welfare, it is anticipated that the Project would not result in health effects associated with criteria air pollutants and the impact would be less than significant after implementation of MM-AQ-1.

Threshold C: Would the Project expose sensitive receptors to substantial pollutant concentrations?

Potentially Significant Impact Before Mitigation. The potential impact of Project-generated air pollutant emissions at sensitive receptors has been considered. Sensitive receptors can include uses such as long-term health care facilities, rehabilitation centers, and retirement homes. Residences, schools, playgrounds, child-care centers, and athletic facilities can also be considered as sensitive receptors. The nearest sensitive receptors to the Project site ~~is~~ are a fire center approximately 600 feet to the south, ~~as it~~ which could potentially contain sleeping quarters, and a single-family residence approximately 650 feet to the east.

Criteria Air Pollutant Emissions and Associated Pollutant Concentrations

As discussed above in Threshold B, because operation of the Project could result in exceedances of the MDAQMD significance thresholds for NO_x and CO, the Project would potentially result in health effects associated with those pollutants. However, with implementation of MM-AQ-1, NO_x and CO emissions would be reduced below the respective MDAQMD significance thresholds. Because construction of the Project would not exceed any MDAQMD thresholds, and operation of the Project would not exceed the MDAQMD thresholds after implementation of mitigation, and because the MDAQMD thresholds are based on levels that the MDAB can accommodate without affecting the attainment date for the AAQS and the AAQS are established to protect public health and welfare, the Project is not anticipated to result in health effects associated with any criteria air pollutant.

Local Carbon Monoxide Concentrations

Mobile source impacts occur on two scales of motion. Regionally, Project-related travel would add to regional trip generation and increase VMT within the local airshed and the MDAB. Locally, Project-generated traffic would be added to the roadway system near the Project site. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds and operates on roadways already crowded with non-Project traffic, there is a potential for the formation of microscale CO hotspots in the area immediately around points of congested traffic. However, because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the MDAB is steadily decreasing.

The MDAQMD thresholds of significance for local CO emissions is the 1-hour and 8-hour CAAQS of 20 ppm and 9 ppm, respectively. By definition, these represent levels that are protective of public health. As noted previously, the MDAB is currently designated attainment for both state and national CO ambient air quality standards, and the Town of Apple Valley typically experiences low background CO concentrations.

As described in Section 4.2.3, to verify that the Project would not cause or contribute to a violation of the CO standard, a screening evaluation was conducted comparing the highest hourly traffic volumes at any studied intersection in proximity to the Project site to the 100,000 vehicles per day criterion from the SCAQMD Air Quality Management Plan (SCAQMD 2003). The highest average daily trips on a segment of road would be 19,187 daily trips on Stoddard Wells Road, east of I-15 NB Ramps - Outer I-15 intersection (Appendix J), which would be

substantially less than the 100,000 vehicles per day screening criterion applied. Therefore, impacts associated with CO hotspots would be less than significant.

Toxic Air Contaminant Exposure

Construction Health Risk

As discussed in Section 4.2.3, a construction HRA was performed to estimate the Maximum Individual Cancer Risk and the Chronic Hazard Index for residential receptors as a result of Project construction. Results of the construction HRA are presented in Table 4.2-12. Detailed operational model outputs are presented in Appendix B-2.

Table 4.2-12. Construction Health Risk Assessment Results – Unmitigated

Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
Maximum Individual Cancer Risk – Residential	Per Million	0.57~~3.65~~	10	Less than Significant
Chronic Hazard Index – Residential	Index Value	0.0004~~23~~	1.0	Less than Significant

Source: Appendix B-2.
Note: CEQA = California Environmental Quality Act.

As shown in Table 4.2-12, Project construction activities would result in a Maximum Individual Cancer Risk of ~~3.65~~0.57 in 1 million at the nearest residence, which is below the significance threshold of 10 in 1 million. Project construction would result in a Chronic Hazard Index of 0.0004~~23~~, which is below the 1.0 significance threshold. The Project construction TAC health risk impacts would be less than significant without mitigation.

Operational Health Risk

As discussed in Section 4.2.3, an HRA was performed to estimate the Maximum Individual Cancer Risk and Chronic Hazard Index for residential receptors associated with Project operations. Results of the operational HRA are presented in Table 4.2-13. Detailed operational model outputs are presented in Appendix B-2.

Table 4.2-13. Operational Health Risk Assessment Results - Unmitigated

Impact Parameter	Units	Impact Level	CEQA Threshold	Level of Significance
Maximum Individual Cancer Risk – Residential	Per Million	293.74	10	**Potentially Significant**
Chronic Hazard Index – Residential	Index Value	1.05	1.0	**Potentially Significant**

Source: Appendix B-2.
Notes: CEQA = California Environmental Quality Act

As shown in Table 4.2-12, the TAC emissions from operation of the Project would result in a Maximum Individual Cancer Risk of 293.74 in 1 million and a Chronic Hazard Index of 1.05, which would exceed the respective thresholds of significance and would result in a potentially significant impact without mitigation.

Mitigation measures are required to minimize operational-related air quality impacts (MM-AQ-1). MM-AQ-1 would require all off-road cargo handling and landscaping equipment to be zero-emission. MM-AQ-1 results in such drastic reductions in cancer risk and Chronic Hazard risk because it completely removes the largest contributors to

localized health risk (e.g., diesel and CNG cargo handling equipment) and replaces them with zero-emission equipment. This results in the elimination of all DPM, as well as TACs produced through CNG combustion, such as benzene and formaldehyde, associated with cargo handling equipment. Table 4.2-14 summarizes the mitigated operational health risk levels associated with the Project.

Table 4.2-14. Operational Health Risk Assessment Results - Mitigated

Impact Parameter	Units	Impact Level	CEQA Threshold	Level of Significance
Maximum Individual Cancer Risk – Residential	Per Million	2.95	10	Less than Significant
Chronic Hazard Index – Residential	Index Value	0.0008	1.0	Less than Significant

Source: Appendix B-2.
Notes: CEQA = California Environmental Quality Act

As shown in Table 4.2-14, mitigated Project operational activities would result in a Maximum Individual Cancer Risk of 2.95 in 1 million at the nearest residence, which is less than the significance threshold of 10 in 1 million. Mitigated Project operations would result in a Chronic Hazard Index of 0.0008, which is below the 1.0 significance threshold. The Project operational TAC health risk impacts would be less than significant after mitigation.

Valley Fever

As discussed in Section 4.2.1 under the subsection Valley Fever, Valley Fever is not highly endemic to San Bernardino County with an incident rate of 11.4 cases per 100,000 people (CDPH 2021). In contrast, in 2021 the statewide annual incident rate was 20.1 per 100,000 people. The California counties considered highly endemic for Valley Fever in 2021 include Kern (306.2 per 100,000), Kings (108.3 per 100,000), Tulare (65.8 per 100,000), San Luis Obispo (61.0 per 100,000), Fresno (39.8 per 100,000), Merced (28.3 per 100,000), and Monterey (27.0), which accounted for 52% of the reported cases in 2021 (CDPH 2022).

~~As discussed in Section 4.2.1 under the subsection Valley Fever, Valley Fever is not highly endemic to San Bernardino County with an incident rate of 1.8 cases per 100,000 people (CDPH 2017). In contrast, in 2016 the statewide annual incident rate was 13.7 per 100,000 people. The California counties considered highly endemic for Valley Fever include Kern (251.7 per 100,000), Kings (157.3 per 100,000), San Luis Obispo (82.8 per 100,000), Fresno (60.8 per 100,000), Tulare (45.3 per 100,000), Madera (31.5 per 100,000), and San Joaquin (25.3 per 100,000), and accounted for 70% of the reported cases in 2016 (CDPH 2017).~~

Even if present at the site, construction activities may not result in increased incidence of Valley Fever. Propagation of Valley Fever is dependent on climatic conditions, with the potential for growth and surface exposure highest following early seasonal rains and long dry spells. Valley Fever spores can be released when filaments are disturbed by earth-moving activities, although receptors must be exposed to and inhale the spores to be at increased risk of developing Valley Fever. Moreover, exposure to Valley Fever does not guarantee that an individual will become ill—approximately 60% of people exposed to the fungal spores are asymptomatic and show no signs of an infection (USGS 2000).

Notably, the Project would implement PDF-AQ-1, which includes dust control measures in accordance with the MDAQMD Rule 403~~s 401 and 403.2~~, which ~~that~~ would limit the amount of fugitive dust generated during construction. These requirements are consistent with California Department of Public Health recommendations for the implementation of dust control measures, including regular application of water during soil-disturbance activities, to reduce exposure to Valley Fever by minimizing the potential that the fungal spores become airborne

(CDPH 2013). Further, regulations designed to minimize exposure to Valley Fever hazards are included in Title 8 of the California Code of Regulations and would be complied with during the Project's construction phase (California Department of Industrial Relations 2017). Additionally, the project would institute Valley Fever-controlling measures detailed in PDF-AQ-1.

In summary, the Project would not result in a significant impact attributable to Valley Fever exposure based on its geographic location and compliance with applicable regulatory standards and dust control measures, which will serve to minimize the release of and exposure to fungal spores. Therefore, impacts associated with Valley Fever exposure for sensitive receptors would be less than significant.

Threshold D: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less-than-Significant Impact. Land uses most commonly associated with odor complaints generally include agricultural uses (livestock and farming), wastewater treatment plants, food-processing plants, chemical plants, composting operations, refineries, landfills, dairies, and fiberglass molding facilities. The Project does not include uses that would be substantive sources of objectionable odors. Potential temporary and intermittent odors may result from construction equipment exhaust, the application of asphalt, and architectural coatings. Temporary and intermittent construction-source emissions are controlled through existing requirements and industry Best Management Practices addressing proper storage of and application of construction materials.

The Project would also be required to comply with MDAQMD Rule 402 (Nuisance). Rule 402 provides that "[a] person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property" (MDAQMD 1976). Based on the preceding, the potential for the Project to create objectionable odors affecting a substantial number of people would be less than significant.

Threshold E: Would the Project result in cumulatively considerable air quality impacts?

Potentially Significant Impact Before Mitigation. Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the MDAQMD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, Project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality. Individual projects that do not generate operational or construction emissions that exceed the MDAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the MDAB is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact.

The area of the MDAB in which the Project is located is a nonattainment area for O_3 and PM_{10} under the NAAQS and/or CAAQS. The poor air quality in the MDAB is the result of cumulative emissions from motor vehicles, off-road equipment, commercial and industrial facilities, and other emission sources. Projects that emit these pollutants or their precursors (i.e., VOC and NO_x for O_3) potentially contribute to poor air quality. As indicated in Table 4.2-9, daily construction emissions associated with the Project would not exceed the MDAQMD significance thresholds. Project operational-source air pollutant emissions, however, would result in exceedances of regional thresholds for emissions of NO_X and CO and would be potentially significant before mitigation. With implementation of MM-AQ-1,

long-term emissions of NO_x and CO would be reduced to a less than significant level, and, therefore, the Project would not result in a cumulatively considerable air quality impact.

4.2.5 Mitigation Measures and Level of Significance After Mitigation

Threshold A: Would the Project conflict with or obstruct implementation of the applicable air quality plan?

The Project would result in potentially significant impacts with regard to conflicting with or obstructing implementation of an applicable air quality plan. Implementation of MM-AQ-1 would reduce the Project's impacts to less than significant.

MM-AQ-1 The Project shall implement the following measures in order to reduce operational air pollutant emissions to the extent feasible:

- **Solar Power.** ~~At a minimum, the roofs of the warehouse building shall be designed to provide the structural capacity to accommodate roof top solar panels.~~ The Project shall ~~be designed to~~ include rooftop solar panels that generate sufficient power to meet at least 9~~5~~0% of the Project's total operational base energy requirements from within the Project's building envelope. The Town of Apple Valley shall verify the size and scope of the solar energy system based upon the analysis of the projected power requirements and generating capacity as well as the available solar panel installation space. In the event sufficient space is not available on the Project site to accommodate the needed number of solar panels to produce the operation's base power use, the Project Applicant or success or interest shall demonstrate how all available space has been maximized (e.g., roof, parking areas) for solar energy system use. Areas that provide for truck movement may be excluded from these calculations unless otherwise deemed acceptable by the supplied reports and applicable building standards. The Project Applicant or successor in interest, or as contractually delegated by the Project Applicant or successor in interest, shall install the solar energy system when the Town of Apple Valley has approved building permits and the necessary equipment has arrived. The operation of the system shall commence only when it has received permission to operate from the applicable utility. The solar energy system owner shall be responsible for maintaining the system at not less than 80% of the rated power for 20 years. At the end of the 20-year period, the owners, operators or tenants shall install a new photovoltaic system meeting the capacity and operational requirements of this measure, or continue to maintain the existing system, for the life of the Project. As the Project's demand for solar power increases, additional solar panels may be added to the Project.
- **Electrical Infrastructure for Electric Equipment and Vehicles.** The Project shall be designed to include electrical infrastructure to accommodate the required number of electric vehicle charging stations, the anticipated number charging stations for electric cargo handling equipment, and the potential installation of additional automobile and truck electric vehicle charging stations. Electrical conduit shall be installed within reasonable locations (e.g., parking areas, at or near dock doors) at the time of building construction to satisfy this requirement. The Project's electrical rooms shall be of sufficient size to accommodate the upsizing of electrical equipment to accommodate potential future electrical loads.

- **Electric Vehicle Charging Stations.** Prior to issuance of a Certificate of Occupancy, Level 2 (or faster) electric vehicle charging stations shall be installed on-site for employees for the percentage of employee parking spaces commensurate with Title 24 requirements in effect at the time of building permit issuance plus additional charging stations equal to 5% of the total employee parking spaces in the building permit, whichever is greater. By January 1, 2030, Level 2 (or faster) electric vehicle charging stations shall be installed for 25% of the employee parking spaces required (i.e., 316 charging stations). Furthermore, the Applicant shall install at minimum two Level 3 electric chargers at the Project site in a place convenient for heavy-duty truck access prior to beginning Project operation.
- **Sustainable Energy, Waste, and Water Design Measures.** The Project Applicant or successor in interest shall implement the following measures:
  - The Project's landscape plan shall emphasize drought-tolerant plants and use water-efficient irrigation techniques
  - All heating, cooling, lighting, and appliance fixtures shall be Energy Star-rated
  - All fixtures installed in restrooms and employee break areas would be U.S. Environmental Protection Agency WaterSense Certified or equivalent
  - Structures shall be equipped with outdoor electric outlets in the front and rear of the structures to facilitate use of electrical lawn and garden equipment
  - Provide storage areas for recyclables and green waste, as well as food waste storage if a pick-up service is available
  - Buildings shall include high efficiency particulate air (HEPA) filtration systems within in all warehouse facilities
- **Zero-Emission or Near-Zero-Emission Equipment.** The following measure shall be implemented during all ongoing business operations and shall be included as part of contractual lease agreement language to ensure that tenants and operators of the Project are informed of the following operational responsibility:
  - All equipment and appliances operating on the Project site shall be zero-emission or near-zero-emission equipment. This requirement shall apply to indoor and outdoor equipment such as forklifts, handheld landscaping equipment, yard equipment, office appliances, etc. The building manager or their designee shall be responsible for enforcing these requirements.
- **Truck Requirements and Restrictions.** The following measure shall be implemented during all ongoing business operations and shall be included as part of contractual lease agreement language to ensure that tenants and operators of the Project are informed of the following operational responsibility:
  - Only haul trucks meeting California Air Resources Board (CARB) model year 2010 engine emission standards shall be used for the on-road transport of materials to and from the Project site. In addition, tenants shall be in, and monitor compliance with, all current air quality regulations for on-road trucks including CARB's Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation, Periodic Smoke Inspection Program, and the Statewide Truck and Bus Regulation. The building manager or their designee shall be responsible for enforcing these requirements.
- **Idling Time Restriction.** The following measure shall be implemented during all ongoing business operations and shall be included as part of contractual lease agreement language

to ensure that tenants and operators of the Project are informed of the following operational responsibility:

- Upon commencement of operations, the tenant/operator of the Project shall be required to restrict truck idling onsite to a maximum of 3 minutes, subject to exceptions defined by the California Air Resources Board's commercial vehicle idling requirements. The building manager or their designee shall be responsible for enforcing this requirement.

- **Anti-Idling Implementation Measures.** The following measures shall be implemented to reduce air pollutant emissions from idling:
  - **Signage.** Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas that identify the Project's 3-minute idling restriction. At a minimum, each sign shall include: (1) instructions for truck drivers to shut off engines when not in use; (2) instructions for drivers of diesel trucks to restrict idling to no more than 3 minutes once the vehicle is stopped, the transmission is set to "neutral" or "park," and the parking brake is engaged; (3) telephone numbers of the building facilities manager and California Air Resources Board (CARB) to report violations; and (4) that penalties apply for violations. Prior to the issuance of an occupancy permit, the Town of Apple Valley shall conduct a site inspection to ensure that the signs are in place.
  - **Efficient Load Management.** The facility operator(s) shall be required to train managers and employees on efficient scheduling and load management to eliminate unnecessary queuing and idling of trucks.
  - **Anti-Idling Training.** Tenants and operators on the Project site shall ensure that site enforcement staff in charge of keeping the daily log and monitoring for excess idling will be trained/certified in diesel health effects and technologies, for example, by requiring attendance at CARB-approved courses (such as the free, 1-day Course No. 512).

- **Transportation Demand Management Plan.** For a detailed synopsis of this measure, please refer to MM-TRANS-1 (Section 4.12). ~~For occupants with more than 250 employees, a Transportation Demand management Program to reduce employee commute vehicle emissions shall be established, subject to review and approval by the Town of Apple Valley. The Transportation Demand Management Plan shall apply to Project tenants through tenant leases. The TDM plan shall discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking. Examples of trip reduction measures may include, but are not limited to:~~
  - ~~Transit passes~~
  - ~~Car sharing programs~~
  - ~~Telecommuting and alternative work schedules~~
- ~~Ride sharing programs~~

Threshold B: Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?

Short-Term Construction Impacts

Construction of the Project would result in a less than significant cumulatively considerable net increase of criteria pollutants.

Long-Term Operational Impacts

Operation of the Project would result in a potentially significant cumulatively considerable net increase of criteria pollutants (i.e., NO_X and CO). Implementation of MM-AQ-1 would result in the Project's impacts becoming less than significant.

Threshold C: Would the Project expose sensitive receptors to substantial pollutant concentrations?

Construction and operation of the Project would not expose sensitive receptors to substantial pollutant concentrations, including concentrations of CO emissions, toxic air contaminants, and spores of the *Coccidioides immitis* fungus (which can result in Valley Fever). Operation of the Project, however, would result in potentially significant cancer risk at the nearest residence. MM-AQ-1 would be implemented, and Project health risk impacts would be less than significant with mitigation incorporated. After the inclusion of mitigation, the potential health effects associated with criteria air pollutants are considered less than significant.

Threshold D: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The Project would result in less-than-significant impacts associated other emissions (such as those leading to odors) which could adversely affect a substantial number of people. No mitigation is required.

Threshold E: Would the Project result in cumulatively considerable air quality impacts?

Construction and operation of the Project would result in a less than significant cumulative air quality impact with implementation of MM-AQ-1, and thus, not cumulatively considerable overall.

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4.3 Biological Resources

This section describes the existing biological resources conditions of the 1M Warehouse Project (Project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the Project.

In addition to the documents incorporated by reference (see Section 2.7 of Chapter 2 of this environmental impact report [EIR]), this analysis is based, in part, on the following sources:

- Biological Resources Technical Report, prepared by Dudek in September 2023 (Appendix C)
- 1M Warehouse Project Aquatic Resources Delineation Report (Appendix A of Appendix C) prepared by Dudek in September 2023

The Biological Resources Technical Report and Aquatic Resources Delineation Report analyze the biological resources present within the approximately 92.0-acre Project, specifically the 67.3-acre Project site, 24.7-acre off-site improvement areas, and a 100-foot buffer totaling 57.6 acres, resulting in the Biological Study Area (BSA), which encompasses 149.6 acres.

These studies were prepared in compliance with the California Environmental Quality Act (CEQA) and other applicable environmental regulations. Furthermore, the analysis within this section involved the review of existing biological resources; technical data; and applicable laws, regulations, and guidelines to adequately assess potential impacts to biological resources.

As discussed in detail in Chapter 3, Project Description of this EIR, the Project proposes the construction of construction and operation of a 1,080,125-square-foot industrial/warehouse building and associated improvements.

4.3.1 Existing Conditions

The following discussion summarizes the existing biological resources present within the BSA. A description of the existing vegetation communities, special-status species, and jurisdictional waters, including wetlands and wildlife corridors, are discussed below. Note that the Biological Technical Report and Aquatic Resources Delineation Report analyzed the entire BSA (149.6 acres); however, the Project impact calculations and impact table (Table 4-3.2) in Section 4.3.4 of this Draft EIR only analyzes the Project footprint (67.3-acre Project site and 24.7-acre off-site improvement areas) for direct impacts. The entire BSA was evaluated for indirect impacts.

4.3.1.1 Topography and Soils

The BSA is within the Mojave Desert. The Town of Apple Valley (Town) is primarily on alluvial slopes of the Mojave River floodplain, at the southern edge of the Mojave Desert. The topography gradually inclines toward the Juniper Flats foothills of the San Bernardino Mountains to the south, as well as to the scattered knolls and mountains to the north and east of the Town of Apple Valley. Turtle and Black Mountains are to the north, Fairview Mountain is to the northeast, and the Granite Mountains are to the southeast.

The on-site BSA is composed of undeveloped vacant lands. The off-site improvement areas include dirt and paved roadways (specifically Johnson Road, Central Road, and Lafayette Street), as well as undeveloped vacant lands immediately adjacent to these roadways. Topography within the BSA is a flat plane, with areas to the southwest containing hills that border the northwest corner of the Town of Apple Valley. Elevation ranges from approximately

3,130 feet above mean sea level (amsl) in the southeastern portion of the BSA to 3,170 feet amsl in the northwestern portion of the BSA. Adjacent land uses include undeveloped land and a small existing structure to the north, undeveloped land and a small existing residential to the west, Apple Valley Fire Center to the south, and undeveloped land to the east.

According to the U.S. Department of Agriculture's Natural Resource Conservation Service's Web Soil Survey (USDA 2023), the BSA consists of two soil complexes: Cajon-Arizo complex (2% to 15% slopes) and Helendale-Bryman loamy sands (2% to 5% slopes). These soil types are described in more detail below and are presented in Figure 4.3-1, Soils.

4.3.1.2 Vegetation Communities and Land Covers

The BSA supports five vegetation communities or land cover types, as identified in Table 4.3-1 and Figure 4.3-2. Vegetation communities and land uses mapped within the BSA include creosote bush scrub, creosote bush-white bursage scrub, as well as disturbed habitat and urban/developed areas.

Vegetation communities within the BSA were mapped following California Department of Fish and Wildlife's (CDFW) Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018) and California Natural Community List (CDFW 2023a), also referred to as the Natural Communities List, based on the Manual of California Vegetation, second edition (Sawyer et al. 2009). These classification systems focus on a quantified, hierarchical approach that includes both floristic (plant species) and physiognomic (community structure and form) factors as currently observed (as opposed to predicting climax or successional stages). Vegetation communities and land covers were delineated to the vegetation alliance level and, where appropriate, the association level. Some modifications, such as the Preliminary Descriptions of the Terrestrial natural Communities of California (Holland 1986; Oberbauer et al. 2008), were incorporated to accommodate the lack of conformity of the observed communities to those included in these references.

Table 4.3-1. Existing Vegetation Communities, Floristic Alliances and Associations, and Land Cover Types within the Biological Survey Area

Floristic Alliance	Association	Vegetation Community[1]	Project Site (acres)	Off-Site Areas (acres)	100-Foot Buffer (acres)	Total BSA (acres)[2]
Larrea tridentata	*Larrea tridentata*	Creosote bush scrub	65.0	14.3	48.2	127.5
Larrea tridentata – Ambrosia dumosa	N/A	Creosote bush – white bursage scrub	—	0.1	1.0	1.1
Ericameria nauseosa	*Ericameria nauseosa*	Rubber rabbitbrush scrub	—	—	—	0.4
N/A	N/A	Unvegetated wash and river bottom	0.5	0.1	0.3	0.9
N/A	N/A	Disturbed habitat	1.9	6.3	3.6	11.8

Table 4.3-1. Existing Vegetation Communities, Floristic Alliances and Associations, and Land Cover Types within the Biological Survey Area

Floristic Alliance	Association	Vegetation Community[1]	Project Site (acres)	Off-Site Areas (acres)	100-Foot Buffer (acres)	Total BSA (acres)[2]
N/A	N/A	Urban/ developed	—	3.9	4.0	7.8
		Total[2]	**67.3**	**24.7**	**57.6**	**149.6**

Notes: BSA = biological survey area; N/A = not applicable.
1 The spatial distribution of the vegetation communities and land covers are presented on Figure 4.3-2, Biological Resources.
2 Total acreages may not sum exactly due to rounding.

Creosote Bush Scrub

Creosote bush scrub, or *Larrea tridentata* association, is recognized by the Natural Communities List, and the communities include creosote bush (*Larrea tridentata*) as the dominant shrub, exceeding all other shrubs in cover, and if white bursage (*Ambrosia dumosa*) or brittlebush (*Encelia farinosa*) are present, their cover is less than three times the cover of creosote bush, of if white bursage is present, it is less than two times the cover of creosote bush. Creosote bush scrub occurs on alluvial fans, bajadas, upland slopes, and minor intermittent washes in soils that are well drained and sometimes with desert pavement (CNPS 2022).

Creosote bush scrub composes the majority of the BSA. Creosote is the dominant shrub species, with a lower cover of white bursage (*Ambrosia dumosa*), cheesebush (*Ambrosia salsola*), rubber rabbitbrush (*Ericameria nauseosa*), Wiggins' cholla (*Cylindropuntia echinocarpa*), branched pencil cholla (*Cylindropuntia ramosissima*), and allscale (*Atriplex polycarpa*). Areas surrounding ephemeral, unvegetated channels consisted of a higher diversity of species that included a low cover of creosote bush and also a mix of Mojave indigobush (*Psorothamnus arborescens*), Mexican bladdersage (*Scutellaria mexicana*), Thurber's sandpaper plant (*Petalonyx thurberi*), desert almond (*Prunus fasciculata*), and turpentinebroom (*Thamnosma montana*). Additionally, western Joshua trees (*Yucca brevifolia*) were scattered throughout the creosote bush scrub community within the BSA; however, western Joshua trees made up less than 1% absolute cover and therefore did not warrant its own community.

Creosote bush scrub is ranked as S5 and is therefore not considered a sensitive biological resource by CDFW under CEQA (CDFW 2023a).

Creosote Bush

Creosote bush-white bursage scrub, or *Larrea tridentata-Ambrosia dumosa* alliance, is recognized by the Natural Communities List as an alliance in which white bursage (*Ambrosia dumosa*) and creosote bush are co-dominant in the shrub canopy, exceeding all other shrubs in cover with the exception of the following species: *Acamptopappus sphaerocephalus*, *Bebbia juncea*, *Cylindropuntia acanthocarpa*, *Ephedra nevadensis*, *Ericameria teretifolia*, or *Krameria spp*. These species may have higher cover than white bursage or creosote bush, but by no more than three times. This alliance occurs in washes and rills, on alluvial fans, bajadas, valleys, basins, upland slopes, mesas, and erosional highlands in soils that are well drained, alluvial, and sometimes underlain by hardpan, or covered with desert pavement (CNPS 2022).

Creosote bush-white bursage scrub composes a small portion of the BSA along the western portion of Lafayette Street. Creosote and white bursage are the dominant shrub species, with a lower cover of cheesebush, Mexican bladdersage, and Thurber's sandpaper plant.

Creosote bush-white bursage alliance is ranked as S5 and is therefore not considered a sensitive biological resource by CDFW under CEQA (CDFW 2023a).

Rubber Rabbitbrush Scrub

Rubber rabbitbrush scrub, or *Ericameria nauseosa* shrubland association, is recognized by the Natural Communities List, and the community includes rubber rabbitbrush (*Ericameria nauseosa*) as the dominant or codominant species in the shrub canopy, with a sparse or grassy herbaceous layer (CNPS 2022b). Rubber rabbitbrush scrub has an open to continuous shrub canopy of less than 3 meters (9 feet) in height (CNPS 2022b). This alliance consists of at least 2% absolute cover of rubber rabbitbrush or more than 25% relative cover in the shrub canopy (CNPS 2022b).

Rubber rabbitbrush scrub occurs along Central Road, south of Lafayette Street, within the off-site BSA and is dominated by rubber rabbitbrush, with a herbaceous cover comprised of bromes (*Bromus* sp.).

The rubber rabbitbrush scrub alliance is ranked as S5 and therefore is not considered a sensitive biological resource by CDFW under CEQA (CDFW 2023a).

Unvegetated Wash and River Bottom

Unvegetated wash and river bottom is not recognized by CDFW (2022d); however, unvegetated wash and river bottom may be jurisdictional by U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the CWA, RWQCB pursuant to Section 401 of the Clean Water Act (CWA) or Porter–Cologne Act, or CDFW pursuant to Section 1602 of the California Fish and Game Code. Thus, unvegetated wash and river bottom may be considered sensitive ~~a sensitive vegetation community~~ under CEQA.

Unvegetated wash and river bottom within the BSA contained ephemeral, unvegetated channels.

Disturbed Habitat

Although not recognized by the Natural Communities List (CDFW 2023a), disturbed habitat refers to areas that have had physical anthropogenic disturbance and, as a result, cannot be identified as a native or naturalized vegetation association. However, these areas do have a recognizable soil substrate. If vegetation is present, it is almost entirely composed of non-native vegetation, such as ornamentals or ruderal exotic species. Disturbed habitat is not considered a sensitive biological resource by CDFW under CEQA (CDFW 2023a).

Within the BSA, disturbed habitat includes the existing dirt roads found within the site that generally bisect the site east/west and north/south.

Urban/Developed Land

Although not recognized by the Natural Communities List (CDFW 2023a), urban/developed land represents areas that have been constructed upon or otherwise physically altered to an extent that native vegetation communities are not supported. This land cover type generally consists of semi-permanent structures, homes, parking lots, pavement or hardscape, and landscaped areas that require maintenance and irrigation (e.g., ornamental greenbelts). Typically, this land cover type is unvegetated or supports a variety of ornamental plants and landscaping.

Within the BSA, urban/developed land consists of one paved road, Central Road running north/south along the western boundary of the BSA, and one structure located northwest of Central Road and Johnson Road that includes associated ornamental landscaping composed of oleander (*Nerium oleander*).

Urban/developed land is not considered a sensitive biological resource by CDFW under CEQA (CDFW 2023a).

4.3.1.3 Plants and Wildlife Observed

Biological field surveys, including biological reconnaissance surveys, aquatic resources delineation, western Joshua tree mapping, protocol presence/absence survey for Mojave desert tortoise (Gopherus agassizii) and Mohave ground squirrel (*Xerospermophilus mohavensis*), and focused special-status plant surveys were conducted within the BSA from June 2022 through August 2023. All plant and wildlife species observed during the surveys were recorded.

Plants

A total of 102 species of native or naturalized plants, 84 native (88%) and 12 non-native (12%), were recorded within the BSA. Dudek biologists recorded 96 species and Dipodomys Ecological Consulting biologists observed an additional 6 species of native or naturalized plants.[1] A list of plant species observed is provided in Appendix E, Plant Compendium, of Appendix C (Biological Resources Technical Report).

Wildlife

A total of 38 wildlife species, consisting of 35 native species (92%) and 3 non-native species (8%), were recorded within the BSA or vicinity during surveys (Appendix F of Appendix C).

Dudek biologists recorded 21 wildlife species. Birds detected on or in the immediate vicinity of the BSA were house finch (*Haemorhous mexicanus*), black phoebe (*Sayornis nigricans*), Say's phoebe (*Sayornis saya*), Anna's hummingbird (*Calypte anna*), American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), mourning dove (*Zenaida macroura*), verdin (*Auriparus flaviceps*), black-throated sparrow (*Amphispiza bilineata*), mountain bluebird (*Sialia currucoides*), rock wren (*Salpinctes obsoletus*), yellow-rumped warbler (*Setophaga coronata*), and burrowing owl (*Athene cunicularia*). Mammals detected consisted of white-tailed antelope squirrel (*Ammospermophilus leucurus*) and California ground squirrel (*Otospermophilus beecheyi*). Reptiles detected were common side-blotched lizard (*Uta stansburiana*), tiger whiptail (*Aspidoscelis tigris*), desert iguana (*Dipsosaurus dorsalis*), and Mojave shovel-nosed snake (*Chionactis occipitalis*). Invertebrates detected consisted of anise swallowtail (*Papilio zelicaon*).

Dipodomys Ecological Consulting biologists observed 17 additional species consisting of 8 birds: ash-throated flycatcher (*Myiarchus cinerascens*), barn swallow (*Hirundo rustica*), black-tailed gnatcatcher (*Polioptila melanura*), European starling (*Sturnus vulgaris*), horned lark (*Eremophila alpestris*), house sparrow (*Passer domesticus*), LeConte's thrasher (*Toxostoma lecontei*), and red-tailed hawk (*Buteo jamaicensis*); 6 mammals: black-tailed jackrabbit (*Lepus californicus*), coyote (*Lepus californicus*), desert kit fox (*Vulpes macrotis arsipus*), little pocket mouse (*Perognathus longimembris*), kangaroo rat (*Dipodomys* sp.), and domestic dog (*Canis familiaris*); and 3

[1] Dipodomys Ecological Consulting observed Mojave yucca (Yucca schidigera); however, this conspicuous succulent was not observed by Dudek during the 2022 desert native plant mapping. It is assumed that this species was observed during the Mohave ground squirrel trapping conducted in the northern parcel and located outside of the project site.

reptiles: long-nosed leopard lizard (*Gambelia wislizenii)*, Mohave rattlesnake (*Crotalus scutulatus*), and desert horned lizard (*Phrynosoma platyrhinos*) (Appendix F of Appendix C).

4.3.1.4 Special-Status Plants

Special-status plants include those listed, or candidates for listing, as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) and CDFW, and species identified as rare by the California Native Plant Society (particularly California Rare Plant Rank [CRPR] 1A, presumed extinct in California; CRPR 1B, rare, threatened, or endangered throughout its range; and CRPR 2, rare or endangered in California, more common elsewhere).

Dudek biologists performed an extensive desktop review of literature, existing documentation, and geographic information system (GIS) data to evaluate the potential for special-status plant species to occur within the BSA. Each special-status plant species was assigned a rating of "not expected," "low," "moderate," or "high" potential to occur based on relative location to known occurrences, vegetation community, soil, and elevation. Based on the results of the literature review and database searches, three special-status plant species were identified as potentially occurring within the region of the BSA: Mojave monkeyflower (*Diplacus mohavensis*), beaver dam breadroot (*Pediomelum castoreum*), and western Joshua tree. Therefore, focused surveys were conducted for these target species on April 19 and 21, 2023[2]. In addition, desert native plants, in accordance with the California Desert Native Plants Act and Chapter 9.76 of the Apple Valley Municipal Code (Town of Apple Valley 2022), were also considered target species.

Before conducting the surveys, Dudek botanists conducted a literature search on reference population checks to ensure the focal special-status plant species were in bloom and identifiable. Mojave monkeyflower and beaver dam breadroot were observed in San Bernardino County in April 2023 (iNaturalist 2023). Furthermore, the average annual precipitation for Apple Valley is 5.17 inches (WRCC 2022b) and Apple Valley received approximately 5.20 inches of precipitation from September 2022 to February 2023 (AgACIS 2023); therefore, the area received average to above average precipitation totals for the rain year thus far.

One special-status plant species, western Joshua tree, was observed within the BSA. Western Joshua tree is further discussed below. No other listed species or non-listed CRPR 1 or CRPR 2 plants were observed during the focused surveys. Due to focused surveys being conducted during the appropriate blooming period, all other special-status plants are not expected to occur. In addition, there is no USFWS-designated critical habitat for listed plant species overlapping the BSA (Appendix G of Appendix C).

Western Joshua Tree

Western Joshua tree is a California State Candidate for Listing. Western Joshua tree is a monocot tree in the a<u>gave</u>~~sparagus~~ family (*Agavaceae*) that occurs within Joshua tree woodland, Great Basin grassland and scrub, Mojavean desert scrub, pinyon and juniper woodland, Sonoran desert scrub, and valley and foothill grassland. This species occurs in San Bernardino County and other southern and eastern counties in California from 1,310 to 6,560 feet amsl (CNPS 2022). This species typically blooms in April and May.

~~Eight~~ <u>Nineteen</u> western Joshua tree individuals were observed within the Joshua tree inventory survey area (Project site, off-site improvement areas, and associated <u>50</u>~~186~~-foot buffer) (Figure 4.3-2). Of the <u>nineteen</u> ~~eight~~ trees found

[2] Focused surveys were not conducted for the Off-Site Improvements Area southeast of the Lafayette Street and Central Road intersection. A habitat assessment was conducted for this Off-Site Improvements Area on August 25, 2023, and the three special-status plant species were determined to have a low potential to occur; therefore, focused surveys were not warranted.

within the Joshua tree inventory survey area, only ~~one~~ three western Joshua tree ~~individual~~ individuals ~~is~~ were within the Project site and offsite improvement areas, with the remaining sixteen ~~seven~~ western Joshua tree individuals within the associated 50~~186~~ foot Joshua tree inventory survey area buffer. Further details on phenological data of the nineteen~~sixteen~~ ~~seven~~ western Joshua tree individuals observed is provided in Appendix B of Appendix C~~CX~~.

Desert Native Plants

In addition to western Joshua tree, two desert native plant species were observed within the BSA during the focused desert native plant survey (Figure 4.3-2). Specifically, seven Wiggins' cholla (*Cylindropuntia echinocarpa*) and 16 branched pencil cholla (*Cylindropuntia ramosissima*), were observed throughout the BSA.

4.3.1.5 Special-Status Wildlife

Special-status wildlife include those listed, or candidates for listing, as threatened or endangered by USFWS and CDFW, and those designated as species of special concern by CDFW and as sensitive by USFWS.

Similar to special-status plants, Dudek biologists performed an extensive desktop review of literature, existing documentation, and GIS data to evaluate the potential for special-status wildlife species to occur within the BSA. Each special-status wildlife species was assigned a rating of "not expected," "low," "moderate," or "high" potential to occur based on relative location to known occurrences and vegetation community/habitat association. Based on the results of the literature review and database searches, 28 special-status wildlife species were reported in the CNDDB and USFWS databases as occurring in the vicinity of the BSA. Of these, four special status wildlife species were determined to have a moderate potential to occur within the BSA based on habitat present and previous known locations in the CNDDB (CDFW 2023b) and USFWS Information for Planning and Conservation database (USFWS 2022): Based on the results of the literature review, database searches, and biological reconnaissance survey, three special-status wildlife species were determined to have at least a moderate or high potential to occur within the BSA: loggerhead shrike (*Lanius ludovicianus*), Bendire's thrasher (*Toxostoma bendirei*), and American badger (*Taxidea taxus*).

Finally, three non-listed special-status wildlife species were observed within the BSA: burrowing owl (*Athene cunicularia*), LeConte's thrasher (*Toxostoma lecontei*) and desert kit fox[3] (*Vulpes macrotis arsipus*). Although Mojave desert tortoise (*Gopherus agassizii*) is not expected to occur within the BSA based on negative survey results from the 2022 and 2023 protocol surveys, in the abundance of caution and due to more recent nearby CNDDB occurrences, this species is included and analyzed.

Protocol surveys for desert tortoise and Mojave ground squirrel were negative. All of the above listed species are detailed in the following discussion.

Mojave Desert Tortoise

Desert tortoise is a federally and state-listed threatened species. The range of the Mohave population of the desert tortoise includes portions of the Mojave Desert and the Colorado Desert in Southern California (parts of Inyo, Kern, Los Angeles, San Bernardino, and Riverside Counties), southern Nevada (Clark, Esmeralda, Nye, and Lincoln Counties), northwestern Arizona (Mohave County), and southwestern Utah (Washington County).

Typical habitat for desert tortoise in the Mojave Desert is creosote bush scrub where precipitation ranges from 2 to 8 inches, with relatively high diversity of perennial plants and high productivity of ephemeral plants. Throughout

[3] Although this species does not have any federal or state designation, Section 4000 of the California Fish and Game Code defines "kit fox" as a fur-bearing animal, and it is therefore considered "special-status" for purposes of this report.

most of the Mojave Desert, desert tortoises occur most commonly on gently sloping terrain with sandy gravel soils and where there is sparse cover of low-growing shrubs, which allows for the establishment of herbaceous plants. Soils must be friable enough for digging burrows, but firm enough that burrows do not collapse (USFWS 2008). Although populations of desert tortoise are not generally known to inhabit elevations much above 4,000 feet amsl, they occur from below sea level to an elevation of 7,300 feet amsl. Occupied habitat varies from flats and slopes dominated by creosote bush scrub at low elevations, to rocky slopes in blackbrush and juniper woodland ecotones at higher elevations (USFWS 2008).

Desert tortoise was not observed during 2022 or 2023 focused protocol surveys. However, the BSA contains suitable sandy soils, ephemeral washes, and creosote scrub to support this species. In addition, the nearest CNDDB occurrence was from 2004 and is mapped approximately 3.3 miles northwest of the BSA (CDFW 2023b), and the BSA is within a high probability predicted habitat for the species (CDFW 2023c). Therefore, based on the discussion above, and because Mojave desert tortoise is a mobile species that could enter the BSA, this species was determined to have a moderate potential to occur.

Burrowing Owl

Burrowing owl is a USFWS Bird of Conservation Concern and a California Species of Special Concern. With a relatively wide-ranging distribution throughout the west, burrowing owls are considered to be habitat generalists (Lantz et al. 2004). In California, burrowing owls are yearlong residents of open, dry grassland and desert habitats, and in grass, forb, and open shrub stages of pinyon-juniper and ponderosa pine habitats (Zeiner et al. 1990). Preferred habitat is generally typified by short, sparse vegetation with few shrubs, level to gentle topography, and well-drained soils (Haug et al. 1993).

The presence of burrows is the most essential component of burrowing owl habitat because they are required for nesting, roosting, cover, and caching prey (Coulombe 1971; Green and Anthony 1989; Haug et al. 1993; Martin 1973). In California, western burrowing owls most commonly live in burrows created by California ground squirrels (*Otospermophilus beecheyi*). Burrowing owls may occur in human-altered landscapes such as agricultural areas, ruderal grassy fields, vacant lots, and pastures if the vegetation structure is suitable (i.e., open and sparse); useable burrows are available; and foraging habitat occurs in proximity (Gervais et al. 2008). Debris piles, riprap, culverts, and pipes can be used for nesting and roosting.

This species was incidentally observed during 2023 rare plant surveys from a burrow previously mapped in 2022 as active. The active burrow (i.e., feathers, whitewash, casts, and fresh prey remains) was observed during the June 3, 2022, survey effort within the Project site (Figure 4.3-2); however, there were no direct observations of burrowing owls at that time. This burrow complex was inspected by Dudek biologists again on August 31, 2022, during an aquatic resources delineation; this time, the burrow complex no longer appeared to be actively occupied due to the lack of fresh sign. Dudek biologists inspected the burrow complex a third time during a desert tortoise protocol presence/absence survey on October 4, 2022. This third inspection resulted in similar results as the second inspection of the burrow complex; burrowing owl sign was present, but the complex did not appear to be actively occupied (i.e., whitewash, feathers, and pellets were present, but cobwebs were found across most of the burrow entrances). Finally, on April 19, 2023, during rare plant surveys, Dudek biologists incidentally observed an individual burrowing owl that flushed from this burrow location.

Loggerhead Shrike

Loggerhead shrike is a USFWS Bird of Conservation Concern and a California Species of Special Concern. It is widespread throughout the United States, Mexico, and portions of Canada (Humple 2008). The species is a yearlong resident in most of the United States, including from California east to Virginia and south to Florida, and in Mexico. In California, although shrikes are widespread at the lower elevations in the state, the largest breeding populations are in portions of the Central Valley, the Coast Ranges, and the southeastern deserts (Humple 2008).

Preferred habitats for loggerhead shrike are open areas that include scattered shrubs, trees, posts, fences, utility lines, or other structures that provide hunting perches with views of open ground, as well as nearby spiny vegetation or human-made structures (such as the top of chain-link fences or barbed wire) that provide a location to impale prey upon for storage or manipulation (Humple 2008). Loggerhead shrikes occur most frequently in riparian areas along woodland edges, grasslands with sufficient perch and butcher sites, scrublands, and open canopied woodlands, although they can be quite common in agricultural and grazing areas, and can sometimes be found in mowed roadsides, cemeteries, and golf courses. Loggerhead shrikes occur only rarely in heavily urbanized areas. For nesting, the height of shrubs and presence of canopy cover are most important (Yosef 1996).

Loggerhead shrike has moderate potential to occur within the BSA. This species inhabits open areas with short vegetation, similar to what can be found on the BSA. The closest known occurrence was documented approximately 2 miles north of the BSA (CDFW 2023b).

Bendire's Thrasher

Bendire's thrasher is a USFWS Bird of Conservation Concern and a California Species of Special Concern. Bendire's thrasher is found from sea level up to 5,900 feet amsl (England and Laudenslayer Jr. 1993). In general, this species is found in the southwestern United States deserts ranging from southeastern California, southernmost Nevada, southernmost Utah, southern Colorado south through New Mexico, and throughout the Sonora Desert. In Mexico, species distribution is believed to be in Sonora, with wintering in Tiburon Island and northern Sinaloa (Blake 1953). The species appears to be mostly confined to the Mojave Desert (Unitt 2004) and northwestern Mexico deserts (England and Laudenslayer Jr. 1993).

Preferred breeding habitat for Bendire's thrasher is typically in open grasslands, shrubland, or woodland with scatters trees and shrubs (England and Laudenslayer Jr. 1993). At lower elevations Bendire's thrasher is associated with deserts and grasslands, such as the Mojave desert scrub. Characteristic plant species within areas where it occurs include western Joshua tree, Mojave yucca (*Yucca schidigera*), cholla cactus (*Opuntia* spp.) and other succulents, palo verde (*Cercidium* spp.), mesquite (*Prosopis* spp.), catclaw (*Acacia* spp.), desert-thorn (*Lycium* spp.), and agave (*Agave* spp.) (England and Laudenslayer Jr. 1989a, 1989b, 1993).

Bendire's thrasher has a moderate potential to occur. This species is known to nest in yucca, cholla, and other desert shrubs, which are present within the BSA. The nearest known occurrence is approximately 5 miles east of the BSA (CDFW 2023b).

LeConte's Thrasher

LeConte's thrasher is a USFWS Bird of Conservation Concern and a California Species of Special Concern. LeConte's thrasher is found from below sea level up to 1,600 meters amsl in Southern California deserts in southern Mono County to the Mexican border (Dobkin and Granholm 2005; Sheppard 1996).

Preferred habitat for LeConte's thrasher is open desert wash, desert scrub, alkali desert scrub, and desert succulent shrub habitats; LeConte's thrasher also occurs in western Joshua tree habitat with scattered shrubs (Dobkin and Granholm 2005). This species prefers gently rolling to well-drained slopes occupied by saltbush and joint fir (*Ephedra* sp.) with bare ground or sparse grass (Fitton 2008). These conditions are generally found on bajadas or alluvial fans where the slopes are bisected by dry washes (Fitton 2008). Much of the LeConte's thrasher's diet consists of insects found within leaf litter under desert shrubs; therefore, habitat must contain a sufficient ground cover (Sheppard 1996).

This species was incidentally observed during 2022 protocol Mohave ground squirrel trapping surveys; however, the location of the observation was not documented. The BSA supports suitable foraging habitat (desert scrub) and nesting habitat (spiny shrubs and cactus).

Mohave Ground Squirrel

Mohave ground squirrel is a State of California threatened species. This species' distribution range is restricted to the Mojave Desert in San Bernardino, Los Angeles, Kern, and Inyo Counties (Zeiner et al. 1990). Mohave ground squirrels generally inhabit areas where the soil is friable and sandy or gravelly. Mohave ground squirrels occur in desert scrub habitats dominated by creosote bush and desert saltbush scrub at elevations between 1,800 and 5,000 feet amsl.

Mohave ground squirrel was not observed during 2022 focused protocol surveys within the on-site BSA. The Mohave ground squirrel habitat assessment for the off-site improvement areas conducted in January and August 2023 determined that while Mohave ground squirrel habitat occurs within the off-site improvement areas, this area was unlikely to contain Mohave ground squirrel due to the high levels of disturbance along the roadways, as well as a lack of connectivity between this area and known population areas (see Appendix D of Appendix C). Therefore, focused protocol surveys were not warranted. This species' known occurrences in the southeastern portion of its range have historically been rare and population densities low. A query of the CNDDB for the Apple Valley North quadrangle and the surrounding eight quadrangles showed that the closest occurrence to the BSA was recorded in 1977 approximately 6.9 miles southwest of the BSA, and on the west side of I-15 (CDFW 2023b). The most recent occurrence was recorded in 2007 approximately 11.3 miles west of the BSA; however, this occurrence was on the west side of I-15 (CDFW 2023b). No occurrences have been recorded in the southeastern extent of the species' range to the east of I-15 since the establishment of I-15 in its current alignment. Additionally, the BSA is outside of known Mohave ground squirrel core population areas, peripheral population areas, and/or linkage areas, making colonization from adjacent populations unlikely. Therefore, this species is not expected to occur within the BSA and is not further analyzed in this report.

American Badger

American badger is a California Species of Special Concern. American badgers prefer open scrub or grassy areas (USGS 2020). The BSA includes Joshua tree woodland but lacks creosote bush flats, sand dunes, or larger areas of open scrub or grassy areas with friable soils that could support this species.

American badger has a moderate potential to occur within the BSA. The BSA contains suitable open creosote flats with friable soils, and potentially suitable burrows were observed and mapped within the BSA.

Desert Kit Fox

Desert kit fox is considered a "fur-bearing mammal," protected from take under the California Fish and Game Commission's Mammal Hunting Regulations (Subdivision 2, Chapter 5), which effectively protects it from hunting

pressure. Desert kit fox is not listed by USFWS or CDFW under any special-status designation. Desert kit fox lives in the open desert, on creosote bush flats, and among sand dunes (NPS 2015).

Desert kit fox was observed within the BSA via a camera trap deployed for Mohave ground squirrel focused surveys (Appendix D of Appendix C). The BSA provides suitable creosote bush flats habitat for this species, and other suitable desert kit dens were observed within the BSA (Figure 4.3-2).

4.3.1.6 Jurisdictional Resources

The jurisdictional aquatic resources delineation identified numerous ephemeral drainages within the BSA (Appendix A of Appendix C). The results of the jurisdictional delineation concluded that there are approximately 0.909 acres of jurisdictional aquatic resources within the BSA (Figure 4.3-3, Jurisdictional Aquatic Resources). Of that total, 0.881 acres (8,504 linear feet) are non-wetland waters of the state under RWQCB jurisdiction and jurisdictional streambed under CDFW. An additional 0.028 acres are solely jurisdictional streambed under CDFW. The ephemeral drainages present are not likely subject to USACE jurisdiction because these features are isolated and do not meet the relatively permanent standard as a water of the United States.

It is important to note that the ultimate decision on the amount and location of jurisdictional resources is made by the resource agencies (i.e., USACE, CDFW, and RWQCB), and, therefore, impacts to potential aquatic resources may increase or decrease. See Appendix A of Appendix C for further descriptions of these resources.

4.3.1.7 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Wildlife corridors contribute to population viability by ensuring continual exchange of genes between populations, providing access to adjacent habitat areas for foraging and mating, and providing routes for recolonization of habitat after local extirpation or ecological catastrophes (e.g., fires).

Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. Habitat linkages provide a potential route for gene flow and long-term dispersal of plants and animals and may also serve as primary habitat for smaller animals, such as reptiles and amphibians. Habitat linkages may be continuous habitat or discrete habitat islands that function as steppingstones for dispersal.

The BSA is not mapped as an essential connectivity area, natural landscape block, or linkage for the California Desert Linkage Network; however, it is approximately 2.5 miles south and approximately 5.2 miles west of an area mapped as a linkage for the California Desert Linkage Network. Additionally, the BSA is mapped as an Area of Conservation Emphasis, Rank 3 (CDFW 2023b).

According to CDFW (2019), Rank 3 is defined as:

> [O]ther areas that have been identified as having connectivity importance, but have not been identified as channelized areas, species corridors, or habitat linkages at this time. This may change with future changes in surrounding land use or regional specific information. Hexagons included in this category include areas mapped as “intensified” in the TNC Omniscape study, core habitat areas, and hexagons on the periphery of mapped habitat linkages when not included in the categories above [i.e., Rank 4 and Rank 5].

Additionally, due to the undeveloped land on the BSA, there are opportunities for wildlife to move across the site when migrating through the region. However, the BSA does not currently function as a corridor or linkage between two larger habitat blocks. Although the BSA may function as local dispersal habitat for wildlife movement and/or foraging/hunting, the Project would not create a significant impediment to wildlife movement that would warrant a wildlife corridor study.

4.3.2 Relevant Plans, Policies, and Ordinances

Federal

Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS) for most plant and animal species, and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend, and provide programs for the conservation of those species, thus preventing the extinction of plants and wildlife. FESA defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under FESA, it is unlawful to "take" any listed species; "take" is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

FESA allows for the issuance of Incidental Take Permits for listed species under Section 7, which is generally available for Projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of Habitat Conservation Plans on private property without any other federal agency involvement.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the intentional and unintentional take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, "take" is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so (16 USC 703 et seq.). Currently, the Migratory Birds Office considers nests that support eggs, nestlings, or juveniles to be active. Additionally, Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, requires that any Project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). Executive Order 13186 requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

Clean Water Act

The Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Section 401 requires a Project operator for a federal license or permit that allows activities resulting in a discharge to waters of the United States to obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA. The Regional Water Quality Control Boards (RWQCBs) administer the certification program in California. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the United States. Section 404 establishes a permit program administered by the U.S. Army Corps of Engineers (USACE) that regulates the discharge of dredged

or fill material into waters of the United States, including wetlands. USACE implementing regulations are found at 33 Code of Federal Regulations (CFR) Parts 320 through 332. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the U.S. Environmental Protection Agency in conjunction with USACE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

Wetlands and Other Waters of the United States

The definition of "waters of the United States" establishes the geographic scope for authority under Section 404 of the CWA; however, the CWA does not specifically define waters of the United States, leaving the definition open to statutory interpretation and agency rulemaking. The definition of what constitutes "waters of the United States" (provided in 33 CFR Section 328.3(a)) has changed multiple times over the past few decades starting with the *United States v. Riverside Bayview Homes, Inc*. court ruling in 1985. Subsequent court proceedings, rule makings, and congressional acts in 2001 (*Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*), 2006 (*Rapanos v. United States*), 2015 (Clean Water Rule), 2018 (suspension of the Clean Water Rule), 2019 (formal repeal of the Clean Water Rule), 2020 (Navigable Waters Protection Rule), and 2021 (*Pasqua Tribe et al v. United States Environmental Protection Agency* resulting in remand and vacatur of the Navigable Waters Protection Rule and a return to "the pre-2015 regulatory regime") have attempted to provide greater clarity to the term and its regulatory implementation. On December 30, 2022, the agencies announced the final Revised Definition of "Waters of the United States" rule (Rule) (88 CFR 3004–3144). The Rule was published in the Federal Register on January 18, 2023, and became effective on March 20, 2023, restoring federal jurisdiction over waters that were protected prior to 2015 under the CWA for traditional navigable waters, the territorial seas, interstate waters, and upstream water resources that significantly affect those waters. The Rule represents a re-expansion of federal jurisdiction over certain water bodies and wetlands previously exempt pursuant to the 2020 Navigable Waters Protection Rule. The Rule also considers various subsequent court decisions including two notable Supreme Court decisions.

There are two key changes that the Rule incorporates. Firstly, the Rule reinstates the "Significant Nexus" test. The "Significant Nexus" test refers to waters that either alone, or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of traditional navigable waters, interstate waters, or the territorial seas (86 FR 69372-69450). The "Significant Nexus" test attempts to establish a scientific connection between smaller water bodies (such as ephemeral or intermittent tributaries) and larger, more traditional navigable waters (such as rivers). Significant nexus evaluations take into consideration hydrologic and ecologic factors including, but not limited to, volume, duration, and the frequency of surface water flow in the resource and its proximity to a traditional navigable water, and the functions performed by the resource on adjacent wetlands. Second, the Rule adopts the "Relatively Permanent Standard" test. To meet the "Relatively Permanent Standard," water bodies must be relatively permanent, standing, or continuously flowing and have a continuous surface connection to such waters.

On May 25, 2023, the Supreme Court issued its long-anticipated decision in *Sackett v. EPA*, in which it rejected the EPA's claim that "waters of the United States," as defined in the CWA, include wetlands with an ecologically significant nexus to traditional navigable waters. The Supreme Court held that only those wetlands with a continuous surface water connection to traditional navigable waterways would be afforded federal protection under the CWA. Specifically, to assert jurisdiction over an adjacent wetland under the CWA, a party must establish that (1) the adjacent body of water constitutes water(s) of the United States (i.e., a relatively permanent body of water connected to traditional interstate navigable waters) and (2) the wetland has a continuous surface connection with

that water, making it difficult to determine where the water ends and the wetland begins. The Rule will need to be modified by the Biden administration in light of this decision.

The term "wetlands" (a subset of waters of the United States) is defined in 33 CFR, Section 328.3(c)(16), as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, such as intermittent streams, extend to the "ordinary high water mark," which is defined in 33 CFR 328.3(c)(7) as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

On August 30, 2023, the EPA released guidance further clarifying the definition of waters of the U.S. based on the Sackett v EPA ruling.

State

California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code Chapter 1.5) provides protection and prohibits the take of plant, fish, and wildlife species listed by the State of California. Unlike FESA, under CESA, state-listed plants have the same degree of protection as wildlife, but insects and other invertebrates may not be listed. Take is defined similarly to FESA and is prohibited for both listed and candidate species. Take authorization may be obtained by a Project applicant from the California Department of Fish and Wildlife (CDFW) under CESA Section 2081, which allows take of a listed species for educational, scientific, or management purposes. In this case, private developers consult with CDFW to develop a set of measures and standards for managing the listed species, including full mitigation for impacts, funding of mitigation implementation, and monitoring of mitigation measures.

Western Joshua Tree

On October 21, 2019, the California Fish and Game Commission received a petition from the Center for Biological Diversity to list western Joshua tree (*Yucca brevifolia*) (Center for Biological Diversity 2019).[4] On November 1, 2019, the California Fish and Game Commission referred the petition to CDFW for evaluation. CDFW evaluated the scientific information presented in the petition and other relevant information possessed by CDFW at the time of review and prepared a report for submittal to the California Fish and Game Commission. The report states that CDFW recommended that the California Fish and Game Commission accept the petition for further consideration of western Joshua tree under CESA. On September 22, 2020, the California Fish and Game Commission approved the petition to accept the candidacy proposal for western Joshua tree, effective October 9, 2020 (CDFW 2020). When a plant or wildlife species is granted candidacy under the CESA, the species is given the same protection as a threatened or endangered species while the Commission evaluates whether formal listing as threatened or endangered under the CESA is warranted.

[4] On October 21, 2019, the California Fish and Game Commission received a petition to list the following as threatened under the California Endangered Species Act: (1) western Joshua tree (*Yucca brevifolia*) throughout its California range, or, in the event the Commission determines that listing of *Yucca brevifolia* throughout its California range is not warranted, then (2) the western Joshua tree population within the northern part of western Joshua tree's California range, or (3) the western Joshua tree population within the southern part of western Joshua tree's California range.

In listing western Joshua tree as a candidate species under CESA, the Commission directed CDFW staff to evaluate whether the species should be formally listed under CESA. In March 2022, CDFW staff presented its findings to the Commission and recommended against the listing, citing the species widespread distribution and lack of data regarding the extent to which climate changes are expected to affect the species. This information was presented to the Commission on June 15–16, 2022. The Commission voted on the proposed listing at this meeting, but the vote resulted in a 2–2 tie. The Commission discussed western Joshua tree's listing status at its October 12–13, 2022 meeting; however, it was decided at this meeting to extend Joshua tree's candidate status discussion until their February 23, 2023, meeting, which was anticipated to be the final meeting before a listing decision was made. On July 1, 2023, the Western Joshua Tree Conservation Act (WJTCA) was passed. While western Joshua tree is a candidate species, take for western Joshua tree can be received through payment of pre-determined mitigation fees.

The WJTCA introduces a streamlined permitting framework that applies to specific development activities and mandates the collection of mitigation fees. These fees are intended to facilitate the acquisition and preservation of western Joshua tree habitat, as well as to support conservation measures aimed at safeguarding the western Joshua tree. The underlying goal is to counterbalance the adverse impacts on western Joshua trees resulting from authorized projects and to promote species conservation on a landscape scale.

Under the WJTCA, CDFW is authorized to perform the following key functions:

- Issue permits for the trimming and removal of hazardous or deceased western Joshua trees.
- Grant permits for the incidental take of western Joshua trees, contingent upon the fulfillment of specific conditions.
- Establish agreements with counties or cities to delegate limited authority for the issuance of the aforementioned permits, provided that predetermined conditions are met.

Furthermore, the WJTCA instructs CDFW to develop a comprehensive conservation plan for the western Joshua tree by the conclusion of the year 2024.

The WJTCA institutes two categories of mitigation fees: reduced fees and standard fees, depending on the geographical location, as defined in the California Department of Fish and Game Code (Section 1927). It empowers the CDFW to issue permits for the incidental take of one or more western Joshua trees, subject to compliance with stipulated conditions. Permit holders may opt to remit specified fees in lieu of undertaking mitigation activities. Additionally, the WJTCA authorizes the CDFW to issue permits for the removal of deceased western Joshua trees and the trimming of live western Joshua trees under specific circumstances.

Notably, all in-lieu fees collected under the WJTCA are directed to the Western Joshua Tree Conservation Fund, with the explicit purpose of allocation to the CDFW. These funds are designated exclusively for the acquisition, conservation, and management of western Joshua tree conservation lands, as well as the execution of other initiatives designed to safeguard the western Joshua tree.

Permitting

The initial step in the project permitting process necessitates the comprehensive survey and documentation of western Joshua trees located on the project site as well as within a 50-foot radius surrounding the project area. This census must adhere to precise specifications outlined on the CDFW's official website.

Simultaneously, a permit application, available on the CDFW's website, must be completed. The application mandates that the applicant complies with the CEQA. Notably, there are no stipulated statutory deadlines governing the permitting process; however, CDFW is committed to expeditiously processing the applications upon receipt. Upon successful processing of the application by CDFW, the permittee will be issued an invoice for the mandatory mitigation fee. This fee is to be remitted via check or money order, with the invoice securely attached, following the precise instructions provided by CDFW.

~~On October 21, 2019, the California Fish and Game Commission received a petition from the Center for Biological Diversity to list western Joshua tree (Yucca brevifolia) (Center for Biological Diversity 2019).5 On November 1, 2019, the California Fish and Game Commission referred the petition to CDFW for evaluation. CDFW evaluated the scientific information presented in the petition and other relevant information possessed by CDFW at the time of review and prepared a report for submittal to the California Fish and Game Commission. The report states that CDFW recommended that the California Fish and Game Commission accept the petition for further consideration of western Joshua tree under CESA. On September 22, 2020, the California Fish and Game Commission approved the petition to accept the candidacy proposal for western Joshua tree, effective October 9, 2020 (CDFW 2020a). The acceptance of candidacy under the California Endangered Species Act grants western Joshua tree with equivalent protection as that afforded to threatened or endangered species. This protection is sustained during the period in which the California Fish and Game Commission conducts an evaluation to determine whether formal listing as threatened or endangered under the California Endangered Species Act is warranted.~~

~~On July 1, 2023, The Western Joshua Tree Conservation Act was passed. While western Joshua tree is a candidate species, take for western Joshua tree can be permitted through payment of pre-determined mitigation fees. .Removal or disturbance of western Joshua trees necessitates the acquisition of an Incidental Take Permit (ITP) issued by CDFW.~~

California Fish and Game Code

Fully Protected Species

Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. CDFW cannot issue permits or licenses that authorize the "take" of any fully protected species, except under certain circumstances, such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock. Furthermore, it is the responsibility of CDFW to maintain viable populations of all native species. Toward that end, CDFW has designated certain vertebrate species as Species of Special Concern, because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

Section 1600–1616

CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of definable bed and banks, and existing fish or wildlife resources. CDFW takes

~~5. On October 21, 2019, the California Fish and Game Commission received a petition to list the following as threatened under the California Endangered Species Act: (1) western Joshua tree (*Yucca brevifolia*) throughout its California range, or, in the event the Commission determines that listing of *Yucca brevifolia* throughout its California range is not warranted, then (2) the western Joshua tree population within the northern part of western Joshua tree's California range, or (3) the western Joshua tree population within the southern part of western Joshua tree's California range.~~

jurisdiction to the top of bank of the stream or the limit of the adjacent riparian vegetation, which may include oak woodlands in canyon bottoms. Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear but reemerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an ordinary high-water mark (OHWM) to be claimed as jurisdictional. CDFW does not have jurisdiction over ocean or shoreline resources.

Under California Fish and Game Code Sections 1600–1616, CDFW has the authority to regulate work that will substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake. CDFW also has the authority to regulate work that will deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to all Projects. Applications to CDFW must include a complete, certified California Environmental Quality Act (CEQA) document.

California Native Plant Protection Act

The Native Plant Protection Act of 1977 (Sections 1900 et seq. of the California Fish and Game Code) directed CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The Native Plant Protection Act gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare," and protect endangered and rare plants from take. CESA expanded on the original Native Plant Protection Act and enhanced legal protection for plants, but the Native Plant Protection Act remains part of the California Fish and Game Code. To align with federal regulations, the categories of "threatened" and "endangered" species were added to CESA. All "rare" animals in CESA were converted to "threatened," but this did not change for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Because rare plants are not included in CESA, mitigation measures for impacts to rare plants are specified in a formal agreement between CDFW and Project proponents.

Nesting Birds

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 protects all birds of prey (raptors) and their eggs and nests. Section 3511 states that fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA.

California Environmental Quality Act

CEQA requires identification of a Project's potentially significant impacts on biological resources, and ways that such impacts can be avoided, minimized, or mitigated. CEQA also provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts.

The State of California CEQA Guidelines (CEQA Guidelines) Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors." A rare animal or plant is defined in CEQA Guidelines Section 15380(b)(2) as a species that, although not presently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term

is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c).

CDFW has developed a list of "Special Species" as "a general term that refers to all of the taxa the California Natural Diversity Database (CNDDB) is interested in tracking, regardless of their legal or protection status." This is a broader list than those species that are protected under FESA, CESA, and other California Fish and Game Code provisions, and includes lists developed by other organizations, including, for example, the Audubon Watch List. Guidance documents prepared by other agencies, including the Bureau of Land Management Sensitive Species and USFWS Birds of Special Concern, are also included on this CDFW Special Species list. Additionally, CDFW has concluded that plant species listed as California Rare Plant Rank (CRPR) 1 and 2 by the California Native Plant Society (CNPS), and potentially some CRPR 3 plants, are covered by CEQA Guidelines Section 15380.

Section IV, Appendix G, Environmental Checklist Form, of the CEQA Guidelines requires an evaluation of impacts to "any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service."

Porter–Cologne Water Quality Control Act

Pursuant to provisions of the Porter–Cologne Act, the RWQCBs regulate discharging waste, or proposing to discharge waste, within any region that could affect a water of the state (California Water Code Section 13260[a]). The State Water Resources Control Board defines a water of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050[e]). All waters of the United States are waters of the state. Waters of the state include wetlands, and the State Water Resources Control Board definition of wetlands includes the following:

1. Natural wetlands.
2. Wetlands created by modification of a surface water of the state.
3. Artificial wetlands that meet any of the following criteria:
    a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration.
    b. Specifically identified in a water quality control plan as a wetland or other water of the state.
    c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape.
    d. Greater than or equal to 1 acre in size unless the artificial wetland was constructed and is currently used and maintained, primarily for one or more of the following purposes: industrial or municipal wastewater treatment or disposal; settling of sediment; detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial permitting program; treatment of surface waters; agricultural crop irrigation or stock watering; fire suppression; industrial processing or cooling water; active surface mining – even if the site is managed for interim wetlands functions and values; log storage; treatment, storage, or distribution of recycled water; maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or fields flooded for rice growing.

Wetlands that may not meet all of USACE's wetland delineation criteria are considered wetland waters of the state if, "under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause

anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation" (SWRCB 2019). Additionally, aquatic resources that USACE determines to not be waters of the United States because they lack a significant nexus to a traditional navigable water or are above the OHWM limit of federal jurisdiction, may also be considered waters of the state. If a CWA Section 404 permit is not required for a Project, the RWQCB may still require a permit (waste discharge requirements) for impacts to waters of the state under the Porter–Cologne Act.

California Native Desert Plants Act

The purpose of the California Desert Native Plants Act (CDNPA) is to protect certain species of California desert native plants from unlawful harvesting on both public and privately owned lands. The CDNPA only applies within the boundaries of Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego Counties. Within these counties, the CDNPA prohibits the harvest, transport, sale, or possession of specific native desert plants unless a person has a valid permit or wood receipt, and the required tags and seals. The appropriate permits, tags, and seals must be obtained from the sheriff or commissioner of the county where collecting will occur, and the county will charge a fee. More information on the CDNPA, including the species protected under the law, is available by reading the provisions of the law.

Local

San Bernardino County General Plan and Development Code

The County of San Bernardino General Plan contains the goals and policies that guide future development within San Bernardino County (County of San Bernardino 2007) and the Countywide Plan (County Policy Plan) was adopted in 2020 (County of San Bernardino 2020). San Bernardino County is divided into three distinct geographic planning regions: the Valley, the Mountains, and the Desert. The Project site occurs within the Desert Planning Region of San Bernardino County. The Desert Planning Region has two goals and policies: (1) to preserve open lands by working with BLM and (2) to ensure that off-highway vehicle use is managed to protect environmentally sensitive resources.

The Project would also need to comply with the Development Code. The San Bernardino Development Code (County of San Bernardino 2014) implements the goals and policies of the General Plan. Chapter 88.01.060, Desert Native Plant Protection, of the San Bernardino County Development Code is a subset of the Plant Protection and Management Code (Chapter 88.01 of the Development Code) and focuses on the conservation of specified desert plant species.

Town of Apple Valley General Plan

The Town's Biological Resources Element (Town of Apple Valley 2009) contain goals and policies that address biological resources. The following goals and policies pertain to biological resources and are relevant to the Project:

Goal 1. Establish a pattern of community development that supports a functional, productive, and balanced relationship between the manmade environment and the natural environment.

Policy 1.A. Habitat for endangered, threatened, and sensitive species shall continue to be protected and preserved as Open Space by the Town.

Policy 1.B. The Town shall promote the use of native vegetation for landscaping to enhance and create viable habitat for local species.

Policy 1.C. The Town shall continue to promote biodiversity by protecting natural communities with high habitat value, protecting habitat linkages to prevent further fragmentation, and encouraging an appreciation for the natural environment and biological resources.

Goal 2. The Town shall work with local, state, and regional agencies to protect, preserve, and manage biological resources, especially threatened, endangered, and sensitive plants and wildlife species and their habitats.

Policy 2.A. The Town shall coordinate with CDFG [California Department of Fish and Game] and USFWS when working on Projects that are proposed to be located within or adjacent to linkage areas or special survey areas.

Policy 2.B. The Town shall support and cooperate with other agencies in establishing multiple use corridors that link open space areas through drainage channels and utility easements, thereby encouraging the connectivity of natural communities.

Policy 2.C. The Town shall work with CDFG and the USFWS to approve and implement a MSHCP [Multiple Species Habitat Conservation Plan] for the Town and Sphere of Influence.

Policy 2.D. The Town shall work with CDFG and USFWS to ensure that state and federal protections required by the Migratory Bird Treaty Act addressed during the planning process.

Policy 2.E. The Town shall work with CDFG, RWQCB and ACOE [USACE] to ensure that state and federal jurisdictional areas are properly identified.

Apple Valley Municipal Code – Chapter 9.76 – Plant Protection and Management Policy

Chapter 9.76 of the Apple Valley Municipal Code contains the Town's Protected Plant Policies. This chapter establishes policies governing the removal of protected plants, including the following:

1. The following desert native plants with stems two inches or greater in diameter or six feet or greater in height:
   a. *Dalea spinosa* (smoketree);
   b. All species of the family *Agavaceae* (century plants, nolinas, yuccas). Including the following known to Apple Valley:
      i. Mohave Yucca (*Yucca schidigera*)
      ii. Lords candle (*Yucca whipplei*)
      iii. Barrel cactus (*Ferocactus acanthodes*)
   c. All species of the genus *Prosopis* (mesquites).
2. Creosote rings, ten feet or greater in diameter.
3. All Joshua trees (mature and immature).
4. All plants protected or regulated by the California Desert Native Plants Act.

Additionally, Section 9.76.010 of the Apple Valley Municipal Code states the following:

> Prior to the issuance of a native tree or plant removal permit in conjunction with a development permit and/or approval of a land use application which authorizes such removal, a plot plan shall be approved by the appropriate Town Review Authority (County Certified Plant Expert, Planning Commission or Town Council) for each site indicating exactly which trees or plants are authorized to be removed. The required information can be added to any other required plot plan.

Prior to issuance of development permits in areas with native trees or plants that are subject to the provisions of this Chapter, a pre-construction inspection shall be conducted by the appropriate authority.

Findings for Removals of Desert Native Plants

Per Apple Valley Municipal Code Section 9.76.010:

The Reviewing Authority shall authorize the removal of a native tree or plant subject to provisions of this Chapter only if the following findings are made:

A. The removal of the native tree or plant does not have a significant adverse impact on any proposed mitigation measures, soil retention, soil erosion and sediment control measures, scenic routes, flood and surface water runoff and wildlife habitats.
B. The removal of the native tree or plant is justified for one of the following reasons:
    a. The location of the native tree (excluding Joshua Trees) or plant and/or its dripline interferes with the reasonable improvement of the site with an allowed structure, sewage disposal area, paved area or other approved improvement or ground disturbing activity. Also such improvements have been designed in such a manner as to save as many healthy native trees and/or plants as reasonably practicable in conjunction with the proposed improvements.
    b. The location of the native tree or plant and/or its dripline interferes with the planned improvement of a street or development of an approved access to the subject or adjoining private property.
    c. The location of the native tree or plant is hazardous to pedestrian or vehicular travel or safety as determined by the Town Engineer.
    d. The native tree or plant or its presence interferes with or is causing extensive damage to utility services or facilities, roadways, sidewalks, curbs, gutters, pavement, sewer line(s), drainage or flood control improvements, foundations, existing structures, or municipal improvements.
    e. The condition or location of the native plant or tree is adjacent to and in such close proximity to an existing structure that the native plant or tree has or will sustain significant damage.

Findings for Transplanting of Desert Native Plants

Per Apple Valley Municipal Code Section 9.76.010:

The Town Manager, or designee, or other Reviewing Authority, shall only authorize the transplanting of desert native plants … subject to the provisions of this Chapter only if one or more of the following findings are made:

1. The desert native plants are to be transplanted in a manner approved by the Town Manager, or designee, or other Reviewing Authority, including any requirement for the issuance of plant tag seals and/or wood receipts.
2. The desert native plant is to be transplanted to another property within the same plant habitat under the supervision of a Desert Native Plant Expert and the removal of such plant will not adversely affect the desert environment on the subject site.
3. Any desert native plant on the site which is determined by the Town Manager, or designee, or other Reviewing Authority, as requiring transplanting has or will be transplanted or stockpiled

for transplanting in accordance with methods approved by Town Manager, or designee. A Desert Native Plant Expert shall supervise and manage any required transplanting of desert native plants.

~~3. If the City of Apple Valley deems it necessary to transplant any western Joshua trees, the project would still need to comply with Section 1927.3 of the Western Joshua Tree Conservation Act through payment of the elected fees or off-site conservation or through a CDFW approved mitigation bank, or as required by an Incidental Take Permit.~~

Protection of Joshua Trees

As stated in Section 9.76.040, existing Joshua Trees shall not be:

> disturbed, moved (transplanted or otherwise), removed or destroyed unless such disturbance, move, removal or destruction is first reviewed and approved by the Town of Apple Valley. The Town Manager, or designee, shall be responsible for review and approval of any request to disturb, move (transplant or otherwise), remove or destroy any existing Joshua Tree located on any property within any zoning district in the Town of Apple Valley. Forms for such review shall be available within the Planning Division.

Section 9.76.040 also states that:

> Anyone submitting an application to disturb, move, remove or destroy an existing Joshua Tree shall use all means necessary to retain and preserve such Tree(s) in its native (present) location in considering and presenting said Tree Disturbance application. This application shall take into consideration lot configuration, potential property development (buildable envelope), onsite circulation and all associated and related infrastructure needed to support construction within the buildable envelope. Further, persons submitting an application for a discretionary review or for any subdivision of land within the Town of Apple Valley upon which a Joshua Tree(s) is present, shall use all reasonable means available to retain and preserve the Tree(s) in its native (present) location in considering and presenting said application or subdivision request with regard to lot location and configuration, potential property development (buildable envelope), circulation system and all associated and related infrastructure.

Retention in Place of Joshua Trees

As stated in Section 9.76.040, "Joshua Tree(s) which conforms to the following [criteria] shall be preserved in place unless its removal, transplantation or destruction is approved as prescribed within this Section 9.76.040 of the Town of Apple Valley Municipal Code." The criteria are as follows:

1. A Joshua Tree that is known, by historic record, including pictures or written description, to be at least forty (40) years old.
2. A Joshua Tree which has a width of at least fifteen (15) feet as measured from the furthest point of outstretched branches (measured parallel to the ground).
3. A Joshua Tree which is at least fifteen (15) feet in height as measured from the base of the trunk to the highest point of the Tree.
4. A Joshua Tree which has a trunk measuring at least twelve (12) inches in diameter as measured four (4) feet from the ground.

Joshua Trees that do not conform to the above criteria must be preserved but may be transplanted to another location on the same property or may be made available for adoption through the Town's Joshua Tree Preservation and Adoption Program.

Additionally, Section 9.76.040 states:

> For any Joshua Tree(s) which conform to the criteria listed [above], for which the property owner/applicant has made a request for a Building Permit, application for a discretionary review or application for a subdivision of land within the Town of Apple Valley, said owner/applicant shall submit, as part of the application for approval, documentation of their best efforts to retain and preserve all Joshua Tree(s) within the limits of the development or subdivision in its native (present) location. Such documentation of best effort shall include how alternative lot configurations (including building envelopes on lots with existing Tree(s)), circulation, physical or environmental constraints of the site, allow no alternative subdivision configuration which would retain and preserve the Tree(s) in its native (present) location.

Transplanting of Joshua Trees

Section 9.76.040 states that a Desert Native Plant Expert (i.e., a California Agricultural Biologist, Registered Forester, International Society of Arboriculture [ISA] Certified Arborist, County-Certified Plant Expert, or others approved by the Town's Building Official) must supervise the initiation and completion of Town-approved transplanting of Joshua trees. Per Section 9.76.040:

> Approval of such transplant must take into consideration the time of year, the plant's original and transplanted physical orientation, prevailing wind direction, soil type of the original and transplanted locations, and other related attributes which may affect the successful transplantation of the Joshua Tree(s) in question as determined by the Town and the retained Botanist.
>
> Joshua Trees that are proposed to be removed shall be transplanted or stockpiled for future transplanting wherever possible. In the instance of stockpiling and/or transplanting the permittee has submitted and has had the approval of a Joshua Tree maintenance plan prepared by a Desert Native Plant Expert. This plan shall include a schedule for maintenance and a statement by the Desert Native Plant Expert that this maintenance plan and schedule will be implemented under his/her supervision. The schedule shall include the requirement that a maintenance report is required at the end of the Project or at six (6) month intervals, evidence to the satisfaction of the Building Official that the Desert Native Plant Expert has supervised the scheduled maintenance to the extent that all transplanted and stockpiled plants have been maintained in such a manner to insure the highest practicable survival rate. In the event that this report is not satisfactory, a tree and plant replacement plan and implementation schedule prepared by a Desert Native Plant Expert may be required by the Building Official.

Findings for Removal of Joshua Trees

As stated in Section 9.76.040:

> The Reviewing Authority shall authorize the removal of a Joshua Tree(s) subject to provisions of this Chapter only if the following findings are made:
>
> 1. The removal of the Joshua Tree(s) does not have a significant adverse impact on any proposed mitigation measures, soil retention, soil erosion and sediment control measures, scenic routes, flood and surface water runoff and wildlife habitats.
> 2. The removal of the Joshua Tree(s) is justified for one of the following reasons:
>   a. The location of the Joshua Tree(s) or its dripline interferes with the reasonable improvement of the site with an allowed structure, sewage disposal area, paved area or other approved improvement or ground disturbing activity as determined by the Town Manager, or designee. Also such improvements have been designed in such a manner as to save as many healthy native trees and/or plants as reasonably practicable in conjunction with the proposed improvements.
>   b. The location of the native tree or plant and/or its dripline interferes with the planned improvement of a street or development of an approved access to the subject to adjoining private property.
>   c. The location of the native tree or plant is hazardous to pedestrian or vehicular travel or safety as determined by the Town Engineer.
>   d. The native tree or plant, because of its presence, interferes with or is causing extensive damage to utility services or facilities, roadways, sidewalks, curbs, gutters, pavement, sewer line(s), drainage or flood control improvements, foundations, existing structures, or municipal improvements.
>   e. The condition or location of the native plant or tree is adjacent to and in such close proximity to an existing or proposed structure that the native plant or tree has or will sustain significant damage.

4.3.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to biological resources are based on CEQA Guidelines Appendix G. Potential Project-related impacts analyzed in this section account for biological resources that occur or have the potential to occur on the Project site and the off-site improvement areas. According to CEQA Guidelines Appendix G, a significant impact related to biological resources would occur if the Project would:

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

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

C. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

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

E. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

F. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.
G. Result in cumulatively considerable impacts to biological resources.

4.3.4 Impacts Analysis

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

Less-than-Significant Impact with Mitigation Incorporated. The following section evaluates the Project's potential direct and indirect effects on plant and wildlife species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.

Special-Status Plant Species

Direct Impacts

Non-Listed Special Status Plant Species and Western Joshua Tree

No non-listed special-status plant species were observed during the focused survey conducted on April 19 and 21, 2023; therefore, the Project would have no direct impacts to non-listed special-status plant species within the BSA. However, mitigation measures in this section will address potential impacts to non-listed special-status plants that may exist outside the limits of the BSA, but which may be indirectly impacted by project implementation.

One listed special-status plant species, western Joshua tree, was observed within the BSA, and this species is further discussed below.

Western Joshua Tree

Western Joshua tree, a candidate for state listing under CESA, was observed and would be directly impacted by the Project. Based on the site plan, implementation of the Project would result in direct impacts to ~~one~~ three western Joshua tree individuals. All ground-disturbing activities, even areas temporarily impacted, are considered permanent impacts to western Joshua trees. Direct impacts to western Joshua tree are considered significant absent mitigation under CEQA.

The Western Joshua Tree Conservation Act, Fish and Game Code section 1927.3 requires the applicant to mitigate by paying the statutorily prescribed fees. Trees located in the area described in Fish and Game Code section 1927.3 (d) are in the reduced fee area; therefore, impacts to western Joshua tree can be mitigated on a per-tree basis as follows:

- 5~~Five~~ meters or greater in height - $1,000
- 1~~One~~ meter or greater but less than 5~~five~~ meters in height - $200
- less than 1~~one~~ meter in height - $150

Therefore, the Project would result in direct impacts to 1 Joshua tree 1~~one~~ meter or greater but less than 5~~five~~ meters in height, and 2 Joshua trees less than 1~~one~~ meter in height.~~Based on a literature review completed by CDFW (Vander Wall et al. 2006), CDFW would like the western Joshua tree locations to be buffered by 186 feet to~~

~~account for the impacts to the seed bank for western Joshua trees and their associated habitat. Therefore, a 186-foot buffer (or radius) was applied to each western Joshua tree location. Direct impacts to this 186 foot buffer were analyzed, and the Project would result in 6.9 acres of direct impacts to western Joshua trees, their seed bank, and their associated habitat.~~

~~Based on The Western Joshua Tree Conservation Act, impacts to western Joshua tree can be mitigated on a per-tree basis. Therefore, the project would result in direct impacts to one western Joshua tree.~~

As required by MM-BIO-1 (Conservation of Western Joshua Tree Lands), direct impacts to 3 western Joshua tree individuals ~~6.9 acres of western Joshua trees (which includes the associated 186 foot buffer applied to each individual western Joshua tree)~~ shall be mitigated through an ITP obtained from CDFW prior to Project activities ~~either~~ in the form of a ~~CESA ITP or~~ Western Joshua Tree Conservation Act ITP. ~~payment to a CDFW-approved mitigation bank; alternatively direct impacts to one individual would be through payment through The Western Joshua Tree Conservation Act.~~ Additionally, as required by MM-BIO-2 (Relocation of Desert Native Plants) and in accordance with Chapter 9.76 of the Apple Valley Municipal Code, the preparation of a western Joshua tree and desert native plants relocation plan is required to mitigate impacts to western Joshua trees as a result of the Project (also further discussed in Appendix C, Section 6.3.1.1, Impacts to Special-Status Plants Section 6.3.2, Impacts to Sensitive Vegetation Communities). As such, a Joshua Tree Preservation, Protection, and Relocation Plan, and California Desert Native Plant Relocation Plan (Appendix B of Appendix C) was prepared to provide detailed specifications for the Project applicant to meet the requirements of Chapter 9.76 (Plant Protection and Management Policy) of the Apple Valley Municipal Code to protect, preserve, and mitigate impacts to western Joshua trees. ~~Thus, mitigation for direct impacts to western Joshua tree would also mitigate for impacts to Joshua tree woodland.~~ In addition, implementation of MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), and MM-BIO-6 (Construction Monitoring Notebook) would reduce potential direct impacts to a less-than-significant level.

In summary, implementation of MM-BIO-1 (Conservation of Western Joshua Tree Lands), MM-BIO-2 (Relocation of Desert Native Plants), MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Programs), and MM-BIO-6 (Construction Monitoring Notebook) would reduce potential direct impacts to western Joshua trees, Mojave monkeyflower, and beaver dam breadroot to less than significant.

The BSA does not occur within federally designated critical habitat for special-status plant species, and there would be no direct impacts to critical habitat.

Indirect Impacts

Non-Listed Special Status Plant Species and Western Joshua Tree

The Project would have no indirect impacts to non-listed special-status plant species within the BSA. However, mitigation measures in this section will address potential impacts to non-listed special-status plants that may exist outside the limits of the BSA, but which may be indirectly impacted by project implementation.

Additionally, a total of 16 western Joshua trees were mapped within the 50-foot survey buffer and the Project may result in indirect impacts to these western Joshua trees.

~~With regards to western Joshua tree, typically CDFW considers any western Joshua tree within 186 feet of a direct impact to be indirectly impacted (Vander Wall et al. 2006). Thus, the Project would result in 8.6 acres of indirect impacts to western Joshua trees and would be considered significant absent mitigation.~~

It is possible that these western Joshua trees may be indirectly impacted over the short-term or long-term indirect impacts; therefore, short-term construction related indirect impacts and long-term operational indirect impacts to western Joshua tree and non-listed special-status plants that may exist outside the limits of the BSA are further discussed below.

Short-Term Construction Impacts

Construction-related, short-term indirect impacts may include inadvertent spillover impacts outside of the construction footprint, dust accumulation on western Joshua tree and non-listed special-status plants that may exist outside the limits of the BSA, chemical spills, stormwater erosion and sedimentation, and increased wildfire risk.

Implementation of MM-BIO-3 (Designated Biologist Authority) gives the Project's designated biologist the authority to stop work if construction is not compliant with this CEQA document. MM-BIO-4 (Compliance Monitoring) requires that an experienced biologist oversee compliance with the protective measures, including limiting impacts to the Project impact footprint. MM-BIO-5 (Education Program) would provide construction personnel with training related to western Joshua trees that are present on and adjacent to the impact footprint. MM-BIO-6 (Construction Monitoring Notebook) provides for documentation that the education program was administered to applicable personnel. MM-BIO-7 (Delineation of Property Boundaries) requires that impacts occur within the fenced, staked, or flagged area that is clearly delineated within the Project impact footprint. The construction crew will be responsible for unauthorized impacts from construction activities to western Joshua trees that are outside the permitted Project footprint. Thus, implementation of MM-BIO-3 through MM-BIO-7 will enable the Project to avoid and minimize inadvertent spillover impacts outside of the approved impact footprint.

To reduce fugitive dust resulting from Project construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures in accordance with the Mojave Desert Air Quality Management District's Rules 401 and 403.2, which limit the amount of fugitive dust generated during construction.

MM-BIO-8 (Hazardous Waste) would ensure that a prompt and effective response to any accidental chemical spills will be implemented, and that repair and clean-up of any hazardous waste occurs. Thus, implementation of MM-BIO-8 would help to avoid and minimize impacts to western Joshua tree from any construction-related chemical spills.

A Stormwater Pollution Prevention Plan (SWPPP) would be prepared and implemented to prevent all construction pollutants from contacting stormwater during construction activities, with the intent of keeping sediment and any other pollutants from moving off site and into receiving waters. Best management practice (BMP) categories employed on site would include erosion control, sediment control, and non-stormwater good housekeeping. Preparation and implementation of a SWPPP would help to avoid and minimize the potential effects of stormwater erosion during construction.

Construction of the Project would introduce potential ignition sources to the Project site, including the use of heavy machinery and the potential for sparks during welding activities or other hot work. However, the Project would be required to comply with Town and state requirements for fire safety practices to reduce the possibility of fires during construction activities. Further, vegetation would be removed from the site prior to the start of construction. Adherence to Town and state regulatory standards during Project construction would reduce the risk of wildfire ignition and spread during construction activities. Therefore, short-term construction impacts involving wildland fires would not be substantial.

Long-Term Operational Impacts

Potential long-term (post-construction) indirect impacts from operation and maintenance activities may include effects of herbicides, changes in water quality, increased wildfire risk, induced demand of the surrounding area, increased traffic and vehicle emissions, and accidental chemical spills. Indirect long-term impacts to western Joshua tree are considered significant absent mitigation.

Implementation of MM-BIO-9 (Herbicides) would limit herbicide use to instances where hand or mechanical efforts are infeasible and would only be applied when wind speeds are less than 7 miles per hour to prevent drift into off-site western Joshua trees.

Implementation of low-impact-development features and BMPs would, to the maximum extent practicable, reduce the discharge of pollutants into receiving waters, including inadvertent release of pollutants (e.g., hydraulic fluids and petroleum), the improper management of hazardous materials, trash and debris, and the improper management of portable restroom facilities (e.g., regular service) in accordance with all relevant local and state development standards. In addition, in accordance with CALGreen requirements (California Green Building Standards Code, California Code of Regulations [CCR], Title 24, Part 11), Project source controls to improve water quality would be provided for outdoor material storage areas, outdoor trash storage/waste handling areas, and outdoor loading/unloading areas. Therefore, impacts to western Joshua trees due to changes in water quality would be avoided and minimized through implementation of low-impact-development features and BMPs.

Upon completion of Project construction, with adherence to the Town of Apple Valley Municipal Code and because of the low ignitability of the proposed structures and implementation of fire-resistant and irrigated landscaping, the Project would not facilitate wildfire spread or exacerbate wildfire risk. Further, given that surrounding off-site fuels consist of moderately spaced vegetation, wildfires in the immediate surrounding area are not common, and it is unlikely that the Project site would be exposed to the uncontrolled spread of a wildfire. It is not anticipated that the Project, due to slope, prevailing winds, and other factors, would exacerbate wildfire risks or the uncontrolled spread of a wildfire; thus, with adherence to the Town of Apple Valley Municipal Code, long-term indirect impacts to western Joshua tree associated with increased wildlife risk is not expected to occur.

In summary, implementation of MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), MM-BIO-6 (Construction Monitoring Notebook), MM-BIO-7 (Delineation of Property Boundaries), MM-BIO-8 (Hazardous Waste), and MM-BIO-9 (Herbicides) would reduce potential indirect impacts to western Joshua trees or other special-status plant species that may exist outside the limits of the BSA to less than significant.

Special-Status Wildlife

Direct Impacts

The Project could result in significant, direct impacts to four special-status wildlife species that have a moderate to high potential to occur within the BSA (Mojave desert tortoise, loggerhead shrike, Bendire's thrasher, and American badger), and three special-status wildlife species that were observed within the BSA (burrowing owl, LeConte's thrasher and desert kit fox[6]). Focused surveys conducted for Mohave ground squirrel were negative; therefore, this

[6] Although this species does not have any federal or state designation, Section 4000 of the California Fish and Game Code defines "kit fox" as a fur-bearing animal, and it is therefore considered "special-status" for purposes of this report.

species is not expected to occur and will not be analyzed further. These species are detailed in the following discussion.

The BSA does not occur within federally designated critical habitat for special-status wildlife species, and there would be no direct impacts to critical habitat.

Mojave Desert Tortoise

Protocol surveys completed on October 4, 2022, and January 17, 2023, resulted in no observations of active desert tortoise burrows, active desert tortoise sign (e.g., scat, drink basins, footprints), or individual desert tortoises. However, the BSA contains suitable sandy soils, ephemeral washes, and creosote scrub to support this species. In addition, the nearest CNDDB occurrence was from 2004 and is mapped approximately 3.3 miles northwest of the BSA (CDFW 2023b), and the BSA is within a high probability predicted habitat for the species (CDFW 2023c). Therefore, based on the discussion above, and because Mojave desert is a mobile species that could enter the BSA prior to construction, this species was determined to have a moderate potential to occur, and potential direct and indirect impacts to Mojave desert tortoise would be significant absent mitigation under CEQA.

A pre-construction Mojave desert tortoise clearance survey in compliance with current USFWS protocol would be necessary to reevaluate the locations of potential Mojave desert tortoise burrows within the Project limits so take of Mojave desert tortoise can be avoided. Consistent with MM-BIO-10 (Pre-construction Clearance Surveys for Mojave Desert Tortoise and Avoidance), a pre-construction clearance survey for Mojave desert tortoise would be conducted in areas supporting potentially suitable habitat 14 to 21 days prior to the start of construction activities; or, alternatively, pre-construction clearance surveys may be conducted following construction of a desert-tortoise-proof fence encompassing the Project site that would ensure that tortoises cannot enter the Project after clearance surveys are completed. Should Mojave desert tortoises be located during the clearance survey, additional measures in compliance with current USFWS protocol would be required, as described further in MM-BIO-10 (Pre-construction Clearance Surveys for Mojave Desert Tortoise and Avoidance). In addition, implementation of MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Programs), and MM-BIO-6 (Construction Monitoring Notebook) would reduce potential direct impacts to less than significant.

Should Mojave desert tortoise be located during the clearance survey, the Project would result in the permanent loss of 75.1 acres of suitable habitat for Mojave desert tortoise, including impacts to creosote bush scrub, unvegetated wash and river bottom, and disturbed habitat. These direct permanent impacts would be significant absent mitigation. As required by MM-BIO-10 (Pre-construction Clearance Surveys for Mojave Desert Tortoise and Avoidance), mitigation for direct impacts to 75.1 acres, should Mojave desert tortoise be found during pre-construction clearance surveys, would be fulfilled through conservation of suitable Mojave desert tortoise habitat through the purchase of credits at a minimum of 1:1 in-kind habitat replacement. Should habitat replacement occur at a single mitigation site, the site must host all special-status species observed during pre-construction surveys for which habitat replacement is required (i.e., desert tortoise and burrowing owl).

The Project would also result in the temporary loss of 13.1 acres of suitable habitat for Mojave desert tortoise, specifically 8.5 acres of creosote bush scrub, 0.1 acres of creosote bush white bursage scrub, 0.03 acres of unvegetated wash and river bottom, and 4.5 acres of disturbed habitat. These direct temporary impacts would be significant absent mitigation. As required by MM-BIO-11 (Restoration of Temporary Impacts), temporarily disturbed areas would be recontoured to natural grade (if the grade was modified during the temporary disturbance activity). The Project does not include revegetation or restoration of temporary impacts after Project completion. However, natural vegetation will be allowed to

regenerate in temporary disturbed areas. Furthermore, if topsoil is removed during construction, the segregated topsoil will be replaced, and the native seed will be allowed to regenerate naturally.

Implementation of MM-BIO-1 (Conservation of Western Joshua Tree Lands), MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), MM-BIO-6 (Construction Monitoring Notebook), and MM-BIO-10 (Pre-construction Clearance Surveys for Mojave Desert Tortoise and Avoidance), and MM-BIO-11 (Restoration of Temporary Impacts) would reduce potential direct impacts (permanent and temporary) to Mojave desert tortoise to less than significant.

Burrowing Owl

Focused surveys for burrowing owl were not conducted; however, an individual burrowing owl was incidentally observed flushing from a previously mapped active burrow during the April 2023 surveys. Therefore, suitable habitat exists on site, and the species could occupy the BSA prior to construction. Potential direct and indirect impacts to burrowing owl would be significant absent mitigation under CEQA.

Pursuant to the California Fish and Game Code and the MBTA, a pre-construction survey in compliance with the Staff Report on Burrowing Owl Mitigation (CDFW 2012) would be necessary to reevaluate the locations of potential burrowing owl burrows located within the Project limits so take of owls or active owl nests can be avoided. Consistent with MM-BIO-12 (Pre-construction Surveys for Burrowing Owl and Avoidance), pre-construction surveys for burrowing owl shall be conducted in areas supporting potentially suitable habitat with the first survey no less than 14 days prior to the start of construction activities, and the second within 24 hours of start of construction. A burrowing owl relocation plan has been prepared to facilitate implementation of this mitigation measure (Appendix I of Appendix C). In addition, implementation of MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), and MM-BIO-6 (Construction Monitoring Notebook) would reduce potential direct impacts to a less-than significant level.

Furthermore, should burrowing owl be located during the pre-construction survey, the Project would result in the loss of 75.1 acres of suitable habitat for burrowing owl, including impacts to creosote bush scrub, unvegetated wash and river bottom, and disturbed habitat. These direct permanent impacts would be significant absent mitigation. As required by MM-BIO-12 (Pre-construction Surveys for Burrowing Owl Avoidance), mitigation for direct impacts to 75.1 acres, should burrowing owl be found during pre-construction surveys, would be fulfilled through conservation of suitable burrowing owl habitat through the purchase of credits at a minimum of 1:1 in-kind habitat replacement. Should habitat replacement occur at a single mitigation site, the site must host all special-status species observed during pre-construction surveys for which habitat replacement is required (i.e., desert tortoise and burrowing owl).

The Project would also result in the temporary loss of 13.1 acres of suitable habitat for burrowing owl, specifically 8.5 acres of creosote bush scrub, 0.1 acres of creosote bush white bursage scrub, 0.03 acres of unvegetated wash and river bottom, and 4.5 acres of disturbed habitat. These direct temporary impacts would be significant absent mitigation. As required by MM-BIO-11 (Restoration of Temporary Impacts), temporarily disturbed areas would be recontoured to natural grade (if the grade was modified during the temporary disturbance activity). The Project would not include revegetation or restoration of temporary impacts after Project completion. However, natural vegetation would be allowed to regenerate in temporary disturbed areas. Furthermore, if topsoil were to be removed during construction, the segregated topsoil would be replaced and the native seed allowed to regenerate naturally.

In summary, implementation of MM-BIO-1 (Conservation of Western Joshua Tree Lands), MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), MM-BIO-6 (Construction

Monitoring Notebook), MM-BIO-11 (Restoration of Temporary Impacts), and MM-BIO-12 (Pre-construction Surveys for Burrowing Owl and Avoidance) would reduce potential direct impacts (permanent and temporary) to burrowing owl to less than significant.

Loggerhead Shrike

Loggerhead shrike was not observed during any of the survey efforts conducted in 2022 and 2023; however, this species has a moderate potential to occur within the BSA. Suitable nesting habitat, particularly western Joshua trees, is present within the BSA.

The Project would result in the permanent loss of 70.9 acres of suitable habitat for loggerhead shrike (i.e., impacts to creosote bush scrub). However, due to the surrounding vacant lands available with comparable suitable habitat, the loss 70.9 acres of suitable habitat for loggerhead shrike would be considered less than significant.

The Project would also result in the temporary loss of 8.6 acres of suitable habitat for loggerhead shrike, specifically 8.5 acres of creosote bush scrub and 0.1 acres of creosote bush white bursage scrub. However, due to the surrounding vacant lands available with comparable suitable habitat, the temporary loss of 8.6 acres of suitable habitat for loggerhead shrike would be considered less than significant. Nonetheless, as required MM-BIO-11 (Restoration of Temporary Impacts), would require that temporarily disturbed areas be recontoured to natural grade (if the grade was modified during the temporary disturbance activity). The Project does not include revegetation or restoration of temporary impacts after Project completion. However, natural vegetation will be allowed to regenerate in temporary disturbed areas. Furthermore, if topsoil is removed during construction, the segregated topsoil will be replaced, and the native seed will be allowed to regenerate naturally. To avoid potential impacts to nesting loggerhead shrike, vegetation removal activities would be conducted outside the general bird nesting season (February 1 through August 31). If vegetation cannot be removed outside the bird nesting season, a pre-construction nesting bird survey by a qualified biologist is required prior to vegetation removal. This requirement is outlined in MM-BIO-13 (Pre-construction Nesting Bird Surveys and Avoidance).

Implementation of MM-BIO-1 (Conservation of Western Joshua Tree Lands), MM-BIO-11 (Restoration of Temporary Impacts), and MM-BIO-13 (Pre-construction Nesting Bird Surveys and Avoidance) would reduce potential direct impacts to loggerhead shrike to less than significant.

Bendire's Thrasher

Bendire's thrasher was not observed during any of the survey efforts conducted in 2022 and 2023; however, this species has a moderate potential to occur within the BSA. Suitable nesting habitat, particularly western Joshua trees, yucca, cholla, and other desert shrubs, are present within the BSA.

The Project would result in the loss of 70.9 acres of suitable habitat for Bendire's thrasher (i.e., impacts to creosote bush scrub). However, due to the surrounding vacant lands available with comparable suitable habitat, the loss of 70.9 acres of suitable habitat for Bendire's thrasher would be considered less than significant.

The Project would also result in the temporary loss of 8.6 acres of suitable habitat for Bendire's thrasher, specifically 8.5 acres of creosote bush scrub and 0.1 acres of creosote bush white bursage scrub. However, due to the surrounding vacant lands available with comparable suitable habitat, the temporary loss of 8.6 acres of suitable habitat for Bendire's thrasher would be considered less than significant. Nonetheless, as required MM-BIO-11 (Restoration of Temporary Impacts), would require that temporarily disturbed areas be recontoured to natural grade (if the grade was modified during the temporary disturbance activity). The Project does not include revegetation or

restoration of temporary impacts after Project completion. However, natural vegetation will be allowed to regenerate in temporary disturbed areas. Furthermore, if topsoil is removed during construction, the segregated topsoil will be replaced, and the native seed will be allowed to regenerate naturally.

To avoid potential impacts to nesting Bendire's thrasher, vegetation removal activities would be conducted outside the general bird nesting season (February 1 through August 31). If vegetation cannot be removed outside the bird nesting season, a pre-construction nesting bird survey by a qualified biologist is required prior to vegetation removal. This requirement is outlined in MM-BIO-13 (Pre-construction Nesting Bird Surveys and Avoidance).

Implementation of MM-BIO-1 (Conservation of Western Joshua Tree Lands), MM-BIO-11 (Restoration of Temporary Impacts), and MM-BIO-13 (Pre-construction Nesting Bird Surveys and Avoidance) would reduce potential direct impacts to Bendire's thrasher to less than significant.

LeConte's Thrasher

LeConte's thrasher was incidentally observed during 2022 protocol Mohave ground squirrel trapping surveys. The BSA supports suitable foraging habitat (desert scrub) and nesting habitat (spiny shrubs and cactus) for LeConte's thrasher.

The Project would result in the loss of approximately 70.9 acres of suitable habitat for LeConte's thrasher (i.e., impacts to creosote bush scrub). However, due to the surrounding vacant lands available with comparable suitable habitat, the loss 70.9 acres of suitable habitat for LeConte's thrasher would be considered less than significant.

The Project would also result in the temporary loss of 8.6 acres of suitable habitat for LeConte's thrasher, specifically 8.5 acres of creosote bush scrub and 0.1 acres of creosote bush white bursage scrub. However, due to the surrounding vacant lands available with comparable suitable habitat, the temporary loss of 8.6 acres of suitable habitat for LeConte's thrasher would be considered less than significant. Nonetheless, as required MM-BIO-11 (Restoration of Temporary Impacts), would require that temporarily disturbed areas be recontoured to natural grade (if the grade was modified during the temporary disturbance activity). The Project does not include revegetation or restoration of temporary impacts after Project completion. However, natural vegetation will be allowed to regenerate in temporary disturbed areas. Furthermore, if topsoil is removed during construction, the segregated topsoil will be replaced, and the native seed will be allowed to regenerate naturally.

To avoid potential impacts to nesting LeConte's thrasher, vegetation removal activities would be conducted outside the general bird nesting season (February 1 through August 31). If vegetation cannot be removed outside the bird nesting season, a pre-construction nesting bird survey by a qualified biologist is required prior to vegetation removal. This requirement is outlined in MM-BIO-13 (Pre-construction Nesting Bird Surveys and Avoidance).

Implementation of MM-BIO-1 (Conservation of Western Joshua Tree Lands), MM-BIO-11 (Restoration of Temporary Impacts), and MM-BIO-13 (Pre-construction Nesting Bird Surveys and Avoidance) would reduce potential direct impacts to LeConte's thrasher to less than significant.

American Badger

The BSA contains open creosote flats with friable soils, which is suitable habitat for American badger. In addition, suitable burrows were mapped within the BSA; therefore, the species could occupy the BSA prior to construction.

The Project would result in the loss of 75.1 acres of suitable habitat for American badger, including impacts to creosote bush scrub, unvegetated wash and river bottom, and disturbed habitat. However, due to the surrounding vacant lands available with comparable suitable habitat, the loss 75.1 acres of suitable habitat for American badger would be considered less than significant.

The Project would also result in the temporary loss of 13.1 acres of suitable habitat for American badger, specifically 8.5 acres of creosote bush scrub, 0.1 acres of creosote bush white bursage scrub, 0.03 acres of unvegetated wash and river bottom, and 4.5 acres of disturbed habitat. However, due to the surrounding vacant lands available with comparable suitable habitat, the temporary loss of 13.1 acres of suitable habitat for American badger would be considered less than significant. Nonetheless, as required MM-BIO-11 (Restoration of Temporary Impacts), would require that temporarily disturbed areas be recontoured to natural grade (if the grade was modified during the temporary disturbance activity). The Project does not include revegetation or restoration of temporary impacts after Project completion. However, natural vegetation will be allowed to regenerate in temporary disturbed areas. Furthermore, if topsoil is removed during construction, the segregated topsoil will be replaced, and the native seed will be allowed to regenerate naturally.

To avoid potential direct impacts to American badger, a pre-construction survey for American badger would be conducted within 10 days prior to the start of construction to determine the presence/absence of American badger. As such, in an abundance of caution and to ensure that potential impacts to this species are less than significant, the Project applicant would prepare a mitigation and monitoring plan that addresses American badger if the species is determined to occur on the Project site prior to the start of construction, pursuant to MM-BIO-14 (Pre-construction Survey for American Badger and Avoidance). With the incorporation of mitigation, impacts associated with American badger would be less than significant. In addition, implementation of MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), and MM-BIO-6 (Construction Monitoring Notebook) would reduce potential direct impacts to less than significant.

Implementation of MM-BIO-1 (Conservation of Western Joshua Tree Lands), MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), MM-BIO-6 (Construction Monitoring Notebook), MM-BIO-11 (Restoration of Temporary Impacts), and MM-BIO-14 (Pre-construction Survey for American Badger and Avoidance) would reduce potential direct impacts to American badger to less than significant.

Desert Kit Fox

Desert kit fox was observed within the BSA through camera trapping as part of the Mohave ground squirrel–focused surveys. Additionally, several suitable burrows were mapped within the BSA; therefore, the species could occupy the BSA prior to construction.

The Project would result in the loss of 75.1 acres of suitable habitat for desert kit fox, including impacts to creosote bush scrub, unvegetated wash and river bottom, and disturbed habitat. However, due to the surrounding vacant lands available with comparable suitable habitat, the loss 75.1 acres of suitable habitat for desert kit fox is considered less than significant.

The Project would also result in the temporary loss of 13.1 acres of suitable habitat for desert kit fox, specifically 8.5 acres of creosote bush scrub, 0.1 acres of creosote bush white bursage scrub, 0.03 acres of unvegetated wash and river bottom, and 4.5 acres of disturbed habitat. However, due to the surrounding vacant lands available with comparable suitable habitat, the temporary loss of 13.1 acres of suitable habitat for desert kit fox would be considered less than significant. Nonetheless, as required MM-BIO-11 (Restoration of Temporary Impacts), would

require that temporarily disturbed areas be recontoured to natural grade (if the grade was modified during the temporary disturbance activity). The Project does not include revegetation or restoration of temporary impacts after Project completion. However, natural vegetation will be allowed to regenerate in temporary disturbed areas. Furthermore, if topsoil is removed during construction, the segregated topsoil will be replaced, and the native seed will be allowed to regenerate naturally.

To avoid potential direct impacts to desert kit fox, a pre-construction survey for desert kit fox would be conducted within 10 days prior to the start of construction to determine the presence/absence of desert kit fox, pursuant to MM-BIO-15 (Pre-construction Survey for Desert Kit Fox and Avoidance). To ensure that potential impacts to this species are less than significant, a Desert Kit Fox Relocation and Mitigation Plan has been prepared to facilitate implementation of this mitigation measure and is attached to this report as Appendix J of Appendix C. In addition, implementation of MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), and MM-BIO-6 (Construction Monitoring Notebook) would reduce potential direct impacts to less than significant.

In summary, implementation of MM-BIO-1 (Conservation of Western Joshua Tree Lands), MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), MM-BIO-6 (Construction Monitoring Notebook), MM-BIO-11 (Restoration of Temporary Impacts), and MM-BIO-15 (Pre-construction Survey for Desert Kit Fox and Avoidance) would reduce potential direct impacts to desert kit fox to less than significant.

Nesting Migratory Birds and Raptors

The BSA contains trees, shrubs, and other vegetation that provides opportunities for birds of prey (raptors) and other avian species to nest on site. Native nesting bird species with potential to occur within the BSA are protected by California Fish and Game Code Sections 3503 and 3503.5 and by the federal MBTA (16 USC 703–711). Section 3503 provides that it is unlawful to take, possess, or needlessly destroy the active nests or eggs of any bird in California; Section 3503.5 protects all raptors and their eggs and active nests; and the MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of native migratory bird species throughout the United States. Currently, California considers any nest that is under construction or modification or is supporting eggs, nestlings, or juveniles as “active.” Therefore, impacts to nesting migratory birds and raptors would be considered significant absent mitigation under CEQA.

To ensure compliance with the California Fish and Game Code and the MBTA and to avoid potential impacts to nesting birds, it is recommended that the vegetation removal activities be conducted outside the general bird nesting season (February 1 through August 31, depending on the species), and if vegetation cannot be removed outside the bird nesting season, a pre-construction nesting bird survey by a qualified biologist is required prior to vegetation removal. This requirement is outlined in MM-BIO-13 (Pre-construction Nesting Bird Surveys and Avoidance). With the incorporation of mitigation, impacts associated with nesting birds, including raptors, would be less than significant.

In summary, implementation of MM-BIO-13 (Pre-construction Nesting Bird Surveys and Avoidance) would reduce potential direct impacts to nesting migratory birds and raptors to less than significant.

Indirect Impacts

Indirect impacts to special-status wildlife species are those that occur during construction to species present near the site, but not within the construction zone. These include fugitive dust that can degrade habitat and result in health implications for wildlife species; noise and vibration that can stress wildlife species or cause them to leave an area of

otherwise suitable habitat, or that can result in disruption of bird nesting and abandonment of nests; increased human presence, which can also disrupt daily activities of wildlife and cause them to leave an area; nighttime lighting, which can disrupt the activity patterns of nocturnal species, including many mammals and some birds, amphibians, and reptiles; and release of chemical pollutants, such as from oil leaks from construction vehicles and machinery.

The Project could result in significant, indirect impacts to seven special-status wildlife: Mohave desert tortoise, burrowing owl, loggerhead shrike, Bendire's thrasher, LeConte's thrasher, American badger, and desert kit fox. Therefore, these species are further discussed below.

Mojave Desert Tortoise

Mojave desert tortoise is not expected to occur within the BSA due to the negative survey results; however, this species may enter the site, albeit there is a low potential, before construction begins. Therefore, a pre-construction protocol clearance survey is needed to confirm Mojave desert tortoise absence prior to construction. Should Mojave desert tortoise occur on site, construction activities have the potential to result in significant indirect impacts to Mojave desert tortoise and their habitat. Those impacts could include dust, noise, and vibration; trash and debris; increased human presence; vehicle collisions; and chemical spills. These potential short-term or temporary indirect impacts to Mojave desert tortoise would be significant absent mitigation under CEQA.

MM-BIO-10 (Pre-construction Clearance Surveys for Mojave Desert Tortoise and Avoidance) would require pre-construction protocol clearance surveys for Mojave desert tortoise to limit effects from most short-term indirect impacts, including noise and vibration, increased human presence, nighttime lighting, and vehicle collisions. MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), and MM-BIO-6 (Construction Monitoring Notebook) would require that all workers complete Worker Environmental Awareness Program (WEAP) training and would require ongoing biological monitoring and compliance with all biological resource mitigation requirements. MM-BIO-8 (Hazardous Waste) would ensure that a prompt and effective response to any accidental chemical spills would be implemented, and that repair and clean-up of any hazardous waste occurs. To reduce fugitive dust resulting from Project construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures in accordance with the Mojave Desert Air Quality Management District's Rules 401 and 403.2, which would limit the amount of fugitive dust generated during construction. MM-BIO-16 (Trash and Debris) would require trash and debris to be removed regularly and would require animal-resistant trash receptacles to avoid attracting urban-related predator species.

Potential long-term indirect impacts that could result from development within or adjacent to Mojave desert tortoise habitat include increased invasive plant species that may degrade habitat. MM-BIO-17 (Invasive Plant Management) would require that landscape plants within 200 feet of native vegetation communities not be on the most recent version of the California Invasive Plant Council's (Cal-IPC) California Invasive Plant Inventory (Cal-IPC 2006).

As discussed above, implementation of MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), MM-BIO-6 (Construction Monitoring Notebook), MM-BIO-8 (Hazardous Waste), MM-BIO-10 (Pre-construction Clearance Surveys for Mojave Desert Tortoise and Avoidance), MM-BIO-16 (Trash and Debris), and MM-BIO-17 (Invasive Plant Management) would reduce potential indirect (short-term and long-term) impacts to Mojave desert tortoise to less than significant

Burrowing Owl

Short-Term Construction Impacts

Should burrowing owls occur on site, construction activities have the potential to result in short-term indirect impacts to burrowing owls and their habitat. Those impacts could include dust, noise, and vibration; trash and debris; increased human presence; vehicle collisions; chemical spills; and nighttime lighting. These potential short-term or temporary indirect impacts to burrowing owls are considered significant absent mitigation under CEQA.

MM-BIO-12 (Pre-construction Surveys for Burrowing Owl and Avoidance) would require pre-construction burrowing owl surveys and result in establishment of construction buffers around any burrowing owl burrows found, thus limiting effects from most short-term indirect impacts, including noise and vibration, increased human presence, nighttime lighting, and vehicle collisions. MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), and MM-BIO-6 (Construction Monitoring Notebook) would require that all workers complete WEAP training and would require ongoing biological monitoring and compliance with all biological resource mitigation. MM-BIO-8 (Hazardous Waste) would ensure that a prompt and effective response to any accidental chemical spills would be implemented, and that repair and clean-up of any hazardous waste occurs. To reduce fugitive dust resulting from Project construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures in accordance with the Mojave Desert Air Quality Management District's Rules 401 and 403.2, which would limit the amount of fugitive dust generated during construction. MM-BI0-16 (Trash and Debris) would require trash and debris to be removed regularly and would require animal-resistant trash receptacles to avoid attracting urban-related predator species. MM-BIO-18 (Lighting) would require nighttime lighting during construction within 50 feet of habitat for special-status species to be shielded downward.

Long-Term Operational Impacts

Potential long-term indirect impacts that could result from development within or adjacent to burrowing owl habitat include nighttime lighting and increased invasive plant species that may degrade habitat. MM-BIO-17 (Invasive Plant Management) would require that landscape plants within 200 feet of native vegetation communities not be on the most recent version of Cal-IPC's California Invasive Plant Inventory (Cal-IPC 2006). MM-BIO-18 (Lighting) would require nighttime lighting during operations within 50 feet of habitat for special-status species to be shielded downward.

As discussed above, implementation of MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), MM-BIO-6 (Construction Monitoring Notebook), MM-BIO-8 (Hazardous Waste), MM-BI0-12 (Pre-construction Surveys for Burrowing Owl and Avoidance), MM-BIO-16 (Trash and Debris), MM-BIO-17 (Invasive Plant Management), and MM-BIO-18 (Lighting) would reduce potential indirect (short-term and long-term) impacts to burrowing owl to less than significant..

Loggerhead Shrike

Short-Term Construction Impacts

Construction activities have the potential to result in short-term indirect impacts to loggerhead shrike and their habitat. Those impacts could include dust, noise, and vibration; increased human presence; vehicle collisions; chemical spills; and nighttime lighting. These potential short-term or temporary indirect impacts to loggerhead shrike would be significant absent mitigation under CEQA.

MM-BIO-13 (Pre-construction Nesting Bird Surveys and Avoidance) would require nesting bird surveys and would result in establishment of construction buffers around nests, thus limiting effects from most short-term indirect impacts, including noise and vibration, increased human presence, nighttime lighting, and vehicle collisions. MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), and MM-BIO-6 (Construction Monitoring Notebook) would require that all workers complete WEAP training and would require ongoing biological monitoring and compliance with all biological resource mitigation. MM-BIO-8 (Hazardous Waste) would ensure that a prompt and effective response to any accidental chemical spills be implemented, and that repair and clean-up of any hazardous waste occurs. To reduce fugitive dust resulting from construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures in accordance with the Mojave Desert Air Quality Management District's Rules 401 and 403.2, which would limit the amount of fugitive dust generated during construction. MM-BIO-18 (Lighting) would require nighttime lighting during construction within 50 feet of habitat for special-status species to be shielded downward.

Long-Term Operational Impacts

Potential long-term indirect impacts that could result from development within or adjacent to loggerhead shrike habitat include nighttime lighting and increased invasive plant species that may degrade habitat. MM-BIO-17 (Invasive Plant Management) would require that landscape plants within 200 feet of native vegetation communities not be on the most recent version of Cal-IPC's Inventory of Invasive Plants (Cal-IPC 2006). MM-BIO-18 (Lighting) would require nighttime lighting during operations within 50 feet of habitat for special-status species to be shielded downward.

Implementation of MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), MM-BIO-6 (Construction Monitoring Notebook), MM-BIO-8 (Hazardous Waste), MM-BIO-13 (Pre-construction Nesting Bird Surveys and Avoidance), MM-BIO-17 (Invasive Plant Management), and MM-BIO-18 (Lighting) would reduce potential indirect (short-term and long-term) impacts to loggerhead shrike to less than significant.

Bendire's Thrasher

Short-Term Construction Impacts

Construction (short-term) activities have the potential to result in indirect impacts to Bendire's thrasher and their habitat. Those impacts could include dust, noise, and vibration; increased human presence; vehicle collisions; chemical spills; and nighttime lighting. These potential short-term or temporary indirect impacts to Bendire's thrasher would be significant absent mitigation under CEQA.

MM-BIO-13 (Pre-construction Nesting Bird Surveys and Avoidance) would require nesting bird surveys and would result in establishment of construction buffers around nests, thus limiting effects from most short-term indirect impacts, including noise and vibration, increased human presence, nighttime lighting, and vehicle collisions. MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), and MM-BIO-6 (Construction Monitoring Notebook) would require that all workers complete WEAP training and would require ongoing biological monitoring and compliance with all biological resource mitigation. MM-BIO-8 (Hazardous Waste) would ensure that a prompt and effective response to any accidental chemical spills be implemented, and that repair and clean-up of any hazardous waste occur. To reduce fugitive dust resulting from construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures in accordance with the Mojave Desert Air Quality Management District's Rules 401 and 403.2, which would limit the amount of fugitive

dust generated during construction. MM-BIO-18 (Lighting) would require nighttime lighting during construction within 50 feet of habitat for special-status species to be shielded downward.

Long-Term Operational Impacts

Post-construction (long-term) activities have the potential to result in indirect impacts to Bendire's thrasher and their habitat. Long-term impacts that could result from development within or adjacent to Bendire's thrasher habitat include nighttime lighting and increased invasive plant species that may degrade habitat. These potential long-term indirect impacts to Bendire's thrasher would be significant absent mitigation under CEQA.

MM-BIO-13 (Pre-construction Nesting Bird Surveys and Avoidance) would require nesting bird surveys and would result in establishment of construction buffers around nests, thus limiting effects from most short-term indirect impacts, including noise and vibration, increased human presence, nighttime lighting, and vehicle collisions. MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), and MM-BIO-6 (Construction Monitoring Notebook) would require that all workers complete WEAP training and would require ongoing biological monitoring and compliance with all biological resource mitigation. MM-BIO-8 (Hazardous Waste) would ensure that a prompt and effective response to any accidental chemical spills be implemented, and that repair and clean-up of any hazardous waste occur. To reduce fugitive dust resulting from construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures in accordance with the Mojave Desert Air Quality Management District's Rules 401 and 403.2, which would limit the amount of fugitive dust generated during construction. MM-BIO-18 (Lighting) would require nighttime lighting during construction within 50 feet of habitat for special-status species to be shielded downward.

Potential long-term indirect impacts that could result from development within or adjacent to Bendire's thrasher habitat include nighttime lighting and increased invasive plant species that may degrade habitat. MM-BIO-17 (Invasive Plant Management) would require that landscape plants within 200 feet of native vegetation communities not be on the most recent version of Cal-IPC's Inventory of Invasive Plants (Cal-IPC 2006). MM-BIO-18 (Lighting) would require nighttime lighting during operations within 50 feet of habitat for special-status species to be shielded downward.

As discussed above, implementation of MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), MM-BIO-6 (Construction Monitoring Notebook), MM-BIO-8 (Hazardous Waste), MM-BIO-13 (Pre-construction Nesting Bird Surveys and Avoidance), MM-BIO-17 (Invasive Plant Management), and MM-BIO-18 (Lighting) would reduce potential indirect (short-term and long-term) impacts to Bendire's thrasher to less than significant.

LeConte's Thrasher

Short-Term Construction Impacts

LeConte's thrasher was incidentally observed during 2022 protocol Mohave ground squirrel trapping surveys. The BSA supports suitable foraging habitat (desert scrub) and nesting habitat (spiny shrubs and cactus); therefore, construction (short-term) activities have the potential to result in indirect impacts to LeConte's thrasher and its habitat. Those impacts could include dust, noise, vibration, increased human presence, vehicle collisions, chemical spills, and nighttime lighting. These potential short-term or temporary indirect impacts to loggerhead shrike would be significant absent mitigation under CEQA.

MM-BIO-13 (Pre-construction Nesting Bird Surveys and Avoidance) would require nesting bird surveys and would result in establishment of construction buffers around nests, thus limiting effects from most short-term indirect impacts, including noise and vibration, increased human presence, nighttime lighting, and vehicle collisions. MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), and MM-BIO-6 (Construction Monitoring Notebook) would require that all workers complete WEAP training and would require ongoing biological monitoring and compliance with all biological resource mitigation requirements. MM-BIO-8 (Hazardous Waste) would ensure that a prompt and effective response to any accidental chemical spills be implemented, and that repair and clean-up of any hazardous waste occurs. To reduce fugitive dust resulting from construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures in accordance with the Mojave Desert Air Quality Management District's Rules 401 and 403.2, which would limit the amount of fugitive dust generated during construction. MM-BIO-18 (Lighting) would require nighttime lighting during construction within 50 feet of habitat for special-status species to be shielded downward.

Long-Term Operational Impacts

Post-construction (long-term) activities have the potential to result in indirect impacts to LeConte's thrasher and their habitat. Long-term impacts that could result from development within or adjacent to LeConte's thrasher habitat include nighttime lighting and increased invasive plant species that may degrade habitat. These potential long-term indirect impacts to LeConte's thrasher would be significant absent mitigation under CEQA.

Potential long-term indirect impacts that could result from development within or adjacent to LeConte's thrasher habitat include nighttime lighting and increased invasive plant species that may degrade habitat. MM-BIO-17 (Invasive Plant Management) would require that landscape plants within 200 feet of native vegetation communities not be on the most recent version of Cal-IPC's Inventory of Invasive Plants (Cal-IPC 2006). MM-BIO-18 (Lighting) would require nighttime lighting during operations within 50 feet of habitat for special-status species to be shielded downward.

As discussed above, implementation of MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), MM-BIO-6 (Construction Monitoring Notebook), MM-BIO-8 (Hazardous Waste), MM-BIO-13 (Pre-construction Nesting Bird Surveys and Avoidance), MM-BIO-17 (Invasive Plant Management), and MM-BIO-18 (Lighting) would reduce potential indirect (short-term and long-term) impacts to LeConte's thrasher to less than significant.

American Badger

Short-Term Construction Impacts

Although no American badger individuals (or sign of individuals) were observed within the BSA, the Project site does provide suitable habitat for this species. Construction activities have the potential to result in short-term indirect impacts to American badger and their habitat. Those short-term impacts could include dust, noise, and vibration; trash and debris; increased human presence; vehicle collisions; chemical spills; and nighttime lighting. These potential short-term or temporary indirect impacts to the species are considered significant absent mitigation under CEQA.

MM-BIO-14 (Pre-construction Survey for American Badger and Avoidance) would require a pre-construction survey for American badger, and if determined present, would result in establishment of an American badger mitigation and monitoring plan, which would include avoidance and minimization measures to reduce potential impacts, as well as compensatory mitigation to offset indirect impacts, including noise and vibration, increased human presence,

nighttime lighting, and vehicle collisions. MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), and MM-BIO-6 (Construction Monitoring Notebook) would require that all workers complete WEAP training and would require ongoing biological monitoring and compliance with all biological resource mitigation. MM-BIO-8 (Hazardous Waste) would ensure that a prompt and effective response to any accidental chemical spills would be implemented, and that repair and clean-up of any hazardous waste occurs. To reduce fugitive dust resulting from Project construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures in accordance with the Mojave Desert Air Quality Management District's Rules 401 and 403.2, which would limit the amount of fugitive dust generated during construction.

Long-Term Operational Impacts

Post-construction (long-term) activities have the potential to result in indirect impacts to the species and their habitat. These impacts could include trash and debris, increased human presence, vehicle collisions, chemical spills, and nighttime lighting. Given the species could occupy the BSA prior to construction, potential long-term indirect impacts to American badger are considered significant absent mitigation under CEQA.

Potential long-term indirect impacts that could result from development within or adjacent to the BSA include trash and debris, increased human presence, chemical spills, nighttime lighting, and increased invasive plant species that may degrade habitat. MM-BIO-8 (Hazardous Waste) would ensure that a prompt and effective response to any accidental chemical spills would be implemented, and that repair and clean-up of any hazardous waste occurs. MM-BIO-16 (Trash and Debris) would require trash and debris to be removed regularly and would require animal-resistant trash receptacles to avoid attracting urban-related predator species. MM-BIO-17 (Invasive Plant Management) would require that landscape plants within 200 feet of native vegetation communities not be on the most recent version of Cal-IPC's California Invasive Plant Inventory (Cal-IPC 2006). MM-BIO-18 (Lighting) would require nighttime lighting during operations within 50 feet of habitat for special-status species to be shielded downward.

As discussed above, implementation of MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), MM-BIO-6 (Construction Monitoring Notebook), MM-BIO-8 (Hazardous Waste), MM-BIO-14 (Pre-construction Survey for American Badger and Avoidance), MM-BIO-16 (Trash and Debris), MM-BIO-17 (Invasive Plant Management), and MM-BIO-18 (Lighting) would reduce potential indirect (short-term and long-term) impacts to American badger to less than significant.

Desert Kit Fox

Short-Term Construction Impacts

Desert kit fox was observed within the BSA through camera trapping as part of the Mohave ground squirrel focused surveys. Therefore, construction (short-term) activities have the potential to result in short-term indirect impacts to desert kit fox and their habitat. Those impacts could include dust, noise, and vibration; trash and debris; increased human presence; vehicle collisions; chemical spills; and nighttime lighting. These potential short-term or temporary indirect impacts to desert kit fox would be significant absent mitigation under CEQA.

MM-BIO-15 (Pre-construction Survey for Desert Kit Fox and Avoidance) would require a pre-construction survey for desert kit, and if determined present, would result in implementation of the prepared Desert Kit Fox Relocation and Mitigation Plan (Appendix J of Appendix C), which includes avoidance and minimization measures to reduce potential impacts, as well as compensatory mitigation to offset indirect impacts, including noise and vibration, increased human presence, nighttime lighting, and vehicle collisions. MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), and MM-BIO-6 (Construction Monitoring

Notebook) would require that all workers complete WEAP training and would require ongoing biological monitoring and compliance with all biological resource mitigation. MM-BIO-8 (Hazardous Waste) would ensure that a prompt and effective response to any accidental chemical spills would be implemented, and that repair and clean-up of any hazardous waste occurs. MM-BIO-18 (Lighting) would require nighttime lighting during construction within 50 feet of habitat for special-status species to be shielded downward. To reduce fugitive dust resulting from Project construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures in accordance with the Mojave Desert Air Quality Management District's Rules 401 and 403.2, which would limit the amount of fugitive dust generated during construction.

Long-Term Operational Impacts

Post-construction (long-term) activities have the potential to result in indirect impacts to this species and their habitat. These impacts could include trash and debris, increased human presence, vehicle collisions, chemical spills, and nighttime lighting. These potential long-term indirect impacts to desert kit fox are considered significant absent mitigation under CEQA.

Potential long-term indirect impacts that could result from development within or adjacent to the BSA include trash and debris, increased human presence, chemical spills, nighttime lighting, and increased invasive plant species that may degrade habitat. MM-BIO-8 (Hazardous Waste) would ensure that a prompt and effective response to any accidental chemical spills would be implemented, and that repair and clean-up of any hazardous waste occurs. MM-BIO-16 (Trash and Debris) would require trash and debris to be removed regularly and would require animal-resistant trash receptacles to avoid attracting urban-related predator species. MM-BIO-17 (Invasive Plant Management) would require that landscape plants within 200 feet of native vegetation communities not be on the most recent version of Cal-IPC's California Invasive Plant Inventory (Cal-IPC 2006). MM-BIO-18 (Lighting) would require nighttime lighting during operations within 50 feet of habitat for special-status species to be shielded downward.

As discussed above, implementation of MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), MM-BIO-6 (Construction Monitoring Notebook), MM-BIO-8 (Hazardous Waste), MM-BIO-15 (Pre-construction Survey for Desert Kit Fox and Avoidance), MM-BIO-16 (Trash and Debris), MM-BIO-17 (Invasive Plant Management), and MM-BIO-18 (Lighting) would reduce potential (short-term and long-term) indirect impacts to desert kit fox to less than significant.

Nesting Migratory Birds and Raptors

Short-Term Construction Impacts

Construction activities have the potential to result in indirect impacts to nesting migratory birds and raptors and their habitats. Those impacts could include the loss of a nest through increased dust, noise, and vibration; increased human presence; and nighttime lighting. These potential short-term or temporary indirect impacts to these species are considered significant absent mitigation under CEQA.

To ensure compliance with the California Fish and Game Code and MBTA, and to avoid potential indirect impacts to nesting birds, vegetation removal activities would be conducted outside of the general bird nesting season (February 1 through August 31, depending on the species), and if vegetation cannot be removed outside the bird nesting season, a pre-construction nesting bird survey (MM-BIO-13) by a qualified biologist would be required prior to vegetation removal. Indirect impacts, including increased dust, noise, and vibration; increased human presence; and nighttime lighting, would be offset through implementation of MM-BIO-18 (Lighting), which would require nighttime lighting during construction within 50 feet of habitat for special-status species to be shielded downward.

MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), and MM-BIO-6 (Construction Monitoring Notebook) would require that all workers complete WEAP training and would require ongoing biological monitoring and compliance with all biological resource mitigation requirements. To reduce fugitive dust resulting from Project construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures in accordance with the Mojave Desert Air Quality Management District's Rules 401 and 403.2, which would limit the amount of fugitive dust generated during construction.

Long-Term Operational Impacts

Post-construction (long-term) activities have the potential to result in indirect impacts to migratory birds and raptors and their habitat. Those long-term impacts could result from development within or adjacent to suitable habitat, including nighttime lighting. These potential long-term indirect impacts to migratory birds and raptors are considered significant absent mitigation under CEQA.

MM-BIO-18 (Lighting) would require nighttime lighting during operations within 50 feet of habitat for special-status species to be shielded downward.

In summary, implementation of MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), MM-BIO-6 (Construction Monitoring Notebook), MM-BIO-13 (Pre-construction Nesting Bird Surveys and Avoidance), and MM-BIO-18 (Lighting) would reduce potential indirect (short-term and long-term) impacts to nesting migratory birds and raptors to less than significant.

Threshold B: Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

No Direct Impacts would occur. No sensitive vegetation communities are found within the Project site.

Direct Impacts

A total of 92.0 acres would be directly impacted from the Project, including 67.3 acres of permanent impacts within the Project site, 10.6.6 acres of permanent impacts within the off-site improvement areas, and 14.0 acres of temporary impacts within the off-site improvement areas (Figure 4.3-4, Impacts to Biological Resources). As stated in Appendix C, Section 5.1, Vegetation Communities and Land Covers, and Appendix C Section 6.3, Impacts Analysis, CDFW state rankings of 1, 2, and 3 are considered high priority for inventory or special-status and impacts to these communities typically require mitigation. The Project site does not contain any sensitive vegetation communities; therefore, direct impacts to sensitive vegetation communities are not anticipated to occur, and no additional measures are recommended. No direct impacts would occur.

Indirect Impacts

Short-Term Construction Impacts

No sensitive vegetation communities occur within the 100-foot buffer of the Project site, as stated in Appendix C, Section 5.1 and Table 2. Therefore, implementation of the Project would likely not result in any indirect impacts to sensitive vegetation communities.

However, implementation of MM-BIO-3 (Designated Biologist Authority) gives the Project's designated biologist the authority to stop work if construction is not compliant with this CEQA document. MM-BIO-4 (Compliance Monitoring)

requires that an experienced biologist oversee compliance with the protective measures, including limiting impacts to the Project impact footprint. MM-BIO-5 (Education Program) would provide construction personnel with training related to sensitive vegetation communities that could potentially occur adjacent to the impact footprint (e.g., Joshua tree woodland that may be present outside of the Project's 100-foot buffer). MM-BIO-6 (Construction Monitoring Notebook) provides for documentation that the education program was administered to applicable personnel. MM-BIO-7 (Delineation of Property Boundaries) requires that impacts occur within the fenced, staked, or flagged area that is clearly delineated within the Project impact footprint. Thus, implementation of MM-BIO-3 through MM-BIO-7 would enable the Project to avoid and minimize inadvertent spillover impacts outside of the approved impact footprint.

To reduce fugitive dust resulting from Project construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures in accordance with the Mojave Desert Air Quality Management District's Rules 401 and 403.2, which limit the amount of fugitive dust generated during construction.

MM-BIO-8 (Hazardous Waste) would ensure that a prompt and effective response to any accidental chemical spills would be implemented, and that repair and clean-up of any hazardous waste occurs. Thus, implementation of MM-BIO-8 (Hazardous Waste) would help to avoid and minimize indirect impacts to sensitive vegetation communities that could potentially occur adjacent to the impact footprint (e.g., Joshua tree woodland that may be present outside of the Project's 100-foot buffer) from any construction-related chemical spills.

A SWPPP would be prepared and implemented to prevent all construction pollutants from contacting stormwater during construction activities, with the intent of keeping sediment and any other pollutants from moving off site and into receiving waters. BMP categories employed on site would include erosion control, sediment control, and non-stormwater good housekeeping. Preparation and implementation of a SWPPP would help to avoid and minimize the potential effects of stormwater erosion during construction.

Construction of the Project would introduce potential ignition sources to the Project site, including the use of heavy machinery and the potential for sparks during welding activities or other hot work. However, the Project would be required to comply with Town and state requirements for fire safety practices to reduce the possibility of fires during construction activities. Further, vegetation would be removed from the site prior to the start of construction. Adherence to Town and state regulatory standards during Project construction would reduce the risk of wildfire ignition and spread during construction activities. Therefore, short-term construction impacts involving wildland fires would not be substantial.

Long-Term Operational Impacts

Potential long-term (post-construction) indirect impacts from operation and maintenance activities may include effects of herbicides, changes in water quality, increased wildfire risk, induced demand of the surrounding area, increased traffic and vehicle emissions, and accidental chemical spills. Indirect impacts to off-site adjacent areas may be considered significant absent mitigation.

MM-BIO-9 (Herbicides) would limit herbicide use to instances where hand or mechanical efforts are infeasible and would only be applied when wind speeds are less than 7 miles per hour to prevent drift into off-site adjacent areas that may potentially contain sensitive vegetation communities.

Implementation of low-impact-development features and BMPs would, to the maximum extent practicable, reduce the discharge of pollutants into receiving waters, including inadvertent release of pollutants (e.g., hydraulic fluids and petroleum), the improper management of hazardous materials, trash and debris, and the improper management of portable restroom facilities (e.g., regular service) in accordance with all relevant local and state

development standards. In addition, in accordance with CALGreen requirements (California Green Building Standards Code, CCR, Title 24, Part 11), Project source controls to improve water quality would be provided for outdoor material storage areas, outdoor trash storage/waste handling areas, and outdoor loading/unloading areas. Therefore, impacts to sensitive vegetation communities that could potentially occur on and or adjacent to the impact footprint (e.g., Joshua tree woodland that may be present outside of the Project's 100-foot buffer) due to changes in water quality would be avoided and minimized through implementation of low-impact-development features and BMPs.

Upon completion of Project construction, with adherence to the Town of Apple Valley Municipal Code and because of the low ignitability of the proposed structures and implementation of fire-resistant and irrigated landscaping, the Project would not facilitate wildfire spread or exacerbate wildfire risk. Further, given that surrounding off-site fuels consist of moderately spaced vegetation, wildfires in the immediate surrounding area are not common, and it is unlikely that the Project site would be exposed to the uncontrolled spread of a wildfire. It is not anticipated that the Project, due to slope, prevailing winds, and other factors, would exacerbate wildfire risks or the uncontrolled spread of a wildfire; thus, with adherence to the Town of Apple Valley Municipal Code, long-term indirect impacts to sensitive vegetation communities that could potentially occur adjacent to the impact footprint (e.g., Joshua tree woodland that may be present outside of the Project's 100-foot buffer) associated with increased wildlife risk is not expected to occur.

In summary, implementation of MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), MM-BIO-6 (Construction Monitoring Notebook), MM-BIO-7 (Delineation of Property Boundaries), MM-BIO-8 (Hazardous Waste), and MM-BIO-9 (Herbicides) would reduce potential indirect impacts (short-term and long-term) to sensitive vegetation communities that could potentially occur adjacent to the impact footprint to less than significant.

Threshold C: Would the Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less-than-Significant Impact with Mitigation Incorporated. The BSA supports 0.9 (specifically 0.909) acres of ephemeral drainages consisting of 0.9 (specifically 0.881) acres of non-wetland waters of the state under RWQCB, and 0.9 (specifically 0.909) acres of jurisdictional streambed under CDFW.

Direct Impacts

The Project would result in direct impacts to 0.580 acres of potential non-wetland waters of the state under RWQCB jurisdiction, and streambed under CDFW jurisdiction, specifically 0.464 acres of on-site permanent impacts, 0.083 acres of permanent impacts within off-site improvement areas, and 0.033 acres of temporary impacts within off-site improvement areas (Figure 4.3-5, Impacts to Jurisdictional Aquatic Resources). The ephemeral drainages present are not likely subject to USACE jurisdiction because these features are isolated and do not meet the relatively permanent or significant nexus standard as a water of the United States. However, it is important to note that the ultimate decisions on the amount and location of jurisdictional resources is made by the resource agencies (i.e., USACE, CDFW, and RWQCB). These potential direct impacts to jurisdictional waters would be significant absent mitigation under CEQA.

There would be direct permanent impacts to 0.580 acres of jurisdictional aquatic resources with Project implementation. While the Project would result in direct temporary impacts to 0.033 acres of jurisdictional aquatic resources, due to the minimal temporary impact acreage and for purposes of this analysis, the 0.033 acre of

temporary impacts to jurisdictional aquatic resources is being considered a permanent impact. Therefore, direct permanent impacts to 0.580 acres of non-wetland waters and streams that are regulated under the California Porter–Cologne Act and California Fish and Game Code, permits would be required from each of the regulatory agencies and typically entail providing mitigation to offset the impacts and loss of beneficial uses, functions, and values to the jurisdictional waters and habitats. RWQCB regulates waters of the state under California's Porter–Cologne Act. California Fish and Game Code Sections 1600–1616 give CDFW regulatory powers over streams and lakes, as well as vegetation associated with these features. MM-BIO-19 (Aquatic Resources Mitigation) would require obtaining permits from each of the regulatory agencies (RWQCB and CDFW). Based on the Project design, it is assumed that the Project would require a waste discharge requirement; therefore, an application must be submitted to RWQCB. A Streambed Alteration Agreement would be required for impacts to jurisdictional streambed under CDFW. Permits would be required prior to issuance of a grading permit and would be included in the Project's Conditions of Approval

In addition, MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), and MM-BIO-6 (Construction Monitoring Notebook) would require that all workers complete WEAP training and would require ongoing biological monitoring and compliance with all biological resource mitigation requirements. MM-BIO-7 (Delineation of Property Boundaries) requires that impacts occur within the fenced, staked, or flagged area that is clearly delineated within the Project impact footprint. The construction crew would be responsible for unauthorized impacts from construction activities to waters of the state that are outside the permitted Project footprint, if applicable. MM-BIO-8 (Hazardous Waste) would ensure that a prompt and effective response to any accidental chemical spills would be implemented, and that repair and clean-up of any hazardous waste occurs. To reduce fugitive dust resulting from Project construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures in accordance with the Mojave Desert Air Quality Management District's Rules 401 and 403.2, which limit the amount of fugitive dust generated during construction.

In summary, implementation of MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), MM-BIO-6 (Construction Monitoring Notebook), MM-BIO-7 (Delineation of Property Boundaries), MM-BIO-8 (Hazardous Waste), and MM-BIO-19 (Aquatic Resources Mitigation) would reduce potential direct impacts to jurisdictional aquatic resources to less than significant.

Indirect Impacts

Short-Term Construction Impacts

Construction-related (short-term) indirect impacts may include inadvertent spillover impacts outside of the construction footprint, chemical spills, and stormwater erosion and sedimentation. These potential short-term or temporary indirect impacts to jurisdictional aquatic resources are considered significant absent mitigation under CEQA.

Implementation of MM-BIO-3 (Designated Biologist Authority) gives the Project's designated biologist the authority to stop work if construction is not compliant with this CEQA document. MM-BIO-4 (Compliance Monitoring) requires that an experienced biologist oversee compliance with the protective measures, including limiting impacts within the Project footprint. MM-BIO-5 (Education Program) would provide construction personnel with training related to waters of the state that are present on and adjacent to the impact footprint. MM-BIO-6 (Construction Monitoring Notebook) provides for documentation that the education program was administered to applicable personnel. MM-BIO-7 (Delineation of Property Boundaries) requires that impacts occur within the fenced, staked, or flagged area that is clearly delineated within the Project impact footprint. The construction crew would be responsible for

unauthorized impacts from construction activities to waters of the state that are outside the permitted Project footprint, if applicable. Thus, implementation of MM-BIO-3 through MM-BIO-7 would enable the Project to avoid and minimize inadvertent spillover impacts outside of the approved impact footprint.

MM-BIO-8 (Hazardous Waste) would ensure that a prompt and effective response to any accidental chemical spills would be implemented, and that repair and clean-up of any hazardous waste occurs. Thus, implementation of MM-BIO-8 (Hazardous Waste) would help to avoid and minimize impacts to waters of the state from any construction-related chemical spills.

A SWPPP would be prepared and implemented to prevent construction pollutants from contacting stormwater during construction activities, with the intent of keeping sediment and any other pollutants from moving off site and into receiving waters. BMP categories employed on site would include erosion control, sediment control, and non-stormwater good housekeeping. Preparation and implementation of a SWPPP would help to avoid and minimize the potential effects of stormwater erosion during construction.

Long-Term Operational Impacts

Post-construction (long-term) indirect impacts from operations and maintenance activities may include changes in water quality and accidental chemical spills. These potential long-term indirect impacts to jurisdictional aquatic resources are considered significant absent mitigation under CEQA.

Potential long-term (post-construction) indirect impacts from operations and maintenance activities may include changes in water quality and accidental chemical spills. Implementation of low-impact-development features and BMPs would, to the maximum extent practicable, reduce the discharge of pollutants into receiving waters, including inadvertent release of pollutants (e.g., hydraulic fluids and petroleum); the improper management of hazardous materials; trash and debris; and the improper management of portable restroom facilities (e.g., regular service) in accordance with all relevant local and state development standards. In addition, in accordance with CALGreen requirements (California Green Building Standards Code, CCR, Title 24, Part 11), Project source controls to improve water quality would be provided for outdoor material storage areas, outdoor trash storage/waste handling areas, and outdoor loading/unloading areas. Therefore, impacts to jurisdictional aquatic resources due to changes in water quality would be avoided and minimized through implementation of low-impact-development features and BMPs.

MM-BIO-8 (Hazardous Waste) would ensure that a prompt and effective response to any accidental chemical spills would be implemented, and that repair and clean-up of any hazardous waste occurs. Thus, implementation of MM-BIO-8 (Hazardous Waste) would help to avoid and minimize impacts to jurisdictional aquatic resources from any operations-related chemical spills.

In summary, implementation of MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), MM-BIO-6 (Construction Monitoring Notebook), MM-BIO-7 (Delineation of Property Boundaries), and MM-BIO-8 (Hazardous Waste) would reduce potential indirect (short-term and long-term) impacts to jurisdictional aquatic resources to less than significant.

Threshold D: Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less-than-Significant Impact. The BSA is not located within an essential connectivity area, natural landscape block, or linkage for the California Desert Linkage Network. It is approximately 2.5 miles south and 5.2 miles west

of an area mapped as a linkage for the California Desert Linkage Network. Additionally, the BSA is mapped as an Area of Conservation Emphasis, Rank 3, which means "Connections with implementation flexibility" (CDFW 2023b), and no further actions required.

Direct Impacts

No significant direct permanent impacts would occur on wildlife movement or use of native wildlife nursery sites associated with Project activities. Existing nearby habitat linkages and wildlife corridor functions would remain intact while construction activities are conducted and following Project completion. Wildlife movement may be temporarily disrupted during the construction phase of the Project, although this effect would be both localized and short-term. Nearby corridors that could support wildlife movement in the region, such as the Mojave River, which is approximately 8 miles southeast of the BSA, would not be impacted by the Project. Further, the Project site does not contain nursery sites, such as bat colony roosting sites or colonial bird nesting areas. Therefore, impacts associated with wildlife movement, wildlife corridors, and wildlife nursery sites would be less than significant under CEQA.

Indirect Impacts

Short-Term Construction Impacts

Construction-related short-term noise and work in the vicinity would be temporary and would not be expected to significantly disrupt wildlife movement due to ambient noise conditions and the ability for wildlife to continue to move around the construction area and upland portions of the BSA during and after construction. Temporary disturbance to local species may occur but would not substantially degrade the quality or use of the vegetation communities in the vicinity. Work activities are not currently proposed during the nighttime. Therefore, implementation of the Project would not result in significant short-term indirect impacts to wildlife corridors or migratory routes.

Long-Term Operational Impacts

Potential long-term (post-construction) indirect impacts from operations and maintenance activities could disrupt wildlife movement around the Project site due to increased lighting from buildings. MM-BIO-18 (Lighting) would ensure all lighting during operations and within 50 feet of the outside edge of the impact footprint containing habitat for special-status wildlife would be directed away from natural areas.

In summary, implementation of MM-BIO-18 (Lighting) would reduce potential indirect impacts to wildlife movement to less than significant.

Threshold E: Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less-than-Significant Impact with Mitigation Incorporated. The Apple Valley Municipal Code (Chapter 9.76) regulates and protects California Desert Native Plants, including Joshua trees. The following analysis evaluates the Project's potential conflicts with such local policies and ordinances.

California Desert Native Plants and Western Joshua Tree

N~~Eight~~ ineteen western Joshua trees were documented within and adjacent to (within 50 feet of) the limits of the Project site (Appendix ~~X,~~B of Appendix C; Figure 6, Existing Western Joshua Tree)~~within the BSA~~; however, only ~~one~~ three individuals w~~as~~ere documented within the Project site and would be directly removed by the Project. In

addition to western Joshua tree, two desert native plant species were recorded within the BSA during the focused desert native plant survey: Wiggins' cholla and branched pencil cholla. Specifically, six Wiggins' cholla and 12 branched pencil cholla would be directly removed by the Project (Figure 4.3-4).

Therefore, because the focused desert native plant survey was positive for western Joshua tree, Wiggins' cholla, and branched pencil cholla, and in accordance with the CDNPA and Chapter 9.76 of the Apple Valley Municipal Code, a native plant removal permit must be obtained from the Town prior to the removal of these individuals. These impacts are addressed in the Joshua Tree Preservation, Protection, and Relocation Plan, and Desert Native Plant Relocation Plan (Appendix B of Appendix C), prepared to provide detailed specifications for the Project applicant to meet the requirements of Chapter 9.76 of the Apple Valley Municipal Code to protect, preserve, and mitigate impacts to desert native plants.

Pursuant to MM-BIO-2 (Relocation of Desert Native Plants), the Project applicant will submit an application and applicable fee paid to the Town for removal or relocation of protected native desert plants under Town of Apple Valley Municipal Code Chapter 9.76. The application will include certification from a qualified Joshua tree and native desert plant expert to determine that proposed removal or relocation of protected native desert plants are appropriate, supportive of a healthy environment, and in compliance with the Town of Apple Valley's Municipal Code. The application will include the Joshua Tree Preservation, Protection, and Relocation Plan, and Desert Native Plant Relocation Plan (Appendix B of Appendix C). The plan was prepared by a qualified Joshua tree and native desert plant expert. The Joshua Tree Preservation, Protection, and Relocation Plan addresses the requirements of the Town's Protected Plant Policy and provides details for the initial survey of the BSA's Joshua trees, detailed specifications for the protection of trees to be preserved on site, and relocation/salvage requirements for those trees requiring removal and relocation. With the incorporation of mitigation, and with adherence to both the CDNPA and the Town of Apple Valley's Municipal Code, impacts associated with western Joshua tree and desert native plants would be less than significant.

The Project could result in potentially significant impacts to native desert plants and western Joshua trees protected by state and local plant and tree preservation regulations, absent mitigation. Implementation of MM-BIO-1 (Conservation of Western Joshua Tree Lands) and MM-BIO-2 (Relocation of Desert Native Plants) would reduce potential impacts California desert native plants and western Joshua tree to less than significant.

Threshold F: Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Less-than-Significant Impact. The Project is located within the California Desert Conservation Area Plan (BLM 1980). The Project is also located within the West Mojave Plan (BLM 2005) and the Desert Renewable Energy Conservation Plan (BLM 2016) areas. The West Mojave Plan and Desert Renewable Energy Conservation Plan are amendments to the California Desert Conservation Area Plan. The Bureau of Land Management issued a Record of Decision for the West Mojave Plan in 2006, although the West Mojave Plan has not been formally adopted. The Project will not conflict with the conservation criteria associated with the California Desert Conservation Area Plan or Desert Renewable Energy Conservation Plan as the Project is not located on BLM lands and is not a renewable energy project. Therefore, impacts associated with an adopted habitat conservation plan would be less than significant under CEQA.

In addition, the BSA occurs within the Town of Apple Valley Multiple-Species Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP), which is in the early stages of development, and there is no draft Town of Apple Valley Multiple-Species NCCP/HCP available for review at this time. However, there is a draft Public

Review Planning Agreement document (Town of Apple Valley 2017) available for review that contains interim guidelines for the Town. Based on discussions Dudek has had with the Town on other projects in the Town, it is understood that the Town is at least 2 to 3 years away from completing this effort. However, the Town should be contacted for further clarity on this issue and to determine if they are implementing the interim guidelines. The interim guidelines, which should be reviewed in their totality, include requirements that are generally required under CEQA for biological resources, and there are some specific items to note: (1) all reports documenting the presence of listed species will be forwarded to responsible agencies; (2) for projects that propose to restore, enhance, or create habitats, the project will be required to prepare a mitigation plan consistent with USACE Mitigation Rule; (3) for impacts to drainages other than the Mojave River, mitigation must be provided at least a 1:1 ratio, and all avoided drainages must have a buffer of 50 feet in width; (4) endemic plants must be translocated/restored at a 2:1 ratio; (5) areas of steep slopes should be avoided, and a buffer of 100 feet should be provided at the base of steeps slops; and (6) preferred landscaping is native, and planting invasive species is prohibited. In the event that the NCCP/HCP is approved at the time of Project implementation, the biological technical report should be consistent with the Town of Apple Valley Multiple-Species NCCP/HCP.

Threshold G: Would the Project result in cumulatively considerable impacts to biological resources?

Less-than-Significant Impact with Mitigation Incorporated. The Project would result in potentially cumulatively considerable impacts to western Joshua trees. Western Joshua trees are a state candidate species for listing under CESA and are locally protected by the Town of Apple Valley and by the CDNPA. As required by MM-BIO-1 (Conservation of Western Joshua Tree Lands), mitigation for direct impacts to 6.9 acres of western Joshua trees at a 2:1 habitat replacement would be fulfilled through purchase of credits at a CDFW-approved mitigation bank or other conservation mechanism approved by the Town of Apple Valley and CDFW, for a total of 13.9 acres. Additionally, as required by MM-BIO-2 (Relocation of Desert Native Plants) and in accordance with Town of Apple Valley Municipal Code Chapter 9.76, the preparation of a Joshua tree and desert native plants relocation plan is required to mitigate impacts to western Joshua trees as a result of the Project. As such, a Joshua Tree Preservation, Protection, and Relocation Plan, and Desert Native Plant Relocation Plan was prepared.

Potential impacts to special-status wildlife species, such as Mojave desert tortoise, burrowing owl, loggerhead shrike, LeConte's thrasher, Bendire's thrasher, American badger, desert kit fox, and nesting birds and raptors would be reduced to less than significant through Project implementation of MM-BIO-3 through MM-BIO-18. Implementing these mitigation measures would reduce potential impacts to less than significant and would significantly reduce the potential for direct or indirect impacts to special-status species. Therefore, there would not be a cumulatively considerable impact on any special-status species.

Potential impacts to jurisdictional waters of the United States and state, if necessary, would be reduced to less than significant through implementation of MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), MM-BIO-6 (Construction Monitoring Notebook), MM-BIO-8 (Hazardous Waste), and MM-BIO-19 (Aquatic Resources Mitigation). Implementing these mitigation measures would reduce potential impacts to less than significant and would significantly reduce the potential for direct or indirect impacts to waters of the United States and state. Therefore, there would not be a cumulatively considerable impact to waters of the United States.

Additionally, the Project would not result in a significant impact to wildlife corridors and linkages, nor to local policies and regional conservation plans. The Project would therefore not contribute to a cumulative impact on these resources.

4.3.5 Mitigation Measures and Level of Significance After Mitigation

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

One candidate for state listing under CESA, western Joshua tree, was observed and would be directly impacted by the Project. Three special-status wildlife species, burrowing owl, LeConte's thrasher and desert kit fox, were observed and would potentially be directly impacted by the Project. An additional four wildlife species were determined to have a moderate potential to occur within the BSA and could occur during construction of the Project: Mojave desert tortoise, loggerhead shrike, Bendire's thrasher, and American badger. Suitable habitat for Mojave desert tortoise, burrowing owl, loggerhead shrike, Bendire's thrasher, LeConte's thrasher, and American badger would be directly impacted by the Project.

The Project could result in potentially significant impacts to species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS, including native desert plants protected under the CDNPA and Town of Apple Valley Municipal Code. Implementation of MM-BIO-1 through MM-BIO-18 is required to reduce impacts to a less-than-significant level.

MM-BIO-1 Conservation of Western Joshua Tree Lands. Mitigation for direct impacts to 3~~one~~ western Joshua trees will be fulfilled through a payment of the elected fees as described in Section 1927.3 (d) of The Western Joshua Tree Conservation Act. In conformance with the fee schedule, mitigation will consist of payment of $1,000 for each western Joshua tree ~~five~~ 5 meters or greater in height, and $2~~5~~00 for each western Joshua tree 1 meter or greater but less than 5 meters in height, and $150 for each western Joshua tree less than ~~five~~ 1 meter~~s~~ in height. Alternatively, mitigation will occur through off-site conservation or through a CDFW approved mitigation bank, or as required by an Incidental Take Permit, if received. The project will comply with Section 1927.3 of The Western Joshua Tree Conservation Act, regardless of transplantation required by the Town of Apple Valley.~~..~~

MM-BIO-2 Relocation of Desert Native Plants. Prior to the issuance of grading permits, the Project applicant shall submit an application and applicable fee paid to the Town of Apple Valley for removal or relocation of protected native desert plants under Town of Apple Valley Municipal Code Chapter 9.76, as required, and shall schedule a pre-construction site inspection with the appropriate authority. In addition, a plot plan shall be approved by the appropriate Town of Apple Valley Review Authority (County Certified Plant Expert, Planning Commission, or Town Council) indicating exactly which trees or plants are authorized to be removed.

The application shall include certification from a qualified western Joshua tree and native desert plant expert(s) to determine that proposed removal or relocation of protected native desert plants are appropriate, supportive of a healthy environment, and in compliance with the Town of Apple Valley Municipal Code. Protected plants subject to Town of Apple Valley Municipal Code Chapter 9.76 may be relocated on site or within an area designated for the species.

The application shall include a detailed plan for removal of all protected plants on the Project site. The plan shall be prepared by a qualified western Joshua tree and native desert plant expert(s). The plan shall include the following measures:

- Salvaged plants shall be transplanted expeditiously to either their final on-site location or to an approved off-site area. If the plants cannot be expeditiously taken to their permanent relocation area at the time of excavation, they may be transplanted in a temporary area (stockpiled) prior to being moved to their permanent relocation site(s).
- Western Joshua trees shall be marked on their north-facing side prior to excavation. Transplanted western Joshua trees shall be planted in the same orientation as they currently occur on the Project site, with the marking on the north side of the trees facing north at the relocation site(s).
- Transplanted plants shall be watered prior to and at the time of transplantation. The schedule of watering shall be determined by the qualified tree expert and desert native plant expert(s) to maintain plant health. Watering of the transplanted plants shall continue under the guidance of a qualified tree expert and desert native plant expert(s) until it has been determined that the transplants have become established in the permanent relocation site(s) and no longer require supplemental watering.

MM-BIO-3 Designated Biologist Authority. The designated biologist shall have authority to immediately stop any activity that does not comply with the biological resources mitigation measures and/or to order any reasonable measure to avoid the unauthorized take of an individual western Joshua tree.

MM-BIO-4 Compliance Monitoring. The designated biologist shall be on site daily when impacts occur. The designated biologist shall conduct compliance inspections to minimize incidental take of western Joshua trees and impacts to other sensitive biological resources; prevent unlawful take of western Joshua trees; and ensure that signs, stakes, and fencing are intact, and that impacts are only occurring outside the permitted impact footprint. Weekly written observation and inspection records that summarize oversight activities and compliance inspections and monitoring activities required by the Incidental Take Permit shall be prepared.

MM-BIO-5 Education Program. An education program (Worker Environmental Awareness Program [WEAP]) for all persons employed or otherwise working in the Project area shall be administered before performing impacts. The WEAP shall consist of a presentation from the designated biologist that includes a discussion of the biology and status of western Joshua trees, burrowing owls, and loggerhead shrikes, and other biological resources mitigation measures described in the California Environmental Quality Act document. Interpretation for non-English-speaking workers shall be provided, and the same instruction shall be provided to all new workers before they are authorized to perform work in the Project area. Upon completion of the WEAP, employees shall sign a form stating they attended the program and understand all protection measures. This training shall be repeated at least once annually for long-term and/or permanent employees who will be conducting work in the Project area.

MM-BIO-6 Construction Monitoring Notebook. The designated biologist shall maintain a construction-monitoring notebook on site throughout the construction period that shall include a copy of the biological resources mitigation measures with attachments and a list of signatures of all personnel who have successfully completed the education program. The permittee shall ensure that a copy

of the construction monitoring notebook is available for review at the Project site upon request by the California Department of Fish and Wildlife.

MM-BIO-7 Delineation of Property Boundaries. Before beginning activities that would cause impacts, the contractor shall, in consultation with the designated biologist, clearly delineate the boundaries with fencing, stakes, or flags, consistent with the grading plan, within which Project impacts will take place. All impacts outside the fenced, staked, or flagged areas shall be avoided, and all fencing, stakes, and flags shall be maintained until the completion of impacts in that area.

MM-BIO-8 Hazardous Waste. The applicant shall immediately stop work and, pursuant to pertinent state and federal statutes and regulations, arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills at the time of occurrence, or as soon as it is safe to do so.

MM-BIO-9 Herbicides. The applicant shall limit herbicide use for invasive plant species and shall use herbicides only if it has been determined that hand or mechanical efforts are infeasible. To prevent drift, the permittee shall apply herbicides only when wind speeds are less than 7 miles per hour. All herbicide application shall be performed by a licensed applicator and in accordance with all applicable federal, state, and local laws and regulations.

MM-BIO-10 Pre-construction Clearance Surveys for Mojave Desert Tortoise and Avoidance. One pre-construction clearance survey in accordance with current U.S. Fish and Wildlife Service (USFWS) protocol shall be conducted to reevaluate locations of potential Mojave desert tortoise burrows within the Project limits so take of Mojave desert tortoise can be avoided. The first pre-construction clearance survey shall be conducted in areas supporting potentially suitable habitat 14 to 21 days prior to the start of construction activities; or alternatively, pre-construction clearance surveys may be conducted at any time following construction of a desert tortoise–proof fence encompassing the Project site that would ensure that tortoises cannot enter the Project after clearance surveys are completed. If no Mojave desert tortoises are found during the surveys, no further mitigation would be required; however, desert tortoise–proof fence encompassing the Project site shall remain in place until Project construction is completed and shall be monitored by a qualified biologist in compliance with current USFWS protocol.

Should Mojave desert tortoise be located during the clearance survey, all methods used for handling desert tortoises during the clearance surveys must be in accordance with the USFWS Desert Tortoise Field Manual or Project-specific guidance contained in a biological opinion or Incidental Take Permit. No take of Mojave desert tortoise shall occur without authorization in the form of an Incidental Take Permit pursuant to California Fish and Game Code Section 2081 and a biological opinion or Habitat Conservation Plan. The Project applicant shall adhere to measures and conditions set forth within the Incidental Take Permit. Anyone who handles desert tortoises during clearance activities must have the appropriate authorizations from USFWS. The area cleared and number of Mojave desert tortoises found within that area shall be reported to the local USFWS and appropriate state wildlife agency. Notification shall be made in accordance with the conditions of the biological opinion or Incidental Take Permit.

Should Mojave desert tortoise be located during the clearance survey, the Project would result in the loss of 75.1 acres of suitable habitat for Mojave desert tortoise. Mitigation for direct impacts to 75.1 acres shall be fulfilled through conservation of suitable Mojave desert tortoise habitat through

the purchase of credits at a minimum of 1:1 in-kind habitat replacement of equal or better functions and values to those impacted by the Project, for a total of 75.1 acres or as otherwise determined through coordination with the USFWS and/or California Department of Fish and Wildlife.

MM-BIO-11 Restoration of Temporary Impacts. Site construction areas subjected to temporary ground disturbance from the off-site utility improvement areas (e.g., trenching for installation of associated off-site utilities including sewer and gas), shall be recontoured to natural grade (if the grade was modified during the temporary disturbance activity), The Project does not include revegetation or restoration of temporary impacts after Project completion. However, natural vegetation will be allowed to regenerate in temporary disturbed areas. Furthermore, if topsoil is removed during construction, the segregated topsoil will be replaced, and the native seed will be allowed to regenerate naturally. This measure does not apply to situations that are urban/developed that are temporarily impacted and will be returned to an urban/developed land use.

MM-BIO-12 Pre-construction Surveys for Burrowing Owl and Avoidance. One pre-construction burrowing owl survey shall be completed no more than 14 days before initiation of site preparation or grading activities, and a second survey shall be completed within 24 hours of the start of site preparation or grading activities. If ground-disturbing activities are delayed or suspended for more than 30 days after the pre-construction surveys, the Project site and off-site improvement areas shall be resurveyed. Surveys for burrowing owl shall be conducted in accordance with protocols established in the California Department of Fish and Wildlife's 2012 (or most recent version) Staff Report on Burrowing Owl Mitigation.

If burrowing owls are detected, the Burrowing Owl Relocation Plan shall be implemented in consultation with the California Department of Fish and Wildlife (CDFW). As required by the Burrowing Owl Relocation Plan, disturbance to burrows shall be avoided during the nesting season (February 1 through August 31). Buffers shall be established around occupied burrows in accordance with guidance provided in CDFW's Staff Report on Burrowing Owl Mitigation. No Project activities shall be allowed to encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until it is determined that occupied burrows have been vacated or the nesting season has completed.

Outside of the nesting season, passive owl relocation techniques approved by CDFW shall be implemented. Owls shall be excluded from burrows in the immediate Project area and within a buffer zone by installing one-way doors in burrow entrances. These doors shall be placed at least 48 hours prior to ground-disturbing activities. The Project site shall be monitored daily for 1 week to confirm owl departure from burrows prior to any ground-disturbing activities. Compensatory mitigation for permanent loss of owl habitat shall be provided following the guidance in CDFW's Staff Report on Burrowing Owl Mitigation.

Where possible, burrows shall be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe shall be inserted into the tunnels during excavation to maintain an escape route for any wildlife inside the burrow.

Should burrowing owl be located during the clearance survey, the Project would result in the loss of 75.1 acres of suitable habitat for burrowing owl. Mitigation for direct impacts to 75.1 acres shall be fulfilled through conservation of suitable burrowing owl habitat through the purchase of credits

at a minimum of 1:1 in-kind habitat replacement of equal or better functions and values to those impacted by the Project, for a total of 75.1 acres.

MM-BIO-13 Pre-construction Nesting Bird Surveys and Avoidance. Special-status bird species that were observed within the Project include burrowing owl and LeConte's thrasher, and two additional special-status bird species have a moderate to high potential to occur: Bendire's thrasher and loggerhead shrike. The Project also contains trees, shrubs, and other vegetation that provide opportunities for other non-sensitive birds and raptors to nest on site. Construction activities shall avoid the migratory bird nesting season (typically February 1 through August 31) to reduce any potential significant impact to birds that may be nesting in the survey area. If construction activities must occur during the migratory bird nesting season, an avian nesting survey of the Project site and within 500 feet of all impact areas must be conducted to determine the presence/absence of protected migratory birds and active nests. The avian nesting survey shall be performed by a qualified wildlife biologist within 72 hours prior to the start of construction in accordance with the Migratory Bird Treaty Act and California Fish and Game Code Sections 3503, 3503.5, and 3513. If an active bird nest is found, the nest shall be flagged and mapped on the construction plans, along with an appropriate buffer established around the nest, which shall be determined by the biologist based on the species' sensitivity to disturbance (typically 300 feet for passerines and 500 feet for raptors and special-status species). The nest area shall be avoided until the nest is vacated and the juveniles have fledged. The nest area shall be demarcated in the field with flagging and stakes or construction fencing. On-site construction monitoring shall be conducted when construction occurs in close proximately to an active nest buffer. No Project activities shall encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until is determined that the nestlings have fledged and the nest is no longer active.

MM-BIO-14 Pre-construction Survey for American Badger and Avoidance. A pre-construction survey for American badger shall be conducted within 10 days before initiation of site preparation or grading activities to determine the presence/absence of American badger. If discovered during the survey, an American badger mitigation and monitoring plan shall be developed. The mitigation and monitoring plan shall include avoidance and minimization measures to reduce potential impacts, as well as compensatory mitigation to offset direct or indirect impacts. The plan shall be developed in consultation with the California Department of Fish and Wildlife. At a minimum, the plan shall do the following:

- Identify pre-construction survey methods for American badger
- Describe feasible pre-construction and construction-phase avoidance methods
- Describe pre-construction and construction-phase relocation methods, including the possibility for passive relocation
- For burrows that will not be impacted by the Project, identify an appropriate construction exclusion zone for both active and natal burrows

MM-BIO-15 Pre-construction Survey for Desert Kit Fox and Avoidance. A pre-construction survey for desert kit fox shall be conducted within 10 days before initiation of site preparation or grading activities to determine the presence/absence of desert kit fox.

If desert kit fox is detected, the desert kit fox relocation and mitigation plan shall be implemented. As required by the desert kit fox relocation and mitigation plan, if an active non-natal desert kit fox den is detected, a 200-foot no disturbance buffer shall be established around the active den, unless otherwise authorized by the California Department of Fish and Wildlife (CDFW). Where required buffering will not be feasible, passive relocation, as outlined in the desert kit fox relocation and mitigation plan, shall be allowed with concurrence from the County of San Bernardino, CDFW, and U.S. Fish and Wildlife Service. If an active natal desert kit fox den is detected, an initial 200 foot no disturbance buffer shall be established around the natal den, and this buffer shall be maintained until the den can be verified to not host pups. Construction activities shall not be permitted in this area until the den has been vacated. Once the den is vacated, and if in danger by construction, it can be collapsed, if deemed necessary by a qualified biologist.

A report to evaluate the success of the relocation efforts and any subsequent re-occupation, if applicable, shall be provided (including a comprehensive summary, tables, maps, and other necessary materials) at the end of the construction period. Data shall be readily available to the CDFW upon request. If an injured, sick, or dead desert kit fox is detected on any area associated with the Project, the designated CDFW personnel at both the Ontario office and the Wildlife Investigation Lab shall be notified as described within the desert kit fox relocation and mitigation plan.

MM-BIO-16 Trash and Debris. The following avoidance and minimization measures shall be implemented during Project construction:

- Fully covered trash receptacles that are animal-proof shall be installed and used by the operator to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. Trash contained within the receptacles shall be removed at least once a week from the Project site.
- Construction work areas shall be kept clean of debris, such as cable, trash, and construction materials. All construction/contractor personnel shall collect all litter, vehicle fluids, and food waste from the Project site on a daily basis.

MM-BIO-17 Invasive Plant Management. To reduce the spread of invasive plant species, landscape plants within 200 feet of native vegetation communities shall not be on the most recent version of the California Invasive Plant Council's Inventory of Invasive Plants (http://www.cal-ipc.org/ip/inventory/index.php). Post-construction, the Project applicant shall continually remove invasive plant species on site by hand or mechanical methods, as feasible.

MM-BIO-18 Lighting. Lighting for construction activities and operations within 50 feet of the outside edge of the impact footprint containing habitat for special-status wildlife shall be directed away from natural areas.

Threshold B: Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

The Project site does not contain any sensitive vegetation communities; therefore, direct impacts to sensitive vegetation communities are not anticipated to occur, and no additional measures are recommended. No direct impacts would occur. Implementation of MM-BIO-3, MM-BIO-4, MM-BIO-5, MM-BIO-6, MM-BIO-7, MM-BIO-8, and MM-

BIO-9 are required to reduce indirect impacts to adjacent sensitive vegetation communities that may occur outside of the Project footprint to a less-than-significant level.

Threshold C: Would the Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The Project could result in potentially significant impacts to non-wetland waters of the United States and state as a result of Project activities. Short-term and long-term indirect impacts to jurisdictional waters relating to construction activities (edge effects) and trash/pollution would not likely result in significant impacts, especially with the application of the standard BMPs that would be implemented during Project construction. Implementation of MM-BIO-3, MM-BIO-4, MM-BIO-5, MM-BIO-6, MM-BIO-7, MM-BIO-8, and MM-BIO-19 is required to reduce direct and indirect impacts to a less-than-significant level.

MM-BIO-19 Aquatic Resources Mitigation. The Project site supports aquatic resources that are considered jurisdictional under the Regional Water Quality Control Board (RWQCB) and the California Department of Fish and Wildlife (CDFW). Prior to construction activity, the applicant shall coordinate with the Lahontan RWQCB (Region 6) to ensure conformance with the requirements of the Porter–Cologne Water Quality Control Act (waste discharge requirement). Prior to activity within CDFW jurisdictional streambed or associated riparian habitat, the applicant shall coordinate with CDFW (Inland Deserts Region 6) relative to conformance to the Lake and Streambed Alteration permit requirements.

The Project shall mitigate to ensure no-net-loss of waters at a minimum of 1:1 with purchase of credits (0.580 acres RWQCB/CDFW) for impacts to aquatic resources as part of an overall strategy to ensure no net loss. Mitigation shall be completed through use of a mitigation bank (e.g., West Mojave Mitigation Bank) or other applicant-sponsored mitigation. Final mitigation ratios and credits shall be determined in consultation with RWQCB and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process.

Should applicant-sponsored mitigation be implemented, a Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared in accordance with State Water Resources Control Board guidelines and approved by the agencies in accordance with the proposed program permits. The HMMP shall include a conceptual planting plan including planting zones, grading, and irrigation, as applicable; a conceptual planting plant palette; a long-term maintenance and monitoring plan; annual reporting requirements; and proposed success criteria. Any off-site applicant-sponsored mitigation shall be conserved and managed in perpetuity.

Best management practices shall be implemented to avoid any indirect impacts on jurisdictional waters, including the following:

- Vehicles and equipment shall not be operated in ponded or flowing water except as described in permits.
- Water containing mud, silt, or other pollutants from grading or other activities shall not be allowed to enter jurisdictional waters or be placed in locations that may be subjected to high storm flows.

- Spoil sites shall not be located within 30 feet from the boundaries of jurisdictional waters or in locations that may be subject to high storm flows, where spoils might be washed back into drainages.
- Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife resources resulting from Project-related activities shall be prevented from contaminating the soil and/or entering avoided jurisdictional waters.
- No equipment maintenance shall be performed within 100 feet of jurisdictional waters, including wetlands and riparian areas, where petroleum products or other pollutants from the equipment may enter these areas. Fueling of equipment shall not occur on the Project site.

Threshold D: Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No significant direct permanent impacts or construction-related short-term impacts would occur on wildlife movement or use of native wildlife nursery sites associated with Project activities. However, the Project could result in potentially significant long-term indirect impacts from operations and maintenance activities that could disrupt wildlife movement around the Project site due to increased lighting from buildings. Implementation of MM-BIO-18 is required to reduce long-term indirect impacts to a less-than-significant level.

Threshold E: Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Implementation of MM-BIO-1 and MM-BIO-2 would reduce potential impacts to California desert native plants (western Joshua tree, Wiggins' cholla, branched pencil cholla, and short-joint beavertail) to less than significant.

Threshold F: Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The Project will not conflict with the conservation criteria associated with the California Desert Conservation Area Plan, the West Mojave Plan, the Desert Renewable Energy Conservation Plan, or the Town of Apple Valley Multiple-Species Natural Community Conservation Plan/Habitat Conservation Plan. Therefore, the Project would not be in conflict with any habitat conservation plans. The Project would result in less-than-significant impacts to an adopted conservation plan. No mitigation is required.

Threshold G: Would the Project result in cumulatively considerable impacts to biological resources?

The Project could contribute to a cumulative considerable impact related to native desert plants protected under the CNDPA, western Joshua trees, Mojave desert tortoise, burrowing owl, loggerhead shrike, LeConte's thrasher, Bendire's thrasher, desert kit fox, American badger, and nesting migratory birds and raptors. Potential cumulative impacts to jurisdictional resources could also occur, and mitigation would be required. Incorporation of MM-BIO-1 through MM-BIO-19 is required to reduce impacts to less than significant.

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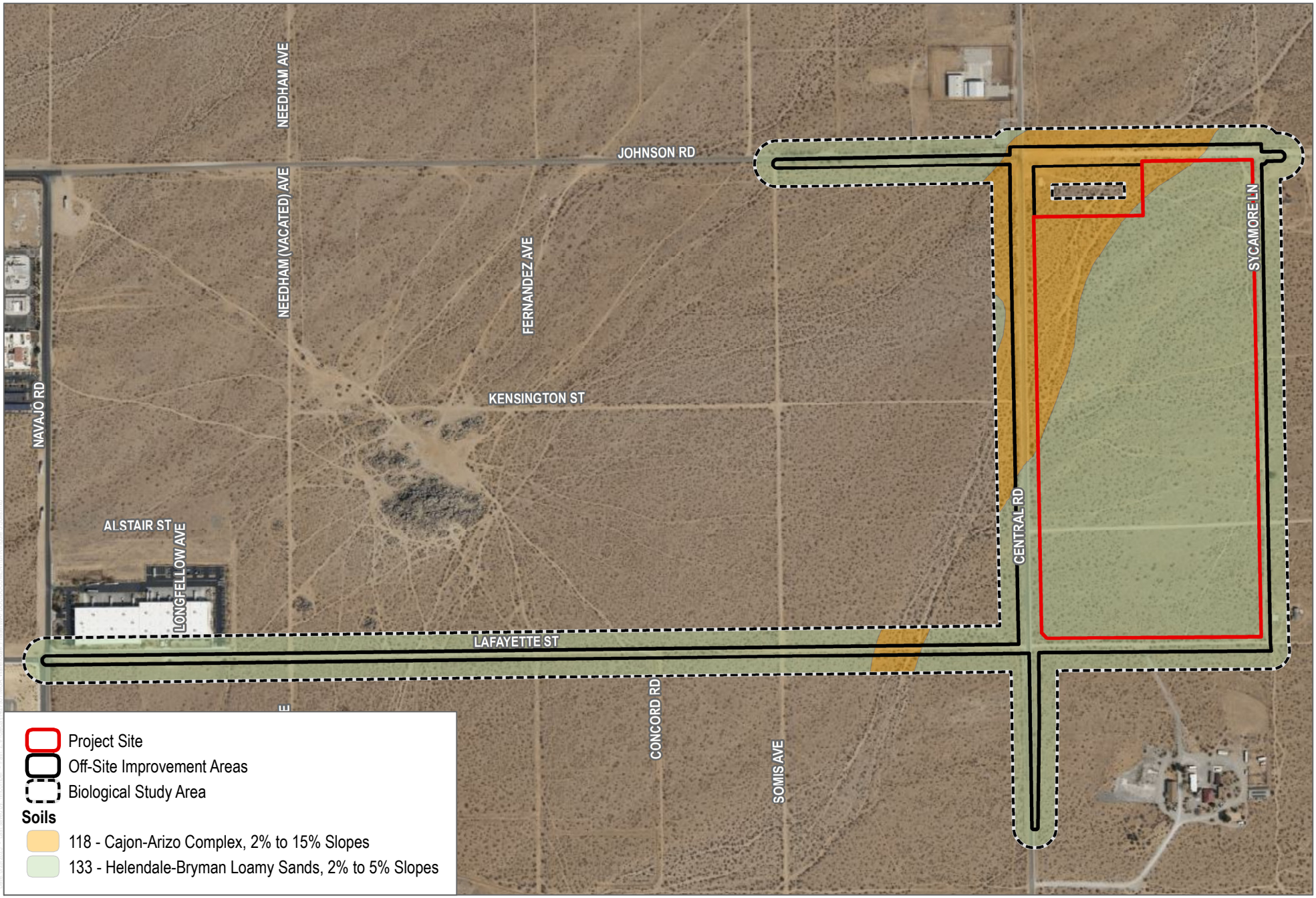
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SOURCE: Bing Maps (accessed 2022); San Bernadino County 2022; USDA SSURGO 2022

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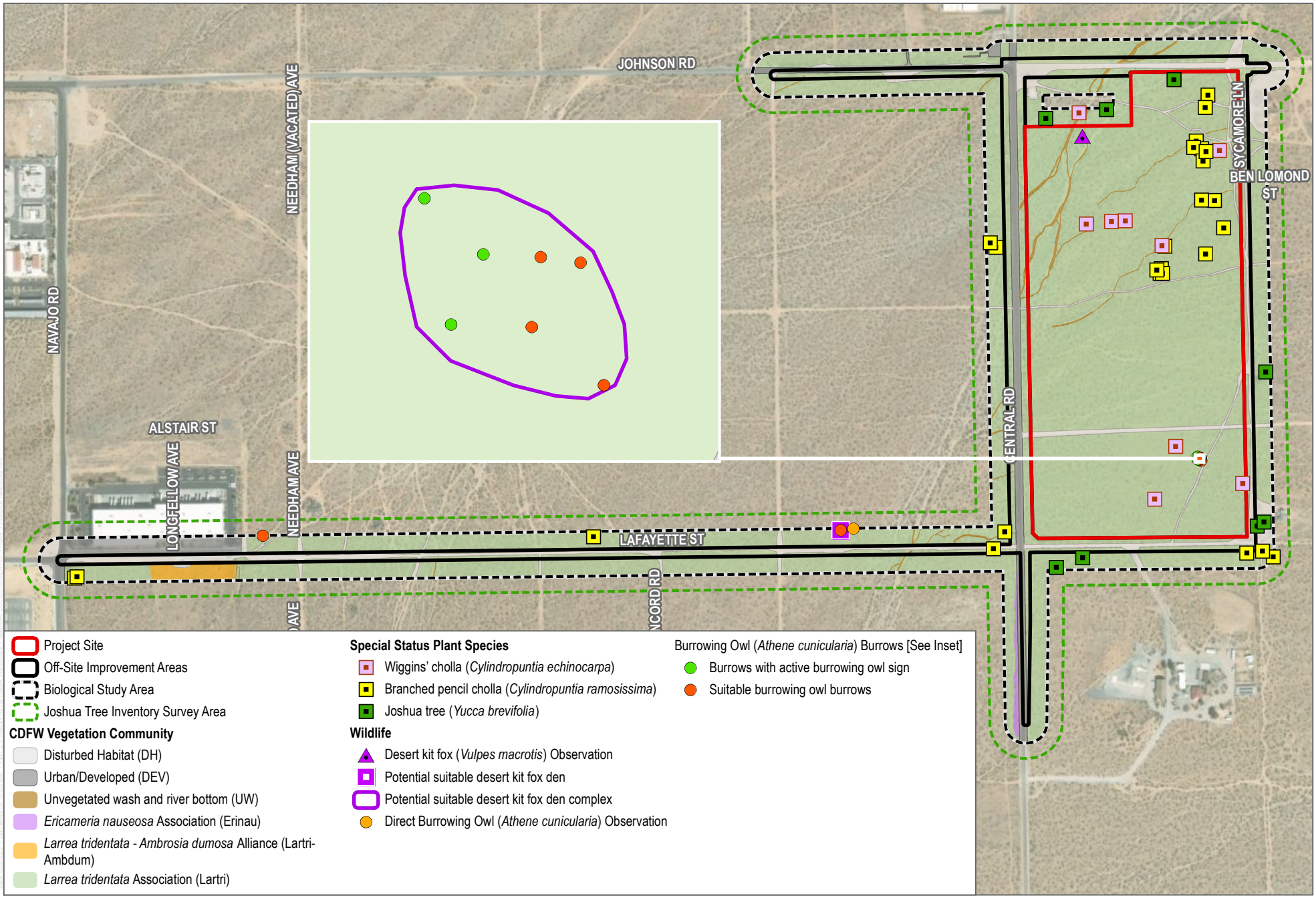
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FIGURE 4.3-1

Soils

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SOURCE: DigitalGlobe 2017; San Bernadino County 2021

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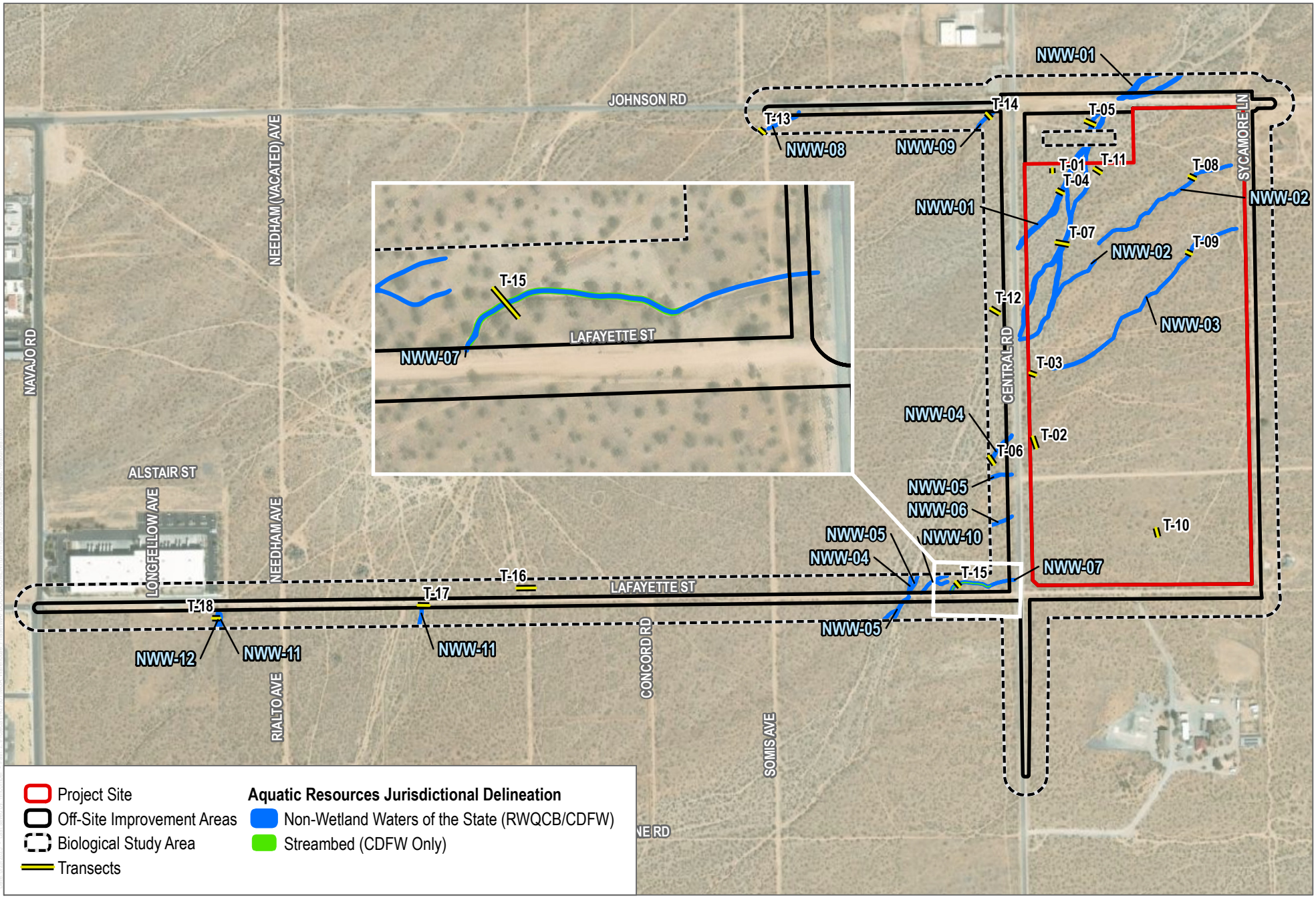
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FIGURE 4.3-2

Biological Resources

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SOURCE: DigitalGlobe 2017; San Bernadino County 2021

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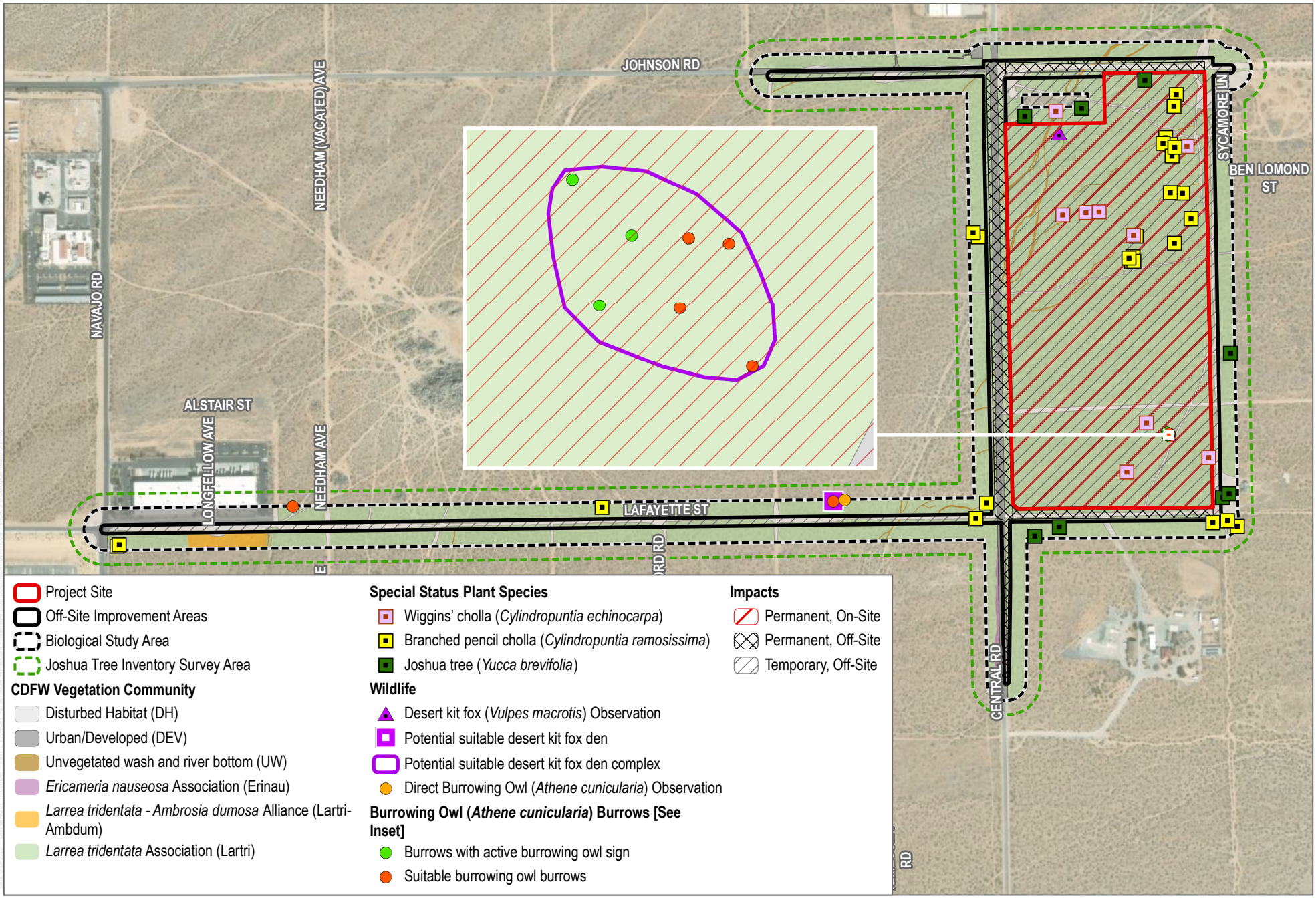
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FIGURE 4.3-3

Jurisdictional Aquatic Resources

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SOURCE: DigitalGlobe 2017; San Bernadino County 2021

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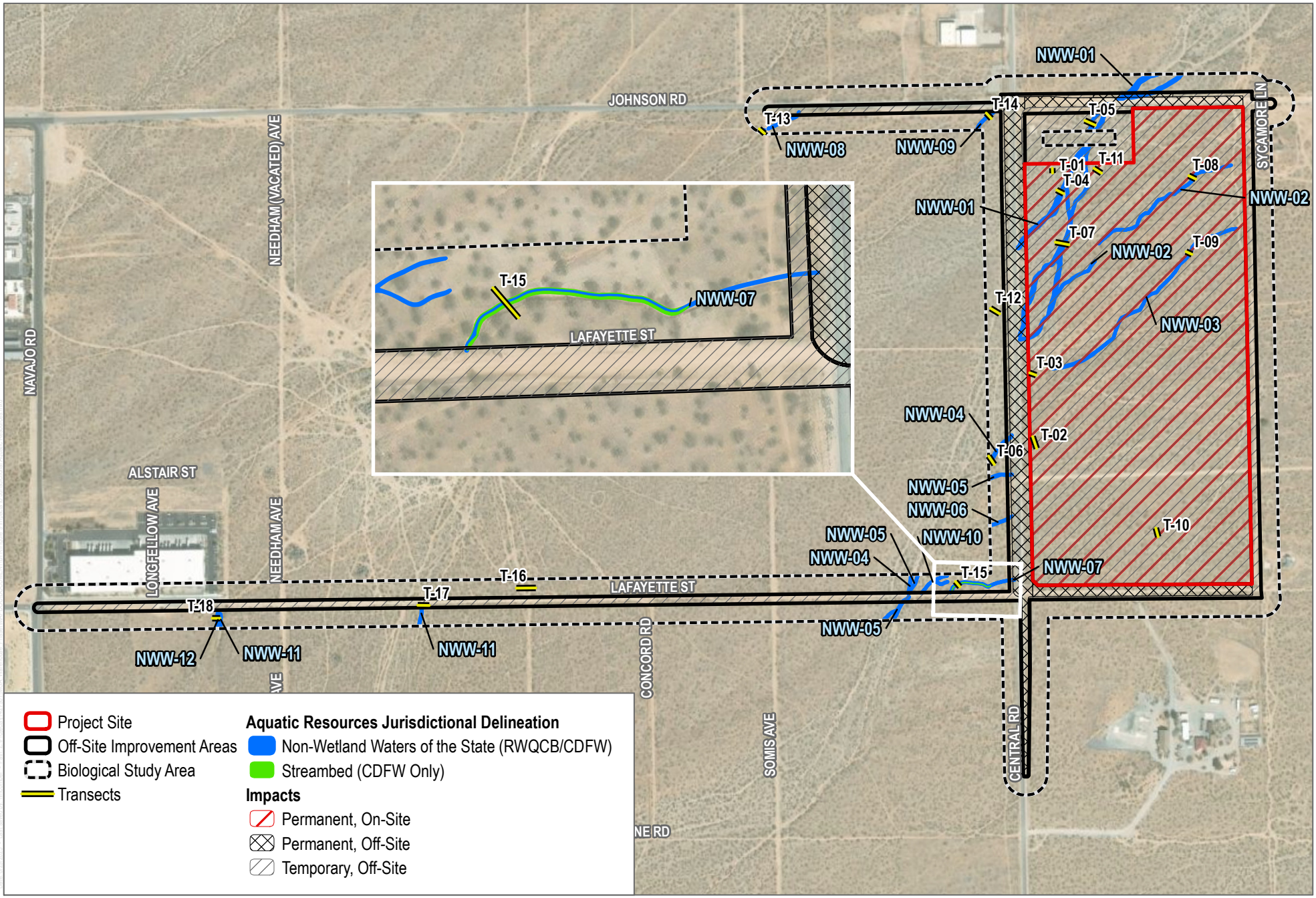
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FIGURE 4.3-4

Impacts to Biological Resources

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SOURCE: DigitalGlobe 2017; San Bernadino County 2021

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FIGURE 4.3-5

Impacts to Jurisdictional Aquatic Resources

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4.4 Cultural, Tribal Cultural, and Paleontological Resources

This section describes the existing cultural, tribal cultural, and paleontological resources conditions of the 1M Warehouse Project (Project) site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the Project.

In addition to the documents incorporated by reference (see Section 2.7 of Chapter 2 of this environmental impact report [EIR]), the following analysis is based, in part, on the following sources:

- Archaeological Resources Assessment for the 1M Warehouse Project, prepared by Dudek in March 2023 (Appendix D)

4.4.1 Existing Conditions

Cultural Context

Prehistoric Setting

Evidence for continuous human occupation in Southern California spans the last 10,000 years. Various attempts to parse out variability in archaeological assemblages over this broad period have led to the development of several cultural chronologies; some of these are based on geologic time, most are based on temporal trends in archaeological assemblages, and others are interpretive reconstructions. Each of these reconstructions describes essentially similar trends in assemblage composition in more or less detail. However, given the direction of research and differential timing of archaeological study following intensive development in Riverside County, chronology building in the Inland Empire must rely on data from neighboring regions to fill the gaps. To be more inclusive, this research employs a common set of generalized terms used to describe chronological trends in assemblage composition: Paleoindian (before 7500 BP)[1], Archaic (10,000–1500 BP), Late Prehistoric (1500 BP–AD 1769), and Ethnohistoric (after AD 1769).

Paleoindian Period

Evidence for Paleoindian occupation in the region is tenuous. Our knowledge of associated cultural pattern(s) is informed by a relatively sparse body of data that has been collected from within an area extending from coastal San Diego, through the Mojave Desert, and beyond. A very unique technology defined by fluted projectile points and a highly formal lithic tool kit with almost no processing equipment is often considered to be the earliest evidence of human adaptation to North America. Widely known as “Clovis,” regional manifestations of this toolkit show important variability both in projectile point style and tool kit composition. Importantly, the attributes of “Clovis” are uncommon in California, with very few examples of the diagnostic, “fluted” Clovis point. There is, however, a notable exception from Crystal Cove State Park in southern Orange County (Fitzgerald and Rondeau 2012). This, along with other potential attributes of Clovis culture along the California Coast remain undated, and most of the earliest well-dated sites from the region contain rather different archaeological assemblages (Erlandson et al. 2007).

[1] “BP” indicates calibrated, calendar years before present (specifically, prior to AD 1950). Ages presented herein have been calibrated from the original age estimates wherever possible; ranges of general phenomena (e.g., cultural periods are approximate).

While the earliest evidence for human activity in California comes from the Channel Islands, ca. 13,000 BP, it does not exhibit obvious cultural similarity with the Clovis phenomenon. However, in the southern Central Valley fluted Clovis points date from ca. 11,000–10,500 BP (Rogers and Yohe 2020). One of the earliest dated archaeological assemblages in coastal Southern California (excluding the Channel Islands) comes from SDI-4669/W-12 in La Jolla, with human remains dating to ca. 9900–9050 BP (Bada et al. 1984). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of ground stone, battered cobbles, and expedient flake tools) (Kennedy 1983). In contrast, typical Paleoindian assemblages include large stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of ground stone tools. Prime examples of this pattern come from Naval Air Weapons Station China Lake near Ridgecrest (Davis 1978). These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades). Fluted points from SBR-2355 and SBR-2356, also in the Mojave Desert, are considered quite ancient (on the thickness of obsidian hydration rinds) and co-occur with a diverse assemblage that also contains stemmed points, typically attributed to the Lake Mojave archaeological culture. Other typical Paleoindian sites in the desert include the Komodo site (MNO-679)—a multi-component fluted point site, and MNO-680—a single component Great Basined Stemmed point site (Basgall 1987, 1988; Basgall et al. 2002). At MNO-679 and -680, ground stone tools were rare while finely made projectile points were common.

Turning back to coastal Southern California, the fact that some of the earliest dated assemblages are dominated by processing tools runs counter to traditional image of Paleoindians as highly mobile big-game hunters. Evidence for the latter—that is, typical Paleoindian assemblages—may have been located along the coastal margin at one time, prior to glacial desiccation and a rapid rise in sea level during the early Holocene (before 7500 BP) that submerged as much as 16 kilometers of the San Diego coastline since people first arrived in California, ca. 13,000 years ago (ICF 2013). If this were true, however, it would also be expected that such sites would be located on older landforms near the current coastline. Some sites, such as SDI-210 along Agua Hedionda Lagoon, contain stemmed points similar in form and age to Silver Lake and Lake Mojave projectile points from the high desert (Basgall and Hall 1990; Warren et al. 2004). However, sites of this nature are extremely rare; more typical are sites that contain large numbers of milling tools intermingled with older projectile point forms. Separating cultural components on the basis of artifact form and frequency is therefore difficult.

San Dieguito sites are rare in the inland valleys, with one possible candidate, RIV-2798/H, located on the shore of Lake Elsinore. Excavations at Locus B at RIV-2798/H produced a toolkit consisting predominately of flaked stone tools, including crescents, points, and bifaces, and lesser amounts of ground stone tools, among other items (Grenda 1997). A calibrated and reservoir-corrected radiocarbon date on a shell from this site points to an early occupation, ca. 8880–8525 BP. Grenda suggested this site represents seasonal exploitation of lacustrine resources and small game and resembles coastal San Dieguito assemblages and spatial patterning.

If the San Dieguito pattern truly represents a socioeconomic strategy distinct from the regional Archaic processing regime, its rarity implies that it was not only short-lived, but that it was not as economically successful as the Archaic strategy. Such a conclusion would fit with other trends in Southern California deserts, where hunting-related tools were replaced by processing tools during the early Holocene (Basgall and Hall 1990).

Archaic Period

The more than 2,500-year overlap between the presumed age of Paleoindian occupations and the Archaic period highlights the difficulty in defining a cultural chronology in Southern California. If San Dieguito is the only recognized Paleoindian component in the coastal Southern California, then the dominance of hunting tools implies that it

derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2004) admitted as much, citing strong desert connections with San Dieguito. Thus, the Archaic pattern is the earliest local socioeconomic adaptation in the region (see Hale 2001, 2009).

The Archaic pattern, which has also been termed the Millingstone Horizon (among other things), is relatively easy to define with assemblages that consist primarily of processing tools, such as milling stones, hand stones, battered cobbles, heavy crude scrapers, incipient flake-based tools, and cobble-core reduction. These assemblages occur in all environments across the region with little variability in tool composition. Low assemblage variability over time and space among Archaic sites has been equated with cultural conservatism (Basgall and Hall 1990; Byrd and Reddy 2002; Warren 1968; Warren et al. 2004). Despite enormous amounts of archaeological work at Archaic sites, little change in assemblage composition occurred until the bow and arrow, and then ceramics, were adopted after 1500 BP (Griset 1996; Hale 2009; Schaefer 2012). Even then, assemblage formality remained low. After the bow was adopted, small arrow points appear in large quantities and already low amounts of formal flake tools are replaced by increasing amounts of expedient flake tools. Similarly, shaped milling stones and hand stones decreased in proportion relative to expedient, unshaped ground stone tools (Hale 2009). Thus, the terminus of the Archaic period is equally as hard to define as its beginning because basic assemblage constituents and patterns of manufacturing investment remain stable, complemented only by the addition of the bow and ceramics.

Late Prehistoric Period

The period of time following the Archaic and before Ethnohistoric times (AD 1769) is commonly referred to as the Late Prehistoric (McDonald and Eighmey 2004; Rogers 1945; Wallace 1955); however, several other subdivisions continue to be used to describe various shifts in assemblage composition. In general, this period is defined by the addition of arrow points and ceramics, as well as the widespread use of bedrock mortars. The fundamental Late Prehistoric assemblage is very similar to the Archaic pattern but includes arrow points and large quantities of fine debitage from producing arrow points, as well as ceramics, and cremations. The appearance of mortars and pestles is difficult to place in time because most mortars are on bedrock surfaces. Some argue that the Ethnohistoric intensive acorn economy extends as far back as 1500 BP (Bean and Shipek 1978). However, there is no substantial evidence that reliance on acorns, and the accompanying use of mortars and pestles, occurred before 600 BP. In Riverside County and the surrounding region, milling stones and hand stones persisted in higher frequencies than mortars and pestles until the last 500 years (Basgall and Hall 1990); even then, weighing the economic significance of milling stone-hand stone versus mortar-pestle technology is tenuous due to incomplete information on archaeological assemblages.

The history of the Native American communities prior to the mid-1700s has largely been reconstructed through later mission-period and early ethnographic accounts. The first records of the Native American inhabitants of the region come predominantly from European merchants, missionaries, military personnel, and explorers. These briefs, and generally peripheral, accounts were prepared with the intent of furthering respective colonial and economic aims and were combined with observations of the landscape. They were not intended to be unbiased accounts regarding the cultural structures and community practices of the newly encountered cultural groups. The establishment of the missions in the region brought more extensive documentation of Native American communities, though these groups did not become the focus of formal and in-depth ethnographic study until the early twentieth century (Bean and Shipek 1978; Boscana 1846; Harrington 1934; Laylander 2000; Sparkman 1908; White 1963). The principal intent of these researchers was to record the precontact and culturally specific practices, ideologies, and languages that had survived the destabilizing effects of missionization and colonialism. This research, often understood as “salvage ethnography,” was driven by the understanding that traditional knowledge was being lost due to the impacts of modernization and cultural assimilation. Alfred Kroeber applied his

"memory culture" approach (Lightfoot 2005, p. 32) by recording languages and oral histories within the region. Ethnographic research by Dubois, Kroeber, Harrington, Spier, and others during the early twentieth century seemed to indicate that traditional cultural practices and beliefs survived among local Native American communities.

It is important to note that even though there were many informants for these early ethnographies who were able to provide information from personal experiences about native life before the Europeans, a significantly large proportion of these informants were born after 1850 (Heizer and Nissen 1973); therefore, the documentation of precontact, aboriginal culture was being increasingly supplied by individuals born in California after considerable contact with Europeans. As Heizer (1978) stated, this is an important issue to note when examining these ethnographies, since considerable culture change had undoubtedly occurred by 1850 among the Native American survivors of California.

Based on ethnographic information, it is believed that at least 88 different languages were spoken from Baja California Sur to the southern Oregon state border at the time of Spanish contact (Johnson and Lorenz 2006, p. 34). The distribution of recorded Native American languages has been dispersed as a geographic mosaic across California through six primary language families (Golla 2007).

Golla contended that one can interpret the amount of variability within specific language groups as being associated with the relative "time depth" of the speaking populations (Golla 2007, p. 80). A large amount of variation within the language of a group represents a greater time depth than a group's language with less internal diversity. One method that he has employed is by drawing comparisons with historically documented changes in Germanic and Romantic language groups. Golla observed that the "absolute chronology of the internal diversification within a language family" can be correlated with archaeological dates (2007, p. 71). This type of interpretation is modeled on concepts of genetic drift and gene flows that are associated with migration and population isolation in the biological sciences.

The tribes of this area have traditionally spoken Takic languages that may be assigned to the larger Uto–Aztecan family (Golla 2007, p. 74). These groups include the Gabrielino, Cahuilla, and Serrano. Golla interpreted the amount of internal diversity within these language-speaking communities to reflect a time depth of approximately 2,000 years. Other researchers have contended that Takic may have diverged from Uto–Aztecan ca. 2600 BC–AD 1, which was later followed by the diversification within the Takic speaking tribes, occurring approximately 1500 BC–AD 1000 (Laylander 2000).

Serrano

Traditionally, the Serrano lived in an area east of the Gabrielino and north of the Cahuilla, near present-day western San Bernardino County and northeastern Los Angeles County (Laylander 2010). The Serrano occupied an area in and around the San Bernardino Mountains between approximately 1,500 and 11,000 feet amsl. Their territory extended west along the northern slope of the San Gabriel Mountains, east as far as Twentynine Palms, north along the Mojave River, and south to the San Jacinto area. Kroeber (1925) divided the Serrano into four distinct groups within the western Mojave Desert: the Kitanemuk, Tataviam, Serrano, and Vanyume. Each group held a distinct territory within the region (Kroeber 1925). According to Bean and Smith (1978, p. 570), "the Serrano resided in an area that extended east of the Cajon Pass, located in the San Bernardino Mountains, to Twenty-nine Palms, the north foothills of the San Bernardino Mountains and south to include portions of the Yucaipa Valley."

Serrano social organization was based on patrilineal and patrilocal lineages. Exogamy rules required that a man could not marry a woman related to them within five generations. Women moved to their husband's village but kept their identity as a member of their natal lineage.

The Serrano were mainly hunters and gatherers who occasionally fished. Game hunted included mountain sheep, deer, antelope, rabbits, small rodents, and various birds, particularly quail. Vegetable staples consisted of acorns, piñon nuts, bulbs and tubers, shoots and roots, berries, mesquite, barrel cacti, and Joshua tree (Bean and Smith 1978). A variety of materials was used for hunting, gathering, and processing food, as well as for shelter, clothing, and luxury items. Shells, wood, bone, stone, plant materials, and animal skins and feathers were used for making baskets, pottery, blankets, mats, nets, bags and pouches, cordage, awls, bows, arrows, drills, stone pipes, musical instruments, and clothing (Bean and Smith 1978).

The majority of the Serrano lived in small villages, close to sources of fresh water (Benedict 1924). Houses and ramadas were round, dome-shaped, and constructed of poles covered with bark and tule mats (Benedict 1924; Kroeber 1925). The Serrano also had sweat houses and ceremonial houses for religious activities. Further, according to Benedict (1924), a typical Serrano settlement was a village with multiple small satellite camps surrounding it. Most Serrano villages also had a ceremonial house used as a religious center. Other structures within the village might include granaries and sweathouses (Bean and Smith 1978). According to DeBarros (2004), one of the more prominent Serrano villages was called Guapiabit, and it was located in Summit Valley.

Historic Setting

Post-Contact history for the State of California is generally divided into three periods: the Spanish Period (1769–1821), Mexican Period (1822–1848), and American Period (1848–present). Although Spanish, Russian, and British explorers visited the area for brief periods between 1529 and 1769, the Spanish Period in California begins with the establishment in 1769 of a settlement at San Diego and the founding of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain in 1821 marks the beginning of the Mexican Period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican–American War, signals the beginning of the American Period when California became a territory of the United States.

Spanish Period (1769-1821)

Spanish explorers made sailing expeditions along the coast of southern California between the mid-1500s and mid-1700s. In search of the legendary Northwest Passage, Juan Rodriguez Cabrillo stopped in 1542 at present-day San Diego Bay. With his crew, Cabrillo explored the shorelines of present Catalina Island as well as San Pedro and Santa Monica Bays. Much of the present California and Oregon coastline was mapped and recorded during the next half-century by Spanish naval officer Sebastián Vizcaíno. Vizcaíno's crew also landed on Santa Catalina Island and at San Pedro and Santa Monica Bays, giving each location the names we use today. The Spanish crown laid claim to California based on the surveys conducted by Cabrillo and Vizcaíno (Bancroft 1885; Gumprecht 1999).

More than 200 years passed before Spain began the colonization and inland exploration of Alta California. The 1769 overland expedition by Captain Gaspar de Portolá marks the beginning of California's Historic period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonial matters in assigned territories of the Americas. With a band of 64 soldiers, missionaries, Baja California Native Americans, and Mexican civilians, Portolá established the Presidio of San Diego, a fortified military outpost, as the first Spanish settlement in Alta California. In July of 1769, while Portolá was exploring southern California, Franciscan Friar

Junípero Serra founded Mission San Diego de Alcalá at Presidio Hill, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823.

The Portolá expedition first reached the present-day boundaries of Los Angeles in August 1769, thereby becoming the first Europeans to visit the area. Friar Juan Crespí named the campsite by the river "Nuestra Señora la Reina de los Angeles de la Porciúncula" or "Our Lady the Queen of the Angeles of the Porciúncula." Two years later, Friar Junípero Serra returned to the valley to establish a Catholic mission, the Mission San Gabriel Arcángel, on September 8, 1771 (Kyle 2002).

Mexican Period (1821–1848)

A major emphasis during the Spanish Period in California was the construction of missions and associated presidios to integrate the Native American population into Christianity and communal enterprise. Incentives were also provided to bring settlers to pueblos or towns, but just three pueblos were established during the Spanish Period, only two of which were successful and remain as California cities (San José and Los Angeles). Several factors kept growth within Alta California to a minimum, including the threat of foreign invasion, political dissatisfaction, and unrest among the Indigenous population. After more than a decade of intermittent rebellion and warfare, New Spain (Mexico and the California territory) won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, and decreed California ports open to foreign merchants (Dallas 1955).

Extensive land grants were established in the interior during the Mexican Period, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated their colonization efforts. Fourteen ranchos were granted between 1819 and 1846 in the future Riverside County. Ranchos deeded near the Project area were Rancho San Jacinto Nuevo y Potrero and Rancho San Jacinto Sobrante, granted by Governor Pio Pico in 1846, Rancho San Jacinto Viejo, granted by acting Governor Manuel Jimeno in 1842, and Rancho San Jacinto y San Gorgonio, granted by Governor Manuel Micheltorena in 1843. The secularization of the missions following Mexico's independence from Spain resulted in the subdivision of former mission lands and the establishment of many additional ranchos (Hallan-Gibson 1986; Middlebrook 2005).

During the heyday of the ranchos (1834–1848), landowners largely focused on the cattle industry and devoted large tracts to grazing. Cattle hides became a primary southern California export, providing a commodity to trade for goods from the east and other areas in the United States and Mexico. The number of non-native inhabitants increased during this period with the influx of explorers, trappers, and ranchers associated with the land grants. The rising California population contributed to the introduction and rise of diseases foreign to the Native American population, who did not possess immunities to them (Dallas 1955).

American Period (1848–Present)

War in 1846 between Mexico and the United States precipitated the Battle of Chino, a clash between resident Californios and Americans in the San Bernardino area. The Mexican–American War ended with the Treaty of Guadalupe Hidalgo in 1848, ushering California into its American Period.

California officially became a state with the Compromise of 1850, which also designated Utah and New Mexico (with present-day Arizona) as U.S. Territories. Horticulture and livestock, based primarily on cattle as the currency and staple of the rancho system, continued to dominate the southern California economy through 1850s. The Gold Rush began in 1848, and with the influx of gold seekers, the ranching economy began to produce meat and dairy, in addition to hides and tallow. During the cattle boom of the 1850s, rancho vaqueros drove large herds from southern to northern California to feed that region's burgeoning mining and commercial boom. Cattle were at first

driven along major trails or roads such as the Gila Trail or Southern Overland Trail, then were transported by trains when available. The cattle boom ended for southern California as neighbor states and territories drove herds to northern California at reduced prices. Operation of the huge ranchos became increasingly difficult, and droughts severely reduced their productivity (Cleland 2005; Waugh 2003).

Background Research

Cultural Resources Records Search

On October 13, 2022, and December 6, 2022, Dudek conducted CHRIS records searches at the SCCIC, located at the California State University, Fullerton. The searches included any previously recorded cultural resources and investigations within a 0.5-mile radius of the proposed Project site. The CHRIS search also included a review of the NRHP, the CRHR, the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, and the California State Historic Resources Inventory list.

Dudek reviewed the available SCCIC records to determine whether the implementation of the proposed Project would have the potential to impact any known and unknown cultural resources. The confidential records search results are provided in a confidential appendix of the Archaeological Resources Assessment (Appendix D).

Results of the CHRIS database records search indicate that six previous cultural resource studies have been conducted within the records search area between 1991 and 2011. Of these studies, two studies are mapped as adjacent to the proposed Project site and four are mapped as overlapping the proposed off-site improvements. The CHRIS records search results indicate that although some studies address portions of the proposed offsite improvements for the Project, the Project site has not been subjected to any previous archaeological investigations. Table 4.4-1, below, summarizes all previous cultural resources studies and is followed by a brief summary of reports that address the proposed Project site and/or the proposed off-site improvements.

Table 4.4-1. Previously Conducted Cultural Resources Studies Within a 0.5-Mile of the Proposed Project Site and Off-Site Improvements

SCCIC Report Number (SB-)	Authors	Year	Title	Proximity to/ Percentage Addressing Proposed Project Site	Proximity to/ Percentage Addressing Proposed Off-site Improvements
02778	Lerch, Michael K.	1993	Class III Cultural Resources Inventory of Proposed Drill Site Access Roads, Castle Mountain Venture, San Bernardino County, CA	Outside; 0 %	**Overlaps; ~10 %**
03677	White, Robert and Laurie	2001	A Cultural Resource Assessment of the 300 Acre Pluto Development, Inc Property, SE corner of Johnson Road and Dale Evans Pkwy, Town of Apple Valley, San Bernadino County, CA. 15PP.	Outside; 0 %	Outside; 0 %

Table 4.4-1. Previously Conducted Cultural Resources Studies Within a 0.5-Mile of the Proposed Project Site and Off-Site Improvements

SCCIC Report Number (SB-)	Authors	Year	Title	Proximity to/ Percentage Addressing Proposed Project Site	Proximity to/ Percentage Addressing Proposed Off-site Improvements
04557	Dice, Michael	2002	An Archaeological & Paleontological Resources Assessment of 13,700' Navajo Road Sewer Project, Town of Apple Valley, CA. 39PP.	Outside; 0 %	**Overlaps; ~5 %**
04808	Smallwood, Josh	2007	Cultural Resources Technical Report: North Apple Valley Specific Plan and EIR, Town of Apple Valley, San Bernardino County, California.	**Adjacent to the west; 0 %**	**Overlaps; ~10 %**
05401	Jordan, Stacey C.	2007	Archaeological Survey Report for the Southern California Edison Company, Standing Rock 12kV Circuit Project, San Bernardino County, California.	**Adjacent to the east; 0 %**	Outside; 0 %
07116	Cisneros, Charles W.	2011	Cultural Resources Survey for the Apple Valley Airport Master Plan Project, San Bernardino County, California	Outside; 0 %	**Overlaps; ~20 %**

Notes: ~ = approximate; SCCIC = South Central Coastal Information Center.

Previously Recorded Cultural Resources

The CHRIS records indicate that ten (10) cultural resources have been previously recorded within 0.5-mile of the proposed Project. Of these, one is a prehistoric site, one is a prehistoric isolate, five are historic-period archaeological resources, two are historic-period archaeological isolates, and one is a multi-component resource, which consists of both historic-period and prehistoric archaeological components. The resource nearest the proposed Project site is a historic-period archaeological site (P-36-013314) located adjacent to the eastern portion of the proposed Project site. The remaining resources identified through the CHRIS records search are located to the north and southwest of the proposed Project site. Table 4.4-2, below, summarizes all previously recorded cultural resources identified within the records research radius followed by summaries of each.

Table 4.4-2. Previously Recorded Cultural Resources Within a 0.5-Mile of the Proposed Project Site and Off-Site Improvements

Primary (P-36-)	Trinomial (CA-SBR-)	Resource Age and Type	Resource Description	NRHP/CRHR Eligibility	Recording Events	Proximity to Proposed Project Site/Off-Site Improvements (~)
006838	006838H	Archaeological site: Historic period	Rock feature	7R: Not evaluated	1990 (Sundberg and Des'Autels)	**Project Site:** 0.25 miles south **Off-Site Improvements:** Outside
006842	006842H	Archaeological site: Historic period	Domestic refuse scatter, dating 1907+	7R: Not evaluated	1990 (Sundberg and Des'Autels)	**Project Site:** 0.25 miles south **Off-Site Improvements:** Outside
012856	N/A	Archaeological isolate: Historic Period	Baking powder can, dating 1925-1950	7R: Not evaluated	2006 (Sanka)	**Project Site:** 0.5 miles southwest **Off-Site Improvements:** Outside
012857	N/A	Archaeological isolate: Historic Period	Hole-in-top can, likely dating 1900+	7R: Not evaluated	2006 (Sanka)	**Project Site:** 0.1 miles southwest **Off-Site Improvements:** Outside
013314	N/A	Archaeological site: Historic Period	Two concrete foundations and domestic refuse scatter	7R: Not evaluated	2006 (Tsunoda)	**Project Site:** Immediately adjacent to east **Off-Site Improvements:** Outside
020978	013512	Archaeological site: Prehistoric	Lithic scatter	7R: Not evaluated	2009 (Fulton)	**Project Site:** 0.15 miles north **Off-Site Improvements:** Outside

Table 4.4-2. Previously Recorded Cultural Resources Within a 0.5-Mile of the Proposed Project Site and Off-Site Improvements

Primary (P-36-)	Trinomial (CA-SBR-)	Resource Age and Type	Resource Description	NRHP/CRHR Eligibility	Recording Events	Proximity to Proposed Project Site/Off-Site Improvements (~)
020982	013516H	Archaeological site: Multi-Component (Historic-period and Prehistoric)	Remnants of residential structures and features; refuse; two basalt flakes.	7R: Not evaluated	2009 (Fulton)	**Project Site:** 0.15 miles north **Off-Site Improvements:** Outside
020983	N/A	Archaeological site: Historic Period	Concrete footing and well head	7R: Not evaluated	2009 (Fulton)	**Project Site:** 0.05 miles north **Off-Site Improvements:** Outside
020984	N/A	Archaeological site: Historic Period	Concrete footing	7R: Not evaluated	2009 (Fulton)	**Project Site:** Immediately north **Off-Site Improvements:** Outside
061206	N/A	Archaeological isolate: Prehistoric	Chert flake	7R: Not evaluated	1990 (Sundberg and Des'Autels)	**Project Site:** 0.3 miles southwest **Off-Site Improvements:** Outside

Notes: NRHP = National Register of Historic Places; CRHR = California Register of Historical Resources; ~ denotes approximate; N/A = not applicable.

Review of Historical Topographic Maps and Aerial Photographs

Historical topographic maps and aerial photographs were consulted to better understand the natural or human-made changes to the proposed Project site and surrounding properties over time. Dudek reviewed topographic maps from 1932 to 2018 and aerial photographs from 1952 to 2020 as part of the archival research effort.

Historical Topographic Maps

A review of available topographic maps was conducted and included the following years: 1932, 1934, 1953, 1957, 1960, 1968, 1974, 1980, 1987, 1993, 2012, 2015 and 2018 (Appendix D) Topographic maps depict not only elevation of the study area as well as the areas surrounding it, but they also illustrate the location of roads and some buildings. Although topographic maps are not comprehensive, they are another tool in determining whether

a study area has been disturbed and sometimes to what approximate depth. Table 4.4-3, below, describes the changes of the proposed Project site and off-site improvements through the years.

Table 4.4-3. Historical Topographic Maps Review

Year	Description of Proposed Project Site	Description of Proposed Off-Site Improvements
1932	The earliest topographical map shows the proposed Project site as undeveloped, with a light road running east to west across the northern boundary (matching current day Johnson Road) and a trail running north to south along the western boundary (matching current day Central Road), and an unimproved road running north to southwest across the southeast corner (matching current day Sycamore Lane). There is a structure indicated outside of the proposed Project site, to the east.	Johnson Road is indicated, running east to west through the northern section of the off-site improvements. The unimproved road along the eastern boundary of the proposed Project site crossed the southeastern section of the off-site improvements. The remainder is undeveloped.
1934	There are no significant changes.	There are no significant changes.
1953	There are no significant changes within the proposed Project site. There is no longer a structure indicated to the east.	There are no significant changes.
1957	This map appears to show Central Road as a light duty road. Johnson Road and Sycamore Lane are indicated as unimproved roads. There is a structure in the northwest corner of the proposed Project site. There are two structures just outside the proposed Project site, to the southeast of where Sycamore Lane angles to the southwest across the proposed Project site.	There are no significant changes to the north area of the off-site improvements. Lafayette Street is indicated as an unimproved road to the west of Central Road.
1960	There are no significant changes.	There are no significant changes.
1968	There are no significant changes.	There are no significant changes.
1974	This topographical map no longer indicates structures. Johnson and Central Roads are indicated as light duty roads. Sycamore Lane is indicated trending north to south, as an unimproved road. A dry well is labelled, just outside the proposed Project site, to the east of where Sycamore Lane meanders to the southwest. The wash is indicated crossing the proposed Project site in the northwest corner.	Johnson Road and Lafayette Street are indicated as unimproved roads to the west of Central Road. A wash crosses Johnson Road in the north section of the off-site improvements. The wash that crosses the proposed Project site also crosses Lafayette Street within the off-site improvements to the south.
1980	There are no significant changes.	There are no significant changes.
1987	There are no significant changes.	There are no significant changes.
1993	This map shows Central Road as a secondary highway. Johnson Road is noted as light duty to the east of Central Road, and unimproved to the west. Sycamore Lane no longer appears. The dry well to the east of the proposed Project site is still noted, and the wash is indicated across the northwest corner.	Johnson Road to the north and Lafayette Street to the south are both indicated as unimproved roads, west of Central Road. There are no significant changes.
2012	This topographical map no longer indicates structures. Johnson and Central Roads are	Only the roads are indicated on this map, all as light duty roads. There are no significant changes.

Table 4.4-3. Historical Topographic Maps Review

Year	Description of Proposed Project Site	Description of Proposed Off-Site Improvements
	indicated as light duty roads, as is Lafayette Street. Sycamore Lane is indicated trending north to south, as a light duty road.	
2015	There are no significant changes.	There are no significant changes.
2018	There are no significant changes.	There are no significant changes.

Historical Aerial Photographs

A review of all available historical aerial photographs was conducted and included the following years: 1952, 1968, 1969, 1984, 1995, 2005, 2009, 2010, 2012, 2014, 2016, 2018, and 2020 (Appendix D). Through careful comparative review of historical aerials, changes to the landscape of a study area may be revealed. Disturbance to the study area is specifically important as it helps determine if soils within the study area are capable of sustaining intact archaeological deposits. Additionally, historical aerials have the potential to reveal whether a study area was subjected to alluvial deposits by way of alluvial erosion, flooding, debris flows or mudslides, as well as placement of artificial or foreign fill soils that may have buried intact archaeological deposits. Table 4.4-4, below, describes the changes of the proposed Project site and off-site improvements through the years.

Table 4.4-4. Historical Aerial Photographs Review

Year	Description of Proposed Project Site	Description of Proposed Off-Site Improvements
1952	The proposed Project site is a mostly undeveloped desert landscape with low lying shrubs and a wash crossing southwest to northeast. There is a structure in the northwest corner, near the intersection of Central Road and Johnson Road, marking the western and northern boundaries. There is another unimproved dirt road on the east boundary, that cuts to the southwest across the corner of the proposed Project site. The north half of the road is in alignment with current day Sycamore Lane.	The proposed off-site improvement areas are depicted as undeveloped desert land. The north section of the proposed off-site improvement area depicts Johnson Road. The southern section is undeveloped desert. The wash visible in the proposed Project site is visible in both areas of off-site improvements. There are washes trending southwest to northeast across the west sides of both off-site improvement alignments.
1968	Central Road and Johnson Road have been widened and improved. There appears to be a structure in the adjacent lot to the east, but no significant changes to the proposed Project site.	The north section of the proposed off-site improvement area has no significant changes. The south section now has a road running east to west, which matches the alignment for current day Lafayette Street.
1969	The structure in the northwest corner of the proposed Project site appears different, possibly damaged.	There are no significant changes.
1984	The unimproved road along the eastern boundary is now configured into a north-south alignment, matching current day Sycamore Lane; the meander to the southwest is now an offshoot. It appears that the structure in the northwest corner of the proposed Project site	There are no significant changes.

Table 4.4-4. Historical Aerial Photographs Review

Year	Description of Proposed Project Site	Description of Proposed Off-Site Improvements
	has been demolished; only the foundation is visible.	
1995	There is a small structure mid-site, just west and adjacent to Sycamore Lane.	There are no significant changes.
2005	There are no significant changes.	The north section of the proposed off-site improvement area now has a paved parking lot on the northwest corner of Center Road and Johnson Road. There are multiple trails leading away from the parking to a cluster of buildings just north of the off-site improvement buffer. There is a small structure north of Lafayette Street, at the west end of the off-site improvement. There are no other significant changes.
2009	There is now an unimproved road bisecting the southern half of the proposed Project site. It appears to be Llanto Road, and leads to a new structure, outside of the proposed Project site, to the east. There are no other significant changes.	In the north section of the proposed off-site improvements, there appears to be a fence line running along the north side of Johnson Road, east of Central Road. In the south section of the proposed Project site, there is now a large warehouse located on the northeast corner of Navajo Road and Lafayette Street. A portion of Lafayette appears to be paved near the structure.
2010	There are no significant changes.	There are no significant changes.
2012	There are no significant changes.	There are no significant changes.
2014	The small structure adjacent to Sycamore Lane appears to have collapsed.	There are no significant changes in the north section of the proposed off-site improvements. There is an additional warehouse or addition to the previous structure noted in 2009, doubling its size to the east. There are associated paved areas around the structures.
2016	There are no significant changes.	There are no significant changes.
2018	There are no significant changes.	There are no significant changes.
2020	There are no significant changes.	There are no significant changes.

Project Site Setting – Cultural Context

The currently vacant and undeveloped proposed Project site is situated within the geomorphic province of the Mojave Desert, which is bound to the northwest and south by the Transverse Ranges including the northern peninsular Tehachapi Mountains and the southern San Gabriel Mountains and San Bernardino Mountains. More specifically, the proposed Project site is within Victor Valley in the western Mojave Desert. Water sources near the proposed Project site include the Oro Grande Wash, a tributary of the Mojave River, approximately 10 miles to the west; the Mojave River proper, approximately 9.5 miles to the southwest; the California Aqueduct, approximately 16 miles to the southwest; and Spring Valley Lake, an anthropogenic lake created for a country club, approximately 8 miles to the southwest. The proposed Project site is relatively flat with elevation ranges between approximately 3,130 and 3,170 feet above mean sea level (amsl) and slopes gently toward the southwest. There are no substantial topographical features in the proposed Project site; however, smaller ephemeral desert washes that drain toward the southwest are present.

Ground surface cover consists of moderate native brush and desert shrub growth with some Joshua trees. The proposed Project site has been subject to disturbance as a result of several dirt roads that intersect it and unpermitted off-road vehicle usage.

According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2023a), two (2) primary types of soils have been identified within the proposed Project site and off-site improvements primarily; these soils consist of Helendale-Bryman loamy sands, with 2% to 5% slopes, and include Cajon-Arizo Complex with 2% to 15% slopes. All available official soil descriptions are summarized below:

- **Helendale Series** (USDA 2023a): The Helendale series consists of very deep, well drained soils that formed in alluvium from granitoid rocks. These soils are found on fan piedmonts, fan remnants, alluvial fans, and terraces with 0% to 15% slopes. A typical Helendale pedon extends from 0 to 106 inches below the ground surface (bgs).
- **Cajon Series** (USDA 2023b): The Cajon series consists of very deep, somewhat excessively drained soils that formed in sandy alluvium from dominantly granitic rocks. These soils are found on alluvial fans, fan aprons, fan skirts, inset fans and river terraces with 0% to 15%. A typical Cajon pedon extends from 0 to 60 inches bgs.

A review of the United States Geological Society (USGS) mineral resources (USGS 2023) online spatial data for geology revealed that native soils within the proposed Project site and off-site improvements are comprised of Older Quaternary alluvium and marine deposits from the Pleistocene epoch. The terminal Pleistocene-era alluvial formations do have the potential to support the presence of buried archaeological resources. These soils are associated with the period of prehistoric human use that have potential to preserve cultural material in context, depending on area-specific topographical setting.

Geotechnical Report Review

GEOCON West, Inc. completed a geotechnical study for a large area, including the proposed Project site (completed March 29, 2022; Appendix E). The report, Preliminary Geotechnical Investigation Proposed Industrial Development 565 Acres Apple Valley, California, documents the subsurface geological conditions of parcels located in Apple Valley including the proposed Project site (Appendix E). The report details the results of nine (9) subsurface exploratory borings (B1 through B9) on February 18. 2022, using a truck-mounted drill-rig equipped with an 8-inch diameter hollow stem auger, followed by 20 test pits excavated by backhoe on March 2 and 3, 2022. Of the nine (9) borings and 20 test pits, one (1) boring (B7) and three (3) test pits (TP-9, TP-14, and TP-15) addressed the proposed Project Site.

These subsurface exploratory investigations were placed at accessible locations within the proposed Project site. The subsurface exploratory excavations were advanced to depths between approximately 6 to 20 feet below ground surface (bgs) to determine subsurface geological conditions within the proposed Project site. According to the boring logs, wash deposits were encountered throughout all depths at location B7, described as layers of light brown, fine to coarse grained sand, silty sand, and sand with gravel. Sediments encountered in at location T-9 is consists of wash deposits characterized as sand that is well-graded, light brown to brown, and fine to coarse-grained with some gravel. At locations T-14 and 15, sediments were described as alluvial deposits of poorly graded sand, silty sand, and silt. Some of the sands had fine gravel.

The geological boring and trench investigations were terminated at each location based on subsurface refusal at varying depths, between approximately 6 to 20 feet bgs; however, no bedrock was encountered at any of the three (3) locations investigated. A summary of the subsurface investigative results is provided in Table 4.4-5, below.

Table 4.4-5. Summary of Subsurface Investigations – GEOCON West Inc. 2022

Boring/ Test Pit No.	Location of Investigation	Depths of Fill Soils	Depths of Native Soils	Terminated/ Refusal Depth
B-7	Southwest area of proposed Project site	N/A	0±20 feet bgs	~20 feet bgs
TP-9	Northwest area of proposed Project site	N/A	0±6 feet bgs	~6 feet bgs
TP-15	Southeast area of proposed Project site	N/A	0±5 feet bgs	~5 feet bgs

Notes: N/A = not applicable; bgs = below ground surface; ~ denotes approximate.

Assembly Bill 52 Consultation

The Project is subject to compliance with AB 52, which requires consideration of impacts to tribal cultural resources (TCRs) as part of the CEQA process, and that the lead agency notify California Native American Tribal representatives that have requested notification who are traditionally or culturally affiliated with the geographic area of the Project site. The following tribes were notified as part of the AB 52 process for the proposed Project:

- Cabazon Band of Mission Indians
- A. Brierty - Cahuilla (Morongo) Band of Mission Indians
- R. Martin - Cahuilla (Morongo) Band of Mission Indians
- A. Madrigal - 29 Palms Band of Mission Indians
- D. Mike - 29 Palms Band of Mission Indians
- R. Nordness - San Manuel Band of Mission Indians

All records of correspondence related to AB 52 and SB 18 notification and any subsequent consultation are on file with the Town. The Town requested tribal consultation from its four requesting tribes: the Cabazon Band of Mission Indians, the Cahuilla (Morongo) Band of Indians, the San Manuel Band of Mission Indians (Yuhaaviatam of San Manuel Nation), and the Twenty-Nine Palms Band of Mission Indians. The Town received requests for AB 52 consultation from Cahuilla (Morongo) Band of Mission Indians and San Manuel Band of Mission Indians (Yuhaaviatam of San Manuel Nation). Per recommendations from the tribes, the Town has modified Project mitigation measures to require an increased coordination with tribes and full-time tribal and archaeological monitoring during construction.~~To date, the Town has not received any requests for consultation from the four tribes it invited to AB 52 consultation.~~

Cultural Resources Pedestrian Survey

Dudek archaeologists conducted an intensive pedestrian level survey of the Project site. The intensive-level survey methods consisted of a pedestrian survey conducted in parallel transects, spaced no more than 15 meters (approximately 50 feet) apart, where feasible, traversing east to west. The survey area includes an approximate 67.3-acre proposed Project site and the off-site improvement areas. The intensive-level survey methods consisted of a pedestrian survey conducted in parallel transects, spaced no more than 15 meters apart (approximately 50 feet), where feasible. With respect to the off-site improvements along Lafayette Street and Johnson Road, each side of these roads were surveyed, within the limits of the proposed off-site improvements. The ground surface was inspected for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, ground stone tools, ceramics, fire-

affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, features indicative of structures and/or buildings (e.g., standing exterior walls, post holes, foundations), and historical artifacts (e.g., metal, glass, ceramics, building materials). In reference to metal cans, these resources are only considered if they are observed to be within discrete deposits or determined to be from a primary depositional location. Ground disturbances such as burrows, cut banks, terraces, trails and drainages were also visually inspected for exposed subsurface materials.

The proposed Project site consists of open desert landscape, with a series of washes running generally northeast to southwest and low-lying desert scrubland vegetation, including occasional Joshua trees. At the time the pedestrian survey was conducted, the ground surface visibility ranged from good to excellent (90% to 100%). The parcel has been subjected to consistent disturbance due to opportunistic dumping, evidenced by the presence of modern refuse and structural debris piles and scatters across the proposed Project site, consisting of toys, household items, and other consumables. Other disturbances observed include recreational activities as evidenced by of several off-road vehicular tracks that traverse the proposed Project site in various directions. Also observed were widely dispersed historic-period refuse that appeared to have been deposited/distributed across the site through aeolian and/or alluvial forces.

The proposed off-site improvements include areas that straddle Johnson Road and Lafayette Street. There is evidence of a metal, barbed-wire fence that was removed that parallels Johnson Road on the north side; cut metal poles are still embedded in a line along Johnson Road. There are off-roading trails and a dry drainage on the south side of Johnson Road. No cultural resources other than modern trash were encountered on either side of Johnson Road, west of Central Road. Structural remnants consisting of a concrete foundation pad was observed at the southeast corner of the intersection of Central Road and Johnson Road, within the additional offsite improvements area; however, of note, the foundation is outside the proposed Project site.

The western end of Lafayette Street is developed with an existing warehouse building that is part of a distribution center. That section of Lafayette Street was paved, and there is a parking lot associated with the building, on the northeast corner of the intersection of Lafayette Street and Navajo Road. The remainder of Lafayette Street is an unimproved, dirt road. Like the proposed Project site, there are multiple washes crossing this area, and evidence of continual use for off-roading. Isolated modern and historic-period trash were noted in this area, found in washes that cross north to south. Portions of the south side of Lafayette Street were inaccessible due to fencing. In this case, transects were shifted north and surveyed with a smaller distance between lines. Occasional, isolated rusted metal cans were noted, but not thoroughly documented as they were not observed in discrete deposits or primary depositional locations. Modern trash, often found close to Lafayette Street, was found mixed with fragmentary historic-period glass. Locations of the scatters seemed to indicate dumping along the roadside, as well as post depositional movement due aeolian and/or alluvial forces.

Overall, all soils observed within all areas surveyed are consistent with the USDA's characterization of alluvial soils from the Helendale-Bryman Loamy Sands (loamy sands and sandy loams) and Cajon-Arizo Complex (gravelly sands) (USDA 2023a).

No historical resources or unique archaeological resources were identified within the proposed Project site or off-site improvement areas.

Paleontological Setting

The Project area is located within the Mojave Desert Geomorphic Province, which is characterized by rugged mountain ranges with intervening alluvial fans, bajadas, and valleys that have no drainage to the ocean (CGS 2002). According to surficial geological mapping by Dibblee (1960) at a 1:62,500 scale and the geological time scale of Cohen et al. (2022), the Project area is underlain by Holocene (< 11,700 years ago) alluvial deposits (map unit Qa). Holocene alluvial deposits are typically an unconsolidated mixture of clay, silt, sand, and gravel.

The geotechnical report prepared for the larger industrial development area indicated portions of the Project site are immediately underlain or very shallowly underlain by Pleistocene (older) alluvial deposits (Appendix E). Test Pits TP-9, TP-14, and TP-15 and Boring B-7 where excavated/drilled within the Project site boundaries. In general, TP-9, which was excavated to a depth of 6 feet below the ground surface (bgs), encountered unconsolidated Holocene sands that were fine to coarse-grained with some gravel on the bottom 3 feet of the TP. TP-14 (east-central portion of the Project site) and TP-15 (southeast portion of the Project site) encountered Pleistocene alluvial deposits at 1 foot bgs, whereas B-7, located in the southwestern portion of the Project site, indicated Pleistocene alluvial deposits are present on the surface (Appendix E).

Dudek requested a paleontological records search from the Natural History Museum of Los Angeles County (NHMLA) on October 10, 2022, and the results were received on October 16, 2022. The NHMLA reported no fossil localities from within the Project site; however, they have nearby localities from older sediments that lie within the 1-mile buffer on the surface and are likely at depth beneath the Project site (Pleistocene older alluvial deposits and the Pleistocene Shoemaker Gravel). Fossil locality, LACM (Los Angeles County Museum) VP (Vertebrate Paleontology) 1224 produced a fossil camel (Camelidae) from the Shoemaker Gravel north of Hesperia in southern Victorville from an unknown depth below the ground surface (bgs) (NHMLA 2022). LACM VP 3353 yielded a fossil horse (*Equus*) also from an unknown depth bgs from the Shoemaker Gravel in Hesperia. Another fossil horse (*Equus*) (LACM VP 3352) was reported from the Shoemaker Gravels of northern Victorville (NHMLA 2022). LACM VP 3498 produced horse (*Equus*), deer (Cervidae), and antelope (Antilocapridae) from an unknown depth bgs in the Shoemaker Gravel on the west bank of the Mojave River. From between 10 and 11 feet bgs, a fossil vole (*Microtus mexicanus*) (LACM VP 7786) was recovered near the Southern California Logistics Airport in Victorville. Finally, the NHMLA reported a locality, LACM VP 6125, produced unspecified invertebrate fossils from an unknown depth bgs in an unknown formation at the east end of Rabbit Lake.

According to the Society of Vertebrate Paleontology (SVP 2010) guidelines significant paleontological resources (i.e., fossils) are defined as identifiable vertebrate fossils, uncommonly recovered invertebrate, trace, and plant fossils and accompanying data. In general, to be significant, Holocene fossils should be greater than approximately 5,000 years old, which approximately corresponds with the middle Holocene (SVP 2010). The surficial Holocene alluvial deposits, aged less than 11,700 years ago, have not been shown to produce any fossil resources and therefore has low paleontological sensitivity on the surface that increases with depth where they can become old enough to preserve significant paleontological resources.

Additionally, no unique geologic features, such as unique erosional features or rock outcrops, have been identified on the Project site by land surveyors, cultural resource teams, and other field staff that have conducted surveys of the Project site.

4.4.2 Relevant Plans, Policies, and Ordinances

Federal

There are no federal plans or policies related to cultural or historical resources that are applicable to the Project.

State

The California Register of Historical Resources

In California, the term "historical resource" includes, but is not limited to, "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (PRC Section 5020.1[j]). In 1992, the California legislature established the CRHR "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP, enumerated below. A resource is considered historically significant if it (i) retains "substantial integrity," and (ii) meets at least one of the following criteria (PRC Section 5024.1[c][1–4]):

(1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
(2) Is associated with the lives of persons important in our past.
(3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
(4) Has yielded, or may be likely to yield, information important in prehistory or history.

In order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (see 14 CCR 4852[d][2]).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. Prehistoric resources are those that pre-date written records, while historic resources reflect written records or recorded events of the past. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are the state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

California Environmental Quality Act – Cultural Context

The following CEQA statutes (PRC Section 21000 et seq.) and CEQA Guidelines (14 CCR 15000 et seq.) are of relevance to the analysis of archaeological, historic, and TCRs:

- PRC Section 21083.2(g) defines "unique archaeological resource."
- PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) define "historical resources." In addition, CEQA Guidelines Section 15064.5(b) defines the phrase "substantial adverse change in the significance of an

historical resource"; it also defines the circumstances when a project would materially impair the significance of a historical resource.

- PRC Section 21074(a) defines "tribal cultural resources."
- PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e) set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
- PRC Sections 21083.2(b) and 21083.2(c) and CEQA Guidelines Section 15126.4 provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures. Preservation in place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context and may also help avoid conflict with religious or cultural values of groups associated with an archaeological site.

Under CEQA, a project may have a significant impact on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (PRC Section 21084.1; 14 CCR 15064.5[b]). If a site is listed or eligible for listing in the CRHR, or included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of PRC Section 5024.1[q]), it is a "historical resource" and is presumed to be historically or culturally significant for the purposes of CEQA (PRC Section 21084.1; 14 CCR 15064.5[a]). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (PRC Section 21084.1; 14 CCR 15064.5[a]).

A "substantial adverse change in the significance of an historical resource" reflecting a significant impact under CEQA means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (14 CCR 15064.5[b][1]; PRC Section 5020.1[q]). In turn, the significance of a historical resource is materially impaired when a project does any of the following:

1. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
3. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register [CRHR] as determined by a lead agency for purposes of CEQA (14 CCR 15064.5[b][2]).

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any "historical resources," then evaluates whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance is materially impaired.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (PRC Sections 21083.2[a]–[c]).

Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria (PRC Section 21083.2[g]):

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts on non-unique archaeological resources are generally not considered a significant environmental impact (PRC Section 21083.2[a]; 14 CCR 15064.5[c][4]). However, if a non-unique archaeological resource qualifies as a TCR (PRC Sections 21074[c] and 21083.2[h]), further consideration of significant impacts is required.

Regarding paleontological resources, CEQA Guidelines require that all private and public activities not specifically exempted be evaluated against the potential for environmental damage, including effects to paleontological resources. Paleontological resources, which are limited, nonrenewable resources of scientific, cultural, and educational value, are recognized as part of the environment under these state guidelines. This analysis satisfies project requirements in accordance with CEQA (13 PRC, 21000 et seq.) and Public Resources Code Section 5097.5 (Stats 1965, c 1136, p. 2792). This analysis also complies with guidelines and significance criteria specified by SVP (2010).

Paleontological resources are explicitly afforded protection by CEQA, specifically in Section VII(f) of CEQA Guidelines Appendix G, the "Environmental Checklist Form," which addresses the potential for adverse impacts to "unique paleontological resource[s] or site[s] or … unique geological feature[s]." This provision covers fossils of signal importance – remains of species or genera new to science, for example, or fossils exhibiting features not previously recognized for a given animal group – as well as localities that yield fossils significant in their abundance, diversity, preservation, and so forth. Further, CEQA provides that generally, a resource shall be considered "historically significant" if it has yielded or may be likely to yield information important in prehistory (PRC 15064.5 [a][3][D]). Paleontological resources would fall within this category.

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in PRC Section 5097.98.

California Environmental Quality Act – Paleontological Context

CEQA does not define "a unique paleontological resource or site." However, the Society of Vertebrate Paleontology (SVP) has provided guidance specifically designed to support state and Federal environmental review. The SVP broadly defines significant paleontological resources as follows (SVP 2010:11):

> "Fossils and fossiliferous deposits consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years)."

Significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, diagnostically important, or common but have the potential to provide valuable scientific information

for evaluating evolutionary patterns and processes, or which could improve our understanding of paleochronology, paleoecology, paleophylogeography, or depositional histories. New or unique specimens can provide new insights into evolutionary history; however, additional specimens of even well represented lineages can be equally important for studying evolutionary pattern and process, evolutionary rates, and paleophylogeography. Even unidentifiable material can provide useful data for dating geologic units if radiometric dating is possible. As such, common fossils (especially vertebrates) may be scientifically important and therefore considered significant.

California Health and Safety Code Section 7050.5

California law protects human remains, Native American burials, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. California Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the county coroner has examined the remains and determined that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the PRC (PRC Section 7050.5[b]). If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (PRC Section 7050.5[c]). The NAHC will notify the "most likely descendant" (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. The inspection must be completed within 48 hours of notification of the MLD by NAHC. The MLD may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

Assembly Bill 52

The legislature added the requirements regarding tribal cultural resources through AB 52. By including tribal cultural resources early in the CEQA process, the legislature intended to ensure that local and tribal governments, public agencies, and project proponents would have information available, early in the project planning process, to identify and address potential adverse impacts to tribal cultural resources. By taking this proactive approach, the legislature also intended to reduce the potential for delay and conflicts in the environmental review process (AB 52 Section 1[b][7]).

Section 1 of the bill states the legislature's intent as follows (AB 52 Section 1[b]):

> In recognition of California Native American tribal sovereignty and the unique relationship of California local governments and public agencies with California Native American tribal governments, and respecting the interests and roles of project proponents, it is the intent of the Legislature, in enacting this act, to accomplish all of the following: (1) Recognize that California Native American prehistoric, historic, archaeological, cultural, and sacred places are essential elements in tribal cultural traditions, heritages, and identities. (2) Establish a new category of resources in CEQA called "tribal cultural resources" that considers the tribal cultural values in addition to the scientific and archaeological values when determining impacts and mitigation. (3) Establish examples of mitigation measures for tribal cultural resources that uphold the existing mitigation preference for historical and archaeological resources of preservation in place, if feasible. (4) Recognize that California Native American tribes may have expertise with regard to their tribal history and practices, which concern the tribal cultural resources with which they are traditionally and culturally affiliated. Because CEQA calls for a sufficient degree of analysis, tribal knowledge about the

> land and tribal cultural resources at issue should be included in environmental assessments for projects that may have a significant impact on those resources. (5) In recognition of their governmental status, establish a meaningful consultation process between California Native American tribal governments and lead agencies, respecting the interests and roles of all California Native American tribes and project proponents, and the level of required confidentiality concerning tribal cultural resources, at the earliest possible point in the CEQA environmental review process.

To accomplish those goals, the legislature added or amended the following sections in the PRC: 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 5097.94.

Native American Historic Cultural Sites

The Native American Historic Resources Protection Act (California PRC Section 5097 et seq.) addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NAHC to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy a Native American historic or cultural site that is listed or may be eligible for listing in the CRHR.

California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act (California Repatriation Act), enacted in 2001, requires all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. The California Repatriation Act also provides a process for the identification and repatriation of these items to the appropriate tribes.

PRC Section 5097.5 and 30244

Section 5097.5 of the Public Resources Code (PRC) states:

> “No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor. As used in this PRC section, ‘public lands’ means lands owned by, or under the jurisdiction of, the state or any city, county, district, authority, or public corporation, or any agency thereof."

Consequently, public agencies are required to comply with PRC 5097.5 for their own activities, including construction and maintenance, as well as for permit actions (e.g., encroachment permits) undertaken by others.

Local

Town of Apple Valley General Plan

The Town of Apple Valley General Plan contains the following goals and policies that address cultural resources and are applicable to the Project.

Archaeological and Historic Resources Element

Goal That all elements of the Town's cultural heritage, including archaeological and historic sites, artifacts, traditions and other elements, shall be professionally documented, maintained, preserved, conserved and enhanced.

- Policy 1A Early in the planning process, the Town shall implement its obligation to identify, document and assess archaeological, historical and cultural resources that proposed development projects and other activities may affect.
- Policy 1B The Town shall establish and maintain a confidential inventory of archaeological and historical resources within the Town, including those identified in focused cultural resources studies.
- Policy 1C The Town shall, to the greatest extent possible, protect sensitive archaeological and historic resources from vandalism and illegal collection. Public participation in and appreciation of the Town's cultural heritage shall be encouraged.
- Policy 1D Public participation in and appreciation of the Town's cultural heritage shall be encouraged.

The Town of Apple Valley General Plan discusses the potential for recovery of significant paleontological resources within the Town and sphere of influence based on surficial geological mapping. However, no goals or policies are detailed in the plan for paleontological resources. Notwithstanding, the Town of Apple Valley General Plan (Town of Apple Valley 2009), Chapter III: Environmental Resources, states the following:

> "The potential for geological formations to produce fossils is evaluated based on what fossil resources have been produced in the past at other nearby locations of similar geologic composition. There are substantial exposures of Mesozoic-age (65,000,000 to 245,000,000 years ago) rocks in more elevated portions of the Town that may contain no fossils. Shallow grading of younger Quaternary alluvium that occurs throughout most of the area is not likely to reveal significant fossil remains. Potential for the presence of significant non-renewable paleontological resources exists where surface or subsurface Pleistocene-age (1,808,000 to 11,550 years ago) soils occur in the planning area. High priority is also given to older sediments along the Mojave River and at unknown depth below the surface. Based on research of surface deposits, the soils in the planning area, which are relatively young, have a low potential for containing significant fossil remains. Surface deposits may in some areas constitute only a "veneer cover" that directly overlays older sediments; however, research indicates that no fossils have been reported in Town. Reports have, however, identified localities with fossil resources of an age that is similar soil deposits to those that occur in the Town and Sphere of Influence. In the overall, research indicates that there is a range of likelihood from low to high of encountering paleontological resources during future development projects; as discussed above, the potential depends on the location and sediments encountered."

4.4.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to cultural resources are based on CEQA Guidelines Appendix G. According to CEQA Guidelines Appendix, a significant impact related to cultural resources would occur if the Project would:

A. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.
B. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.
C. Disturb any human remains, including those interred outside of dedicated cemeteries.
D. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).
E. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.
F. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
G. Result in a cumulatively considerable impact to cultural, tribal cultural, or paleontological resources.

4.4.4 Impact Analysis

Threshold A: Would the Project cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?

Less-than-Significant Impact. A cultural resources records search, review of literature and archival resources (historic maps, aerial photographs, topographic maps), and a field survey were conducted for the Project site. No cultural resources were identified as a result of a review of the CHRIS database and pedestrian survey, which was conducted under reliable conditions. As such, the Project is not anticipated to cause a substantial adverse change in the significance of a historical resources. Impacts associated with substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5 would be less than significant.

Threshold B: Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?

Less-than-Significant Impact with Mitigation. As discussed under Threshold A above, a cultural resources records search, review of literature and archival resources (historic maps, aerial photographs, topographic maps), and a field survey were conducted for the Project site. No cultural resources were identified as a result of a review of the CHRIS database and pedestrian survey, which was conducted under reliable conditions. Based on geotechnical testing results, soils present within the proposed Project site are native and not overlain with fill; however, evidence of ground disturbance to unknown depths is evidenced by both contemporary conditions observed during the pedestrian survey and through a review of the historic aerials. Additionally, evidence of natural modification through wind and water erosion and depositional event was observed. Proposed depths of ground disturbance are anticipated to extend between 4 to 14 feet across the proposed Project site and to a maximum depth of 22 feet

along the east side of the proposed Project site for installation of a storm drain. In consideration of the Archaeological Resource Assessment's findings relative to the proposed Project's depths of ground disturbance, the potential to find unknown cultural resources within the proposed Project site and off-site improvements, particularly within subsurface soils, is possible during Project implementation. Therefore, implementation of MM-CUL-1 through MM-CUL-4 is required. These mitigation measures would ensure the inadvertent discovery of archaeological resources will be treated appropriately and in accordance with the CEQA regulations via: preparation of a Cultural Resources Monitoring and Inadvertent Discovery Plan (MM-CUL-1), Workers Environmental Awareness Program (WEAP) training (MM-CUL-2), retention of an on-call archaeologist to address inadvertent discoveries (MM-CUL-3), and an inadvertent discovery clause of archaeological resources implemented and included on all construction plans (MM-CUL-4). These measures would ensure that potential Project impacts to archaeological resources would be less than significant.

Threshold C: Would the Project disturb any human remains, including those interred outside of formal cemeteries?

Less-than-Significant Impact with Mitigation. As discussed under Threshold A and B above, no cultural resources were identified as a result of a review of the CHRIS database and pedestrian survey. Given these findings, the potential to encounter unanticipated human remains on the Project site is low. However, in consideration of the Archaeological Resource Assessment's findings that the Project site is underlain by native soils relative to the proposed Project's depths of ground disturbance, the potential to find unknown cultural resources, including human remains, within the proposed Project site and off-site improvements, is possible during Project implementation. Implementation of MM-CUL-1 through MM-CUL-4, as well as MM-CUL-5, is required. In addition to the measures outlined in MM-CUL-1 through MM-CUL-4, MM-CUL-5 would require compliance with Section 7050.5 of the California Health and Safety Code, which requires that if human remains are found, the county coroner shall be immediately notified of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the county coroner has determined the appropriate treatment and disposition of the human remains. If the county coroner determines that the remains are, or are believed to be, Native American, he or she shall follow all required protocols according to California Public Resources Code, Section 5097.98. to a level of less than significant with mitigation incorporated.

Threshold D: Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

AND

Threshold E: Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less Than Significant Impact with Mitigation Incorporated. The Project is subject to compliance with AB 52 (PRC Section 21074), which requires consideration of impacts to "tribal cultural resources" as a part of the CEQA process,

and requires the Town, as the CEQA lead agency, to notify any groups who have requested notification of proposed projects that are subject to AB 52 compliance and are under the jurisdiction of the agency. The Town requested tribal consultation from its four requesting tribes: the Cabazon Band of Mission Indians, the Cahuilla (Morongo) Band of Indians, the San Manuel Band of Mission Indians (Yuhaaviatam of San Manuel Nation), and the Twenty-Nine Palms Band of Mission Indians. The Town received requests for AB 52 consultation from Cahuilla (Morongo) Band of Mission Indians and San Manuel Band of Mission Indians (Yuhaaviatam of San Manuel Nation). Per recommendations from the tribes, the Town has modified Project mitigation measures to require an increased coordination with tribes and full-time tribal and archaeological monitoring during construction. ~~To date, no responses have been received by the Tribe pursuant to AB 52 Tribal Consultation.~~ The Project site has been thoroughly researched, surveyed, and analyzed to identify the level of potential for archaeological and tribal cultural resources. No archaeological and tribal cultural resources were identified as a result of these efforts. Notwithstanding, MM-CUL-1 through MM-CUL-5 are required to help ensure the integrity of archaeological resources and human remains during ground-disturbing activities. With the incorporation of MM-CUL-1 through MM-CUL-5, impacts associated with tribal cultural resources would be less than significant.

Threshold F: Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant Impact With Mitigation Incorporated. The Project area is located within the Mojave Desert Geomorphic Province, which is characterized by rugged mountain ranges with intervening alluvial fans, bajadas, and valleys that have no drainage to the ocean (CGS 2002). According to surficial geological mapping by Dibblee (1960) at a 1:62,500 scale and the geological time scale of Cohen et al. (2022), the Project area is underlain by Holocene (< 11,700 years ago) alluvial deposits (map unit Qa). Holocene alluvial deposits are typically an unconsolidated mixture of clay, silt, sand, and gravel.

The geotechnical report prepared for the larger industrial development area indicated portions of the Project site are immediately underlain or very shallowly underlain by Pleistocene (older) alluvial deposits (Appendix E). Test Pits TP-9, TP-14, and TP-15 and Boring B-7 where excavated/drilled within the Project site boundaries. In general, TP-9, which was excavated to a depth of 6 feet below the ground surface (bgs), encountered unconsolidated Holocene sands that were fine to coarse-grained with some gravel on the bottom 3 feet of the TP. TP-14 (east-central portion of the Project site) and TP-15 (southeast portion of the Project site) encountered Pleistocene alluvial deposits at 1 foot bgs, whereas B-7, located in the southwestern portion of the Project site, indicated Pleistocene alluvial deposits are present on the surface (Appendix E).

Dudek requested a paleontological records search from the Natural History Museum of Los Angeles County (NHMLA) on October 10, 2022, and the results were received on October 16, 2022. The NHMLA reported no fossil localities from within the Project site; however, they have nearby localities from older sediments that lie within the 1-mile buffer on the surface and are likely at depth beneath the Project site (Pleistocene older alluvial deposits and the Pleistocene Shoemaker Gravel). Fossil locality, LACM (Los Angeles County Museum) VP (Vertebrate Paleontology) 1224 produced a fossil camel (Camelidae) from the Shoemaker Gravel north of Hesperia in southern Victorville from an unknown depth below the ground surface (bgs) (NHMLA 2022). LACM VP 3353 yielded a fossil horse (*Equus*) also from an unknown depth bgs from the Shoemaker Gravel in Hesperia. Another fossil horse (*Equus*) (LACM VP 3352) was reported from the Shoemaker Gravels of northern Victorville (NHMLA 2022). LACM VP 3498 produced horse (*Equus*), deer (Cervidae), and antelope (Antilocapridae) from an unknown depth bgs in the Shoemaker Gravel on the west bank of the Mojave River. From between 10 and 11 feet bgs, a fossil vole (*Microtus mexicanus*) (LACM VP 7786) was recovered near the Southern California Logistics Airport in Victorville.

Finally, the NHMLA reported a locality, LACM VP 6125, produced unspecified invertebrate fossils from an unknown depth bgs in an unknown formation at the east end of Rabbit Lake.

According to the Society of Vertebrate Paleontology (SVP 2010) guidelines significant paleontological resources (i.e., fossils) are defined as identifiable vertebrate fossils, uncommonly recovered invertebrate, trace, and plant fossils and accompanying data. In general, to be significant, Holocene fossils should be greater than approximately 5,000 years old, which approximately corresponds with the middle Holocene (SVP 2010). The surficial Holocene alluvial deposits, aged less than 11,700 years ago, have not been shown to produce any fossil resources and therefore has low paleontological sensitivity on the surface that increases with depth where they can become old enough to preserve significant paleontological resources.

No paleontological resources were identified within the Project site as a result of the institutional records search or desktop geological and paleontological review. In addition, the Project site is not anticipated to be underlain by unique geologic features. Areas of the Project site underlain by Holocene alluvial deposits have low paleontological sensitivity increasing to moderate or high with depth as middle Holocene to Pleistocene older alluvial deposits are encountered, as anticipated by the fossil locality records search (NHMLA 2022) and the geotechnical report (Appendix E). If intact paleontological resources are located onsite, ground-disturbing activities associated with construction of the proposed Project, such as grading during site preparation and trenching for utilities, have the potential to destroy a unique paleontological resource or site. As such, the Project site is considered to be potentially sensitive for paleontological resources at depth, and without mitigation, the potential damage to paleontological resources during construction associated with the Project is considered a potentially significant impact. Given the proximity of past fossil discoveries in the surrounding area within Pleistocene alluvial deposits and/or the Shoemaker Gravel, the Project site is highly sensitive for supporting paleontological resources below the depth of recent alluvial deposits. However, upon implementation of MM-GEO-1, impacts would be reduced to below a level of significance. Impacts of the proposed Project are considered less than significant with mitigation incorporated during construction.

Threshold G: Would the Project result in a cumulatively considerable impact to cultural, tribal cultural, or paleontological resources?

Cultural and Tribal Cultural Resources

The geographic scope of the cumulative cultural resources analysis is the region surrounding the Project site. Ongoing development and growth in the broader Project area may result in a cumulatively significant impact to cultural resources due to the continuing disturbance of undeveloped areas, which could potentially contain significant, buried archaeological or tribal cultural resources. However, as discussed above, the individual, Project-level impacts associated with cultural and tribal cultural resources were found to be less than significant with incorporation of mitigation measures (MM-CUL-1 through MM-CUL-5). The Project would be required by law to comply with all applicable federal, state, and local requirements related to historical, archaeological, and tribal cultural resources. Other related cumulative projects would similarly be required to comply with all such requirements and regulations, to be consistent with the provisions set forth by CEQA and the CEQA Guidelines, and to implement all feasible mitigation measures should a significant project-related and/or cumulative impact be identified. In consideration of these requirements, cumulative impacts would be **less than significant**.

Paleontological Resources

Potential cumulative impacts to paleontological resources would result from projects that combine to create an environment where fossils, exposed on the surface, are vulnerable to destruction by earthmoving equipment,

looting by the public, and natural causes such as weathering and erosion. The majority of impacts to paleontological resources are site-specific and are therefore generally mitigated on a project-by-project basis. Cumulative projects would be required to assess impacts to paleontological resources. Additionally, as needed, projects would incorporate individual mitigation for site-specific geological units present on each individual project site. Furthermore, the Project does not propose construction (including grading/excavation) or design features that could directly or indirectly contribute to an increase in a cumulative impact to paleontological resources, as the mitigation measure provided in this analysis ensures any significant paleontological resources uncovered during Project excavations would be properly analyzed and salvaged by the on-site paleontological monitor. Therefore, the Project, in combination with the past, present, and reasonably foreseeable future projects in the Project vicinity, would result in less-than-significant cumulative impacts to paleontological resources, and no further mitigation measures are required. Moreover, impacts to paleontological resources would be avoided and/or mitigated with implementation of a paleontological mitigation program during excavations into paleontologically sensitive geological units. Therefore, the Project's contribution to cumulative impacts would not be cumulatively considerable. As such, cumulative impacts on paleontological resources would be **less than significant.**

4.4.5 Mitigation Measures and Level of Significance After Mitigation

Threshold A: Would the Project cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?

The Project would not have the potential to cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5 and impacts would be less than significant.

Threshold B: Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?

The Project would result in potentially significant impacts with regard to a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5. With incorporation of MM-CUL-1 through MM-CUL-4, impacts associated with archaeological resources would be less than significant with mitigation incorporated.

MM-CUL-1 **Cultural Resource Monitoring and Inadvertent Discovery Plan.** Prior to ground disturbance activities, the Applicant and/or subsequent responsible parties shall retain a Principal Investigator/Archaeologist, meeting the Secretary of the Interior's Standards, and with experience in California prehistoric and historic resources (including experience within San Bernardino County preferred) Consulting Tribes to provide cultural resources services included monitoring and resource evaluation.~~, to~~ The Principal Investigator will compose a Cultural Resource Monitoring and Inadvertent Discovery Plan (Plan). The Plan shall be submitted to the Lead Agency for dissemination to Consulting Tribes, including the Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN, also known as San Manuel Band of Mission Indians) and the Morongo Band of Mission Indians (MBMI). Once all parties review and approve the plan, it shall be adopted by the Lead Agency – the plan must be adopted prior to permitting for the project. The purpose of the Plan is to outline cultural monitoring protocols and a program of treatment and mitigation in the case of an inadvertent discovery of cultural resources during ground-disturbing phases and to provide for the proper identification, evaluation, treatment, and protection of any cultural resources in accordance with CEQA throughout the duration of the Project. Existence and

importance of adherence to this Plan should be stated on all Project site plans intended for use by those conducting the ground disturbing activities.

MM-CUL-2 **Workers Environmental Awareness Program (WEAP) Training.** All construction personnel and monitors ~~who are not trained archaeologists~~ shall be briefed regarding unanticipated discoveries prior to the start of construction activities. A basic presentation should be prepared and presented by a qualified ~~archaeologist~~ Archaeologist and a Tribal Monitor to inform all personnel working on the Project about the archaeological sensitivity of the area. The purpose of the WEAP training is to provide specific details on the kinds of archaeological materials that may be identified during construction of the Project and explain the importance of and legal basis for the protection of significant archaeological resources. Each worker should also learn the proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection, and the immediate contact of the ~~on-call a~~Archaeologist and if appropriate, Tribal ~~representative~~Monitor. Tribal ~~representatives~~Monitor from the Consulting Tribes, such as ~~Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (~~YSMN~~, also known as San Manuel Band of Mission Indians)~~ and MBMI. ~~will be allowed to attend and/or participate in the WEAP training should they elect to and~~ will be given ten days' notice prior to the training. Necessity of training attendance should be stated on all construction plans.

MM-CUL-3 ~~**On-Call and Periodic Archaeological**~~**Cultural Resources Construction Monitoring.** In consideration of the general sensitivity of the proposed Project site for cultural resources, a qualified ~~archaeologist~~Archaeologist and regionally associated Tribal Monitor shall be retained to conduct ~~periodic spot~~on-site full-time cultural monitoring and to respond to ~~as well as on-call response in the case of~~ any inadvertent discovery of archaeological resources. The Archaeologist and Tribal Monitor will attend a pre-grade meeting with the grading contractors to explain and coordinate the requirements of the monitoring plan. The ~~A qualified archaeologist~~Archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, should oversee and adjust monitoring efforts as needed (increase, decrease, or discontinue monitoring frequency) based on the observed potential for construction activities to encounter cultural deposits, in consultation with the Tribal Monitor. The ~~archaeologist~~ Archaeologist should be responsible for maintaining monitoring logs. Following the completion of construction, the qualified ~~archaeologist~~ Archaeologist should provide an archaeological monitoring report, including any significance testing or data recovery results, to the ~~l~~Lead ~~a~~Agency and Consulting Tribes for review and comment. Following approval by all parties, the report and all resource records will be submitted to the ~~ and the~~ SCCIC, the Lead Agency, and Consulting Tribes ~~with the results of the cultural monitoring program~~.

MM-CUL-4 **Inadvertent Discovery of Archaeological Resources.** In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Project, any project personnel have the authority to stop all construction work occurring within 100 feet of the find ~~shall immediately stop~~and notify the Archaeologist and Tribal Monitor if they are not already present. The Archaeologist and Tribal Monitor will direct the demarcation or barrier of an Environmentally Sensitive Area (ESA). ~~ until a~~ The qualified A~~a~~rchaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, ~~can~~will evaluate the significance of the find and determine whether or not additional study is warranted. Depending upon the significance of the find under the California Environmental Quality Act (14 CCR 15064.5(f); California PRC Section 21082), the archaeologist may simply record the find and allow work to continue. If the discovery proves

significant under CEQA, additional work, such as preparation of an archaeological treatment plan, testing, or data recovery, may be warranted. If the discovery is Native American in nature, consultation with ~~and/or monitoring by a~~ the Tribal ~~representative~~Monitor will ~~may~~ be necessary. In addition, Consulting Tribes, including the YSMN and MBMI, shall be notified of any pre-contact archeological discoveries that may occur during project construction. Should any pre-contact archaeological inadvertent discoveries occur that are not covered by the CRMIDP, the Tribe and the Town shall consult in good faith on the appropriate treatment and evaluation of the site and the reburial and/or curation of the cultural materials.

Threshold C: Would the Project disturb any human remains, including those interred outside of formal cemeteries?

The Project would result in potentially significant impacts associated with the disturbance of human remains, including those interred outside of formal cemeteries. With incorporation of MM-CUL-5, impacts associated with human remains would be less than significant with mitigation incorporated.

MM-CUL-5 **Inadvertent Discovery of Human Remains.** In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the county coroner shall be immediately notified of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the county coroner has determined the appropriate treatment and disposition of the human remains. If the county coroner determines that the remains are, or are believed to be, Native American, he or she shall follow all required protocols according to California Public Resources Code, Section 5097.98.

Threshold D: Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

AND

Threshold E: Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

The Project would result in potentially significant impacts associated with a substantial adverse change in the significance of a tribal cultural resource. With the incorporation of MM-CUL-1 through MM-CUL-5, impacts associated with tribal cultural resources would be less than significant with mitigation incorporated.

Threshold F: Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The Project would result in potentially significant impacts with regard to the potential to destroy a unique paleontological resource. With implementation of MM-GEO-1, impacts associated with unique paleontological resources would be less than significant.

MM-GEO-1 Prior to commencement of any grading activity on-site, the applicant shall retain a qualified paleontologist per the SVP (2010) guidelines. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the Project. The PRIMP shall be consistent with the SVP (2010) guidelines and should outline requirements for preconstruction meeting attendance and worker environmental awareness training, where monitoring is required within the proposed Project site based on construction plans and/or geotechnical reports, procedures for adequate paleontological monitoring and discoveries treatment, and paleontological methods (including sediment sampling for microvertebrate fossils), reporting, and collections management. The qualified paleontologist shall attend the preconstruction meeting and a qualified paleontological monitor shall be on-site during all rough grading and other significant ground-disturbing activities (including augering) in previously undisturbed, fine-grained Pleistocene alluvial deposits. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will remove the rope and allow grading to recommence in the area of the find. Salvaged fossils deemed to be significant shall be donated to an accredited repository with retrievable storage such as the San Bernardino County Museum, Natural History Museum of Los Angeles County, or the Western Science Center. Costs for preparing the fossils for accessioning into the accredited repository and any associated curation fees shall be paid by the Project proponent.

Threshold G: Would the Project result in a cumulatively considerable impact to cultural, tribal cultural, or paleontological resources?

The Project would not result in cumulatively considerable impacts to cultural, tribal cultural, or paleontological resources and impacts would be **less than significant**.

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4.6 Greenhouse Gas Emissions

This section describes the existing greenhouse gas (GHG) conditions of the 1M Warehouse Project (Project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the Project.

In addition to the documents incorporated by reference (see Section 2.7 of Chapter 2 of this environmental impact report [EIR]), the following analysis is based, in part, on the following sources:

- Air Quality, Greenhouse Gas Emissions, and Energy Modeling Inputs and Outputs, prepared by Dudek in May 2023 (Appendix B-1)
- Transportation Impact Analysis, prepared by Dudek in January 2023 (Appendix J)

4.6.1 Existing Conditions

Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017a).

The greenhouse effect is the trapping and build-up of heat in the atmosphere near the Earth's surface (troposphere). The greenhouse effect traps heat in the troposphere through a threefold process as follows: short-wave radiation emitted by the Sun is absorbed by the Earth, the Earth emits a portion of this energy in the form of long-wave radiation, and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of that warming since the mid-twentieth century and is the most significant driver of observed climate change (IPCC 2013; EPA 2017a). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2013). Continued emissions of GHGs will cause further warming and changes in all components of the climate system.

Greenhouse Gases

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code Section 38505(g), for purposes of administering many of the state's primary GHG emissions reduction programs, GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3) (see also 14 CCR 15364.5).[1] Some GHGs, such as CO_2, CH_4, and N_2O, are emitted into the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as HFCs, PFCs, and SF_6, which are associated with certain industrial products and processes. The following paragraphs provide a summary of the most common GHGs and their sources.[2]

Carbon Dioxide. CO_2 is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO_2 include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO_2 are from the combustion of fuels such as coal, oil, natural gas, and wood and changes in land use.

Methane. CH_4 is produced through both natural and human activities. CH_4 is a flammable gas and is the main component of natural gas. CH_4 is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide. N_2O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N_2O. Sources of N_2O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N_2O as a propellant (such as in rockets, racecars, and aerosol sprays).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are powerful synthetic GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric ozone-depleting substances (e.g., CFCs, hydrochlorofluorocarbons [HCFCs], and halons). The most prevalent fluorinated gases include the following:

- **Hydrofluorocarbons:** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to ozone-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- **Perfluorocarbons:** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives (along with HFCs) to the ozone depleting substances. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Since PFCs have stable

[1] Climate forcing substances include GHGs and other substances such as black carbon and aerosols. This discussion focuses on the seven GHGs identified in the California Health and Safety Code Section 38505, because impacts associated with other climate forcing substances are not evaluated herein.

[2] The descriptions of GHGs are summarized from the Intergovernmental Panel on Climate Change's Second Assessment Report and Fourth Assessment Report (IPCC 1995, 2007), the California Air Resources Board's Glossary of Terms Used in GHG Inventories (CARB 2018), and the U.S. Environmental Protection Agency's Glossary of Climate Change Terms (EPA 2016).

molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.

- **Sulfur Hexafluoride:** SF_6 is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF_6 is used for insulation in electric power transmission and distribution equipment, is used in semiconductor manufacturing and the magnesium industry, and is used as a tracer gas for leak detection.
- **Nitrogen Trifluoride:** NF_3 is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.

Chlorofluorocarbons. CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere) and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric ozone (O_3).

Hydrochlorofluorocarbons. HCFCs are a large group of compounds, whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but include one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Black Carbon. Black carbon is a component of fine particulate matter, which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived species that varies spatially, which makes it difficult to quantify the global warming potential. Diesel particulate matter emissions are a major source of black carbon and are toxic air contaminants that have been regulated and controlled in California for several decades to protect public health. In relation to declining diesel particulate matter from the California Air Resources Board's (CARB's) regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have reduced by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2014). CARB's draft 2022 Scoping Plan Update (CARB 2022) identifies that in 2017 the inventory was approximately 8 million metric tons (MMT) of CO_2 equivalent (MT CO_2e) of black carbon and that under current strategies black carbon from transportation is expected to be reduced by over 60% by year 2030.

Water Vapor. The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone. Tropospheric O_3, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O_3, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O_2), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O_3, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols. Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo). The Intergovernmental Panel on Climate Change (IPCC) developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons (MT) of CO_2e.

The current version of the California Emissions Estimator Model (CalEEMod) (Version 2022.1) assumes that the GWP for CH_4 is 25 (so emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298, based on the IPCC's Fourth Assessment Report (IPCC 2007). The GWP values identified in CalEEMod were applied to the Project.

Greenhouse Gas Inventories

Global Inventory

Anthropogenic GHG emissions worldwide in 2019 totaled approximately 52,400 MMT of CO_2e, excluding land use change and forestry (PBL 2020). The top six GHG emitters include China, the United States, the Russian Federation, India, Japan, and the European Union, which accounted for approximately 62% of the total global emissions, or approximately 32,500 MMT CO_2e (PBL 2020). Table 4.6-1 presents the top GHG-emissions-producing countries.

Table 4.6-1. Six Top Greenhouse-Gas-Producer Countries and the European Union

Emitting Countries (listed in order of emissions)	Greenhouse Gas Emissions (MMT CO_2e)
China	14,000
United States	6,600
European Union	4,300
India	3,700
Russian Federation	2,500
Japan	1,400
Total	**32,500**

Source: PBL 2020.
Note: MMT CO_2e = million metric tons of carbon dioxide equivalent.

National Inventory

Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 to 2019 (EPA 2021), total United States GHG emissions were approximately 6,558.3 MMT CO_2e in 2019 (EPA 2021). The primary GHG emitted by human activities in the United States was CO_2, which represented approximately 80.1% of total GHG emissions (5,255.8 MMT CO_2e). The largest source of CO_2, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 92.4% of CO_2 emissions in 2019 (4,856.7 MMT CO_2e). Relative to 1990, gross United States GHG emissions in 2019 were 1.8% higher; however, the gross emissions were down from a high of 15.6% above

1990 levels in 2007. GHG emissions decreased from 2018 to 2019 by 1.7% (113.1 MMT CO_2e) and overall, net emissions in 2019 were 13% below 2005 levels (EPA 2021).

State Inventory

According to California's 2000–2019 GHG emissions inventory (2021 edition), California emitted approximately 418 MMT CO_2e in 2019, including emissions resulting from out-of-state electrical generation (CARB 2021a). The sources of GHG emissions in California include transportation, industry, electric power production from both in-state and out-of-state sources, residential and commercial activities, agriculture, high-GWP substances, and recycling and waste. Table 4.6-2 presents California GHG emission source categories and their relative contributions to the emissions inventory in 2019.

Table 4.6-2. Greenhouse Gas Emissions Sources in California

Source Category	Annual GHG Emissions (MMT CO_2e)	Percent of Total[a]
Transportation	166.1	39.7%
Industrial	88.2	21.1%
Electric power	58.8	14.1%
Commercial and residential	43.8	10.5%
Agriculture	31.8	7.6%
High global-warming potential substances	20.6	4.9%
Recycling and waste	8.9	2.1%
Total	**418.2**	**100%**

Source: CARB 2021a.
Notes: GHG = greenhouse gas; MMT CO_2e = million metric tons of carbon dioxide equivalent; GWP = global warming potential. Emissions reflect 2018 California GHG inventory.
[a] Percent of total has been rounded, and total does not sum due to rounding.

Between 2000 and 2019, per-capita GHG emissions in California have dropped from a peak of 14.0 MT CO_2e per person in 2001 to 10.5 MT CO_2e per person in 2019, representing an approximate 25% decrease. In addition, total GHG emissions in 2019 were approximately 7 MMT CO_2e lower than 2018 emissions (CARB 2021a).

Local Inventory

The Town of Apple Valley (Town) has an adopted Climate Action Plan (CAP), which was approved in July 2010. The Town adopted a 2019 CAP Update in 2021, which includes the following 2019 GHG emissions inventory as showin in Table 4.6.3 (Town of Apple Valley 2021):

Table 4.6-3. Town of Apple Valley Greenhouse Gas Emissions Summary by Sector – Year 2019

Source Category	Annual GHG Emissions (MT CO_2e)	Percent of Total[a]
Community		
Residential	118,327	19.80%
Commercial	31,071	5.20%
Industrial	10,371	1.74%

Table 4.6-3. Town of Apple Valley Greenhouse Gas Emissions Summary by Sector – Year 2019

Source Category	Annual GHG Emissions (MT CO_2e)	Percent of Total[a]
On-Road Transportation	405,797	67.90%
Solid Waste	17,229	2.88%
Off-Road Vehicles	11,479	1.92%
Subtotal	*594,274*	*99.43%*
Municipal		
Buildings and Facilities	1,332	0.22%
Employee Commute	195	0.03%
Municipal Fleet	286	0.05%
Police Fleet	685	0.11%
Solid Waste	909	0.15%
Subtotal	*3,407*	*0.57%*
Town-Wide Total	**597,681**	**100.00%**

Source: Town of Apple Valley 2021.
Notes: GHG = greenhouse gas; MT CO_2e = metric tons of carbon dioxide equivalent.
Emissions reflect 2019 Town of Apple Valley GHG inventory.
[a] Percent of total has been rounded, and total does not sum due to rounding.

As shown on Table 4.6-3, approximately 68% of the Town's GHG emissions in 2019 were attributed to transportation sources. All other sources combined accounted for about 32% of the Town's GHGs in 2019.

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014 IPCC Synthesis Report (IPCC 2014) indicated that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, rising sea levels, and ocean acidification (IPCC 2014).

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, frequency of severe weather events, and electricity demand and supply. The primary effect of global climate change has been a rise in average global tropospheric temperature. Reflecting the long-term warming trend since pre-industrial times, observed global mean surface temperature for the decade 2006–2015 was 0.87°C (likely between 0.75°C and 0.99°C) higher than the average over the 1850–1900 period (IPCC 2018). Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. Human activities are estimated to have caused approximately 1.0°C (1.8°F) of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C (1.4°F to 2.2°F) (IPCC 2018). Global warming is likely to reach 1.5°C (2.7°F) between 2030 and 2052 if it continues to increase at the current rate (IPCC 2018).

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The Office of Environmental Health Hazard Assessment identified various indicators of climate change in California, which are scientifically based measurements that track trends in various aspects of climate change. Many indicators reveal discernible evidence

that climate change is occurring in California and is having significant, measurable impacts in the state. Changes in the state's climate have been observed including an increase in annual average air temperature with record warmth from 2012 to 2016, more frequent extreme heat events, more extreme drought, a decline in winter chill, an increase in cooling degree days and a decrease in heating degree days, and an increase in variability of statewide precipitation (OEHHA 2018).

Warming temperatures and changing precipitation patterns have altered California's physical systems—the ocean, lakes, rivers, and snowpack—upon which the state depends. Winter snowpack and spring snowmelt runoff from the Sierra Nevada and southern Cascade Mountains provide approximately one-third of the state's annual water supply. Impacts of climate on physical systems have been observed such as high variability of snow-water content (i.e., amount of water stored in snowpack), decrease in spring snowmelt runoff, glacier change (loss in area), rise in sea levels, increase in average lake water temperature and coastal ocean temperature, and a decrease in dissolved oxygen in coastal waters (OEHHA 2018).

Impacts of climate change on biological systems, including humans, wildlife, and vegetation, have also been observed including climate change impacts on terrestrial, marine, and freshwater ecosystems. As with global observations, species responses include those consistent with warming: elevational or latitudinal shifts in range, changes in the timing of key plant and animal life cycle events, and changes in the abundance of species and in community composition. Humans are better able to adapt to a changing climate than plants and animals in natural ecosystems. Nevertheless, climate change poses a threat to public health as warming temperatures and changes in precipitation can affect vector-borne pathogen transmission and disease patterns in California as well as the variability of heat-related deaths and illnesses. In addition, since 1950, the area burned by wildfires each year has been increasing.

The California Natural Resources Agency (CNRA) has released four California Climate Change Assessments (2006, 2009, 2012, and 2018), which have addressed the following: acceleration of warming across the state, more intense and frequent heat waves, greater riverine flows, accelerating sea level rise, more intense and frequent drought, more severe and frequent wildfires, more severe storms and extreme weather events, shrinking snowpack and less overall precipitation, and ocean acidification, hypoxia, and warming. To address local and regional governments' need for information to support action in their communities, the Fourth Assessment (CNRA 2018a) includes reports for nine regions of the state, including the Inland Deserts region, which includes San Bernardino County where the Project is located. Key projected climate changes for the Inland Desert Region include the following (CNRA 2018a):

- Continued future warming over the Inland Deserts region. Across the region, average maximum temperatures are projected to increase around 6°F to 10°F by the mid-century, and 8°F to 14°F by the late century.
- Extreme temperatures are also expected to increase. The hottest day of the year may be up to 9°F warmer for many locations across the Inland Deserts region by the late century under certain model scenarios. The number of extremely hot days is also expected to increase across the region.
- Despite small changes in average precipitation, dry and wet extremes are both expected to increase. By the late twenty-first century, the wettest day of the year is expected to increase across most of the Inland Deserts region, with some locations experiencing a 30% increase under certain model scenarios. The combination of more intense rainfall and drier soils in an already very dry region will increase the probability of flash floods.
- Projections indicate that wildfire may increase over Southern California, but there remains uncertainty in quantifying future changes of burned area over the Inland Deserts region.

4.6.2 Relevant Plans, Policies, and Ordinances

Federal

Massachusetts v. EPA

In Massachusetts v. EPA (April 2007), the U.S. Supreme Court directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In December 2009, the administrator signed a final rule with the following two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act:

- The administrator found that elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is the "endangerment finding."
- The administrator further found the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (December 2007), among other key measures, includes the following, which aids in the reduction of national GHG emissions (EPA 2007):

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and direct National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy-efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Federal Vehicle Standards

In response to the U.S. Supreme Court ruling previously discussed, the Bush Administration issued Executive Order (EO) 13432 in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016 (75 FR 25324–25728).

In 2010, the Obama Administration issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean

fuels, and advanced vehicle infrastructure. In response to this directive, EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021 (77 FR 62624–63200). On January 12, 2017, the EPA finalized its decision to maintain the current GHG emissions standards for model years 2022–2025 cars and light trucks (EPA 2017b).

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018 (76 FR 57106–57513). The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6%–23% over the 2010 baselines.

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program applies to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

In August 2018, EPA and NHTSA proposed to amend certain fuel economy and GHG standards for passenger cars and light trucks and establish new standards for model years 2021 through 2026. Compared to maintaining the post-2020 standards now in place, the 2018 proposal would increase U.S. fuel consumption by about half a million barrels per day (2%–3% of total daily consumption, according to the Energy Information Administration) and would impact the global climate by 3/1000th of 1°C by 2100 (EPA and NHTSA 2018). California and other states have stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to implement global climate change initiatives.

On September 27, 2019, the EPA and NHTSA published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program (84 FR 51310), which became effective November 26, 2019. The Part One Rule revokes California's authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. On March 31, 2020, the EPA and NHTSA issued the Part Two Rule, which will go into effect 60 days after being published in the Federal Register. The Part Two Rule sets CO_2 emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026. On January 20, 2021, the Biden Administration issued an Executive Order (EO) on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, which includes review of Part One Rule by April 2021 and review of the Part Two Rule by July 2021 (The White House 2021).

On December 21, 2021, NHTSA finalized the CAFE Preemption rulemaking to withdraw its portions of the Part One Rule. The final rule concluded that the Part One Rule overstepped the agency's legal authority and established overly broad prohibitions that did not account for a variety of important state and local interests. Then, in March 2022, NHTSA established new fuel economy standards that would require an industry-wide fleet average of approximately 49 miles per gallon for passenger cars and light trucks in model year 2026, by increasing fuel efficiency by 8% annually for model years 2024 and 2025, and 10% annually for model year 2026.

The Inflation Reduction Act of 2022

The Inflation Reduction Act was signed into law by President Biden in August 2022. The bill includes specific investment in energy and climate reform and is projected to reduce GHG emissions within the United States by 40% as compared to 2005 levels by 2030. The bill allocates funds to boost renewable energy infrastructure (e.g., solar panels and wind turbines), includes tax credits for the purchase of electric vehicles, and includes measures that will make homes more energy efficient.

State

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, solid waste, water, and other state regulations and goals. The following text describes EOs, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

State Climate Change Targets

The State of California has taken a number of actions to address climate change. These include EOs, legislation, and CARB plans and requirements. These are summarized below.

EO S-3-05. EO S-3-05 (June 2005) established the following statewide goals: GHG emissions should be reduced to 2000 levels by 2010, GHG emissions should be reduced to 1990 levels by 2020, and GHG emissions should be reduced to 80% below 1990 levels by 2050.

Assembly Bill (AB) 32. In furtherance of the goals established in EO S-3-05, the legislature enacted AB 32. The bill is referred to as the California Global Warming Solutions Act of 2006 (September 27, 2006). AB 32 provided initial direction on creating a comprehensive multi-year program to limit California's GHG emissions at 1990 levels by 2020 and initiate the transformations required to achieve the state's long-range climate objectives.

CARB's 2007 Statewide Limit. In 2007, in accordance with California Health and Safety Code, Section 38550, CARB approved a statewide limit on the GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 MMT CO_2e).

CARB's Climate Change Scoping Plan. One specific requirement of AB 32 is for CARB to prepare a scoping plan for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (California Health and Safety Code, Section 38561[a]), and to update the plan at least once every 5 years. In 2008, CARB approved the first scoping plan. The Climate Change Scoping Plan: A Framework for Change (Scoping Plan) included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the state's long-range climate objectives. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards.
2. Achieving a statewide renewable energy mix of 33%.
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions.
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets.

5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (LCFS) (17 CCR 95480 et seq.).
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

The Scoping Plan also identified local governments as essential partners in achieving California's goals to reduce GHG emissions because they have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Specifically, the Scoping Plan encouraged local governments to adopt a reduction goal for municipal operations and for community emissions to reduce GHGs by approximately 15% from then levels (2008) by 2020. Many local governments developed community-scale local GHG reduction plans based on this Scoping Plan recommendation.

In 2014, CARB approved the first update to the Scoping Plan. The First Update to the Climate Change Scoping Plan: Building on the Framework (First Update) defined the state's GHG emission reduction priorities for the next 5 years and laid the groundwork to start the transition to the post-2020 goals set forth in EO S-3-05 and EO B-16-2012. The First Update concluded that California is on track to meet the 2020 target but recommended a 2030 mid-term GHG reduction target be established to ensure a continuum of action to reduce emissions (CARB 2014). The First Update recommended a mix of technologies in key economic sectors to reduce emissions through 2050 including energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies. As part of the First Update, CARB recalculated the state's 1990 emissions level, using more recent GWPs identified by the IPCC, from 427 MMT CO_2e to 431 MMT CO_2e (CARB 2014).

In 2015, as directed by EO B-30-15, CARB began working on an update to the Scoping Plan to incorporate the 2030 target of 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in EO S-3-05. Governor Jerry Brown called on California to pursue a new and ambitious set of strategies, in line with the five climate change pillars from his inaugural address, to reduce GHG emissions and prepare for the unavoidable impacts of climate change. In the summer of 2016, the legislature affirmed the importance of addressing climate change through passage of SB 32 (Chapter 249, Statutes of 2016) (discussed below).

In December 2017, CARB adopted the 2017 Climate Change Scoping Plan Update (2030 Scoping Plan) (CARB 2017). The 2030 Scoping Plan builds on the successful framework established in the initial Scoping Plan and First Update, while identifying new, technologically feasible and cost-effective strategies that will serve as the framework to achieve the 2030 GHG target and define the state's climate change priorities to 2030 and beyond. The strategies' known commitments include implementing renewable energy and energy efficiency (including the mandates of SB 350), increased stringency of the LCFS, measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and increased stringency of SB 375 targets. To fill the gap in additional reductions needed to achieve the 2030 target, it recommends continuing the cap-and-trade program and a measure to reduce GHGs from refineries by 20%.

CARB released the *Final 2022 Scoping Plan Update* in December 2022, which outlines the state's plan to reach carbon neutrality by 2045 or earlier, while also assessing the progress the state is making toward reducing GHG emissions by at least 40% below 1990 levels by 2030, as is required by SB 32 and laid out in the Second Update.

The carbon neutrality goal requires CARB to expand proposed actions from only the reduction of anthropogenic sources of GHG emissions to also include those that capture and store carbon (e.g., through natural and working lands, or mechanical technologies). The carbon reduction programs build on and accelerate those currently in place, including moving to zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options such as green hydrogen[3] (CARB 2022).

The *Final 2022 Scoping Plan Update* also emphasizes that there is no realistic path to carbon neutrality without carbon removal and sequestration, and to achieve the state's carbon neutrality goal, carbon reduction programs must be supplemented by strategies to remove and sequester carbon. Strategies for carbon removal and sequestration include carbon capture and storage (CCS) from anthropogenic point sources, where CO_2 is captured as it leaves a facility's smokestack and is injected into geologic formations or used in industrial materials (e.g., concrete); and carbon dioxide removal (CDR) from ambient air, through mechanical (e.g., direct air capture with sequestration [DACS]) or nature-based (e.g., management of natural and working lands) applications.

In July 2021, Governor Gavin Newsom directed CARB to accelerate efforts to achieve the state's climate stabilization and GHG reduction goals, including to "identify a pathway for achieving carbon neutrality a full decade earlier than the existing target of 2045."

CARB's Regulations for the Mandatory Reporting of Greenhouse Gas Emissions. CARB's Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (17 CCR 95100–95157) incorporated by reference certain requirements that EPA promulgated in its Final Rule on Mandatory Reporting of Greenhouse Gases (Title 40, CFR, Part 98). Specifically, Section 95100(c) of the Mandatory Reporting Regulation incorporated those requirements that EPA promulgated in the Federal Register on October 30, 2009; July 12, 2010; September 22, 2010; October 28, 2010; November 30, 2010; December 17, 2010; and April 25, 2011. In general, entities subject to the Mandatory Reporting Regulation that emit over 10,000 MT CO_2e per year are required to report annual GHGs through the California Electronic GHG Reporting Tool. Certain sectors, such as refineries and cement plants, are required to report regardless of emission levels. Entities that emit more than the 25,000 MT CO_2e per-year threshold are required to have their GHG emission report verified by a CARB-accredited third party.

EO B-18-12. EO B-18-12 (April 2012) directed state agencies, departments, and other entities under the governor's executive authority to take action to reduce entity-wide GHG emissions by at least 10% by 2015 and 20% by 2020, as measured against a 2010 baseline. EO B-18-12 also established goals for existing state buildings for reducing grid-based energy purchases and water use.

SB 605 and SB 1383. SB 605 (2014) requires CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants in the state, and SB 1383 (2016) requires CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of short-lived climate pollutants (40% below 2013 levels by 2030 for CH_4 and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon) and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its Short-Lived Climate Pollutant Reduction Strategy in March

[3] Green hydrogen refers to hydrogen that is generated by renewable energy or from low-carbon power, and has significantly lower associated carbon emissions than grey hydrogen, which is produced using natural gas and makes up the majority of hydrogen production. For the purposes of the *Draft 2022 Scoping Plan*, the term "green hydrogen" is not limited to only electrolytic hydrogen produced from renewables.

2017. The Short-Lived Climate Pollutant Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, CH_4, and fluorinated gases.

EO B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in EO S-3-05. To facilitate achieving this goal, EO B-30-15 called for CARB to update the Scoping Plan to express the 2030 target in terms of MMT CO_2e. The EO also called for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets.

Senate Bill (SB) 32 and AB 197. SB 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to the CARB Board as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

EO B-55-18. EO B-55-18 (September 2018) establishes a new statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." This EO directs CARB to "work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal."

AB 1279. The Legislature enacted AB 1279, the California Climate Crisis Act, in September 2022. The bill declares the policy of the state to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter. Additionally, the bill requires that by 2045, statewide anthropogenic GHG emissions be reduced to at least 85% below 1990 levels.

AB 1757. AB 1757 (September 2022) requires the CNRA to determine a range of targets for natural carbon sequestration, and for nature-based climate solutions that reduce GHG emissions for future years 2030, 2038, and 2045. These targets are to be determined by no later than January 1, 2024, and are established to support the state's goals to achieve carbon neutrality and foster climate adaptation and resilience.

Building Energy

Title 24, Part 6. Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC) (and revised if necessary) (California Public Resources Code, Section 25402[b][1]). The regulations receive input from members of industry, as well as the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (California Public Resources Code, Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code, Section 25402[d]) and cost effectiveness (California Public Resources Code, Sections 25402[b][2] and [b][3]). As a result, these standards save energy, increase electricity supply reliability,

increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment. The 2019 Title 24 standards are the currently applicable building energy efficiency standards and became effective on January 1, 2020.

The 2022 Title 24 standards will improve upon the 2019 standards for new construction of, and additions and alterations to, residential and nonresidential buildings. CEC adopted the 2022 Title 24 Energy Code in August 2021 and the California Building Standards Commission approved incorporating the updated code into the California Building Standards Code (CALGreen) in December 2021. The 2022 Energy Code will go into effect on January 1, 2023. The 2022 Energy Code focuses on four key areas in newly constructed homes and businesses:

- Encouraging electric heat pump technology for space and water heating, which consumes less energy and produces fewer emissions than gas-powered units
- Establishing electric-ready requirements for single-family homes to position owners to use cleaner electric heating, cooking, and electric vehicle (EV) charging options whenever they choose to adopt those technologies
- Expanding solar photovoltaic (PV) system and battery storage standards to make clean energy available on site and complement the state's progress toward a 100% clean electricity grid
- Strengthening ventilation standards to improve indoor air quality

Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CALGreen and establishes minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals. The CALGreen 2019 standards, which are the current standards, became effective January 1, 2020. CALGreen instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, and state-owned buildings, as well as schools and hospitals. The current mandatory standards require the following:

- In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for low-emitting, fuel-efficient and carpool/van pool vehicles.
- Construction shall facilitate future installation of EV supply equipment.
- Shade trees shall be planted to comply with specifications for surface parking areas, landscape areas, and hardscape areas.
- Water conserving plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with efficiency standards.
- Outdoor potable water use in landscaped areas shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources Model Water Efficient Landscape Ordinance, whichever is more stringent.
- Outdoor recycled water supply systems shall be installed in accordance with applicable state codes.
- Installations of heating, ventilation, and air conditioning (HVAC); refrigeration; and fire suppression equipment shall comply with specified standards.

The CALGreen standards also include voluntary efficiency measures that are implemented at the discretion of agencies and applicants.

Title 20. Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. The CEC certifies an appliance based on a manufacturer's demonstration that the appliance meets the standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwashers; clothes washers and dryers; cooking products; electric motors; low-voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems.

SB 1. SB 1 (August 2006, "Go Solar California" or "Million Solar Roofs") established a $3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. The goals included establishing solar energy systems as a viable mainstream option for both homes and businesses within 10 years of adoption and placing solar energy systems on 50% of new homes within 13 years of adoption.

AB 1470 (Solar Water Heating). This bill established the Solar Water Heating and Efficiency Act of 2007. The bill includes findings and declarations of the legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand.

AB 1109. Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general-purpose lighting to reduce electricity consumption by 50% for indoor residential lighting and by 25% for indoor commercial lighting.

Renewable Energy and Energy Procurement

SB 1078. SB 1078 (September 2002) established the Renewables Portfolio Standard (RPS) program, which required an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010 (EO S-14-08 and EO S-21-09).

SB 1368. SB 1368 (September 2006) required the CEC to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities.

EO S-14-08. EO S-14-08 (November 2008) focused on the contribution of renewable energy sources to meet the electrical needs of California while reducing the GHG emissions from the electrical sector. This EO required that all retail suppliers of electricity in California serve 33% of their load with renewable energy by 2020.

EO S-21-09 and SB X1-2. EO S-21-09 (September 2009) directed CARB to adopt a regulation consistent with the goal of EO S-14-08 by July 31, 2010. On September 23, 2010, CARB initially approved regulations to implement a Renewable Electricity Standard. However, this regulation was not finalized because of subsequent legislation (SB X1-2, Simitian, Statutes of 2011) signed by Governor Brown in April 2011.

SB X1-2 expanded the RPS by establishing a renewable energy target of 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind,

geothermal, fuel cells using renewable fuels, small hydroelectric generation (30 megawatts or less), digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location. SB X1-2 applies to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators.

SB 350. SB 350 (October 2015, Clean Energy and Pollution Reduction Act) further expanded the RPS by establishing a goal of 50% of the total electricity sold to retail customers in California per year be from renewable energy sources by December 31, 2030. In addition, SB 350 included the goal to double the energy efficiency savings in electricity and natural gas final end uses (e.g., heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the California Public Utilities Commission, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal. Regarding mobile sources, as one of its elements, SB 350 establishes a statewide policy for widespread electrification of the transportation sector, recognizing that such electrification is required for achievement of the state's 2030 and 2050 reduction targets (see California Public Utilities Code Section 740.12).

SB 100. SB 100 (2018) increased the standards set forth in SB 350 establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024; 52% by December 31, 2027; and 60% by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

SB 1020. SB 1020 (September 2022) revises the standards from SB 100, requiring the following percentage of retail sales of electricity to California end-use customers to come from eligible renewable energy resources and zero-carbon resources: 90% by December 31, 2035, 95% by December 31, 2040, and 100% by December 31, 2045.

Mobile Sources

State Vehicle Standards (AB 1493 and EO B-16-12). AB 1493 (July 2002) was enacted in response to the transportation sector accounting for more than half of California's CO_2 emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. EO B-16-12 (March 2012) required that state entities under the governor's direction and control support and facilitate the rapid commercialization of zero-emissions vehicles. It ordered CARB, CEC, California Public Utilities Commission, and other relevant agencies to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve benchmark goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050. This directive did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare. As explained under the "Federal Vehicle Standards" description above, EPA and NHTSA approved the SAFE Vehicles Rule Part One and Two, which revoked California's authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. As also explained above, in March 2022, EPA reinstated California's authority under the Clean Air Act to implement its own GHG emission standards and ZEV sales mandate.

EPA's action concludes its reconsideration of the 2019 SAFE-1 rule by finding that the actions taken under the previous administration as a part of SAFE-1 were decided in error and are now entirely rescinded.

Heavy Duty Diesel. CARB adopted the final Heavy-Duty Truck and Bus Regulation, Title 13, Division 3, Chapter 1, Section 2025, on December 31, 2014, to reduce particulate matter and NO_x emissions from heavy-duty diesel vehicles. The rule requires particulate matter filters be applied to newer heavier trucks and buses by January 1, 2012, with older vehicles required to comply by January 1, 2015. The rule will require nearly all diesel trucks and buses to be compliant with the 2010 model year engine requirement by January 1, 2023. CARB also adopted an Airborne Toxic Control Measure to limit idling of diesel-fueled commercial vehicles on December 12, 2013. This rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than 5 minutes at any location (13 CCR 2485).

EO S-1-07. EO S-1-07 (January 2007, implementing regulation adopted in April 2009) sets a declining LCFS for GHG emissions measured in CO_2e grams per unit of fuel energy sold in California. The target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020 (17 CCR 95480 et seq.). In September 2018, CARB approved amendments for the LCFS that require a 20% reduction in carbon intensity by year 2030. The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered.

SB 375. SB 375 (September 2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035 and to update those targets every 8 years. SB 375 requires each of the state's 18 regional metropolitan planning organizations to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan (RTP) that will achieve the GHG reduction targets set by CARB. If a metropolitan planning organization is unable to devise an SCS to achieve the GHG reduction target, the metropolitan planning organization must prepare an alternative planning strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to Government Code Section 65080(b)(2)(K), a SCS does not (1) regulate the use of land; (2) supersede the land use authority of cities and counties; or (3) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

In September 2010, CARB adopted the first SB 375 targets for the regional metropolitan planning organizations. The targets for the Southern California Association of Governments (SCAG) are an 8% reduction in emissions per capita by 2020 and a 13% reduction by 2035. Achieving these goals through adoption of an SCS is the responsibility of the metropolitan planning organizations. SCAG adopted its first RTP/SCS in April 2012. The plan quantified a 9% reduction by 2020 and a 16% reduction by 2035 (SCAG 2012). In June 2012, CARB accepted SCAG's quantification of GHG reductions and its determination the SCS, if implemented, would achieve SCAG targets. On April 4, 2016, the SCAG Regional Council adopted the 2016 RTP/SCS, which builds upon the progress made in the 2012 RTP/SCS. The updated RTP/SCS quantified an 8% reduction by 2020 and an 18% reduction by 2030 (SCAG 2016). In June 2016, CARB accepted SCAG's quantification of GHG reductions and its determination that the SCS, if implemented, would achieve SCAG targets. In March 2018, CARB approved SCAG's updated targets of an 8% reduction by 2020 and a 19% reduction by 2030, effective October 1, 2018, which are consistent with the reduction targets from the Connect SoCal (2020-2045 RTP/SCS). In September 2020, SCAG adopted its 2020-2045 RTP/SCS and CARB accepted the 2020-2045 RTP/SCS emission quantification in October 2020.

Advanced Clean Cars Program and Zero-Emissions Vehicle Program. The Advanced Clean Cars (ACC) I program (January 2012) is an emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package of regulations: the Low-Emission Vehicle (LEV) regulation for criteria air pollutant and GHG emissions and a technology forcing regulation for zero-emission vehicles (ZEV) that contributes to both types of emission reductions (CARB 2021b). The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars. To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75% less smog-forming pollution than the average new car sold in 2015. The ZEV program will act as the focused technology of the ACC I program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid EVs in the 2018 to 2025 model years.

The ACC II program, which was adopted in August 2022, established the next set of LEV and ZEV requirements for model years after 2025 to contribute to meeting federal ambient air quality ozone standards and California's carbon neutrality standards (CARB 2021b). The main objectives of ACC II are as follows:

- Maximize criteria and GHG emission reductions through increased stringency and real-world reductions.
- Accelerate the transition to ZEVs through both increased stringency of requirements and associated actions to support wide-scale adoption and use.

AB 1236. AB 1236 (October 2015) required a city, county, or city and county to approve an application for the installation of EV charging stations, as defined, through the issuance of specified permits, unless the city or county makes specified written findings based upon substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. The bill provided for appeal of that decision to the planning commission, as specified. The bill provided that the implementation of consistent statewide standards to achieve the timely and cost-effective installation of EV charging stations is a matter of statewide concern. The bill required EV charging stations to meet specified standards. The bill required a city, county, or city and county with a population of 200,000 or more residents to adopt an ordinance, by September 30, 2016, that created an expedited and streamlined permitting process for EV charging stations, as specified. The bill also required a city, county, or city and county with a population of less than 200,000 residents to adopt this ordinance by September 30, 2017.

EO N-79-20. EO N-79-20 (September 2020) requires CARB to develop regulations as follows: (1) Passenger vehicle and truck regulations requiring increasing volumes of new ZEVs sold in the State toward the target of 100% of in-state sales by 2035; (2) medium- and heavy-duty vehicle regulations requiring increasing volumes of new zero-emission trucks and buses sold and operated in the State toward the target of 100% of the fleet transitioning to zero-emission vehicles by 2045 everywhere feasible and for all drayage trucks to be zero emission by 2035; and (3) strategies, in coordination with other State agencies, the EPA and local air districts, to achieve 100% zero-emission from off-road vehicles and equipment operations in the State by 2035. EO N-79-20 called for the development of a Zero-Emissions Vehicle Market Development Strategy, which was released February 2021, to be updated every 3 years, that ensures coordination and implementation of the EO and outlines actions to support new and used ZEV markets. In addition, the EO specifies identification of near-term actions, and investment strategies, to improve clean transportation, sustainable freight, and transit options; and calls for development of strategies, recommendations, and actions by July 15, 2021, to manage and expedite the responsible closure and remediation of former oil extraction sites as the State transitions to a carbon-neutral economy.

Advanced Clean Trucks Regulation. The Advanced Clean Trucks (ACT) Regulation was also approved by CARB in 2020. The purpose of the ACT Regulation is to accelerate the market for zero-emission vehicles in the medium- and heavy-duty truck sector and to reduce air pollutant emissions generated from on-road mobile sources (CARB 2021c). The regulation has two components including (1) a manufacturer sales requirement and (2) a reporting requirement:

- **Zero-emission truck sales:** Manufacturers who certify Class 2b-8 chassis or complete vehicles with combustion engines will be required to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55% of Class 2b – 3 truck sales, 75% of Class 4 – 8 straight truck sales, and 40% of truck tractor sales.
- **Company and fleet reporting:** Large employers including retailers, manufacturers, brokers and others will be required to report information about shipments and shuttle services. Fleet owners, with 50 or more trucks, will be required to report about their existing fleet operations. This information will help identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs.

Solid Waste

AB 939, AB 341, AB 1826, and SB 1383. In 1989, AB 939, known as the Integrated Waste Management Act (California Public Resources Code, Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by the year 2000.

AB 341 (Chapter 476, Statutes of 2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle conducted several general stakeholder workshops and several focused workshops and in August 2015 published a discussion document titled AB 341 Report to the Legislature, which identifies five priority strategies that CalRecycle believes would assist the state in reaching the 75% goal by 2020, legislative and regulatory recommendations, and an evaluation of program effectiveness (CalRecycle 2012).

AB 1826 (Chapter 727, Statutes of 2014, effective 2016) requires businesses to recycle their organic waste (i.e., food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste) depending on the amount of waste they generate per week. This law also requires local jurisdictions across the state to implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. The minimum threshold of organic waste generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

SB 1383 (2016) requires a 50% reduction in organic waste disposal from 2014 levels by 2020, and a 75% reduction by 2025—essentially requiring the diversion of up to 27 million tons of organic waste—to reduce GHG emissions. SB 1383 also requires that not less than 20% of edible food that is currently disposed be recovered for human consumption by 2025.

Water

EO B-29-15. In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

EO B-37-16. Issued May 2016, EO B-37-16 directed the State Water Resources Control Board (SWRCB) to adjust emergency water conservation regulations through the end of January 2017 to reflect differing water supply conditions across the state. The SWRCB also developed a proposal to achieve a mandatory reduction of potable urban water usage that builds off the mandatory 25% reduction called for in EO B-29-15. The SWRCB and Department of Water Resources will develop new, permanent water use targets that build upon the existing state law requirements that the state achieve 20% reduction in urban water usage by 2020. EO B-37-16 also specifies that the SWRCB permanently prohibit water-wasting practices such as hosing off sidewalks, driveways, and other hardscapes; washing automobiles with hoses not equipped with a shut-off nozzle; using non-recirculated water in a fountain or other decorative water feature; watering lawns in a manner that causes runoff, or within 48 hours after measurable precipitation; and irrigating ornamental turf on public street medians.

EO N-10-21. In response to a state of emergency due to severe drought conditions, EO N-10-21 (July 2021) called on all Californians to voluntarily reduce their water use by 15% from their 2020 levels. Actions suggested in EO N-10-21 include reducing landscape irrigation, running dishwashers and washing machines only when full, finding and fixing leaks, installing water-efficient showerheads, taking shorter showers, using a shut-off nozzle on hoses, and taking cars to commercial car washes that use recycled water.

Other State Actions

Senate Bill 97. SB 97 (August 2007) directed the Governor's Office of Planning and Research to develop guidelines under the California Environmental Quality Act (CEQA) for the mitigation of GHG emissions. In 2008, the Office of Planning and Research issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (OPR 2008). The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. CNRA adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4[a]). The CEQA Guidelines require a lead agency to consider 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 GHG emissions (14 CCR 15064.4[b]). The CEQA Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, but instead allow a lead agency to develop, adopt, and apply its own thresholds

of significance or those developed by other agencies or experts. CNRA also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions (CNRA 2009a).

With respect to GHG emissions, the CEQA Guidelines state in Section 15064.4(a) that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance-based standards" (14 CCR 15064.4[a]). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent a project may increase or reduce GHG 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; and (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 GHG emissions (14 CCR 15064.4[b]).

EO S-13-08. EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs state agencies to take specified actions to assess and plan for such impacts. The final 2009 California Climate Adaptation Strategy report was issued in December 2009 (CNRA 2009b), and an update, Safeguarding California: Reducing Climate Risk, followed in July 2014 (CNRA 2014). To assess the state's vulnerability, the report summarizes key climate change impacts to the state for the following areas: agriculture, biodiversity and habitat, emergency management, energy, forestry, ocean and coastal ecosystems and resources, public health, transportation, and water. Issuance of the Safeguarding California: Implementation Action Plans followed in March 2016 (CNRA 2016). In January 2018, the CNRA released the Safeguarding California Plan: 2018 Update, which communicates current and needed actions that state government should take to build climate change resiliency (CNRA 2018b).

Local

The following local/regional regulations pertaining to GHGs would apply to the Project.

Mojave Desert Air Quality Management District

The Project is within the Mojave Desert Air Basin portion of San Bernardino County, which is under the jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD). The MDAQMD has adopted GHG emissions thresholds in its CEQA Guidelines but has not adopted a comprehensive strategy for reducing GHG emissions. The MDAQMD threshold is 100,000 tons of CO_2e per year, or approximately 90,718 MT CO_2e per year (MDAQMD 2016).

Southern California Association of Governments

SB 375 requires metropolitan planning organizations to prepare and include an SCS in their RTP. The SCAG Regional Council adopted the 2012 RTP/SCS in April 2012 (SCAG 2012), the 2016–2040 RTP/SCS (2016 RTP/SCS) was adopted in April 2016, and the 2020-2045 RTP/SCS (2020 RTP/SCS or Connect SoCal) was adopted in September 2020. Please see Section 4.12, Transportation for a discussion of SCAG's Connect SoCal, the 2020–2045 RTP/SCS. The 2012, 2016, and 2020 RTP/SCSs establish a development pattern for the region that, when integrated with the transportation network and other policies and measures, would reduce GHG emissions from transportation (excluding goods movement). The RTP/SCSs link the goals of sustaining mobility with the goals of fostering economic development; enhancing the environment; reducing energy consumption; promoting transportation-friendly development patterns; and encouraging all residents affected by socioeconomic,

geographic, and commercial limitations to be provided with fair access. The RTP/SCSs do not require that local general plans, specific plans, or zoning be consistent with it but provide incentives for consistency for governments and developers.

Town of Apple Valley General Plan

The Town of Apple Valley General Plan contains the following goals and policies applicable to GHGs and the Project (Town of Apple Valley 2009):

Air Quality Element

Goal: To preserve and enhance local and regional air quality.

Policy 1.E. The use of clean and/or renewable alternative energy sources for transportation, heating and cooling, and construction shall be encouraged by the Town.

Policy 1.F. The Town shall support, encourage, and facilitate the development of projects that enhance the use of alternative modes of transportation, including pedestrian-oriented retail and activity centers, dedicated bicycle paths and lanes, and community-wide multi-use trails.

Policy 1.G. Future residential, commercial, and industrial development and remodeling projects, shall strive to exceed Title 24 standards by 15% and/or achieve LEED certification or similar performance standards for buildings.

Policy 1.H. Residential, commercial, and industrial projects that reduce vehicle miles traveled (VMTs) by providing alternative transportation options, home office and live/work spaces, and/or promote employees living close to work are preferred.

Policy 1.I. The Town shall continue to reduce waste generation, enhance recycling or reuse programs, and expand grey water systems for landscape irrigation.

Policy 1.J. The Town shall promote the use of solar and alternative energies and give priority to projects that include the use of solar cells and other alternative energy sources in their designs.

Policy 1.K. The Town shall participate in regional GHG reduction planning efforts.

Energy and Mineral Resources Element

Goal: Assure the long-term availability and affordability of energy and mineral resources through conservative consumption, efficient use, and environmentally sensitive management practices.

Policy 1.A. The community and all economic sectors shall be urged to conserve energy, with particular focus on the inclusion of energy saving measures in transport systems, and in the planning and construction of urban uses.

Policy 1.B. Promote building design and construction that integrates alternative energy systems, including but not limited to solar, thermal, photovoltaics and other clean energy systems.

Policy 1.C. Proactively support state and federal legislation and regulations and long-term strategies that assure affordable and reliable production and delivery of electrical power to the community. The Town will encourage and facilitate the exploitation of local renewable resources by supporting public and private initiatives to develop and operate alternative systems of electricity generation, using wind, solar and other renewable energies.

Policy 1.D. The Town will encourage and facilitate the exploitation of local renewable resources by supporting public and private initiatives to develop and operate alternative systems of electricity generation, using wind, solar and other renewable energies.

Town of Apple Valley Climate Action Plan

As described previously, the Town adopted a CAP in July 2010, with the 2019 CAP Update adopted in 2021 as the most recent update. The 2019 CAP Update supports the Town's GHG emission reduction targets of 15% below 2005 levels by 2020, 40% below 2005 levels by 2030, and 80% below 2005 levels by 2050 and identifies measures to reduce municipal and community GHG emissions in the following categories: transportation, energy efficiency, renewable energy, and solid waste management (Town of Apple Valley 2021).

Community Operational - Transportation Measures

Measure CO-1. Encourage replacement of personal vehicles with hybrid or alternative fuel vehicles

Measure CO-2. Establish and enforce idling time limits for delivery vehicles. Idling shall not be permitted for more than 5 minutes.

Measure CO-3. Encourage the replacement of gasoline or diesel fleet vehicles with hybrid or alternative fuel vehicles, if available for intended use.

Measure CO-4. Establish an employee carpooling program, including incentives (preferred parking, flex time incentives, etc.) for participating employees.

Measure CO-5. (Encourage) Provide employees with free or discounted public transit passes.

Community Operational - Energy Efficiency Measures

Measure CO-6. Replace failing or failed fixtures and appliances with energy efficient fixtures and appliances. Light bulbs shall be replaced with CFL or LED blubs. Appliances shall be Energy Star rated.

Measure CO-7. Replace traditional water hears with an instant water heating system.

Measure CO-8. Replace traditional roofing with Cool Roofs.

Measure CO-9. Increase insulation in walls and roofs to a minimum R-30

Measure CO-10. Install weather stripping on all doors and windows.

Measure CO-11. Replace grass/turf areas with drought tolerant or native plants or with decorative rock or gravel.

Measure CO-12. Replace Water fixtures with high efficiency fixtures.

Renewable Energy Measures

Measure CO-13. Replace water heater and/or pool heater with a solar water heating system.

Measure CO-14. Install solar panels or photovoltaic system.

Community Operational - Solid Waste Management Measures

Measure CO-17. Increase recycling by 20%.

Measure CO-18. For Businesses, encourage two-sided printing and electronic document submittals to reduce paper waste.

New Development - General Measures

Measure ND-6. For projects, within the North Apple Valley Industrial Specific Plan, develop employee housing within one mile of the industrial project.

Measure ND-7. Preserve trees occurring on-site either through in situ protection during and after construction, or through transplant and relocation within landscaped areas.

New Development - Transportation Measures

Measure ND-9. During construction, encourage on-site and off-road construction equipment to utilize biodiesel fuel (a minimum of B20), expect for equipment where use of biodiesel fuel would void the equipment warranty.

Measure ND-10. Install bus stop(s) and secure scheduled transit service from Vitor Valley Transit Authority.

Measure ND-11. Install pedestrian, bicycle and/or equestrian trails connecting project to school(s), commercial project(s), or transit.

New Development – Energy Efficiency Measures

Measure ND-12. Building and site plan designs shall ensure that the project energy efficiency meet the applicable California Title 24 Efficiency Standards. Verification of increased energy efficiencies shall be documented in Title 24 Compliance Reports provided by the applicant and reviewed and approved by the Town prior to the issuance of the first building permit.

Measure ND-14. Use passive solar design by orienting buildings and incorporating landscaping to maximize passive solar heating during the winter and minimize solar heating during the summer.

Measure ND-15. To reduce energy demand associated with potable water conveyance.

Measure ND-16. Install Energy Star appliances and energy efficient fixtures.

Measure ND-17 Install all CFL or LED blubs.

ND-18. Install common area electric vehicle charging station(s) and secure bicycle racks.

New Development - Renewable Energy Measures

Measure ND-19. To reduce the project's energy use from the grid:

- Install solar panels/photovoltaic systems sufficient to provide electric power and heat water within the project, and/or
- Install other clean energy system sufficient to provide electric power and heat within the project, and/or

Measure ND-20. Install Solar or photovoltaic systems on new roofs whether on residential, commercial, or industrial buildings.

Measure ND-21. Use on-site generated biogas in appropriate applications.

Measure ND-22. Install combined heat and power facilities in appropriate applications.

Measure ND-23. Specify rubberized and/or recycled asphalt for roads and driveways to the extent economically viable.

New Development - Solid Waste Management Measures

Measure ND-24. Recycle and/or salvage non-hazardous construction and demolition waste and develop and implement a construction waste management plan quantifying the reduction in the waste system.

Measure ND-25. Reuse construction waste in project features.

Measure ND-26. Facilitate the reduction waste generated by building occupants that is hauled to and disposed of in landfills by providing easily accessible areas that serve each building and are dedicated to the collection and storage of paper, cardboard, glass, plastics, and metals.

4.6.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to GHGs/climate change are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to GHG emissions would occur if the Project would:

A. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
B. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.
C. Result in cumulatively considerable impacts with regard to greenhouse gas emissions.

The Town has not adopted a numeric significance threshold for determining significant impacts associated with GHG emissions. Air districts typically act in an advisory capacity to local governments in establishing the framework for environmental review of air pollution impacts under CEQA. This may include recommendations regarding significance thresholds, analytical tools to estimate emissions and assess impacts, and mitigations for potentially significant impacts. Although air districts will also address some of these issues on a project-specific basis as

responsible agencies, they may provide general guidance to local governments on these issues (SCAQMD 2008). While the Project is located within the jurisdiction of the MDAQMD, both MDAQMD and the South Coast Air Quality Management District (SCAQMD) recommended thresholds are discussed below. Because SCAQMD's thresholds are more stringent and are backed by substantial evidence from an expert agency, the SCAQMD's recommended thresholds are utilized for determining the potential significance of impacts for the Project, as discussed below.

On May 13, 2010, EPA finalized the GHG Tailoring Rule (75 FR 31514, June 3, 2010). The Tailoring Rule sets major source emissions thresholds that define when federal operating permits under Prevention Significant Deterioration (PSD) or Title V are required. The Tailoring Rule establishes a threshold of 100,000 tons per year or 90,719 MT per year of GHGs from new sources above which sources are considered major sources requiring a federal operating permit. As such, the MDAQMD has adopted a significance threshold for GHGs of 100,000 tons per year. More specifically, 100,000 tons per year of GHG emissions from a single facility constitutes major sources that require a federal operating permit. Similarly, the MDAQMDs NO_x significance threshold of 25 tons per year is equal to the major source threshold applicable to areas designated severe non-attainment for ozone. As such, use of the EPAs determination of whether a Project is a major source and consequently establishing a threshold based on that is supported by substantial evidence.

The SCAQMD, which oversees the adjacent South Coast Air Basin, has recommended more stringent numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects; however, these thresholds were not adopted. The SCAQMD formed a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds until statewide significance thresholds or guidelines are established. From December 2008 to September 2010, the SCAQMD hosted working group meetings and revised the draft threshold proposal several times, although it did not officially provide these proposals in a subsequent document. The SCAQMD has continued to consider adoption of significance thresholds for residential and general land use development projects. The most recent proposal, issued in September 2010, uses the following tiered approach to evaluate potential GHG impacts from various uses (SCAQMD 2010):

Tier 1 Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.

Tier 2 Consider whether or not the proposed project is consistent with a locally adopted GHG reduction plan that has gone through public hearing and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.

Tier 3 Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MT CO_2e per year threshold for industrial uses and stationary projects would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MT CO_2e per year), commercial projects (1,400 MT CO_2e per year), and mixed-use projects (3,000 MT CO_2e per year). Under option 2, a single numerical screening threshold of 3,000 MT CO_2e per year would be used for all non-industrial projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.

Tier 4 Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency targets were established based on the goal of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2020 efficiency targets are 4.8 MT CO_2e per service population for project level

analyses and 6.6 MT CO_2e per service population for plan level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.

Tier 5 Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

Based on the supporting analysis outlined in SCAQMD's draft GHG guidance and meeting notes, this 3,000 MT CO_2e per year level would capture 90% of GHG emissions from new residential or commercial projects in the region (SCAQMD 2008). This type of market capture analysis captures a substantial fraction of the GHG emissions from future development to accommodate for future population and job growth and excludes small development projects that would contibute a relatively small fraction of the cumulative statewide GHG emissions.

While the Town has not adopted a numeric significance threshold, the 3,000 MT CO_2e per year threshold has been applied herein to evaluate the potential for the Project to resut in a significant GHG emissions impact under CEQA because it is more stringent than the MDAQMD threshold and the SCAQMD is also an expert agency in the Southern California region. Further, the SCAQMD provides substantial evidence that the thresholds are consistent with policy goals and 2050 GHG emissions reduction targets set by the State. Specifically, the thresholds were set at levels that capture 90% of the GHG emissions form the above-described uses, consistent with EO S-3-05 target of reducing GHGs to 80% below 1990 levels by 2050.

Methodology

Emissions from construction and operation of the Project and existing land uses were estimated using the California Emissions Estimator Model (CalEEMod) Version 2022.1 (CAPCOA 2022).[4] CalEEMod input parameters, including the Project land use type and size and construction schedule, were based on information provided by the Project Applicant, or default model assumptions if Project specifics were unavailable.

Construction

Construction of the Project would result in GHG emissions primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. All details for construction criteria air pollutants discussed in Section 4.2.3 (Methodology, Construction subsection) of Section 4.2, Air Quality, are also applicable for the estimation of construction-related GHG emissions. See Section 4.2.3 for a discussion of construction emissions calculation methodology and assumptions used in the GHG emissions analysis.

Operation

Project operations would generate CO_2, CH_4, and N_2O emissions. Primary emissions sources would include:

- Area Sources (landscape and site maintenance activities)
- Energy Sources (combustion emissions associated with natural gas and electricity)
- Mobile Sources (on-road vehicles)
- Off-road Equipment
- Stationary Sources

[4] CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant emissions associated with the construction and operational activities from a variety of land use projects, such as residential, commercial, and industrial facilities.

- Solid Waste
- Water Supply, Treatment, and Distribution

Area Sources

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. The emissions associated with landscape maintenance equipment were calculated based on default assumptions provided in CalEEMod.

Energy Sources

GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions. GHG emissions associated with the natural gas and electricity usage associated with the Project were calculated by CalEEMod using default parameters.

Mobile Sources

All details for criteria air pollutants discussed in Section 4.2, Air Quality, are also applicable for the estimation of operational mobile source GHG emissions. It was assumed that the warehouse would operate 7 days per week; therefore, 365 days of vehicle emissions were assumed. Regulatory measures related to mobile sources include AB 1493 (Pavley) and related federal standards. AB 1493 required that CARB establish GHG emission standards for automobiles, light-duty trucks, and other vehicles determined by CARB to be vehicles that are primarily used for noncommercial personal transportation in the state. In addition, the National Highway Traffic Safety Administration and EPA have established corporate fuel economy standards and GHG emission standards, respectively, for automobiles and light-, medium-, and heavy-duty vehicles. Implementation of these standards and fleet turnover (replacement of older vehicles with newer ones) will gradually reduce emissions from the Project's motor vehicles. The effectiveness of fuel economy improvements was evaluated to the extent it was captured in CalEEMod for motor vehicles in 2025.

Off-Road Equipment

The most common type of cargo handling equipment are forklifts, pallet jacks, and yard trucks, which are designed for moving cargo containers. Yard trucks are also known as yard goats, utility tractors, hustlers, yard hostlers, and yard tractors. For this particular Project, based on the maximum square footage of building space permitted by the Project, on-site modeled (unmitigated) operational equipment includes a total of 130 forklifts (forklifts and pallet jacks, with a mix of 25% diesel and 75% CNG) and 3 diesel-fueled yard tractors operating at 24 hours a day for 365 days of the year. See Appendix B-1 for detailed calculations.

Stationary Sources

The Project would operate one diesel-fueled 300-horsepower (hp) fire pump for a maximum of 50 hours per year for routine testing and maintenance. CalEEMod defaults were used to estimate its emissions.

CalEEMod was utilized to estimate fugitive GHG emissions from refrigerants used for air conditioning (A/C) and refrigeration equipment. Different types of refrigeration equipment are used by different types of land uses and

CalEEMod generates default refrigerant values based on land use subtype and industry data from the US EPA. CalEEMod quantifies refrigerant emissions from leaks during regular operation and routine servicing over the equipment lifetime and then derives average annual emissions from the lifetime estimate but does not quantify emissions from the disposal of refrigeration and A/C equipment at the end of its lifetime.

Most of the refrigerants used today are HFCs or blends thereof, which can have high GWP values. However, California is required to reduce HFC emissions 40% below 2013 levels by 2030 under SB 1383. To help meet the HFC reduction goal, California adopted the same prohibitions that were previously in place at the federal level through the California Cooling Act (SB 1013) and through a regulation approved by CARB (CCR 17 Section 95371). Per CARB's regulations, new facilities with refrigeration equipment containing more than 50 pounds of refrigerant are prohibited from utilizing refrigerants with a GWP of 150 or greater as of January 1, 2022.

Solid Waste

Industrial land uses will result in the generation and disposal of solid waste. GHG emissions from landfills are associated with the anaerobic breakdown of material. GHG emissions associated with the disposal of solid waste associated with the Project were calculated by CalEEMod using default parameters.

Water Supply, Treatment, and Distribution

Indirect GHG emissions result from the production of electricity used to convey, treat, and distribute water and wastewater. The amount of electricity required to convey, treat, and distribute water depends on the volume of water as well as the sources of the water. The default water demand in CalEEMod was adjusted to match the Water Supply Assessment (Appendix J) prepared for the Project. Note that no outdoor water use was anticipated for the "parking lot" modeling land use in CalEEMod, and modeling defaults were adjusted to zero water use for this land use as a result.

4.6.4 Impacts Analysis

Threshold A: Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Significant and Unavoidable Impact. There is currently no construction related GHG emission numerical thresholds for development projects within the MDAQMD's jurisdiction. Therefore, the MDAQMD follows the SCAQMD recommendation in calculating the total GHG emissions for construction activities by amortizing the emissions over the life of a project. This is done by dividing construction-period GHG emissions by a 30-year Project life then adding that number to the annual operational phase GHG emissions. As such, Project construction emissions were amortized over a 30-year period and added to the annual operational phase GHG emissions. The amortized construction emissions are presented in Table 4.6-4.

Table 4.6-4. Estimated Annual Construction Greenhouse Gas Emissions

Year	CO_2	CH_4	N_2O	CO_2e
2023	51.50	0.00	0.00	51.75
2024	1,459.52	0.03	0.14	1,502.97
2025	666.66	0.02	0.04	680.55
Total	**2,177.68**	**0.05**	**0.18**	**2,235.27**

Table 4.6-4. Estimated Annual Construction Greenhouse Gas Emissions

Year	CO_2	CH_4	N_2O	CO_2e
			Amortized Construction Emissions	*74.51*

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; R = refrigerants; CO_2e = carbon dioxide equivalent.
See Appendix B-1 for complete results.

As shown in Table 4.6-4, total estimated GHG emissions generated during construction of the Project are approximately 2,235 MT CO_2e. Estimated Project-generated construction emissions amortized over 30 years would be approximately 75 MT CO_2e per year.

Operation of the Project would generate GHG emissions from area sources (landscape maintenance equipment operation), energy use (natural gas combustion and utility generation of electricity consumed by the project), mobile sources (vehicular traffic), off-road equipment (electric and diesel-fueled equipment), stationary sources (emergency diesel generator testing and maintenance), solid waste disposal, generation of electricity associated with water supply, treatment, and distribution and wastewater treatment. The estimated operational GHG emissions are shown in Table 4.6-5. Detailed operational model outputs are presented in Appendix B-1.

Table 4.6-5. Estimated Annual Operation Greenhouse Gas Emissions - Unmitigated

Emissions Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Mobile	15,788	0.12	1.57	16,282
Area	15.8	< 0.005	< 0.005	15.8
Energy	2,020	0.18	0.01	2,029
Water	307	8.15	0.20	569
Waste	90.6	9.05	0.00	317
Off-Road Equipment	12,662	0.31	0.04	12,683
Stationary	11.4	< 0.005	< 0.005	11.5
Total	**30,895**	**17.8**	**1.83**	**31,907**
			Amortized Construction Emissions	*74.51*
			Operations with Amortized Construction GHG Emissions	**37,982**

Source: See Appendix B-1 for complete results.
Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.

As shown in Table 4.6-5, the Project would result in approximately 31,907 MT CO_2e per year, which would exceed the SCAQMD GHG threshold of 3,000 MT CO_2e per year. Therefore, the Project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment prior to mitigation, and this would represent a cumulatively potentially significant impact.

Mitigation measures are required to minimize operational-related GHG impacts. Implementation of MM-AQ-1 (identified in Section 4.2) includes the requirement for all off-road cargo handling equipment to be zero-emission, which would reduce the long-term GHG emissions substantially. In addition, implementation of MM-AQ-1 would restrict the Project from including refrigerated storage space without additional CEQA review. MM-AQ-1 would also reduce the emission of GHGs through the inclusion of solar power, electrical infrastructure for equipment and vehicles, and sustainable design measures. Table 4.6-6 summarizes the mitigated annual operational emissions associated with the Project. Detailed operational model outputs are presented in Appendix B-1.

Table 4.6-6. Estimated Annual Operation Greenhouse Gas Emissions – Mitigated

Emissions Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Mobile	15,788	0.12	1.57	16,282
Area	15.8	< 0.005	< 0.005	15.8
Energy	3,993	0.37	0.04	4,013
Water	246	6.52	0.16	455
Waste	90.9	9.05	0.00	317
Refrigerants	0.00	0.00	0.00	0.00
Off-Road Equipment	0.00	0.00	0.00	0.00
Stationary	11.4	< 0.005	< 0.005	11.5
Total	**20,145**	**16.10**	**1.77**	**21,095**
			Amortized Construction Emissions	*74.51*
			Operations with Amortized Construction GHG Emissions	**21,169.5**

Source: See Appendix B-1 for complete results.
Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
Includes implementation of MM-AQ-1.

As depicted in Table 4.6-6, the Project would still exceed the applied threshold of 3,000 MT CO_2e per year after mitigation by approximately 18,170 MT CO_2e. No feasible mitigation measures beyond those already identified that would reduce these emissions to levels that are less than significant. Therefore, even with the incorporation of mitigation, long-term impacts associated with a cumulatively considerable increase in GHG emissions would be significant and unavoidable.

Summary

The Project ultimately exceeds the SCAQMD GHG threshold of 3,000 MT CO_2e per year and would represent a cumulatively potentially significant impact.

Threshold B: Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less-than-Significant Impact with Mitigation Incorporated. As previously stated, pursuant to Section 15064.4(a) of the CEQA Guidelines, a lead agency may rely on qualitative analysis or performance-based standards to determine the significance of impacts from GHG emissions. As such, the Project's consistency with SB 32 (2022 Scoping Plan), the Town's CAP, and with SCAG's RTP/SCS are discussed below. Although the Town's 2019 CAP Update does not include a clear mechanism for CEQA streamlining and is not a qualified plan under CEQA, it is included in this discussion for informational purposes. It should also be noted that the Project's consistency with the 2022 Scoping Plan also satisfies consistency with AB 32 since the 2022 Scoping Plan is based on the overall targets established by AB 32.

Project Consistency with State Reduction Targets and CARB's Scoping Plan

The California State Legislature passed the Global Warming Solutions Act of 2006 (Assembly Bill 32 [AB 32]) to provide initial direction to limit California's GHG emissions to 1990 levels by 2020 and initiate the state's long-range climate objectives. Since the passage of AB 32, the State has adopted GHG emissions reduction targets for future years beyond the initial 2020 horizon year. For the proposed Project, the relevant GHG emissions reduction

targets include those established by Senate Bill 32 (SB 32) and AB 1279, which require GHG emissions be reduced to 40% below 1990 levels by 2030, and 85% below 1990 levels by 2045, respectively. In addition, AB 1279 requires the state achieve net zero GHG emissions by no later than 2045 and achieve and maintain net negative GHG emissions thereafter.

As defined by AB 32, the California Air Resources Board (CARB) is required to develop The Scoping Plan, which provides the framework for actions to achieve the State's GHG emission targets. The Scoping Plan is required to be updated every five years and requires CARB and other state agencies to adopt regulations and initiatives that will reduce GHG emissions statewide. The first Scoping Plan was adopted in 2008, and was updated in 2014, 2017, and most recently in 2022. While the Scoping Plan is not directly applicable to specific projects, nor is it intended to be used for project-level evaluations,[5] it is the official framework for the measures and regulations that will be implemented to reduce California's GHG emissions in alignment with the adopted targets. Therefore, a project would be found to not conflict with the statutes if it would meet the Scoping Plan policies and would not impede attainment of the goals therein.

CARB's 2017 Scoping Plan update was the first to address the state's strategy for achieving the 2030 GHG reduction target set forth in SB 32 (CARB 2017), and the most recent CARB 2022 Scoping Plan update outlines the state's plan to reduce emissions and achieve carbon neutrality by 2045 in alignment with AB 1279 and assesses progress is making toward the 2030 SB 32 target (CARB 2022). As such, given that SB 32 and AB 1279 are the relevant GHG emission targets, the 2017 and 2022 Scoping Plan updates that outline the strategy to achieve those targets, are the most applicable to the proposed Project.

The 2017 Climate Change Scoping Plan Update (Second Update) included measures to promote renewable energy and energy efficiency (including the mandates of SB 350), increase stringency of the Low Carbon Fuel Standard (LCFS), measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and increase stringency of SB 375 targets. The 2022 Scoping Plan for Achieving Carbon Neutrality (Third Update) builds upon and accelerates programs currently in place, including moving to zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; and displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines) (CARB 2022).

Many of the measures and programs included in the Scoping Plan would result in the reduction of Project-related GHG emissions with no action required at the Project level, including GHG emission reductions through increased energy efficiency and renewable energy production (SB 350), reduction in carbon intensity of transportation fuels (LCFS), and the accelerated efficiency and electrification of the statewide vehicle fleet (Mobile Source Strategy). Given that the proposed Project is also not anticipated to result in substantial increase in mobile trips (see Section 3.17, Transportation), the Project would also not conflict with the Second Update's goal of reducing GHG emissions through reductions in VMT statewide.

The 2045 carbon neutrality goal required CARB to expand proposed actions in the Third Update to include those that capture and store carbon in addition to those that reduce only anthropogenic sources of GHG emissions. The proposed Project would support the state's carbon neutrality goals, as implementation includes addition of urban-

[5] The Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009a).

tree and native plantings throughout the Project site, which represent opportunities for potential carbon removal and sequestration over the Project lifetime. However, the Third Update emphasizes that reliance on carbon sequestration in the state's natural and working lands will not be sufficient to address residual GHG emissions, and achieving carbon neutrality will require research, development, and deployment of additional methods to capture atmospheric GHG emissions (e.g., mechanical direct air capture). Given that the specific path to neutrality will require development of technologies and programs that are not currently known or available, the Project's role in supporting the statewide goal would be speculative and cannot be wholly identified at this time.

Table 4.6-7 highlights the measures from the 2022 Scoping Plan that are relevant to the Project.

Table 4.6-7. Project Potential to Conflict with 2022 Scoping Plan

Sector	Action	Potential to Conflict
GHG Emissions Reductions Relative to the SB 32 Target	40% below 1990 levels by 2030	*No Conflict*. While the SB 32 GHG emissions reduction target is not an Action that is analyzed independently, it is included in Table 2-1 of the 2022 Scoping Plan for reference.
Smart Growth / VMT	VMT per capita reduced 25% below 2019 levels by 2030, and 30% below 2019 levels by 2045	*No Conflict*. The Project would not obstruct or interfere with agency efforts to meet this regional VMT reduction goal, including through implementation of SB 375. As detailed below, the Project would be consistent with the SCAG 2020–2045 RTP/SCS, which is the regional growth management strategy that targets per capita GHG reduction from passenger vehicles and light trucks in the Southern California region pursuant to SB 375.
Light-duty Vehicle (LDV) Zero Emission Vehicles (ZEVs)	100% of LDV sales are ZEV by 2035	*No Conflict*. As this action pertains to light-duty vehicle sales within California and the Project would not obstruct or interfere with its implementation. Furthermore, the Project would support the transition from fossil fuel LDV to ZEV through its provision of EV chargers (MM-AQ-1).
Truck ZEVs	100% of medium-duty vehicle (MDV)/ heavy-duty vehicle (HDV) sales are ZEV by 2040	*No Conflict*. As this action pertains to medium-duty vehicle and heavy-duty vehicle sales within California and the Project would not obstruct or interfere with its implementation. Furthermore, the Project would support the transition from fossil fuel medium-duty vehicle and heavy-duty vehicle to zero-emission vehicles through its installation of electrical infrastructure to support future truck charging stations (MM-AQ-1).
Electricity Generation	Sector GHG target of 38 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) in 2030 and 30 $MMTCO_2e$ in 2035	*No Conflict*. As this Action pertains to the statewide procurement of renewably generated electricity, the Project would not obstruct or interfere with its implementation. However, the Project

Table 4.6-7. Project Potential to Conflict with 2022 Scoping Plan

Sector	Action	Potential to Conflict
	Retail sales load coverage[1] 20 gigawatts (GW) of offshore wind by 2045 Meet increased demand for electrification without new fossil gas-fired resources	would support increased usage of renewable electricity through the installation of on-site solar panels sufficient to meet at least 50% of the Project's total operational energy requirements from within the building envelope (MM-AQ-1).
New Residential and Commercial Buildings	All electric appliances beginning 2026 (residential) and 2029 (commercial), contributing to 6 million heat pumps installed statewide by 2030	*No Conflict*. The Project would not obstruct or interfere with agency efforts to meet the all-electric appliance and heat pump goals.
Construction Equipment	25% of energy demand electrified by 2030 and 75% electrified by 2045	*No Conflict*. As this Action pertains to the electrification of off-road equipment across California, the Project would not obstruct or interfere with its implementation. However, the Project would support the Action through the requirement that all cargo handling and landscaping equipment be zero-emission (MM-AQ-1).
Low Carbon Fuels for Transportation	Biomass supply is used to produce conventional and advanced biofuels, as well as hydrogen	*No Conflict*. The Project would not obstruct or interfere with agency efforts to increase the provision of low carbon fuels for transportation.
Low Carbon Fuels for Buildings and Industry	In 2030s biomethane blended in pipeline Renewable hydrogen blended in fossil gas pipeline at 7% energy (~20% by volume), ramping up between 2030 and 2040 In 2030s, dedicated hydrogen pipelines constructed to serve certain industrial clusters	*No Conflict*. The Project would not obstruct or interfere with agency efforts to increase the provision of low carbon fuels for use in buildings and industry.
High GWP Potential Emissions	Low GWP refrigerants introduced as building electrification increases, mitigating HFC emissions	*No Conflict*. The Project would not obstruct or interfere with agency efforts to introduce low GWP refrigerants.

Source: CARB 2022.
Notes: GHG = greenhouse gas; SB = Senate Bill; VMT = vehicle miles traveled; SCAG = Southern California Association of Governments; RTP/SCS = Regional Transportation Plan/Sustainable Communities Strategy; EV = electric vehicle; MM = mitigation measure; GWP = global warming potential.

[1] As noted in Table 2-1 of the 2022 Scoping Plan, SB 100 speaks only to retail sales and state agency procurement of electricity (i.e., wholesale or non-retail sales and losses from storage and transmission and distribution lines are not subject to the law).

Based on the analysis in Table 4.6-7, the Project would be consistent with the applicable strategies and measures in the 2022 Scoping Plan.

Consistency with the Town Climate Action Plan

As previously stated, the 2019 CAP Update presents a number of strategies that will make it possible for the Town to meet the recommended GHG emissions targets that are consistent with the reduction targets of the state. As described in the 2019 CAP Update:

> Section IV.ii provides, in broad terms, policies that may contribute to GHG reductions. These measures are intended as a menu for existing and future development, any combination of which can be implemented to reach reduction targets on a project-by-project basis.

The Project's consistency with applicable 2019 CAP Update strategies is therefore based on the overarching categories described within the 2019 CAP Update, rather than the entire menu of policies. Without mitigation, the Project would not be consistent with many of these strategies. However, with implementation of MM-AQ-1, the Project would be consistent with all strategies and would support the Town's CAP.

- Transportation Measures. The Project would require measures that would support reducing GHGs through the transportation sector. Specifically, implementation of MM-AQ-1 would require installation of EV chargers and infrastructure for electric equipment and vehicles. In addition, MM-AQ-1 requires the establishment of transportation demand management programs for occupants with more than 250 employees in order to reduce employee commute vehicle emissions, as well as requirements to limit idling. Finally, although the requirement for all cargo handling and landscaping equipment to be zero-emission would not specifically be in the transportation sector, this aspect of MM-AQ-1 would also substantially reduce GHG emissions.
- Energy Efficiency Measures. The Project would require measures that would support energy efficiency, as specified in MM-AQ-1. These would include, but not limited to, the installation of on-site solar panels sufficient to meet at least 90% of the Project's total operational energy requirements from within the building envelope.
- Renewable Energy Measures. The Project would require the generation of renewable energy through the installation of on-site solar panels sufficient to meet at least 90% of the Project's total operational energy requirements from within the building envelope, as described in MM-AQ-1.
- Solid Waste Management Measures. The Project would be consistent with the Solid Waste Management Measures of the 2019 CAP Update due to PDF-AQ-1, which requires that 65% of the nonhazardous construction and demolition waste shall be recycled and/or salvaged for reuse.

Potential to Conflict with SCAG's RTP/SCS

The SCAG 2020–2045 RTP/SCS is a regional growth management strategy that targets per capita GHG reduction from passenger vehicles and light trucks in the Southern California region pursuant to SB 375. In addition to demonstrating the region's ability to attain the GHG emission-reduction targets set forth by CARB, the 2020-2045 RTP/SCS outlines a series of actions and strategies for integrating the transportation network with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. Thus, successful implementation of the 2020-2045 RTP/SCS would result in more complete communities with a variety of transportation and housing choices, while reducing automobile use.

The following strategies are intended to be supportive of implementing the 2020-2045 RTP/SCS and reducing GHGs: focus growth near destinations and mobility options; promote diverse housing choices; leverage technology innovations; support implementation of sustainability policies; and promote a green region (SCAG 2020). The strategies that pertain to residential development and SCAG's support of local jurisdiction sustainability efforts

would not apply to the Project. The Project's compliance with the remaining applicable strategies is presented below (also see Table 4.9-1 Consistency with 2020–2045 RTP/SCS Goals within Section 4.9, Land Use and Planning).

- **Focus Growth Near Destinations and Mobility Options.** The Project's compliance with this strategy of the 2020-2045 RTP/SCS is supported because the Project would introduce new jobs proximate to existing housing, which would reducing vehicle miles traveled. The Project's proximity to existing freeways also helps to reduce vehicle miles traveled and local truck traffic congestion.
- **Leverage Technology Innovations.** One of the technology innovations identified in the 2020-2045 RTP/SCS that would apply to the Project is the promotion and support of low emission technologies for transportation, such as alternative fueled vehicles to reduce per capita GHG emissions. For this particular Project, all cargo handling equipment will be powered by electricity.
- **Promote a Green Region.** The third applicable strategy within the 2020-2045 RTP/SCS, for individual developments, such as the Project, involves promoting a green region through efforts such as supporting local policies for renewable energy production and promoting more resource efficient development (e.g., reducing energy consumption) to reduce GHG emissions. The Project will feature rooftop solar panels in order to comply with this strategy.

Based on the analysis above, with mitigation, the Project would be consistent with the SCAG 2020-2045 RTP/SCS.

Summary

The Project demonstrates consistency with the CARB's Scoping Plan and would not conflict with other regulations regarding reductions to GHG emissions including AB 32, Title 24 an SB 32. Additionally, the Project would be consistent with the Town's 2019 CAP Update and the SCAG 2020–2045 RTP/SCS, with implementation of MM-AQ-1.

Threshold C: Would the Project result in cumulatively considerable impacts with regard to greenhouse gas emissions?

Significant and Unavoidable Impact**.** As previously discussed in Section 4.6.1, Existing Conditions, GHG emissions impacts are inherently cumulative in nature. As shown in Table 4.6-6, the Project would result in GHG emissions in exceedance of the SCAQMD significance threshold, even after the implementation of all feasible mitigation. Therefore, Project GHG emissions would be cumulatively considerable and significant.

4.6.5 Mitigation Measures and Level of Significance After Mitigation

Threshold A: Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The Project would result in potentially significant impacts with regard to generating GHG emissions. Implementation of MM-AQ-1, MM-GHG-1 (below), and MM-TRANS-1 (Section 4-12) would reduce operational GHG emissions, to the extent feasible; however, impacts would remain significant and unavoidable.

MM-GHG-1. The Project shall require tenants to subscribe to the Apple Valley Choice Energy 100% Renewable Energy Plan, which is 100% renewable and 100% carbon-free, for the duration of occupancy. At each lease or change of building ownership, the new lessee or owner shall also be automatically enrolled in the Apple Valley Choice Energy 100% Renewable Energy Plan, which shall be verified by the Town prior to issuance of each Certificate of Occupancy. Proof of election of the 100%

renewable service option shall be provided to the Town upon request, which requirement shall be contained in all tenant lease agreements.

Threshold B: Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The Project would not conflict with applicable plans, policies or regulations related to GHGs. With implementation of MM-AQ-1, MM-GHG-1, and MM-TRANS-1, impacts are less than significant with implementation of mitigation.

Threshold C: Would the Project result in cumulatively considerable impacts with regard to greenhouse gas emissions?

The Project would result in potentially significant impacts with regard to GHG emissions. Implementation of MM-AQ-1, MM-GHG-1, and MM-TRANS-1would reduce the Project's GHG impacts; however, impacts would remain significant and unavoidable.

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4.10 Noise

This section describes the existing noise conditions of the 1M Warehouse Project (Project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures (MM) related to implementation of the Project.

In addition to the documents incorporated by reference (see Section 2.7 of Chapter 2 of this environmental impact report [EIR]), the following analysis is based, in part, on the following sources:

- Field Noise Data Sheets, prepared by Dudek in September 2022 (Appendix I-1)
- Construction Noise Modeling Input and Output, prepared by Dudek in February 2023 (Appendix I-2)
- Traffic Noise Calculations, prepared by Dudek in February 2023 (Appendix I-3)
- Equipment Noise Calculations, prepared by Dudek in January 2023 (Appendix I-4)
- Transportation Impact Analysis, prepared by Dudek in March 2023 (Appendix J)

4.10.1 Existing Conditions

Noise and Vibration Characteristics

Noise

Sound may be described in terms of level or amplitude (measured in decibels [dB]), frequency or pitch (measured in hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the amplitude of sound is the decibel. Because the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale is used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against low and very high frequencies in a manner approximating the sensitivity of the human ear. Several descriptors of noise (noise metrics) exist to help predict average community reactions to the adverse effects of environmental noise, including traffic-generated noise, on a community. These descriptors include the equivalent noise level over a given period (L_{eq}), the statistical sound level (L_n), the day–night average noise level (L_{dn}), and the Community Noise Equivalent Level (CNEL). Each of these descriptors uses units of dBA. Table 4.10-1 provides examples of A-weighted noise levels from common sounds. In general, human sound perception is such that a change in sound level of 3 dB is barely noticeable; a change of 5 dB is clearly noticeable; and a change of 10 dB is perceived as doubling or halving of the sound level.

Table 4.10-1. Typical Sound Levels in the Environment and Industry

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
N/A	110	Rock band
Jet flyover at 300 meters (1,000 feet)	100	N/A
Gas lawn mower at 1 meter (3 feet)	90	N/A
Diesel truck at 15 meters (50 feet), at 80 kph (50 mph)	80	Food blender at 1 meter (3 feet) Garbage disposal at 1 meter (3 feet)
Noisy urban area, daytime gas lawn mower at 30 meters (100 feet)	70	Vacuum cleaner at 3 meters (10 feet)
Commercial area heavy traffic at 90 meters (300 feet)	60	Normal speech at 1 meter (3 feet)

Table 4.10-1. Typical Sound Levels in the Environment and Industry

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Quiet urban daytime	50	Large business office Dishwasher, next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime	30	Library
Quiet rural night time	20	Bedroom at night, concert hall (background)
N/A	10	Broadcast/recording studio
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Source: Caltrans 2013.
Notes: dBA = A-weighted decibels; N/A = not applicable; kph = kilometers per hour; mph = miles per hour.

L_{eq} is a sound energy level averaged over a specified period (typically no less than 15 minutes for environmental studies). L_{eq} is a single numerical value that represents the amount of variable sound energy received by a receptor during a time interval. For example, a 1-hour L_{eq} measurement would represent the average amount of energy contained in all the noise that occurred in that hour. L_{eq} is an effective noise descriptor because of its ability to assess the total time-varying effects of noise on sensitive receptors (see below for definition of sensitive receptors). L_{max} is the greatest sound level measured during a designated time interval or event.

Unlike the L_{eq} metrics, L_{dn} and CNEL metrics always represent 24-hour periods, usually on an annualized basis. L_{dn} and CNEL also differ from L_{eq} because they apply a time-weighted factor designed to emphasize noise events that occur during the evening and nighttime hours (when speech and sleep disturbance is of more concern). "Time weighted" refers to the fact that L_{dn} and CNEL penalize noise that occurs during certain sensitive periods. In the case of CNEL, noise occurring during the daytime (7:00 a.m.–7:00 p.m.) receives no penalty. Noise during the evening (7:00 p.m.–10:00 p.m.) is penalized by adding 5 dB, while nighttime (10:00 p.m.–7:00 a.m.) noise is penalized by adding 10 dB. L_{dn} differs from CNEL in that the daytime period is defined as 7:00 a.m.–10:00 p.m., thus eliminating the evening period. L_{dn} and CNEL are the predominant criteria used to measure roadway noise affecting residential receptors. These two metrics generally differ from one another by no more than 0.5 dB to 1 dB, and as such are often treated as equivalent to one another.

Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration can be a serious concern, causing buildings to shake and rumbling sounds to be heard. In contrast to noise, vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of vibration are trains, buses on rough roads, and construction activities, such as blasting, pile driving, and heavy earthmoving equipment.

Several different methods are used to quantify vibration. Peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. PPV is most frequently used to describe vibration impacts to buildings and is usually measured in inches per second. The root mean square amplitude is most frequently used to describe the effect of vibration on the human body and is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure root mean square. VdB acts to compress the range of numbers required to describe vibration.

High levels of vibration may cause physical personal injury or damage to buildings. However, vibration levels rarely affect human health. Instead, most people consider vibration to be an annoyance that can affect concentration or disturb sleep. In addition, high levels of vibration can damage fragile buildings or interfere with equipment that is highly sensitive to vibration (e.g., electron microscopes). Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, the vibration from traffic is rarely perceptible.

Sensitive Receptors

Noise- and vibration-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would be considered noise and vibration sensitive and may warrant unique measures for protection from intruding noise.

Sensitive receptors in the vicinity of the Project site include residential uses located to the east and east-northeast. These sensitive receptors represent the nearest land uses with the potential to be impacted by construction and operation of the Project. Noise-sensitive receptors located farther from the Project site in the surrounding community would be less impacted by noise and vibration levels than the above-listed sensitive receptors.

Existing Noise Conditions

Currently, the Project site is vacant and undeveloped; thus, little to no noise is currently generated on site. However, the surrounding area is subject to traffic noise associated with adjacent roadways, including Interstate (I-)15 and Stoddard Wells Road. There are no other major noise sources in the Project vicinity.

Noise measurements were conducted near the Project Site on April 7, 2022, to characterize the existing noise levels. The measurements were made using a calibrated SoftdB Piccolo integrating sound level meter. The sound level meter meets the current American National Standards Institute standard for a Type 2 (general purpose) sound level meter. The accuracy of the sound level meter was verified using a field calibrator before and after the measurements, and the measurements were conducted with the microphone positioned approximately 5 feet above the ground.

Five short-term noise measurement locations (ST) that represent existing sensitive receivers were selected in the vicinity of the Project site. These locations are depicted as receivers ST1–ST5 on Figure 4.10-1, Noise Measurement and Modeling Receiver Locations. The measured energy-averaged (L_{eq}) and maximum (L_{max}) noise levels are provided in Table 4.10-2. The primary noise sources at the measurement sites consisted of traffic along adjacent roadways; distant traffic, distant barking dogs and buzzing insects represented secondary noise sources. As shown in Table 4.10-2, the measured sound levels ranged from approximately 39 dBA L_{eq} at ST1 to 68 dBA L_{eq} at ST4. The field noise data sheets are provided in Appendix I.

Table 4.10-2. Measured Noise Levels

Receptors[1]	Location	Date	Time	L_{eq} (dBA)	L_{max} (dBA)
ST1	East of Project site, adjacent to residence at Sycamore Lane	9/27/2022	3:24 p.m.–3:34 p.m.	39.4	53.1

Table 4.10-2. Measured Noise Levels

Receptors[1]	Location	Date	Time	L_{eq} (dBA)	L_{max} (dBA)
ST2	South of Project site, adjacent to Apple Valley Fire Center	9/27/2022	4:24 p.m.–4:34 p.m.	42.3	62.9
ST3	East of Project site, adjacent to residence at Kensington Street	9/27/2022	4:41 p.m.–4:51 p.m.	51.2	74.1
ST4	West of Project site, adjacent to residence at 19277 Stoddard Wells Road	9/27/2022	5:01 p.m.–5:11 p.m.	68	82.5
ST5	Northwest of Project site, adjacent to residence at 20984 Dale Evans Pkwy	9/27/2022	5:20 p.m.–5:30 p.m.	65.8	81.2

Source: Appendix I.
Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); L_{max} = maximum sound level during the measurement interval; dBA = A-weighted decibels.
1 Corresponds with Figure 4.10-1, Noise Measurement and Modeling Receiver Locations.

4.10.2 Relevant Plans, Policies, and Ordinances

Federal

There are no federal noise standards that would directly regulate noise during construction and operation of the Project. The following is provided because guidance summarized herein is used or pertains to the analyses for construction noise, as well as for analysis of what constitutes a substantial increase from transportation noise.

Federal Transit Administration

In its Transit Noise and Vibration Impact Assessment Manual, the Federal Transit Administration (FTA) recommends a daytime construction noise level threshold of 80 dBA L_{eq} over an 8-hour period (FTA 2018) when detailed construction noise assessments are performed to evaluate potential impacts to community residences surrounding a project. Although this FTA guidance is not a binding regulation, it is provided here for comparison purposes and to establish a quantitative threshold of significance for construction noise, in the absence of such limits at the state and local jurisdictional levels.

Federal Interagency Committee on Noise

In 1992 the Federal Interagency Committee on Noise (FICON) assessed the annoyance effects of changes in ambient noise levels resulting from aircraft operations. Although the FICON recommendations were developed to address aircraft noise impacts, they are used in this analysis to define a substantial increase in community noise levels related to roadway traffic, as detailed in Section 4.10.3, Thresholds of Significance.

State

Government Code Section 65302(g)

California Government Code Section 65302(g) requires the preparation of a Noise Element in a General Plan, which shall identify and appraise the noise problems in the community. The Noise Element shall also recognize the

guidelines adopted by the Office of Noise Control in the State Department of Health Services and shall quantify, to the extent practicable, current and projected noise levels for the following sources:

- Highways and freeways
- Primary arterials and major local streets
- Passenger and freight on-line railroad operations and ground rapid transit systems
- Aviation and airport-related operations
- Local industrial plants
- Other ground stationary noise sources contributing to the community noise environment

California General Plan Guidelines

The California General Plan Guidelines, published by the Governor's Office of Planning and Research, provides guidance for the acceptability of specific land use types within areas of specific noise exposure. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution. The guidelines are advisory in nature. Local jurisdictions, including the Town of Apple Valley (Town), have the responsibility to set specific noise standards based on local conditions.

California Department of Transportation

In its Transportation and Construction Vibration Guidance Manual, the California Department of Transportation (Caltrans) recommends a vibration velocity threshold of 0.2 inches per second (ips) PPV (Caltrans 2020a) for assessing "annoying" vibration impacts to occupants of residential structures. Although this Caltrans guidance is not a regulation, it can serve as a quantified standard in the absence of such limits at the local jurisdictional level. Similarly, thresholds to assess building damage risk due to construction vibration vary with the type of structure and its fragility but tend to range between 0.3 ips and 0.4 ips PPV for typical residential structures (Caltrans 2020a).

Local

The Project site is located in the Town of Apple Valley; unincorporated County of San Bernadino lands are located to the south and southeast.

Town of Apple Valley

The Town of Apple Valley General Plan

Applicable policies and standards governing environmental noise in the Town are contained in the Town of Apple Valley General Plan Noise Element (Town of Apple Valley 2009). The Town's Noise Element (contained within Chapter IV, Environmental Hazards, of the General Plan) specifies the maximum allowable unmitigated exterior noise levels for new developments impacted by transportation noise sources such as arterial roads, freeways, airports, and railroads. In addition, the Noise Element identifies goals and policies to minimize the impacts of excessive noise levels throughout the community and establishes noise level requirements for all land uses. To limit the exposure of residents to excessive noise, the Noise Element contains the following goals:

Goal: Noise levels that are consistent with the Town's rural character and high quality of life.

To satisfy this goal, the Town's Noise Element identifies the following implementation policies:

> Policy 1.A. The Town shall adhere to the standards of "Land Use Compatibility for Community Environments."

The State of California's Land Use Compatibility Plan (Table IV-4 in the Town's General Plan Noise Element, provided here as Table 4.10-3) lists land use categories and the acceptable and unacceptable levels of community noise exposure. The compatibility criteria shown in Table 4.10-3 provides the Town with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels. According to these categories of transportation-related noise compatibility, industrial land uses such as the Project are considered normally acceptable with unmitigated exterior noise levels below 75 dBA CNEL and conditionally acceptable with noise levels between 70 dBA CNEL and 80 dBA CNEL. For conditionally acceptable land use, "new construction or development should be undertaken only after a detailed analysis of noise reduction requirements are made."

Table 4.10-3. Town of Apple Valley/State of California Land Use Compatibility Plan

Land Use Category	Community Noise Exposure (dBA CNEL)			
	Normally Acceptable[1]	Conditionally Acceptable[2]	Normally Unacceptable[3]	Clearly Unacceptable[4]
Residential–Low Density Single Family, Duplex, Mobile Home	50–60	55–70	70–75	75–85
Residential–Multiple Family	50–65	60–70	70–75	75–85
Transient Lodging–Motels, Hotels	50–65	60–70	70–80	80–85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50–65	60–70	70–80	80–85
Amphitheater, Concert Hall, Auditorium, Meeting Hall	N/A	50–70	N/A	65–85
Sports Arenas, Outdoor Spectator Sports	N/A	50–75	N/A	70–85
Playgrounds, Neighborhood Parks	50–70	NA	67.5–75	72.5–85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50–75	NA	70–80	80–85
Office Buildings, Business Commercial and Professional	50–70	67.5–77.5	75–85	N/A
Industrial, Manufacturing, Utilities, Agriculture	50–75	70–80	75–85	N/A

Source: Town of Apple Valley 2009.
Notes: dBA = A-weighted decibels; CNEL = Community Noise Equivalent Level; N/A = Not Applicable.

1 Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

2 Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

3 Normally Unacceptable: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

4 Clearly Unacceptable: New construction or development should generally not be undertaken.

Program 1.A.1. The Town shall continue to maintain and enforce its Noise Control Ordinance.

Responsible Agency: Planning Division, Code Enforcement, Police Department

Schedule: Ongoing

Program 1.A.2. The Town shall include noise attenuation in its development review process when development projects are proposed. Design techniques that can alleviate noise include, but are not limited to building setbacks, the installation of wall and window insulation, sound walls and earthen berms

Responsible Agency: Planning Division, Planning Commission, Town Council

Schedule: Ongoing

Program 1.A.3. The mechanical equipment associated with commercial and industrial development, including compactors, trash disposal areas, heating and air conditioning systems shall be located as far as practicable from adjacent sensitive receptors, or from lands designated on the Land Use map for noise sensitive uses.

Responsible Agency: Planning Division

Schedule: Continuous

Town of Apple Valley Municipal Code

The Town of Apple Valley's Municipal Code Noise Ordinance (Chapter 9.73 – Noise Control) has the stated purpose of reducing unnecessary, excessive, and annoying noise and vibration within the Town. Thus, in Section 9.73.050 (External and Internal Noise Standards) the Town limits outdoor noise levels at various types of receptors in Table 9.73.050-A Exterior Noise Limits (provided here as Table 4.10-4) with noise levels being restricted in single-family residential areas to 50 dBA from 7 a.m. to 10 p.m. and 40 dBA from 10 p.m. to 7 a.m.

Table 4.10-4. Exterior Noise Limits (not to be exceeded more than 30 minutes in any hour)

Receiving Land Use Category	Time Period	Noise Level (dBA)
Single Family Residential	10 p.m. - 7 a.m.	40
	7 a.m. - 10 p.m.	50
Multiple Dwelling Residential, Public Space	10 p.m. - 7 a.m.	45
	7 a.m. - 10 p.m.	50
Limited Commercial and Office	10 p.m. - 7 a.m.	55
	7 a.m. - 10 p.m.	60
General Commercial	10 p.m. - 7 a.m.	60
	7 a.m. - 10 p.m.	65
Light Industrial	Any Time	70
Heavy Industrial	Any Time	75

Source: Town of Apple Valley Municipal Code, Table 9.73.050-A.
Note: dBA = A-weighted decibels.

Section 9.73.050 subsection (F) of the Municipal Code has specific limits on noise from construction and demolition activities, as follows:

1. Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work between weekday hours of 7 p.m. and 7 a.m., or at any time on weekends or holidays, such that the sound therefrom creates a noise disturbance across a residential or commercial real property line, except for emergency work of public service utilities or by variance issued by the Town.
2. Noise Restrictions at Affected Properties. Where technically and economically feasible, construction activities shall be conducted in such a manner that the maximum noise levels at affected properties will not exceed those listed in the following schedule (Table 9.73.060-A Maximum Noise Levels, provided here as Table 4.10-5).

Table 4.10-5. Construction Noise Limits

At Residential Properties			
Mobile Equipment: Maximum noise levels for nonscheduled intermittent, short-term operation (less than 10 days) of mobile equipment:			
	Type I Areas Single-Family Residential	**Type II Areas Multifamily Residential**	**Type III Areas Semi-Residential/ Commercial**
Daily, except Sundays and Legal Holidays, 7 a.m. to 7 p.m.	75 dBA	80 dBA	85 dBA
Daily, 7 p.m. to 7 a.m. and all day Sunday and Legal Holidays	60 dBA	65 dBA	70 dBA
Stationary Equipment: Maximum noise levels for repetitively scheduled and relatively long-term operation (periods of 10 days or more) of stationary equipment:			
	Type I Areas Single Family Residential	**Type II Areas Multifamily Residential**	**Type III Areas Semi-Residential/ Commercial**
Daily, except Sundays and Legal Holidays, 7 a.m. to 7. p.m.	60 dBA	65 dBA	70 dBA
Daily, 7 p.m. to 7 a.m. and all day Sunday and Legal Holidays	50 dBA	55 dBA	60 dBA
Mobile Equipment: Maximum noise levels for nonscheduled, intermittent, short-term operation of mobile equipment: Daily, including Sundays and legal holidays, all hours: maximum of 85 dBA.			
Stationary Equipment: Maximum noise levels for repetitively scheduled and relatively long-term operation of stationary equipment: Daily, including Sundays and legal holidays, all hours: maximum of 75 dBA.			

Source: Town of Apple Valley Municipal Code, Table 9.73.060-A.
Note: dBA = A-weighted decibels.

3. All mobile or stationary internal combustion engine powered equipment or machinery shall be equipped with suitable exhaust and air intake silencers in proper working order.

Section 9.73.050 subsection (G) of the Municipal Code restricts vibration, requiring that no person unnecessarily make, continue, or cause to be made or continued any vibration that is above the vibration perception threshold of an individual at or beyond the property boundary of the source if on private property or at 150 feet from the source

if on a public space or public right-of-way. The vibration perception level is defined in Section 9.73.020 (34) of the Municipal Code (Definitions) as a motion velocity of 0.01 ips over the range of 1 to 100 Hz.

County of San Bernardino

Operational Noise

The County of San Bernardino's Development Code (Division 3, Countywide Development Standards; Chapter 83.01, General Performance Standards, Section 83.01.080, Noise) sets exterior noise standards for specific land uses by type of noise source. Noise standards for stationary noise sources are summarized in Table ~~3~~4.10-6, 83.01.080, Noise Standards for Stationary Noise Sources.

Table ~~3~~4.10-6. 83.01.080. Noise Standards for Stationary Noise Sources

Affected Land Uses (Receiving Noise)	7 a.m. - 10 p.m. dBA L_{EQ}	10 p.m. - 7 a.m. dBA L_{EQ}
Residential	55	45
Professional Services	55	55
Other Commercial	60	60
Industrial	70	70

Note: dBA = A-weighted decibel; L_{EQ} = equivalent continuous sound pressure level.

Construction Noise

The San Bernadino County Development Code exempts noise from construction noise, provided that construction is limited to the hours between 7 a.m. and 7 p.m., except on Sundays or federal holidays, when construction is not allowed.

4.10.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts related to noise are based on California Environmental Quality Act (CEQA) Appendix G. According to CEQA Guidelines Appendix G, a significant impact related to noise would occur if the Project would:

A. Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
B. Result in generation of excessive groundborne vibration or groundborne noise levels.
C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the Project area to excessive noise levels.
D. Result in cumulatively considerable noise impacts.

Quantitative thresholds of significance have been established for the purposes of this analysis based on the local polices and regulations described in Section 4.10.2 as well as those of federal agencies and are listed below.

- **Construction Noise:** During Project-related construction activities, an exceedance of the Town's Municipal Code construction noise standards as summarized in Table 4.10-5 is considered a significant noise impact.
- **On-Site Operational Noise:** A noise impact from Project operation would be considered significant if noise from typical operation of heating, ventilation, and air conditioning (HVAC) and other electro-mechanical systems or other on-site operational noise associated with the Project (such as parking lot and loading dock activities noise) if the applicable Town Municipal Code standards as summarized in Table 4.10-4 are exceeded.
- **Traffic Noise:** Guidance regarding the determination of a substantial permanent increase in transportation noise levels in the Project vicinity above existing levels is provided by the 1992 findings of FICON, which assessed the annoyance effects of changes in ambient noise levels resulting from aircraft operations. The FICON recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Annoyance is a qualitative measure of the adverse reaction of people to noise that generates speech interference, sleep disturbance, or interference with the desire for a tranquil environment.

The rationale for the FICON recommendations is that it is possible to consistently describe the annoyance of people exposed to transportation noise in terms of L_{dn} (and, by extension, CNEL[1]). The changes in noise exposure that are shown in Table 4.10-~~6~~ 7 are expected to result in equal changes in annoyance at sensitive land uses. Although the FICON recommendations were specifically developed to address aircraft noise impacts, they are used in this analysis to define a substantial increase in community noise levels related to all transportation noise sources.[2]

Table 4.10-~~6~~7. Measures of Substantial Increase for Transportation Noise Sources

Ambient Noise Level Without Project (L_{dn}/CNEL)	Significant Impact Assumed to Occur if the Project Increases Ambient Noise Levels by:
<60 dB	+ 5 dB or more
60–65 dB	+ 3 dB or more
>65 dB	+ 2 dB or more

Source: FICON 1992.
Notes: L_{dn}/CNEL = day–night average noise level/Community Noise Equivalent Level; dB = decibels.

- **Construction Vibration:** Groundborne vibration from construction and operation of the Project would be considered significant if the Project resulted in vibration levels exceeding Section 9.73.050 subsection (G) of the Municipal Code as summarized in Section 4.10.2 above or Caltrans recommendations (for construction).

1 As discussed in Section 4.10.1, the L_{dn} and CNEL noise metrics are very similar and often used interchangeably.
2 Traffic noise and other transportation noise sources are similar to aircraft/airport noise in that all of these noise sources can and do operate throughout the daytime and nighttime hours. The FICON recommendations use a weighted 24-hour noise metric, in which noise occurring during nighttime hours has a penalty applied to account for the increased sensitivity of persons to noise at night. Additionally, the graduated levels of the FICON guidance for substantial increase account for the diminishing tolerance of the typical person to noise increases as ambient noise levels are increased. Such is the case whether the dominant noise source is aircraft, or some other transportation source.

4.10.4 Impacts Analysis

Threshold A: Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Short-Term Construction Impacts

Less-than-Significant Impact**.** Construction activities would take place between the hours of 7:00 a.m. and 7:00 p.m. on weekdays and Saturdays and would not occur on Sundays or federal holidays as specified in the Apple Valley Municipal Code. Construction of the Project would generate noise that could expose nearby receptors to elevated noise levels that may disrupt communication and routine activities. The magnitude of the impact would depend on the type of construction activity, equipment, duration of the construction, distance between the noise source and receiver, and intervening structures. The following discussion addresses the noise levels estimated to result from construction of the Project at nearby sensitive receptors (i.e., residences).

Construction – Equipment Inventory

Consistent with the Project's air quality/greenhouse gas analyses, the California Emissions Estimator Model (CalEEMod) was used to identify the construction equipment anticipated for development of the Project. Based on this information, CalEEMod identified the anticipated equipment for each phase of Project construction, listed in Table 4.10-~~7~~8.

Table 4.10-~~7~~8. Construction Equipment by Phase

Construction Phase	Equipment	
	Equipment Type	Quantity
Site Preparation	Rubber-tired dozers	3
	Tractors/loaders/backhoes	4
Grading	Excavators	2
	Graders	1
	Rubber-tired dozers	1
	Scrapers	2
	Tractors/loaders/backhoes	2
Building Construction	Cranes	1
	Forklifts	3
	Generator sets	1
	Tractors/loaders/backhoes	3
	Welders	1
Paving	Pavers	2
	Paving equipment	2
	Rollers	2
Architectural Coating	Air compressors	1

Source: Appendix I.

Construction Noise – Project Site Assessment

With the construction equipment noise sources identified in Table 4.10-~~7~~8, a noise analysis was performed using the Federal Highway Administration's Roadway Construction Noise Model (RCNM) (FHWA 2008). Input variables for RCNM consist of the receiver/land use types, the equipment type (e.g., backhoe, grader, scraper), the number of equipment pieces, the duty cycle for each piece of equipment (i.e., percentage of time the equipment typically works in a given time period), and the distance from the noise-sensitive receiver to the construction zone. The RCNM has default duty cycle values for the various pieces of equipment, which were derived from an extensive study of typical construction activity patterns. Those default duty cycle values were utilized for this analysis. Refer to Appendix I for the inputs used in the RCNM model and the detailed results.

Sensitive receptors in the vicinity of the Project site include several residential uses to the east, and the Apple Valley Fire Center[3] located to the south. These sensitive receptors represent the nearest land uses with the potential to be impacted by construction and operation of the Project. Project construction would take place both near and far from existing land uses. For example, construction would take place for relatively short periods of time as near as approximately 850 feet from the nearest residential land use east of the Project boundary (represented by modeled receiver M1 as shown in Figure 4.10-1), but (because of the Project's size) construction work would also take place as far as 2,700 feet from the same residential use. Most construction activities associated with the Project would occur at an average distance of approximately 1,700 feet from the nearest residential use, which represents activities both near and far, as is typical for construction projects. Similarly, the construction noise estimates for the other modeled receptors in the Project vicinity were calculated for both the nearest construction activity/receiver distances (which would occur for a relatively short period of time) and for typical construction activity/receiver distances.

The results of the Project site construction noise analysis using the RCNM are summarized in Table 4-10-~~8~~9. As shown, the noise levels from construction are predicted to range from approximately 48 dBA L_{eq} (during the architectural coating phase) to 61 dBA L_{eq} (during the grading phase) at the nearest noise-sensitive receiver (a single-family residence approximately 850 feet from the nearest construction work). These noise levels would be lower than the Town of Apple Valley's construction noise standard at single-family residences for temporary (i.e., mobile) equipment of 75 dBA L_{eq}. Typical construction noise levels would be lower, ranging from approximately 43 to 57 dBA L_{eq}. Construction noise levels at other noise-sensitive receivers in the Project vicinity would be less, because the distance to other noise-sensitive receivers from the Project site is greater. These noise levels would be lower than the Town of Apple Valley's construction noise standard at single-family residences for stationary equipment of 60 dBA L_{eq}.

Because the existing samples of daytime outdoor ambient sound levels that represent the nearest offsite receptors east and south of the Project range from 39 to 51 dBA L_{eq}, the relative increase expected at these locations attributed to typical project construction noise would range from approximately 3 to 18 dB. Construction activities would be short-term and would cease upon construction completion. While the effect would be temporary, the aforementioned relative increases to the existing outdoor ambient sound environment would be readily audible and likely perceived as more than a doubling of noise level when the change is 10 dB or greater. Given that construction activities are short-term, would comply with the Town's noise ordinance, and would cease upon Project completion, construction noise would be **less than significant**. No mitigation is necessary.

[3] The Apple Valley Fire Center is included because it is assumed that the facility includes rest, recreation and sleeping quarters for fire department personnel.

~~These noise levels would be lower than the Town of Apple Valley's construction noise standard at single-family residences for stationary equipment of 60 dBA Leq. Therefore, noise from Project site construction would be less than significant. No noise mitigation is necessary.~~

Table 4.10-~~8~~9. On-Site Construction Noise Analysis Summary

Off-Site Receptor Location	Land Use	Distance from Construction Activity to Noise Receptor (feet)	Estimated Construction Noise Levels (dBA Leq)				
			Site Preparation	Grading	Building Construction	Paving	Architectural Coating
M1 - East of the Project	Residential	Nearest Construction Activity/ Receiver Distance (850)	59	61	54	56	48
		Typical Construction Activity/ Receiver Distance (1,700)	55	57	53	51	43
M2 - South of the Project	Apple Valley Fire Center (Sleeping Quarters)	Nearest Construction Activity/ Receiver Distance (650)	61	63	56	58	49
		Typical Construction Activity/ Receiver Distance (1,750)	55	57	52	51	43
M3 - East of the Project	Residential	Nearest Construction Activity/ Receiver Distance (1,900)	53	55	49	49	42
		Typical Construction Activity/ Receiver Distance (2,500)	52	54	49	48	40

Source: Appendix I.
Note: dBA = A-weighted decibel; L_{eq} = equivalent continuous sound level (time-averaged sound level).

Construction Noise – Off-Site Street and Utilities Assessment

As shown in Figure 3-11 (Overall Project Site Plan), provided in EIR Chapter 3, the Project would include off-site street and utilities construction activities. Like the noise assessment for on-site construction work as summarized above, the resulting noise from off-site construction activities was assessed using the RCNM. The nearest noise-sensitive receivers to the off-site construction activities (and thus the receivers the most affected) would be the Apple Valley Fire Center (represented by receiver M2) south of Lafayette Street, during utilities installation within the Lafayette Street alignment. Noise levels at other locations would be lower because they would be further from the construction work. Equipment that is anticipated to be used for utility installation includes a backhoe, excavators, a concrete saw, a forklift, a generator, a crane, and a welder. Because of the linear nature of the work, the amount of time that construction work would occur adjacent to any one noise-sensitive receiver would generally be relatively short (typically, one to two days for open-trench pipeline installation). The resulting noise levels are summarized in Table 4.10-~~9~~10. As shown, the worst-case noise level from utilities installation is estimated to be approximately 63 dBA L_{eq} at the nearest noise-sensitive receivers (Apple Valley Fire Center approximately 680 feet from the nearest construction work). Typically, utilities installation would take place further away (an average distance of approximately 1.500 feet) and thus construction noise levels would be lower at approximately 58 dBA L_{eq}. These noise levels would be lower than the Town of Apple Valley's construction noise standard at single-family residences for temporary (i.e., mobile) equipment of 75 dBA L_{eq}. Because the existing samples of daytime outdoor ambient sound levels that represent the nearest offsite receptors east and south of the Project range from 39 to 51 dBA L_{eq}, the relative increase expected at these locations attributed to typical project construction noise would range from approximately 1 to 19 dB. Construction activities (particularly off-site construction work) would be short-term and would cease upon construction completion. While the effect would be temporary, the aforementioned relative increases to the existing outdoor ambient sound environment would be readily audible and likely perceived as more than a doubling of noise level when the change is 10 dB or greater. Given that construction activities are short-term, would comply with the Town's noise ordinance, and would cease upon Project completion, construction noise would be less than significant. No mitigation is necessary.

~~Therefore, noise impacts from off site construction activities would be less than significant. No noise mitigation is necessary.~~

Table 4.10-~~9~~10. Off-Site Construction Noise Analysis Summary

Off-Site Receptor Location	Land Use	Distance from Construction Activity to Noise Receptor (feet)	Estimated Construction Noise Levels (dBA L_{eq})
			Utilities Installation
M1 - East of the Project	Residential	Nearest Construction Activity/ Receiver Distance (760)	62
		Typical Construction Activity/ Receiver Distance (1,500)	58
M2 - South of the Project	Apple Valley Fire Center (Sleeping Quarters)	Nearest Construction Activity/ Receiver Distance (680)	63
		Typical Construction Activity/ Receiver Distance (1,500)	58
M3 - East of the Project	Residential	Nearest Construction Activity/ Receiver Distance (1,850)	55
		Typical Construction Activity/ Receiver Distance (3,000)	52

Source: Appendix I.
Note: dBA = A-weighted decibel; L_{eq} = equivalent continuous sound level (time-averaged sound level).

Construction Noise – Project-Related Construction Vehicles (On-Road)

Based upon the construction scenario assumptions from Table 4.2-5 (in the Air Quality section), during construction the highest average daily number of one-way worker trips would be 454 (i.e., 227 round trips), occurring during the building construction phase. The highest average daily number of vendor one-way trips would be 178 (89 round trips), also occurring during building construction; and the highest number of average daily haul truck one-way-trips would be 2 (1 round trip)[4], occurring during the pipeline installation (i.e., off-site utilities) phase. Project-related trucks would be restricted to the Town-authorized truck routes, and (like the Project sites) would be relatively far from residential or other noise-sensitive areas. It is anticipated that most of the construction-related trips in the Project vicinity would occur along the I-15 freeway, Stoddard Wells Road, and Johnson Road. Based upon the most recent available traffic census data from Caltrans (Caltrans 2020b), I-15 has an average daily traffic volume of 59,000 in the Project vicinity, with a truck percentage of approximately 24%. Even if the highest daily number of worker trips, vendor trips and haul truck trips occurred during the same phase of construction (which they do not), the incremental increase in traffic from the Project would be approximately 1%. Based upon the fundamentals of acoustics, a doubling (a 100% increase) would be needed to result in a 3 decibel increase in noise levels, which is the level corresponding to an audible change to the typical human listener (Caltrans 2013). The resultant traffic noise increase would be less than 1 dB, and thus would not result in an audible change on an hourly or daily basis. Therefore, noise related to Project-related construction vehicles on local roadways would not result in significant impacts. No additional mitigation measures are required.

Long-Term Operational Impacts

Traffic Noise

Less-than-Significant Impact. The Project has the potential to result in significant noise impacts from Project-related traffic at nearby noise-sensitive land uses. Based on information consistent with the assumptions in the EIR's transportation analysis (Appendix I), the Project would generate 1,955 daily trips. During the AM peak hour, implementation of the Project would result in a total of 117 passenger vehicles and 44 trucks. During the PM peak hour, implementation of the Project would result in a total of 125 passenger vehicles and 48 trucks. The majority of the passenger vehicle and truck trips would access and exit the Project site to the west, via Central Road, Johnson Road, and Stoddard Road to the I-15 on- and off-ramps. No Project-related vehicles would utilize Johnson Road or Lafayette Street east of the Project site, or other local roads not designated as truck routes.

Potential noise effects from vehicular traffic were assessed using the Federal Highway Administration's Traffic Noise Model Version 2.5 (FHWA 2004). Information used in the model included the Existing, Existing plus Project, Opening Year (2025), Opening Year (2025) plus Project, Horizon Year (2040), and Horizon Year (2040) plus Project traffic volumes. Noise levels were modeled at representative noise-sensitive receivers (i.e., the nearest existing residences located to the east of the Project site) as well as at adjacent zoned commercial, professional, and residential uses for informational purposes. The receivers were modeled to be 5 feet above the local ground elevation. The measured and modeled receiver locations are shown in Figure 4.10-1.

The information provided from this modeling, along with the results from ambient noise survey measurements, was compared to the noise impact significance criteria to assess whether Project-related traffic noise would cause a significant impact and, if so, where these impacts would occur. The results of the comparisons for the off-site noise-sensitive land uses are presented in Table 4.10-~~9~~10. The input and output files for the Traffic Noise Model are provided in Appendix I.

[4] Assumes a total number of 240 one-way haul truck trips over a 120 working day period.

As Table 4.10-9 shows, the Project would result in changes in traffic noise levels along the nearby arterial roadways. At model receiver M1 (representative of a single-family residence east of the Project site), traffic noise is predicted to decrease several decibels as a result of the Project because the proposed warehouse building would block the direct noise path between the receiver and Central Road. At model receiver M2 (representative of the Apple Valley Fire Center, located south of the Project site) traffic noise is predicted to increase by up to 4 decibels; however, the overall noise levels would remain well below the applicable noise standard of 70 dBA CNEL. Furthermore, the applicable FICON noise threshold (as shown in Table 4.10-~~6~~7) for a substantial increase of 5 dB or more for noise levels of less than 60 dBA L_{dn}/CNEL would not be exceeded. At model receivers M3 through M5, traffic noise is predicted to increase by 0 to 2 dB. A change (either an increase or a decrease) of 2 dB or less is not an audible change in the context of community noise (i.e., outside of a controlled test environment). Furthermore, the applicable FICON thresholds for a substantial increase would not be exceeded at these receivers and (as shown in Table 4.10-~~9~~11) the Project would not cause noise levels to exceed applicable Town noise standards at any of the modeled receivers. The Project is not anticipated to result in significant traffic noise increases or cause an exceedance of applicable traffic noise standards. Therefore, impacts associated with off-site traffic noise would be less than significant.

Table 4.10-~~10~~11. Summary of Off-Site Existing and Future (Years 2025 and 2040) Traffic Noise Levels (dBA CNEL)

Modeled Receptor	Existing	Existing plus Project	Opening Year (2025)	Opening Year (2025) plus Project	Horizon Year (2040)	Horizon Year (2040) plus Project	Maximum Project-Related Noise Level Increase (dB)	Applicable Noise Standard[1]	Applicable Noise Standard Exceeded?
M1 - East of the Project	29	27	34	29	33	29	-2	70	No
M2 - South of the Project	34	38	39	41	37	40	4	70	No
M3 - East of the Project	27	27	31	29	31	29	0	70	No
M4 - West of the Project	53	55	56	58	58	59	2	70	No
M5 - West of the Project	57	57	58	59	61	62	1	70	No

Source: Appendix I.
Note: dBA = A-weighted decibel; CNEL = Community Noise Equivalent Level; dB = decibel.
Traffic noise levels are rounded to the nearest whole numbers.
[1] Applicable noise standard per Town of Apple Valley General Plan Noise Element compatibility standards, shown in Table 4.10-3.

On-Site Operational Noise

Less-than-Significant Impact. The implementation of the Project would result in changes to existing noise levels on the Project site by developing new stationary sources of noise, including introduction of outdoor HVAC equipment, and vehicle parking lot and truck loading dock activities. These sources may affect noise-sensitive vicinity land uses off the Project site. The following analysis evaluates noise from exterior mechanical equipment and activities associated with vehicle parking lots and truck loading docks. Dudek has modeled the propagation of sound from a combination of Project on-site noise sources with commercially available Datakustik CadnaA software, which incorporates relevant International Organization of Standardization (ISO) 9613-2 algorithms and reference data that are generally considered to be industry standard for outdoor noise modeling. Key modeling assumptions and parameters are as follows:

- The model calculation area encompasses the Project and surrounding land uses that adjoin its boundary.
- Acoustical ground absorption of the Project site and the surrounding topography (conservatively modeled as flat, which generally approximates the site terrain characteristics) is set at 0.90, which on a zero (reflective) to one (absorptive) scale approximates a combination of the grass-covered soils that generally surround the Project area and any anticipated loosely graveled Project site cover.
- Meteorological conditions presume "calm" wind conditions (i.e., less than 0.5 meters per second in any direction) and average air temperature and relative humidity of 68 degrees Fahrenheit and 70%, respectively.
- The model "configuration" settings include reflection order set to "1", which can be interpreted to mean that a sound emission path from a source will continue to be analyzed after impingement upon and reflection from the first intervening structure or barrier.
- The proposed warehouse space overall would not be served by heating or air conditioning equipment. However, the floor plan includes office spaces at the southeastern, southwestern, and northeastern corners of the building (Building 1). Office space within each of the aforementioned corners would total approximately 5,000 square feet. Based on information provided by the Project Applicant, it is anticipated that the office space would be equipped with single-packaged rooftop HVAC units with air-handling capacity of 3 to 6 nominal tons. For the analysis of noise from HVAC equipment operation, a York Model ZF-048 package HVAC unit was used as a reference. Based upon the square footage of the office spaces, it was assumed that two such units would be required for each of the office areas. The York Model ZF-048 package HVAC unit has a sound power rating of 80 dBA (Johnson Controls 2015).
- During a daytime scenario, peak-hour truck volumes were assumed.
- Sound power for a single truck at the loading dock was calculated from sound levels (dBA) of truck air brakes, truck backup alarms, truck idling, truck engine ignition and airbrakes, and truck acceleration from stop (CMS 2014).
- Sound power for a single truck pass-by along a linear sound source route along the length of the building was calculated from truck passby (CMS 2014). Peak-hour truck volumes were assumed.
- During a nighttime model scenario, the sound power of rooftop HVAC sources from the three Project buildings remained unchanged; and, up to 25% of peak-hour on-site truck traffic would occur during a typical nighttime hour of facility operation.

As shown in Table 4.10-~~11~~12, which summarizes the results of the modeling for mechanical equipment and truck loading dock/truck yard activity noise, the resulting noise levels would not exceed the applicable noise standards for daytime or nighttime noise. Additionally, the estimated noise levels from the Project would be well below the existing measured daytime ambient noise levels in the Project vicinity, which ranged from approximately 62 to 66 dBA L_{eq}.

Table 4.10-~~11~~12. Mechanical Equipment and Truck Loading Dock / Truck Yard Activity Noise

Modeled Receptor	Daytime (7 a.m. to 10 p.m.) Noise Level (dBA L_{eq})	Nighttime (10 p.m. to 7 a.m.) Noise Level (dBA L_{eq})	Applicable Daytime/ Nighttime Noise Standard[1] (dBA L_{eq})	Applicable Standard Exceeded?
M1 - Existing Residential	35.6	29.8	50/40	No
M2 - Apple Valley Fire Center (Sleeping Quarters)	29.1	24.4	55/45	No
M3 - Existing Residential	29.1	23.4	50/40	No

Source: Appendix I.
Notes: dBA = A-weighted decibel; L_{eq} = equivalent continuous sound level (time-averaged sound level).
[1] Applicable noise standard per Town of Apple Valley Municipal Code Table 9.73.050-A, provided here as Table 4.10-4.

Parking Lot Activity

A comprehensive study of noise levels associated with surface parking lots was published in the Journal of Environmental Engineering and Landscape Management (Baltrėnas et al. 2004). The study found that average noise levels during the peak period of use of the parking lot (generally in the morning with arrival of commuters, and in the evening with the departure of commuters), was 47 dBA L_{eq} at 1 meter (3.28 feet) from the outside boundary of the parking lot. During off-peak time periods, especially during nighttime hours (10 p.m. to 7 a.m.), noise levels from parking lot activities would be substantially lower. The parking lots would function as an area source for noise, which means that noise would attenuate at a rate of 3 dBA with each doubling of distance. The nearest employee parking lot to existing noise-sensitive receivers (receiver M2, the Apple Valley Fire Center sleeping quarters, located within the County of San Bernardino) is situated on the south side of Building 1, approximately 850 or more feet from the sleeping quarters. At a distance of 850 feet, parking lot noise levels would be approximately 23 dBA, which would be below the daytime (7 a.m. to 10 p.m.) single-family residential noise standard of 55 dBA L_{eq} and the nighttime (10 p.m. to 7 a.m.) noise standard of 45 dBA L_{eq}. The nearest employee parking lot to noise-sensitive receivers in the Town of Apple Valley (receiver M1, residentially zoned property to the east) is situated approximately 1,100 feet from the residential property. At a distance of 1,100 feet, parking lot noise levels would be approximately 22 dBA, which would be below both the daytime (7 a.m. to 10 p.m.) single-family residential noise standard of 50 dBA L_{eq} and the nighttime (10 p.m. to 7 a.m.) noise standard of 40 dBA L_{eq}.

To summarize, impacts associated with on-site operational noise would be less than significant.

Threshold B: Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?

Less-than-Significant Impact. During operation, no major sources of groundborne vibration are anticipated. Construction activities that might expose persons to excessive groundborne vibration or groundborne noise could cause a potentially significant impact. Groundborne vibration information related to construction activities (including demolition) has been collected by Caltrans (Caltrans 2020a). Information from Caltrans indicates that continuous vibrations with a PPV of approximately 0.1 ips begin to annoy people. Additionally, the Town's Municipal Code Section 9.73.050 subsection (G) of the Municipal Code restricts vibration to 0.01 ips over the range of 1 to 100 Hz at or beyond the property boundary of the source if on private property.

The heavier pieces of construction equipment, such as bulldozers, would have PPVs of approximately 0.089 ips or less at a distance of 25 feet (FTA 2018). Groundborne vibration is typically attenuated over short distances. At the distance from the nearest vibration-sensitive receivers (a residence located to the east) to where construction activity would be occurring on the Project site (approximately 760 feet), and with the anticipated construction equipment, the PPV vibration level would be approximately 0.0005 ips. At the closest sensitive receptors, vibration levels would be well below the vibration threshold of potential annoyance of 0.1 ips; additionally, the vibration level would be less than the Town's Municipal Code standard of 0.01 ips. Therefore, impacts associated with vibration-generated annoyance would be less than significant.

The major concern with regards to construction vibration is related to building damage, which typically occurs at vibration levels of 0.5 ips or greater for buildings of reinforced-concrete, steel, or timber construction. As discussed above, the highest anticipated vibration levels at vibration-sensitive uses from with on-site Project construction would be approximately 0.0005 ips, which would be well below the threshold of 0.5 ips for building damage. Therefore, impacts associated with vibration-produced damage would be less than significant.

Threshold C: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels.

No Impact. No private airstrips exist in the Project vicinity. The nearest airport is the Apple Valley Airport, located approximately 0.77 miles southwest of the Project site. Based on the Town of Apple Valley Comprehensive Airport Land Use Compatibility Plan (Town of Apple Valley 1995), the Project site would be approximately 0.7 miles away from the airport's 60 dBA CNEL noise contour. Therefore. the Project would not expose people residing or working in the Project area to excessive noise levels related to airports or airstrips.

Threshold D: Would the Project result in cumulatively considerable noise impacts?

Less-than-Significant Impact. The cumulative context for traffic noise is the traffic volume increases on roadways in the Project vicinity as a result of implementation of the proposed Project. The Project transportation analysis considered the addition of traffic trips from cumulative projects as identified by the Town.

Non-transportation noise sources (e.g., Project operation) and construction noise impacts are typically project-specific and highly localized (i.e., these do not generally affect the community noise level at distances beyond several hundred feet). Construction activities associated with proposed or future development within the area would contribute to cumulative noise levels, but in a geographically limited and temporary manner. As other development occurs in the area, noise from different types of uses (e.g., traffic, aircraft, and fixed noise sources) would continue to combine, albeit on a localized basis, to cause increases in overall background noise conditions within the area. As a result, such sources do not significantly contribute to cumulative noise impacts at distant locations and are not evaluated on a cumulative level.

The analysis of off-site Project-related traffic noise levels included an evaluation of traffic volumes and resulting roadway traffic noise levels from cumulative (i.e., Year 2040) projects. Table 4.10~~-10~~ 11 shows that the maximum noise level increase for the Year 2040 versus Year 2040 plus Project scenario would be 3 dB or less at every studied road segment. Traffic noise would not be cumulatively considerable.

4.10.5 Mitigation Measures and Level of Significance After Mitigation

Threshold A: Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

The Project would comply with the Town's General Plan and Municipal Code as it relates to construction and operational noise and would result in less-than-significant impacts. No mitigation is required.

Threshold B: Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?

The Project would result in less-than-significant impacts with regard to groundborne vibration and groundborne noise levels. No mitigation is required.

Threshold C: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels.

The Project would result in no impact with regard to excessive airport noise levels. No mitigation is required.

Threshold D: Would the Project result in cumulatively considerable noise impacts?

The Project would result in less-than-significant cumulatively considerable noise or vibration impacts. As such, no mitigation is required.

4.10.6 References Cited

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SOURCE: DigitalGlobe 2017; San Bernadino County 2021

DUDEK

0 1,350 2,700 Feet

FIGURE 4.10-1

Noise Measurement and Modeling Receiver Locations

1M Warehouse Project

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4.12 Transportation

This section describes the existing transportation conditions of the 1M Warehouse Project (Project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts and cumulative impacts, and identifies mitigation measures related to implementation of the proposed Project. This section analyzes the potential impacts of the Project based on the California Environmental Quality Act (CEQA) Guidelines Section 15064.3(b), which focuses on newly adopted criteria (vehicle miles traveled [VMT]) for determining the significance of transportation impacts. Pursuant to Senate Bill (SB) 743, the focus of transportation analysis changed from level of service (LOS) or vehicle delay to VMT. The related updates to the CEQA Guidelines required under SB 743 were approved on December 28, 2018. This new methodology was required to be used statewide beginning July 1, 2020.

In addition to the documents incorporated by reference (see Section 2.7 of Chapter 2, Introduction, of this environmental impact report [EIR]), the following analysis is based, in part, on the following source, which is found in Appendix J of this Draft EIR:

- Transportation Impact Analysis prepared by Dudek in March 2023 (Appendix J)

4.12.1 Existing Conditions

This section provides a summary of the existing circulation network, bicycle and pedestrian facilities, transit service, and truck routes in the study area. It also provides a summary of the baseline VMT for projects in the Town of Apple Valley (Town) using the San Bernardino County Transportation Authority's (SBCTA) San Bernardino Transportation Analysis Model (SBTAM).

Existing Circulation Network

Figure 4.12-1 provides the Town of Apple Valley General Plan Traffic Circulation Plan. Regional access to the site would be provided from Interstate (I) 15 to Stoddard Wells Road and Quarry Road and from I-15 to Dale Evans Parkway. Characteristics of the primary roadways within the study area are described below. A map of the Town's designated truck routes is also provided as Figure 4.12-2.

- I-15 is a north-south, divided, four to eight-lane freeway located to the east of the Project site. I-15 is a major interstate freeway that begins near the Mexico—US Border and extends to Alberta, Canada, and serves as a critical connection for many other regional roadways, freeways, and highways. Caltrans classifies I-15 as a designated truck route on the National Network (STAA). The posted speed limit is 65 miles per hour (MPH).
- Stoddard Wells Road is generally aligned in a north-south direction, with two lanes. It is an undivided rural road with unpaved shoulders and a designated truck route in the Town of Apple Valley. Stoddard Wells is proposed to be upgraded from a Major Road to a Major Divided arterial per the Town of Apple Valley General Plan Circulation Element as noted in Table 4.12-1.
- Dale Evans Parkway is a north-south, two-lane undivided road located to the west of the Project site. It is an undivided rural road with some sections of paved and unpaved shoulders and is designated as a through truck route from Waalew Road to the I-15 interchange. Dale Evans Parkway is classified as a Major Divided Parkway per the Town's Circulation Element. There is no posted speed limit.
- Quarry Road is a north-south paved two-lane road between Stoddard Wells Road and the I-15 southbound ramps. North of the I-15 ramps, Quarry Road is an unpaved rural road. Additionally, Quarry Road extends

east-west from I-15 to the eastern Town boundary, north of the Project site. Upgrades to this section of Quarry Road within the Town limits are identified in Table 4.12-1. Additionally, although Quarry Road is not considered a truck route at this time, the Town's Circulation Element proposes its designation as a through truck route. Truck traffic (likely primarily associated with the Cemex – White Mountain operation to the east) currently utilizes this roadway. There is no posted speed limit.

- Central Road is a north-south, six-lane major divided highway located to the west of the Project Site. Central Road begins at Stoddard Wells Road in the north and ends past Roundup Way in the south. It is classified as a Major Road to the north of Johnson Road and as a Major Divided Arterial to the south. The posted speed limit is 55 MPH.
- Johnson Road is an east-west, two-lane undivided road. It is located to the north of the Project site. Johnson Road is classified as a Major Road.
- Lafayette Street is an east-west oriented roadway. It is a single-lane, undivided roadway located to the south of the Project. Lafayette Street is classified as a Secondary Road. There is no posted speed limit.

Truck Routes

San Bernardino County has identified two types of truck routes: National Network and Terminal Access. The I-15 freeway is considered part of the National Network. State Route 18 is identified as a Terminal Access route. Terminal Access routes allow travel by trucks meeting Surface Transportation Assistance Act3 standards between National Network routes and access to an operating, destination, origination, or handling facility. In addition to the regional truck routes defined by the County of San Bernardino, the Town of Apple Valley has also identified several key truck routes, including Apple Valley Road, Dale Evans Parkway, Navajo Road, Stoddard Wells Road, Quarry Road, Johnson Road, Waalew Road, and Yucca Loma Road.

Rail Service and Transit

The Town of Apple Valley is served by bus services provided by Victor Valley Transit Authority (VVTA), which provides regional and local services throughout Victor Valley. Regionally, the Town is served by passenger rail services offered by the National Railroad Passenger Corporation (Amtrak). Victor Valley and its neighboring communities are also expected to benefit from the development of Brightline West, a high-speed passenger rail system that will connect Los Angeles with Las Vegas and will include a stop in Victor Valley (Brightline West 2023). The rail and transit providers are described below.

Amtrak

Amtrak is a national rail operator, with 21,000 route miles in 46 states, the District of Columbia, and three Canadian Provinces. Amtrak operates more than 300 trains each day at speeds up to 150 MPH to more than 500 destinations. Amtrak is the chosen operator for state-supported corridor services in 17 states and four commuter rail agencies (Amtrak 2022a). The closest passenger rail station is the Victorville Amtrak Station, located at 16858 South D Street in Victorville, located approximately 8 miles south of the Project site. The Victorville Amtrak Station is part of the Southwest Chief Route, an east-west rail line extending from Los Angeles, California, to Chicago, Illinois (Amtrak 2022b).

Brightline West

Brightline West is a proposed high-speed passenger rail system that would be designed to connect the extended communities of Los Angeles, Palmdale, Cajon Pass, Victor Valley with Las Vegas through 200 to 300 miles of rail.

At full operations, approximately 11 million one-way trips are expected to be made between southern California and Las Vegas. The Project is expected to break ground in 2023 and could begin serving passengers in 2026. Brightline West has acquired property in the newly annexed area of Apple Valley near Dale Evans Parkway for a high-speed rail station (Town of Apple Valley 2023).

Victor Valley Transit Authority

VVTA provides local bus service for the communities of Adelanto, Apple Valley, Hesperia, Victorville, and unincorporated areas of San Bernardino County. VVTA operates five bus routes in Apple Valley, providing bus connections between shopping, the Apple Valley Post Office, schools and colleges, and residential areas. Route 42 shown in Figure 4.12-3, Existing Transit Facilities, is the closest bus route to the Project site, with bus stops near the intersection of Dale Evans Parkway and Johnson Road, approximately 2.5 miles east of the Project site, as well as along Johnson Road across from the Walmart Distribution Center and on Navajo Road across from the Victor Valley College Regional Public Safety Training Center. Route 42 connects Victor Valley College, St. Mary Medical Center, Los Ranchos, the Walmart Distribution Center, the Regional Public Safety Center, and the Juvenile Detention Center. The route operates weekdays, between 6:30 a.m. and 9:00 p.m., Saturday between 7:30 a.m. and 8:00 p.m., and Sunday between 8:30 a.m. and 5:00 p.m. (VVTA 2022).

VVTA also offers paratransit services for persons with special needs on any paved street within Apple Valley as long as it is within their service boundaries. The VVTA paratransit services do not travel a fixed route and provide a flexible alternative to the fixed bus routes (VVTA 2022).

Bicycle and Pedestrian Facilities

The Project site is located in an undeveloped area of the Town with no existing pedestrian or bicycle facilities in the immediate vicinity of the site. The Apple Valley General Plan (Apple Valley 2009) has an adopted Recreation Trail System, which identifies “lifeline” trails for equestrian use and multi-use, as well as recorded bridle trails (for horses). The Town’s Recreational Trail System is presented as Figure 4.12-4. A lifeline trail is proposed on Stoddard Wells Road, west and north of the site, extending from Johnson Road to Central Road.

The General Plan also identifies proposed bike paths to ensure greater connectivity and access throughout the community and promote non-motorized modes of travel. The Town’s bike paths are presented as Figure 4.12-5. A Class II bike lane (on-street painted bike lane) is proposed along Outer Highway I-15 S between Norco Street and Stoddard Wells Road and along Stoddard Wells Road, between the I-15 and Alembic Street. A Class I (separated bicycle path) is proposed along Stoddard Wells Road, between Alembic Street and Central Road, consistent with the lifeline trail identified in the Town’s Recreational Trail System. Additionally, Class II bike lanes are proposed along Central Road adjacent to the Project site, and along Lafayette Street from Dale Evans Parkway to Central Road.

Baseline VMT

In accordance with SB 743, the Town of Apple Valley adopted Resolution No. 2021-08 (May 12, 2021), requiring that VMT replace LOS, and other similar measures for determining significant impacts under CEQA. Although the adopted VMT Guidelines do not specify the preferred modeling tool to be used to conduct VMT analyses within the Town of Apple Valley, the San Bernardino County Transit Authority (SBCTA) recommends the San Bernardino Transportation Analysis Model (SBTAM) for conducting VMT analysis for land use projects within the region as it considers interaction between different land uses based on socio-economic data, such as population, households, and employment. SBTAM is a travel forecasting model that represents a sub-area (San Bernardino County) of the Southern California Associate of Governments (SCAG) regional traffic model and was designed to provide a greater

level of detail and sensitivity in the San Bernardino County area as compared to the regional SCAG model. The SBTAM model was therefore chosen as the appropriate modeling tool to prepare VMT estimates for the Project.

Project generated VMT has been estimated using the Origin/Destination (O/D) method and Boundary method. Consistent with Town VMT Guidelines, VMT has been presented as total VMT and total VMT per Service Population. Total VMT represents all VMT generated in the Town of Apple Valley on a typical weekday. Total VMT per service population is an efficiency metric representing VMT generated on a typical weekday per person who lives and/or works in the Town or travels to the Town for another purpose.

4.12.2 Relevant Plans, Policies, and Ordinances

The following section describes state and local regulations, plans, policies, and ordinances relevant to the study area. There are no transportation-specific federal regulations applicable to the Project.

State

Senate Bill 743

On September 27, 2013, Governor Brown signed SB 743, which became effective on January 1, 2014. SB 743 streamlines the review under the CEQA process for several categories of development projects, including the development of infill projects in transit priority areas to balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas (GHG) emissions. SB 743 adds Chapter 2.7: Modernization of Transportation Analysis for Transit Oriented Infill Projects to the CEQA Statute (PRC Section 21099). Section 21099(d)(1) provides that aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment. In addition, SB 743 mandates that alternative metric(s) for determining impacts relative to transportation shall be developed to replace the use of LOS in CEQA documents.

In the past, environmental review of transportation impacts focused on the delay that vehicles experience at intersections and on roadway segments, often measured using LOS. Mitigation for impacts on vehicular delay often involves increasing capacity such as widening a roadway or the size of an intersection, which in turn encourages more vehicular travel and greater pollutant emissions. Additionally, improvements to increase vehicular capacity can often discourage alternative forms of transportation such as biking and walking. SB 743 directed OPR to develop an alternative metric(s) for analyzing transportation impacts in CEQA documents. The alternative shall promote the state's goals of reducing GHG emissions and traffic-related air pollution, promote the development of multimodal transportation system, and provide clean, efficient access to destinations.

Pursuant to SB 743, OPR released the draft revised CEQA Guidelines in November 2017, recommending the use of VMT for analyzing transportation impacts. Additionally, OPR released Updates to Technical Advisory on Evaluating Transportation Impacts in CEQA, to provide guidance on VMT analysis. In this Technical Advisory, OPR provides its recommendations to assist lead agencies in screening out projects from VMT analysis and selecting a significance threshold that may be appropriate for their jurisdictions. While OPR's Technical Advisory is not binding on public agencies, CEQA allows lead agencies to "consider thresholds of significance … recommended by other public agencies, provided the decision to adopt those thresholds is supported by substantial evidence" (State CEQA Guidelines Section 15064.7(c)).

In December 2018, the CEQA Guidelines were updated to add new Section 15064.3, Determining the Significance of Transportation Impacts, that describes specific considerations for evaluating a project's transportation impacts using the VMT methodology.

CEQA Guidelines Section 15064.3(b) is divided into four subdivisions as follows:

1. **Land Use Projects.** Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.
2. **Transportation Projects.** Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.
3. **Qualitative Analysis.** If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.
4. **Methodology.** A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project.

OPR's regulatory text indicates that the guidelines must be implemented statewide by July 1, 2020. However, the OPR Technical Advisory allows local agencies to retain their congestion-based LOS standards in general plans and for project planning purposes. This EIR relies on VMT as the basis for evaluating transportation impacts under CEQA, as detailed in Appendix J, and the Project's LOS effects have been documented in the TIA prepared for the proposed Project and provided to the Town.

Sustainable Communities Strategies: Senate Bill 375

The Sustainable Communities and Climate Protection Act of 2008 (Sustainable Communities Act, SB 375, Chapter 728, Statutes of 2008) supports the state's climate action goals to reduce greenhouse gas emissions through coordinated transportation and land use planning with the goal of more sustainable communities. Under the Sustainable Communities Act, the California Air Resources Board sets regional targets for greenhouse gas emissions reductions from passenger vehicle use. In 2010, the California Air Resources Board established these targets for 2020 and 2035 for each region covered by one of the state's Metropolitan Planning Organizations (MPOs). The California Air Resources Board will periodically review and update the targets, as needed.

Each of California's MPOs must prepare a Sustainable Communities Strategy (SCS) as an integral part of its Regional Transportation Plan (RTP). The SCS contains land use, housing, and transportation strategies that, if

implemented, would allow the region to meet its greenhouse gas emission reduction targets. Once adopted by the MPO, the RTP/SCS guides the transportation policies and investments for the region. California Air Resources Board must review the adopted SCS to confirm and accept the MPO's determination that the SCS, if implemented, would meet the regional greenhouse gas targets. If the combination of measures in the SCS would not meet the regional targets, the MPO must prepare a separate alternative planning strategy to meet the targets. The alternative planning strategy is not a part of the RTP. The Project is within the Southern California Association of Governments (SCAG) MPO which has adopted Connect SoCal (2020–2045 Regional Transportation Plan/Sustainable Communities Strategy) as their SCS, as discussed below.

The Sustainable Communities Act also establishes incentives to encourage local governments and developers to implement the SCS or the alternative planning strategy. Developers can get relief from certain CEQA requirements if their new residential and mixed-use projects are consistent with a region's SCS (or alternative planning strategy) that meets the targets (see California Public Resources Code Sections 21155, 21155.1, 21155.2, 21159.28).

Caltrans

As the owner and operator of the State Highway System, Caltrans implements established state planning priorities in all functional plans, programs, and activities. Caltrans has the responsibility to coordinate and consult with local jurisdictions when proposed local land use planning and development may impact state highway facilities. To comply with SB 743 implementation, the Caltrans Transportation Impact Study Guide (Caltrans 2020a), replaced the Guide for the Preparation of Traffic Impact Studies (Caltrans 2002). Per the 2020 Transportation Impact Study Guide, Caltrans' primary review focus is VMT, replacing LOS as the metric used in CEQA transportation analyses. Caltrans recommends use of OPR's recommended thresholds and guidance on methods of VMT assessment found in OPR's Technical Advisory (OPR 2018). In addition to VMT, Caltrans has developed an Interim Local Development and Intergovernmental Review Safety Review Practitioners Guidance (December 2020) which may request a targeted operational and safety analysis to address a specific geometric or operational issue related to the State Highway System and connections with the State Highway System (Caltrans 2020b). To comply with this requirement, an assessment of queuing at I-15 off-ramps in the Project study area has been included in the EIR.

Regional

Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy

The Southern California Association of Governments (SCAG) 2020–2045 RTP/SCS (also known as the Connect SoCal Plan) was made available in March 2020 and presents the land use and transportation vision for the region through the year 2045, providing a long-term investment framework for addressing the region's challenges (SCAG 2020). Connect SoCal is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The SCAG RTP/SCS lays the framework for sustainable development in the SCAG region, which includes the City of Hesperia. Priorities of the plan include increasing investment in transit and investing in transportation strategies and projects that will result in improved air quality, public health, and reduced greenhouse gas emissions. The Proposed Final Connect SoCal Plan was adopted by SCAG's Regional Council on September 3, 2020.

Regional Funding Mechanisms – Measure "I" Funds

In 2004, the voters of San Bernardino County approved the 30-year extension of Measure "I," a one-half of 1% sales tax on retail transactions, through the year 2040, for transportation projects including, but not limited to, infrastructure improvements, commuter rail, public transit, and other identified improvements. The Measure "I" extension requires that a regional traffic impact fee be created to ensure development is paying its fair share. A regional Nexus study was prepared by SBCTA (SBCTA 2020) and concluded that each jurisdiction should include a regional fee component in their local programs to meet the Measure "I" requirement. The regional component assigns specific facilities and cost sharing formulas to each jurisdiction and was most recently updated in September 2017. Revenues collected through these programs are used in tandem with Measure "I" funds to deliver projects identified in the Nexus Study.

While Measure "I" is a self-executing sales tax administered by SBCTA, the funds raised through Measure "I" have funded in the past, and will continue to fund, new transportation facilities in San Bernardino County, including within the Town of Apple Valley.

San Bernardino County Congestion Management Plan (CMP)

The Project is located in San Bernardino County and therefore, the San Bernardino County Transportation Authority (SBCTA) Congestion Management Plan (CMP) is applicable (San Bernardino County 2016). To address the increasing public concern that traffic congestion is impacting the quality of life and economic vitality of the State of California, Proposition 111 created the CMP in 1990. The intent of the CMP is to provide the analytical basis for transportation decisions through the State Transportation Improvement Program (STIP) process. In 1990, the San Bernardino Associated Governments (SANBAG) was designated the CMA for San Bernardino County. Although implementation of the CMP was made voluntary by the passage of AB 2419 (Bowler 1996), the CMP requirement has been retained in San Bernardino County. The goals of the San Bernardino County CMP are to:

Goal 1: Maintain or enhance the performance of the multimodal transportation system and minimize travel delay.

Goal 2: Assist in focusing available transportation funding on cost-effective responses to subregional and regional transportation needs.

Goal 3: Provide for technical consistency in multimodal transportation system analysis.

Goal 4: Help to coordinate development and implementation of subregional transportation strategies across jurisdictional boundaries.

Goal 5: Anticipate the impacts of proposed new development on the multimodal transportation system, provide consistent procedures to identify and evaluate the effectiveness of mitigation measures and provide for adequate funding of mitigations.

Goal 6: Promote air quality and improve mobility through implementation of land use and transportation alternatives or incentives that reduce both vehicle trips and miles traveled and vehicle emissions

To meet the goals above, the CMP includes a System LOS Element, Performance Measures Element, Land Use/Transportation Analysis Element, Travel Demand Management Element, and a Five-Year Capital Improvement Program.

Local

Town of Apple Valley General Plan Circulation Element

The Circulation Element addresses both the local transportation system within Town, and those segments of the local transportation system that interface with, and serve as extensions of, the regional roadway system connecting the Town of Apple Valley with the broader Victorville Valley region and other communities in Southern California. The Element also describes alternative means of transportation, such as bicycle, equestrian and pedestrian travel through Town. The Circulation Element provides maps to guide the orderly development of all aspects of the transportation system, as well as goals, policies and programs that correlate the Town's transportation system with the types, intensities and locations of land uses within the planning area.

The Town of Apple Valley General Plan Circulation Element contains the following goals, policies, and programs applicable to transportation and the Project:

Goal**:** The Town shall continue to maintain and expand a safe and efficient circulation and transportation system.

Policy 1.A. The street system recommended in the Town's Circulation Map shall be strictly implemented.

Program 1.A.1. Street rights of way shall be provided as follows:

- 142 feet for a Major Divided Parkway
- 128 feet for Major Divided Arterials
- 104 feet for Major Roadways
- 88 feet for Secondary Roadways
- 60-66 feet for Collector Streets
- 66 feet for Industrial and Commercial Local Streets
- 60 feet for Local Streets
- 50 feet for Rural Streets and Cul-de-Sacs

Policy 1.C. Sidewalks shall be provided on Local Streets of 60 feet in width and on all roadways 88 feet wide or wider. In Rural Residential land use areas designated pathways may be provided as an alternate to sidewalks.

Policy 1.E. Bus pullouts shall be designed into all new projects on arterial roadways, to allow buses to leave the flow of traffic and reduce congestion.

Policy 1.F. Local streets shall be scaled to encourage neighborhood interaction, pedestrian safety and reduced speeds.

Policy 1.H. New development proposals shall pay their fair share for the improvement of street within and surrounding their projects on which they have an impact, including roadways, bridges, and traffic signals.

Policy 1.I. Pedestrian access shall be preserved and enhanced.

Policy 1.J. The Town shall implement a coordinated and connected bicycle lane network consistent with the Bicycle Lane Map in this Element.

Policy 1.K. The Town shall provide for a comprehensive, interconnected recreational trails system suitable for bicycles, equestrians and/or pedestrians.

Policy 1.M. Encourage the expansion of an integrated public transit system

The General Plan Circulation Element also identifies a range of recommended improvements to the local street network to accommodate buildout of the General Plan. Table 4.12-1 presents the roadway improvements that are proposed within the vicinity of the Project site. These improvements would provide additional roadway capacity. The Stoddard Wells Road widening project is currently listed in the Town's Five-Year Capital Improvement Plan (CIP) (Town of Apple Valley 2020).

Table 4.12-1. Apple Valley General Plan Recommended Improvements

Roadway	Recommended Improvement
I-15	▪ A future interchange at I-15 and Quarry Road
Outer I-15	▪ Extend Outer I-15 along the east side of I-15 between Stoddard Wells Road and Dale Evans Parkway. Extension would be classified as a Secondary Road (88-ft. ROW)
Stoddard Wells Road	▪ Between I-15 Freeway and Alembic Street – upgrade from Major Road (104-ft. ROW) to Major Divided Arterial (128-ft. ROW) ▪ between Alembic Street and Johnson Street – upgrade from Major Road to Major Divided Arterial
Quarry Road	▪ Between I-15 Freeway and Stoddard Wells Road – upgrade from Secondary Road (88-ft. ROW) to Major Divided Arterial (128-ft. ROW) ▪ Between Stoddard Wells Road and Dale Evans Road – upgrade from Secondary Road (88' ROW) to Major Divided Arterial (128-ft. ROW)
Johnson Road	▪ East of Central Road – change from Major Road to Secondary Road (88-ft. ROW)

Source: Town of Apple Valley 2009.
Notes: ROW = right-of-way; ft. = foot.

4.12.3 Thresholds of Significance

The significance criteria used to evaluate the Project's impacts to transportation are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to transportation would occur if the Project would:

A. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
B. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).
C. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
D. Result in inadequate emergency access.
E. Result in cumulatively considerable transportation impacts.

Methodology

This section describes the methodology used to analyze the potential impacts of the Project per each CEQA transportation threshold.

Program, Plan, Ordinance and Policy

The programs, plans, ordinances, and policies listed in Section 4.12.2, Relevant Plans, Policies, and Ordinances, were analyzed for their applicability to the proposed Project under Threshold A.

Vehicle Miles Traveled

In accordance with SB 743, the Town of Apple Valley adopted Resolution No 2021-08 (May 12, 2021), requiring that VMT replace LOS, and other similar measures for determining significant impacts under CEQA. A Project-level VMT analysis has been completed for the Project following the Town's Resolution under Threshold B. The San Bernardino County Guidelines (July 9, 2019) have also been referenced for further guidance.

This includes the following general steps:

1. **VMT Screening & Qualitative Review:** The first step is to determine when a VMT analysis is required. Consistent with OPR's Technical Advisory, projects that meet certain screening thresholds based on their size, location and land use may be presumed to result in a less than significant transportation impact. For example, projects located within a Transit Priority Area or a low VMT generating traffic analysis zone (TAZ) (subject to additional secondary screening criteria) and absent substantial evidence to the contrary are anticipated to result in a less-than-significant impact and can be screened from further analysis.
2. **VMT Analysis Methodology:** If a project is not screened from requiring a project-level VMT analysis, the San Bernardino Transportation Analysis Model (SBTAM) model is used to estimate a project's VMT. This analysis includes the project generated VMT and project effect on VMT estimates for the project TAZ.
3. **VMT Impact Thresholds:** The Town uses VMT per service population for its impact threshold. A project would result in a significant impact if either of the following conditions are satisfied:

   The baseline project-generated VMT per service population exceeds the Town of Apple Valley General Plan Buildout VMT per service population, or

   The cumulative project-generated VMT per service population exceeds Town of Apple Valley General Plan Buildout VMT per service population

   The Project's effect on VMT would be considered significant if it resulted in either of the following conditions to be satisfied:

   The baseline link-level boundary Town-wide VMT per service population increases under the plus project condition compared to the no project condition, or

   The cumulative link-level boundary Town-wide VMT per service population increases under the plus project condition compared to the no project condition.
4. **VMT Mitigation:** The types of mitigation that affect VMT are those that reduce the number of single-occupant vehicles generated by a project. Mitigation can be accomplished by altering the proposed land uses, by implementing transportation demand management (TDM) measures, or participating in a VMT fee program and/or VMT mitigation exchange/banking program.

Hazardous Features (Queuing and Safety Analysis)

Threshold C requires an evaluation of whether the project substantially increases hazards due to a geometric design feature or incompatible use. Based on the Town's General Plan consistency requirement and Caltrans Interim Local Development Intergovernmental Review Safety Review Practitioners Guide (December 2020), an operational analysis of Stoddard Wells Road at the I-15 ramps was conducted. For the off-ramp locations, a potentially significant safety impact is identified if the addition of project vehicle trips would result in an off-ramp queue that extends onto the freeway mainline. An off-ramp queue which extends onto the freeway mainline causes a potential operational deficiency if a significant speed differential exists between the off-ramp queue vehicles and the freeway mainline vehicles.

Emergency Access

The emergency access analysis was evaluated under Threshold C and evaluates whether the project would comply with the Town's emergency access and/or evacuation requirements including those imposed by the Fire Department.

Project Trip Generation

Project trip generation estimates used in the Project's TIA are based on daily and AM and PM peak hour trip generation rates obtained from the Institute of Transportation Engineers (ITE) Trip Generation Handbook, 11th Edition (2021). Additionally, Passenger car equivalent (PCE) factors were applied to the trip generation estimates to account for truck traffic. The San Bernardino County CMP indicates that projects with high truck percentages should convert project trips to PCE. A 1.5 PCE factor was applied to 2-axle trucks, 2.0 PCE for 3-axle trucks, and a 3.0 PCE factor was applied to 4-axle trucks per the San Bernardino County CMP. As the ITE Trip Generation Handbook does not provide a breakdown of truck traffic by axle classification, vehicle mix data and percentages are also applied to the Project trip generation estimates from the 2014 SCAQMD Warehouse Truck Trip Study Data Results and Usage (SCAQMD Study).

While trip generation is not used in the EIR for the purpose of determining impacts based on traffic delay or congestion, it is helpful in assessing issues such as access and traffic hazards. Trip generation also plays an important role in evaluating mobile emissions and noise impacts. Based on the analysis, the proposed Project would generate 1,955 daily trips, 162 AM peak hour trips, and 173 PM peak hour trips. This is equivalent to 2,784 daily PCEs, 231 AM peak hour PCEs, and 246 PM peak hour PCEs. The ITE-based daily trip estimates used in the Project's TIA are shown in Appendix J of this report.

4.12.4 Impacts Analysis

Threshold A: Would the Project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Less-than-Significant Impact. The Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, as discussed below. Impacts would be less than significant.

Regional Transportation Plan/Sustainable Communities Strategy

The Project would be consistent with the 2020–2045 RTP/SCS as analyzed in Table 4.9-1, Consistency with 2020–2045 RTP/SCS Goals under Section 4.9, Land Use and Planning.

San Bernardino County CMP

The Project would be consistent with the applicable goals and elements of the San Bernardino County CMP. The Project would not impede the ability to maintain or enhance the performance of the multimodal transportation system. The Project would include on and off-site roadway improvements to minimize impacts to travel delay and would participate in the Town's Development Impact Fee program, which is coordinated with regional planning efforts in Victor Valley. The CMP System LOS Element and Performance Measures Element also contain LOS standards for CMP designated highways and roadways. There are no designated CMP roadways in the Project study area, therefore the Project would have no impact on these roadways.

Town of Apple Valley General Plan Circulation Element

The Project would be consistent with the applicable goals and policies of the General Plan Circulation Element including policies related to maintaining and expanding a safe and efficient circulation and transportation system. The Project location takes advantage of the location along the I-15 corridor to minimize truck travel through the Town, thereby discouraging traffic to utilize local residential streets for access or parking needs. The Project would also not hinder the Town's ability to provide for a comprehensive, interconnected recreational trails system suitable for bicycles, equestrians and/or pedestrians, nor hinder the Town's ability to expand the public transit system. The Project would include on and off-site roadway improvements to serve internal circulation needs, as well as to mitigate impacts of increased traffic on the existing road system. The Project would also participate in the Town's Development Impact Fee program. Therefore, the Project would be consistent with the Town's General Plan Circulation Element.

Pedestrian and Bicycle Access

The Town of Apple Valley's Recreation Trail Map and bike paths per the General Plan Circulation Element are presented in Figures 4.12-4 and 4.12-5, respectively, as discussed in Section 4.12.1, Existing Conditions.

The Project site is in a minimally developed area of the Town, with limited pedestrian and bicycle facilities provided. Where new development has occurred, sidewalks have been typically constructed along site frontages (e.g., Big Lots Distribution Center located at the southwest corner of the Navajo Road and Lafayette Stret). No pedestrian facilities, including curbs and sidewalks, are present along Johnson Road, Central Road or Lafayette Street as no development currently exists. The Project would construct pedestrian facilities (e.g., curb and gutter) along all Project frontages, including Johnson Road, Central Road or Lafayette Street. Additionally, as the adjacent areas surrounding the Project site continue to become developed, connectivity to other areas of the Town will be realized. Therefore, the Project would have a less-than-significant impact on pedestrian and bicycle access.

Threshold B: Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Significant and Unavoidable Impact. CEQA Guidelines Section 15064.3(b) focuses on VMT for determining the significance of transportation impacts.

VMT Screening

The San Bernardino County Transportation Impact Study Guidelines (July 2019) identifies projects that can be screened from conducting a project-specific VMT analysis. A land use project need only to meet one of the below screening thresholds to result in a less-than- significant impact.

- **Local Serving Development:** Projects which serve the local community and have the potential to reduce VMT should not be required to complete a VMT assessment. These projects include:
  - K-12 schools
  - Local-serving retail less than 50,000 sq. ft.
  - Local parks
  - Day care centers
  - Local serving gas stations
  - Local serving banks
  - Student housing projects
  - Local serving community colleges that are consistent with the assumptions noted in the RTP/SC

The proposed Project does not include any of the land uses above and therefore does not meet this screening criterion.

- **Projects generating less than 110 daily trips:** If a development project generates 110 or less net daily vehicle trips, further analysis is not required, and a less than significant determination can be made. As previously discussed above, the Project would generate 1,955 daily trips and therefore does not meet this screening criterion based on its proposed size and land use.
- **Projects located within a Transit Priority Area (TPA):** Projects located within a TPA as determined by the most recent SCAG RTP/SCS. The Project site is not located within 0.5 miles of an existing major transit stop, or along a high-quality transit corridor and therefore does not meet this screening criterion.
- **Projects located within a low VMT generating area.** A project that is located in efficient areas of San Bernadino County will reduce VMT per person/employee and is beneficial to the region. San Bernadino County's Screening Tool was used to identify whether the Project is located in a low VMT area. A parcel within the Project site was selected and the Screening Tool was run for VMT per service population (e.g., population and employment) measure of VMT. As shown in Table 4.12-2 below, the VMT per service population for the Project TAZ is 67.6, and the San Bernardino County VMT per service population is 33.3. Therefore, the TAZ would be 102.87% above San Bernadino County's threshold, which would not meet the required baseline screening criteria established in the Town's guidelines. The Project would not qualify as residing in a low VMT area.

Table 4.12-2. Summary of Project Traffic Analysis Zone Vehicle Miles Traveled

Base Year (2022)	VMT
VMT Per Service Population	
Project TAZ	67.6
Jurisdiction	33.3
% Difference (Project TAZ – Jurisdiction)	**+102.87%**
Threshold	33.3

Source: SBCTA VMT Screening Tool (Appendix J).
Notes: VMT = vehicle miles traveled; TAZ = traffic analysis zone.

As outlined above, the Project does not meet the screening criteria identified in San Bernadino County's guidelines. Therefore, the Project's potential VMT impact was conducted and is summarized below.

VMT Analysis

The VMT estimates calculated for the Project are shown in Tables 4.12-3 (VMT Per Service Population) and Table 4.12-4 (Boundary VMT). A detailed description of the methodology, calculations and model outputs are included in Appendix J.

As shown in Table 4.12-3, the development of the proposed Project is forecast to exceed the Town's VMT per Service Population impact threshold by 20.8% in the baseline conditions and 80.4% in the cumulative conditions. Therefore, the Project would have a potentially significant impact on project-generated VMT.

Table 4.12-3. Project-Generated Vehicle Miles Traveled

Scenario	Baseline	Cumulative
Service Population	904	904
Total OD VMT	36,250	54,180
OD VMT per Service Population	40.1	59.9
Town Threshold	33.2	33.2
Percent Above Threshold	20.8%	80.4%
Potential Significant?	**Yes**	**Yes**

Source: Appendix J.
Note: OD = origin destination; VMT = vehicle miles traveled.

As shown in Table 4.12-4, the boundary VMT per Service Population remains unchanged under with the proposed Project for both baseline and cumulative conditions. Therefore, the Project's cumulative effect on VMT would be less than significant.

Table 4.12-4. Boundary Vehicle Miles Traveled

	Baseline		Cumulative	
Scenario	No Project	With Project	No Project	With Project
Service Population	101,523	102,427	126,806	127,710
Boundary VMT	893,993	903,123	1,206,225	1,216,812
VMT per Service Population	8.8	8.8	9.5	9.5
Change in VMT	0.0		0.0	
Potential Significant?	**No**		**No**	

Source: Appendix J.
Note: VMT = vehicle miles traveled.

Trip reduction measures that have the potential to reduce project-generated VMT are described in the Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (CAPCOA 2021) (2021 Handbook). Locational context is a major factor relevant to the potential application and effectiveness of VMT reduction measures. The three locational contexts identified by the 2021 Handbook are suburban, urban, and rural. The locational context of the Project is characteristically suburban, which further limits the effectiveness of a particular trip reduction measure as compared to an urban/city center with high accessibility to transit and other modes of transportation beyond the single occupancy automobile. In addition to limitations

related to locational context, as future building tenants are not known for the Project, the ultimate effectiveness of certain trip reduction measures cannot be guaranteed.

Potential trip reduction measures that may be relevant to the proposed Project as described within the 2021 Handbook are listed below.

- Provide pedestrian and bicycle network improvements within the development connecting to existing off-site facilities.
- Commute trip reduction (CTR) programs offered to encourage the use of vanpools, carpooling, public transit, and biking.
- CTR programs may also provide for alternative work or compressed work schedules to reduce the number of days an employee commutes to work.
- Provision of on-site facilities to provide end of trip services for bicycling such as secure bike parking and storage lockers.
- Provide reserved preferential parking spaces for car-share, carpool, and ultra-low or zero emission vehicles.

Consistent with the Air Quality analysis, the project would implement a Transportation Demand Management Plan (TRANS-1) to reduce discourage single-occupancy vehicle trips and encourage alternative modes of transportation. However, t~~T~~he effectiveness of some of the aforementioned measures is dependent on yet unknown tenant(s) and employee participation. Conservatively, this analysis assumes no reduction in VMT that may result from implementation of ~~such measures~~TRANS-1 and impacts remain potentially significant. Therefore, impacts would be significant and unavoidable.

Threshold C: Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Significant and Unavoidable Impact. The following discussion describes the potential for increased hazards as a result of geometric design features of the Project, and/or as a result of the addition of Project traffic to adjacent roadways and Caltrans facilities.

Project Site Access

Access to the Project site would be provided from a new driveway on Johnson Road, a new driveway on Central Road, and a new driveway on Lafayette Street. A summary of the driveway access locations is provided below, as identified in Figure 4.12-6, Vehicular Circulation and Access Plan:

- **No. 13:** Driveway A/Johnson Road- full access; trucks/passenger vehicles
- **No. 14:** Central Road/Driveway B - full access; trucks
- **No. 15:** Driveway C/Lafayette Street- full access; trucks/passenger vehicles
- **No. 16:** Driveway D/Lafayette Street- full access; trucks/passenger vehicles

A queuing analysis was prepared for all Project driveways to assess the adequacy of any off-site storage lanes into the Project site, as well as the adequacy of driveway throat lengths and space on site for vehicles to queue without effecting the internal circulation on the Project site. Queuing was analyzed utilizing the SimTraffic software, which calculates the 95th percentile (design) queue. All queuing analysis data and SimTraffic queuing worksheets are provided in Appendix J. Based on the analysis, the proposed Project would not result in unacceptable queueing conditions into or out of the Project site.

Proposed Site Access Improvements

All roadway improvements required as part of the Project, whether located on or off site, would be designed and constructed in accordance with all applicable local, state, and federal roadway standards and practices. All intersections would continue to operate as under existing conditions. Improvements noted below and shown in Figure 4.12-6, Vehicular Circulation and Access Plan, including the extension and build-out of the rights-of-way (ROW) of adjacent streets are assumed in this analysis. The following improvements are proposed:

- The Project would involve the construction of Central Road from the eastern edge of the existing pavement surface to Central Road's eastern right-of-way (ROW), starting at the intersection of Johnson Road and Central Road, extending to the southwest corner of the Project site at the intersection of Central Road and Lafayette Street. The portion of this improved roadway along the Project's frontage would include a curb, gutter, and sidewalk. The remaining undeveloped ROW on the western portion of the ROW would be completed at a future time, either by the Town or a future developer that is constructing a project fronting this ROW.
- The Project would involve the construction of Johnson Road to varying widths, starting at the intersection of Johnson Road and Central Road, extending to the southeast corner of the Project site at the intersection of Johnson Road and Sycamore Lane. A portion of this road would be protected by an approximately 500-foot by 20-foot area of rip rap within the northern portion of Johnson Road's ROW. This is to protect against flooding from a drainage referred to as the N-02 drainage in the Apple Valley Master Plan of Drainage, in the north. A portion of this improved roadway along the Project's frontage and near the Project's northeast driveway would include a curb, gutter, and sidewalk. The remaining undeveloped ROW on the northern portion of the ROW would be completed at a future time, either by the Town or a future developer that is constructing a project fronting this ROW. When this occurs, the rip rap feature may be removed to accommodate the ultimate construction of Johnson Road.
- The Project would involve the construction of Lafayette Street from its northern ROW boundary to approximately 6 feet south of its centerline, starting at the intersection of Lafayette Street and Central Road, extending to the southeast corner of the Project site at the intersection of Lafayette Street and Sycamore Lane. The portion of this improved roadway along the Project's frontage would include a curb, gutter, and sidewalk. The remaining undeveloped roadway area within the southern portion of the ROW would be completed at a future time, either by the Town or a future developer that is constructing a project fronting this ROW.

As the Project continues through design review, detailed roadway improvements will continue to be developed in coordination with the Town. These improvements would be overseen by the applicable lead agency and their qualified traffic engineers. This approach would ensure compliance with all applicable roadway design requirements. As such, no hazardous design features would be part of the Project's roadway improvements or site access.

Off-site Queuing Analysis

A queuing analysis was performed for the southbound I-15 ramps at Quarry Road, the northbound I-15 ramps at Stoddard Wells Road, and the I-15 north and southbound ramps at Dale Evans Parkway to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially "spill back" onto the I-15 mainline. The queuing analysis was performed for Existing (2022), Opening Year (2025) plus Project, and Horizon Year (2040) plus Project conditions, using Synchro/SimTraffic software, as summarized below. All SimTraffic queueing reports are provided in Appendix J.

Existing (2022) Conditions

As shown in Table 4.12-5, Peak-Hour Queuing Summary for Existing Conditions, 95th percentile queuing would be satisfactory and would not extend into mainline lanes. As shown in the table, more than one vehicle may stack along Dale Evans Parkway as vehicles wait for clearance to make a left turn onto the on-ramps. As peak hour traffic volumes are low along Dale Evans Parkway, and the intersections operate at LOS B, this queuing along the through lanes would not significantly impede traffic operations. Additionally, some stacking in the de facto right-turn lanes at the off-ramps to Stoddard Wells Road may occur; however, total queuing at the off-ramp approach would not impact the freeway mainline.

Opening Year (2025) Plus Project Conditions

As shown in Table 4.12-6, Peak-Hour Queuing Summary for Opening Year (2025) Plus Project Conditions, the following intersection approaches are anticipated to experience periodic queuing issues during the peak hours based on the 95th percentile peak hour traffic flows for the Opening Year (2025) plus Project traffic conditions:

- **No. 5:** I-15 NB Ramps - Outer I-15/ Stoddard Wells Road: Southbound approaches (AM and PM peak hours)

Horizon Year (2040) Plus Project Conditions

As shown in Table 4.12-7, Peak-Hour Queuing Summary for Horizon Year (2040) Plus Project Conditions, the following intersection approaches are anticipated to experience periodic queuing issues during the peak hours based on the 95th percentile peak hour traffic flows for the Horizon Year (2040) plus Project traffic conditions:

- **No. 5:** I-15 NB Ramps - Outer I-15/ Stoddard Wells Road: Southbound approaches (AM and PM peak hours)

Improvement measures required to mitigate the Project's LOS and queuing impacts would include fair-share contributions to this intersection. Since Caltrans has jurisdiction over these facilities, these improvements cannot be assumed to be in place prior to Project's occupancy. Additionally, no programs or plans are in place to implement improvements at this interchange or collect fair-share contributions. Therefore, the Project's potential impact to increase in hazardous conditions (i.e., queuing) would be significant and unavoidable.

Table 4.12-5. Peak-Hour Queuing Summary for Existing Conditions

No.	Intersection	Movement	Available Stacking Distance (Feet)	Existing			
				95th Percentile Queue (Feet)		Acceptable?[1]	
				AM Peak	PM Peak	AM Peak	PM Peak
1	I-15 SB Ramps/Dale Evans Parkway	WBLT	25	10	9	Yes	Yes
		SBLTR	1,400	54	74	Yes	Yes
2	I-15 NB Ramps/Dale Evans Parkway	EBLT	25	42	59	**No**	**No**
		WBTR	25	26	0	**No**	Yes
		NBLTR	1,265	12	4	Yes	Yes
3	Quarry Road/I-15 SB Ramps	WBL	1,000	24	28	Yes	Yes
4	Quarry Road/Stoddard Wells Road	SBL[2]	1,400	36	42	Yes	Yes
		SBR[3]	25	14	26	Yes	**No**
5	I-15 NB Ramps – Outer I-15/ Stoddard Wells Road	SBLT	1,000	56	78	Yes	Yes
		SBR[3]	25	52	47	**No**	**No**

Source: Appendix J.
Notes: I-15 = Interstate 15; SB = southbound; WBLT = westbound left thru; SBLTR = southbound left thru-right; NB = northbound; EBLT = eastbound left thru; WBTR = westbound thru right; NBLTR = northbound left thru-right; WBL = westbound left; SBL = southbound left; SBR = southbound right; SBLT = southbound left thru; **Bold:** exceeds available stacking distance.
1 Stacking distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided.
2 Available stacking distance measured to the Quarry Road/I-15 SB Off-Ramp intersection.
3 Analyzed as a de facto right-turn pocket; queues may exceed de facto pocket of one vehicle (e.g., 25-feet), but may not exceed total approach stacking distance.

Table 4.12-6. Peak-Hour Queuing Summary for Opening Year (2025) Plus Project Conditions

No.	Intersection	Movement	Available Stacking Distance (Feet)	Opening Year (2025)				Opening Year (2025) plus Project			
				95th Percentile Queue (Feet)		Acceptable?[1]		95th Percentile Queue (Feet)		Acceptable?[1]	
				AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1	I-15 SB Ramps/ Dale Evans Parkway	WBLT	25	16	10	Yes	Yes	13	7	Yes	Yes
		SBLTR	1,400	57	73	Yes	Yes	60	76	Yes	Yes
2	I-15 NB Ramps/ Dale Evans Parkway	EBLT	25	45	54	**No**	**No**	48	61	**No**	**No**
		WBTR	25	22	8	Yes	Yes	33	8	**No**	Yes
		NBLTR	1,265	23	3	Yes	Yes	13	5	Yes	Yes
3	Quarry Road/ I-15 SB Ramps	WBL	1,000	50	533	Yes	Yes	53	134	Yes	Yes
4	Quarry Road/ Stoddard Wells Road	SBL[2]	1,400	59	128	Yes	Yes	60	92	Yes	Yes
		SBR[3]	25	22	26	Yes	**No**	21	27	Yes	**No**
5	I-15 NB Ramps – Outer I-15/Stoddard Wells Road	SBLT	1,000	1,349[4]	1,191[4]	**No**	**No**	1,238[4]	1,182[4]	**No**	**No**
		SBR[3]	25	71	48	**No**	**No**	69	43	**No**	**No**

Source: Appendix J.

Notes: I-15 = Interstate 15; SB = southbound; WBLT = westbound left thru; SBLTR = southbound left thru-right; EBLT = eastbound left thru; WBTR = westbound thru-right; NBLTR = northbound left thru-right; WBL = westbound left; SBL = southbound left; SBR = southbound right; SBLT = southbound left thru; SBR = southbound right; **Bold:** exceeds available stacking distance; **Bold:** exceeds available stacking distance and would extend to freeway mainline/past total approach stacking distance.

1 Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided.

2 Available stacking distance measured to the Quarry Road/I-15 SB Off-Ramp intersection.

3 Analyzed as a de facto right-turn pocket; queues may exceed de facto pocket of one vehicle (e.g., 25-feet), but may not exceed total approach stacking distance.

4 95th percentile volume exceeds capacity; queue may be longer.

Table 4.12-7. Peak-Hour Queuing Summary for Horizon Year (2040) Plus Project Conditions

No.	Intersection	Movement	Available Stacking Distance (Feet)	Horizon Year (2040)				Horizon Year (2040) plus Project			
				95th Percentile Queue (Feet)		Acceptable?[1]		95th Percentile Queue (Feet)		Acceptable?[1]	
				AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1	I-15 SB Ramps/ Dale Evans Parkway	WBLT	25	17	15	Yes	Yes	16	16	Yes	Yes
		SBLTR	1,400	69	105	Yes	Yes	79	108	Yes	Yes
2	I-15 NB Ramps/ Dale Evans Parkway	EBLT	25	74	92	**No**	**No**	85	90	**No**	**No**
		WBTR	25	53	12	**No**	Yes	55	15	**No**	Yes
		NBLTR	1,265	31	11	Yes	Yes	39	10	Yes	Yes
3	Quarry Road/I-15 SB Ramps	WBL	1,000	60	81	Yes	Yes	63	124	Yes	Yes
4	Quarry Road/ Stoddard Wells Road	SBL[2]	1,400	74	74	Yes	Yes	73	78	Yes	Yes
		SBR[3]	25	32	31	**No**	**No**	31	33	**No**	**No**
5	I-15 NB Ramps – Outer I-15/Stoddard Wells Road	SBLT	1,000	1,180[4]	1,180[4]	**No**	**No**	1,180[4]	1,184[4]	**No**	**No**
		SBR[3]	25	70	45	**No**	**No**	68	40	**No**	**No**

Source: Appendix J.

Notes: I-15 = Interstate 15; SB = southbound; WBLT = westbound left thru; SBLTR = southbound left thru-right; EBLT = eastbound left thru; WBTR = westbound thru-right; NBLTR = northbound left thru-right; WBL = westbound left; SBL = southbound left; SBR = southbound right; SBLT = southbound left thru; SBR = southbound right; **Bold:** exceeds available stacking distance; **Bold:** exceeds available stacking distance and would extend to freeway mainline/past total approach stacking distance.

1 Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided.

2 Available stacking distance measured to the Quarry Road/I-15 SB Off-Ramp intersection.

3 Analyzed as a de facto right-turn pocket; queues may exceed de facto pocket of one vehicle (e.g., 25-feet), but may not exceed total approach stacking distance.

4 95th percentile volume exceeds capacity; queue may be longer.

Threshold D: Would the Project result in inadequate emergency access?

Less-than-Significant Impact. All roadway, intersection and Project access improvements would be overseen by the applicable lead agency and their qualified traffic engineers. This approach would ensure compliance with all applicable roadway design requirements. In the event of an emergency all the site access driveways would enable vehicles to enter/exit the Project site. All street improvements will be designed with adequate width, turning radius, and grade to facilitate access by Town's firefighting apparatus, and to provide alternative emergency ingress and egress. The site plan would be subject to plan review by the Town's Fire Department to ensure proper access for fire and emergency response is provided and required fire suppression features are included. Therefore, the Project's impact due to inadequate emergency access would be less than significant. As such, no hazardous design features would be part of the Project's roadway improvements or site access. Therefore, the Project's impact due to inadequate emergency access would be less than significant.

Threshold E: Would the Project result in cumulatively considerable transportation impacts?

Significant and Unavoidable Impact. As discussed above in Threshold B, the Project's effect on VMT was found to remain unchanged with the Project as compared to the No Project scenario for both the Baseline and Cumulative conditions. Since future building tenants are unknown at this time, implementation of trip reduction measures cannot be guaranteed to reduce Project generated VMT to a level of less than significant; the Project's VMT impact is considered significant and unavoidable.

As discussed above in Threshold C, the Project may increase a hazardous condition due to queuing impacts at intersection No. 5 under the Opening Year (2025) plus Project traffic conditions and Horizon Year (2040) plus Project conditions. Since the Town does not have jurisdiction over this intersection, improvements cannot be assumed to be in place prior to Project's occupancy.

Therefore, Project's impacts to VMT and increase in hazardous conditions (e.g., queuing) would be significant and unavoidable, and thus, the Project could contribute to a cumulatively considerable impacts associated with VMT and queuing and hazardous design features.

4.12.5 Mitigation Measures and Level of Significance After Mitigation

Threshold A: Would the Project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

The Project would have a less-than-significant impact and no mitigation is required.

Threshold B: Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

The Project's VMT analysis found the Project to exceed the Town's VMT per service population impact threshold by 20.8% in the Baseline condition and 80.4% in the Buildout condition. Therefore, the Project is determined to have a potentially significant project-generated ~~transportation~~ impact on VMT. However, ~~T~~the Project's effect on VMT was found to remain unchanged with the Project as compared to the No Project scenario for both the Baseline and Cumulative conditions. Therefore, the Project's effect on VMT was found to be less than significant. The project would implement TRANS-1 (Transportation Demand Management Plan) to reduce VMT impacts to the extent feasible. However, ~~S~~since future building tenants are unknown at this time, implementation of trip reduction

measures cannot be guaranteed to reduce Project generated VMT to a level of less than significant; the Project's VMT impact is considered significant and unavoidable.

TRANS-1 The Project shall implement the following measures in order to reduce operational air pollutant emissions to the extent feasible:

- **Transportation Demand Management Plan**. For occupants with more than 250 employees, a Transportation Demand Management Program to reduce employee commute vehicle emissions shall be established, subject to review and approval by the Town of Apple Valley prior to issuance of each future Certificate of Occupancy. The Transportation Demand Management Plan shall apply to Project tenants through tenant leases. The TDM plan shall discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking, depending on future availability of pedestrian and bicycle facilities and transit stops within the Project vicinity and the employee scheduling needs of occupant. Examples of trip reduction measures may include, but are not limited to:
  - Transit passes
  - Car-sharing programs
  - Telecommuting and alternative work schedules
  - Ride sharing programs
  - Employer sponsored vanpool
  - Financial incentives to workers for use of alternate transportation
  - End-of-trip bike facilities

Threshold C: Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The Project could result in potentially significant impacts associated with increasing hazards due to a geometric design feature related to queuing. Improvement measures required to mitigate Project's impact would include fair-share contribution to intersection No. 5. Since the Town does not have jurisdiction over this intersection, improvements cannot be assumed to be in place prior to Project's occupancy. Therefore, the Project's impact related to an increase in hazardous conditions (i.e., queuing) would be significant and unavoidable.

Threshold D: Would the Project result in inadequate emergency access?

The Project would have a less-than-significant impact and no mitigation is required.

Threshold E: Would the Project result in cumulatively considerable transportation impacts?

As discussed above in Threshold B, the Project VMT would exceed the Town's VMT per service population impact threshold by 80.4% in the Buildout condition. ~~the Project's effect on VMT was found to remain unchanged with the Project as compared to the No Project scenario for both the Baseline and Cumulative conditions. Therefore, the Project's effect on VMT was found to be less than significant.~~ Since future building tenants are unknown at this time, implementation of trip reduction measures cannot be guaranteed to reduce Project generated VMT to a level of less than significant; the Project's cumulative VMT impact is considered significant and unavoidable.

The Project's effect on VMT was found to remain unchanged with the Project as compared to the No Project scenario for the Cumulative conditions. Therefore, the Project's cumulative effect on VMT would be less than significant.

As discussed above in Threshold C, the Project may increase a hazardous condition due to queuing impacts at intersection No. 5 under the Opening Year (2025) plus Project traffic conditions and Horizon Year (2040) plus Project conditions. Since the Town does not have jurisdiction over this intersection, improvements cannot be assumed to be in place prior to Project's occupancy.

Therefore, Project's impacts to VMT and increase in hazardous conditions (e.g., queuing) would be significant and unavoidable, and thus, the Project could contribute to a cumulatively considerable impacts associated with VMT and queuing and hazardous design features.

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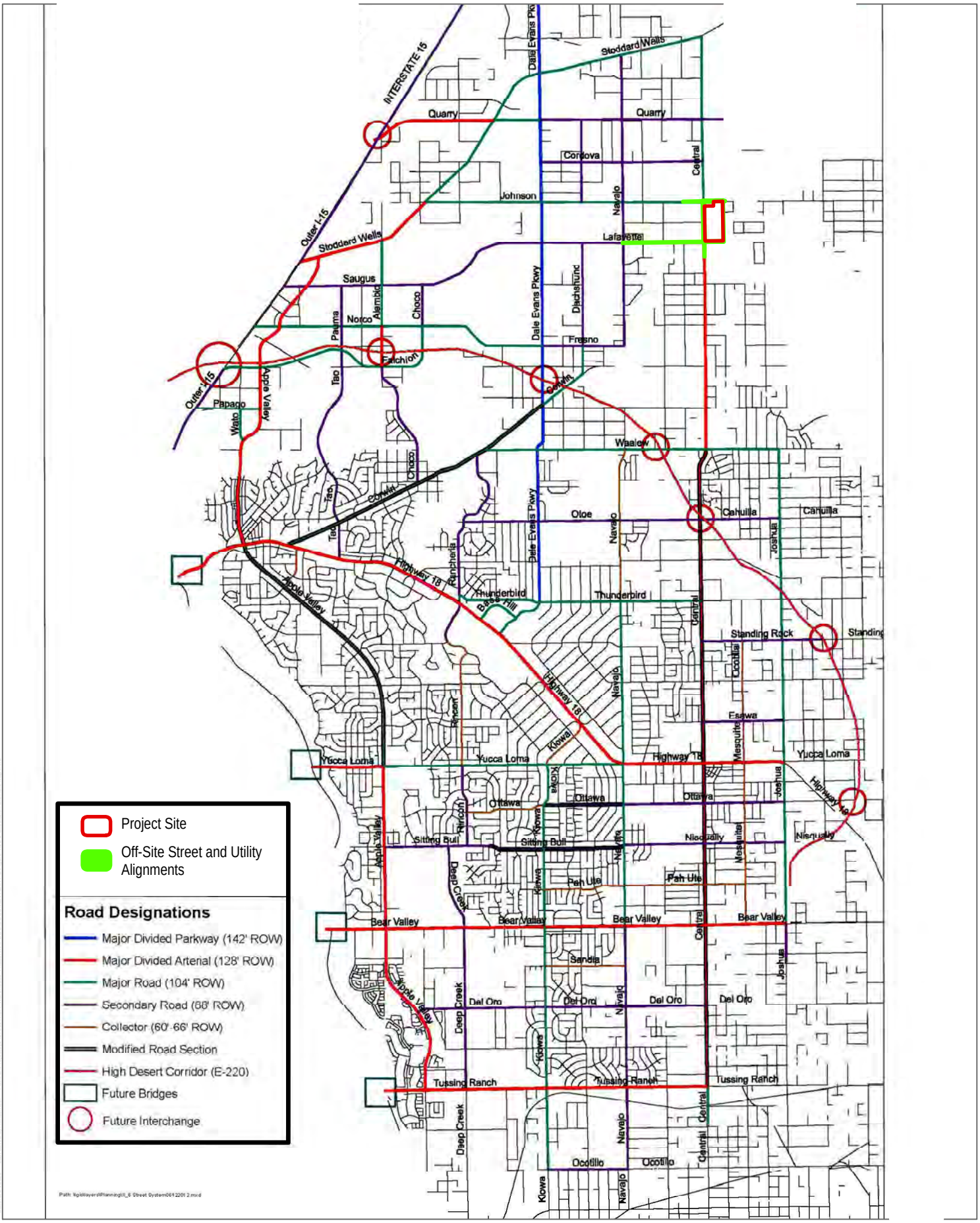
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SOURCE: San Bernadino County 2021; Town of Apple Valley 2023

DUDEK

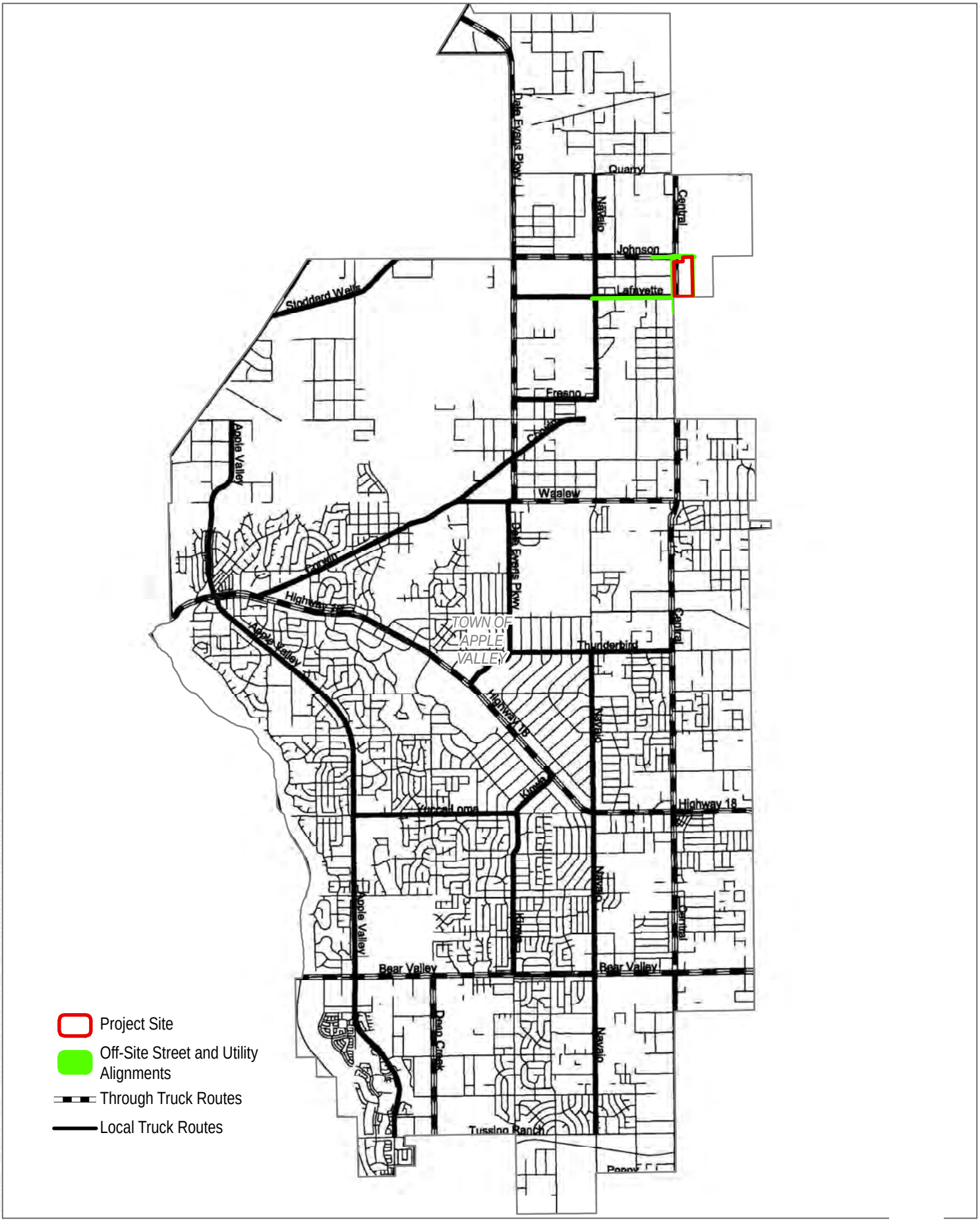
0 0.75 1.5 Miles

FIGURE 4.12-1

Circulation Element Map

1M Warehouse Project

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SOURCE: USGS Basemap; San Bernadino County 2021; Town of Apple Valley 2009

DUDEK

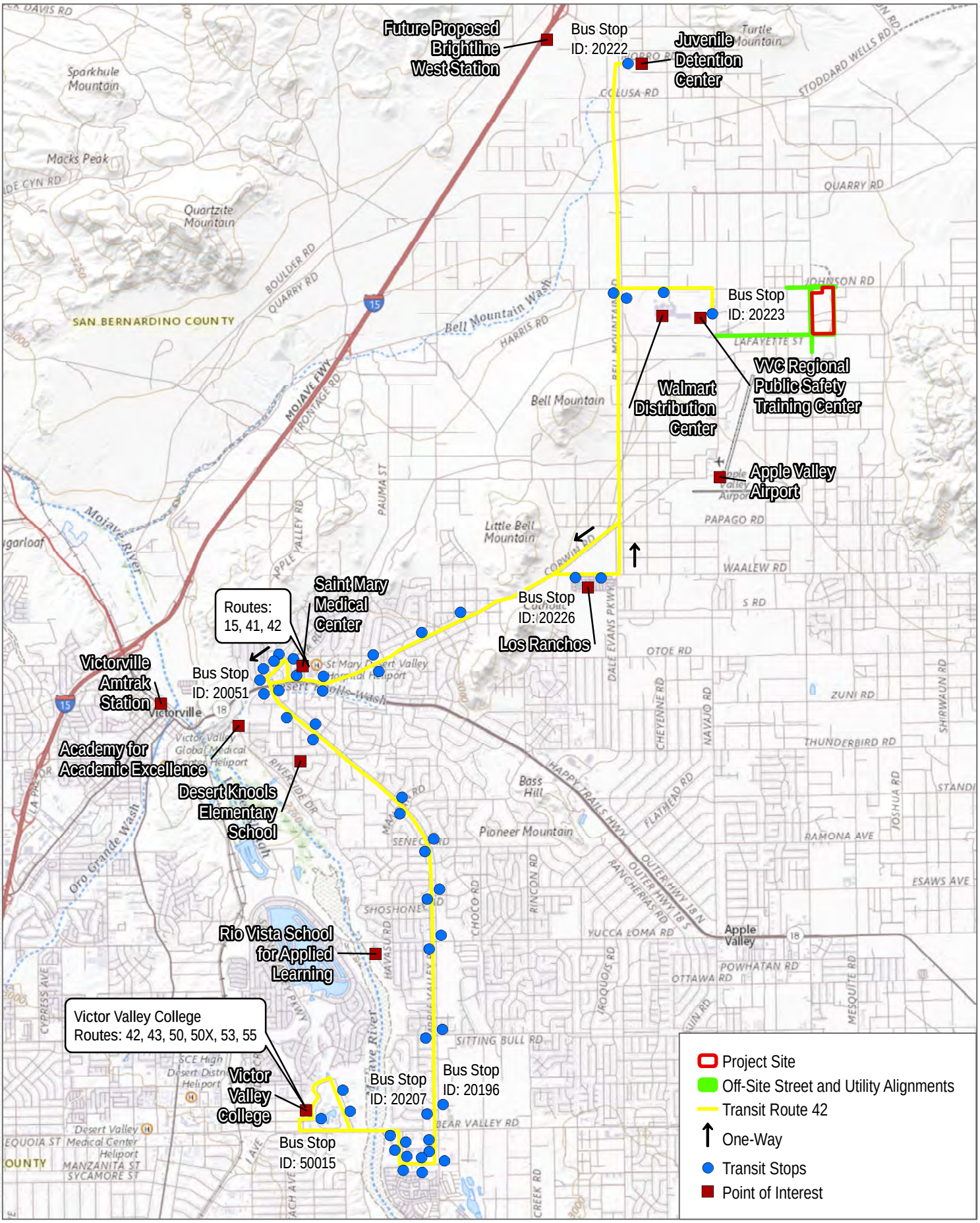
0 0.75 1.5 Miles

FIGURE 4.12-2

Local Truck Routes

1M Warehouse Project

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SOURCE: USGS Basemap; San Bernadino County 2021; Victor Valley Transit 2022

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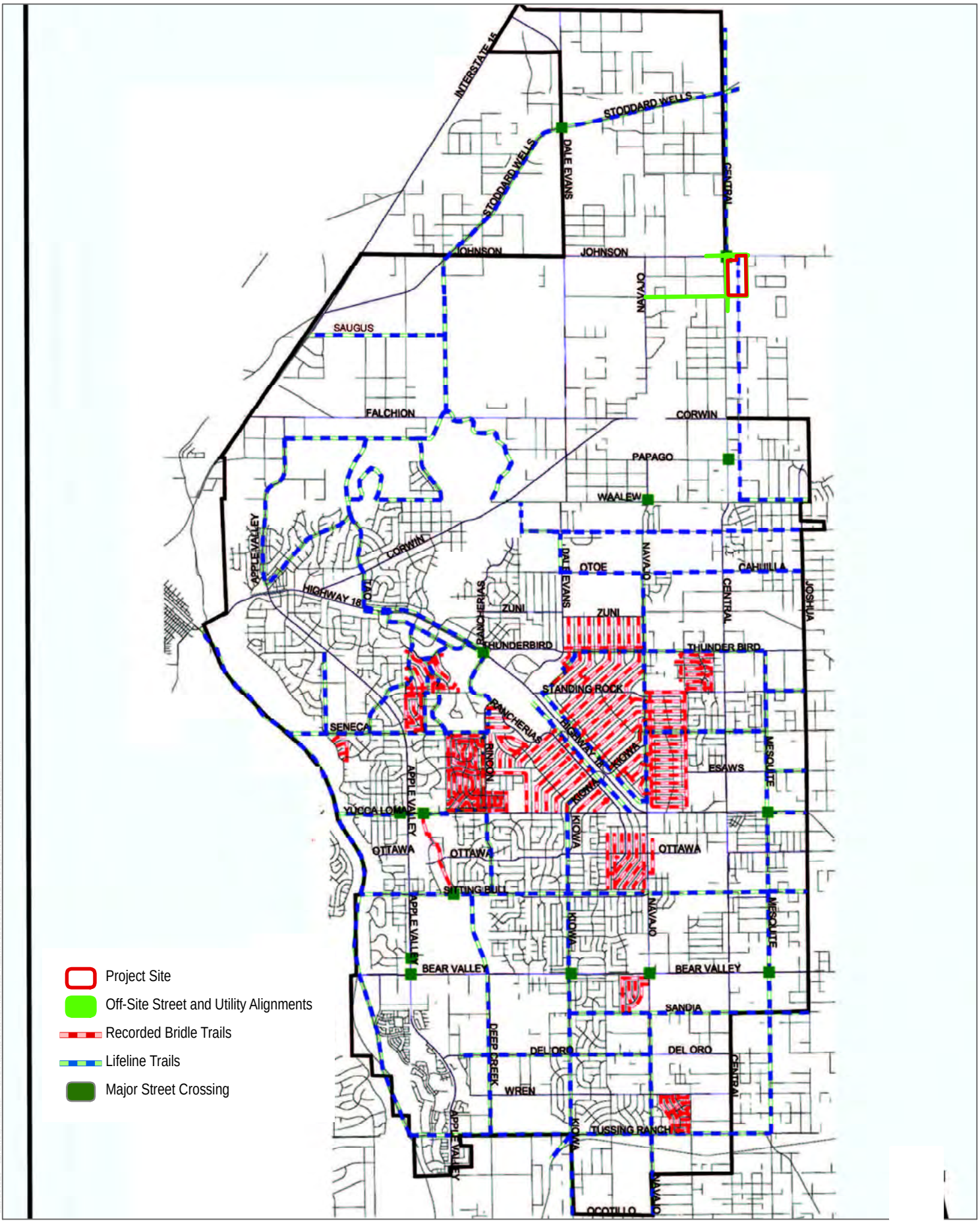
0 0.5 1 Miles

FIGURE 4.12-3

Existing Transit Facilities

1M Warehouse Project

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SOURCE: USGS Basemap; San Bernadino County 2021; Terra Nova 2022

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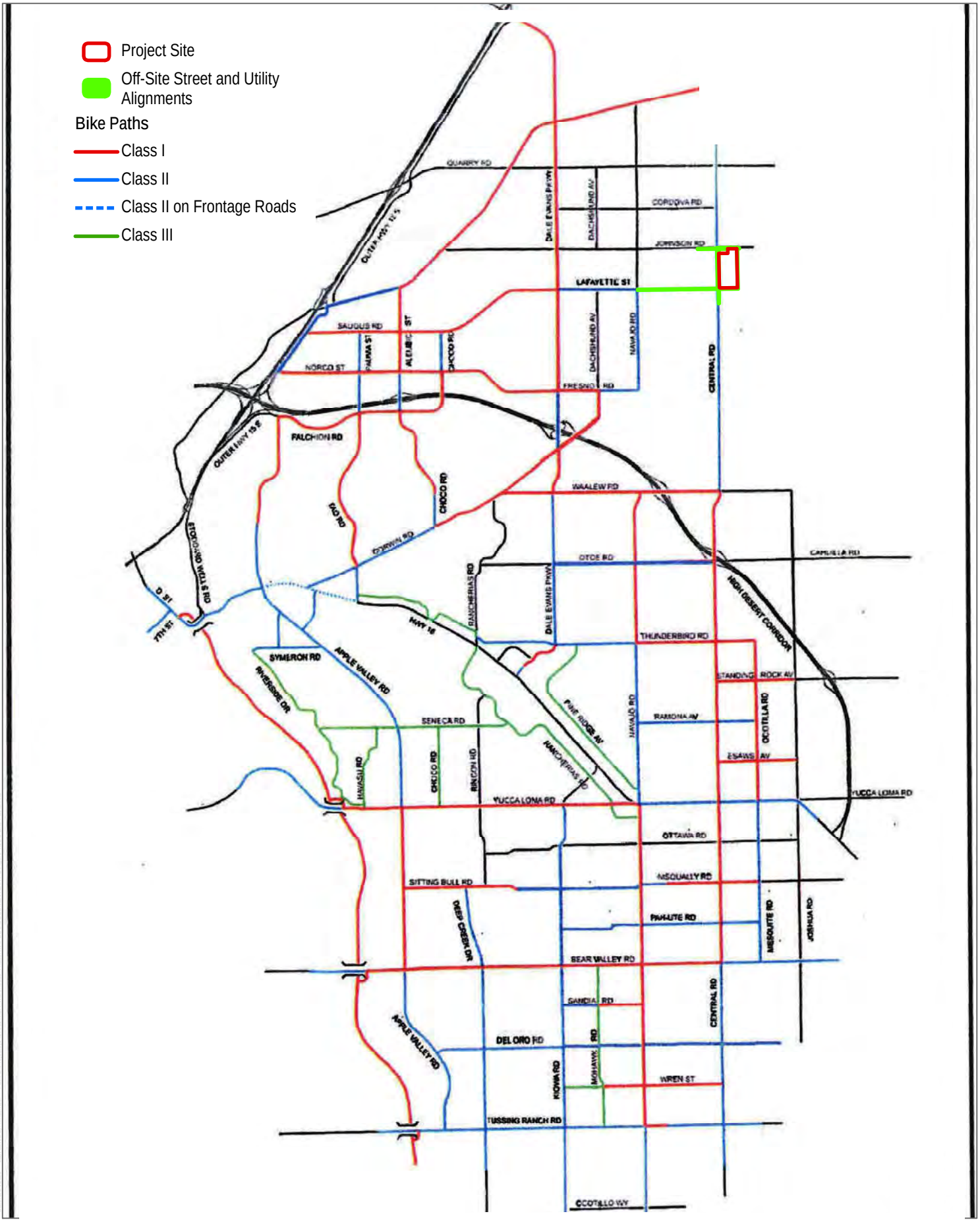
0 0.75 1.5 Miles

FIGURE 4.12-4

Multi-Use and Equestrian Trails

1M Warehouse Project

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SOURCE: San Bernadino County 2021; Town of Apple Valley 2009

DUDEK

0 0.75 1.5 Miles

FIGURE 4.12-5

Bike Paths

1M Warehouse Project

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6 Other CEQA Considerations

6.1 Growth-Inducing Impacts

As stated in Section 15126.2(e) of the California Environmental Quality Act (CEQA) Guidelines, an environmental impact report (EIR) is required to include a discussion of a project's growth-inducing effects. The CEQA Guidelines generally describe such effects as follows: (1) economic growth, population growth, or additional housing in the surrounding environment; (2) removal of obstacles to population growth (e.g., a major expansion of a wastewater treatment facility that allows for more construction in the service area); (3) increases in population that tax existing services requiring construction of new facilities that could cause significant environmental effects; and (4) characteristics of a project that would encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.

The 1M Warehouse Project (Project) would require a temporary construction workforce and a permanent operational workforce, both of which could potentially induce population growth in the Project area. The temporary workforce would be needed to construct the three industrial/warehouse buildings and associated improvements. The number of construction workers needed during any given period would largely depend on the specific stage of construction but would likely range from a dozen to several dozen workers on a daily basis.

Because the future tenants are not known yet, the number of jobs that the Project would generate cannot be precisely determined. Thus, for purposes of analyses, employment estimates were calculated using average employment density factors reported by the Southern California Association of Governments. The Southern California Association of Governments reports that for every 1,195 square feet of warehouse space in San Bernardino County, the average numbers of jobs supported is one employee (Natelson Company Inc. 2001). The Project would include 1,080,125 square feet of industrial/warehouse space, excluding associated improvements. As such, the estimated number of employees required for operation would be approximately 904.

The Town has a population of approximately 75,867 residents, according to the U.S. Census Bureau (U.S. Census Bureau 2022). According to the Town's General Plan, upon build-out, the Town could support a population of 185,858 residents (Town of Apple Valley 2009). As such, the Project-related increase of approximately 904 employees would represent a nominal percentage of the Town's projected future population upon General Plan build-out.[1] As such, the Project's temporary and permanent employment requirements could likely be met by the Town's existing labor force without people needing to relocate into the Project region, and the Project would not stimulate population growth or a population concentration above what is assumed in local and regional land use plans.

Projects that physically remove obstacles to growth, or projects that indirectly induce growth, are those that may provide a catalyst for future unrelated development in the area. The Project would involve installation of new water and sewer lines in the Project vicinity. The purpose of these new utilities is solely to serve the needs of the Project, and not to provide capacity for future projects or growth. In addition, since the surrounding Project area is already served by existing wet and dry utilities, the Project would not expand sanitary sewer or stormwater drainage infrastructure into areas not previously served by such utilities.

[1] Note that this represents a conservative approach, as this finding assumes that all future employees will have relocated to the Town as a result of the Project from outside of the Town, and that no future employees are already residents of the Town.

Further, given that the surrounding Project area is already served by existing wet and dry utilities, it is unlikely that the Project would tax existing community service facilities or require construction or expansion of new regional-scale facilities with capacity to serve more than just the Project. Thus, the Project would not result in indirect population growth by providing vehicular access to an area presently lacking such access.

Based on the proximity of the Project site to existing facilities, the average response times in the Project area, the ability for nearby cities to respond to emergency calls, and the fact that the Project site is already located within the San Bernardino County Fire Department and San Bernardino County Sheriff's Department service areas, the Project would be adequately served by public services without the construction of new, or the expansion of existing, facilities. Although the Project could potentially result in an incremental increase in calls for service to the Project site compared to existing conditions, this increase is expected to be nominal (as opposed to new residential or commercial/retail land uses, which do result in greater increase in calls for service) and would not result in the need for new or expanded fire or police facilities. Lastly, since the Project would not directly or indirectly induce unplanned population growth in the Town, it is not anticipated that many people would relocate to the Town as a result of the Project, and an increase in school-age children requiring public education is not expected to occur as a result. Thus, the need for new or expanded school facilities is not required.

In conclusion, the Project could cause population growth through new job opportunities. However, this growth falls well within Town and regional growth projections for population and housing. The Project would not remove obstacles to population growth and would not cause an increase in population such that new community facilities or infrastructure would be required outside of the Project site. Lastly, the Project is not expected to encourage or facilitate other activities that could significantly affect the environment, as explained above. For these reasons, the Project is not considered to be significantly growth inducing.

6.2 Significant Irreversible Changes

The CEQA Guidelines requires that an EIR address any significant irreversible changes that would be caused by implementation of a project. According to CEQA Guidelines Section 15126.2(c), such a change would involve one or more of the scenarios discussed below.

6.2.1 Change in Land Use that Commits Future Generations to Similar Uses

According to the Town's General Plan, the Project site falls within the North Apple Valley Industrial Specific Plan land use designation (Town of Apple Valley 2015, 2021) (see Figure 3-4, Land Use Designations, and Figure 3-5, Zoning). According to the North Apple Valley Industrial Specific Plan, the land use designation for the site is Specific Plan Industrial (Town of Apple Valley 2012) (see Figure 3-6, Specific Plan Land Use Designations).~~According to the Town of Apple Valley General Plan and the Apple Valley Municipal Code, the land use and zoning designations for the Project site are Regional Commercial (C-R) with a Warehouse Distribution Regional Commercial Overlay (Town of Apple Valley 2009; Town of Apple Valley 2022).~~ As discussed in Section 4.9, Land Use and Planning, of this EIR, the Project is consistent with the Project site's land use and zoning designations applied by the Town of Apple Valley General Plan and the Apple Valley Municipal Code. As such, although construction of the Project would develop a total of 1,080,125 square feet of industrial/warehouse space on the Project site, the Town already committed the site to industrial/warehouse (and similar) uses when the Town designated and zoned the site as Regional Commercial (C-R) with a Warehouse Distribution Regional Commercial Overlay.

Land uses surrounding the Project site primarily consist of vacant land. However, existing and approved large-scale industrial facilities are located in the broader Project area within 2 to 3 miles of the Project site. Since the Project site is located near existing urbanized uses, including other industrial uses, the Project would not result in land use changes that would commit future generations to uses that already occur in the Project area. Thus, implementation would not commit future generations to similar uses, given that this proposed use is already found throughout the Town. According to the Town's General Plan, the Project site falls within the North Apple Valley Industrial Specific Plan land use designation (Town of Apple Valley 2009) (see Figure 3-4, Land Use Designations, and Figure 3-5, Zoning). According to the North Apple Valley Industrial Specific Plan, the land use designation for the site is Specific Plan Industrial (Town of Apple Valley 2012) (see Figure 3-6, Specific Plan Land Use Designations). As discussed in Chapter 5, Effects Found Not To Be Significant, of this EIR, the Project is consistent with the Project site's land use and zoning designations applied by the Town of Apple Valley General Plan, Specific Plan, and the Town of Apple Valley Municipal Code. As such, although construction of the Project would develop a total of 1,080,125 square feet of industrial/warehouse space on the Project site, the Town has already committed the site to industrial/warehouse (and similar) uses when the Town designated and zoned the site as Specific Plan Industrial.

Land uses surrounding the Project site include light industrial, the Apple Valley Airport, and scattered residential uses. The land use proposed as part of the Project would be consistent with existing development that was implemented consistent with the Town's planning and zoning documents and would further assist the Town in implanting its land use vision for the area. Thus, the Project would not result in land use changes that would commit future generations to uses that already occur in the Project area, particularly given that this proposed use is consistent with long term planning documents and consistent with nearby uses.

6.2.2 Irreversible Damage from Environmental Accidents

Potential environmental accidents of concern include those events that would adversely affect the environment or public due to the type of quantity of materials released and the receptors exposed to that release. Construction activities associated with the Project would involve some risk of environmental accidents. However, these activities would be conducted in accordance with all applicable federal, state, and local regulations, and would follow professional industry standards for safety. Once operational, any materials associated with environmental accidents would comply with applicable federal, state, and local regulations. Use of any such materials would not adversely affect the environment or public due to the type or quantity of materials released and the receptors exposed to that release.

6.2.3 Large Commitment of Nonrenewable Resources

Commitment of nonrenewable resources includes issues related to increased energy consumption, loss of agricultural lands, and lost access to mining reserves. There would be an irretrievable commitment of labor, capital, and materials used during the construction and operation of the Project. Nonrenewable resources would primarily be committed in the form of fossil fuels such as fuel, oil, natural gas, and gasoline used by equipment associated with construction of the Project. Consumption of other nonrenewable or slowly renewable resources would also occur. These resources would include lumber and other forest products, sand and gravel, asphalt, and metals such as steel, copper, and lead.

To ensure that energy implications are considered in project decisions, CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing

inefficient, wasteful, and unnecessary consumption of energy (California Public Resources Code Section 21100[b][3]). Energy conservation implies that a project's cost-effectiveness be reviewed not only in dollars, but also in terms of energy requirements. For many projects, cost-effectiveness may be determined more by energy efficiency than by initial dollar costs. A lead agency may consider the extent to which an energy source serving a project has already undergone environmental review that adequately analyzed and mitigated the effects of energy production.

Consistent with California Public Resources Code Section 211009(b)(3), CEQA Guidelines Appendix G, and a ruling set forth by the court in *California Clean Energy Committee v. City of Woodland*, potentially significant energy implications of a project must be considered in an EIR to the extent relevant and appliable to that project. Accordingly, based on the energy consumption thresholds set forth in both Appendix F and Appendix G of the CEQA Guidelines, the Project's estimated energy demands (both short-term construction and long-term operational demands) were evaluated (see Section 4.5, Energy, of this EIR). The overall purpose of the energy analysis was to evaluate whether the Project would result in the wasteful, inefficient, or unnecessary consumption of energy.

As further assessed in the energy analysis, for new development, such as that proposed by the Project, compliance with California Title 24 energy efficiency requirements is considered demonstrable evidence of efficient use of energy. The Project would provide for and promote energy efficiencies beyond those required under other applicable federal and state standards and regulations, and in doing so would meet or exceed all Title 24 standards. On this basis, the Project would not result in the inefficient, wasteful, or unnecessary consumption of energy.

6.3 Significant and Unavoidable Impacts

Pursuant to CEQA Guidelines Section 15126.2(b), an EIR must address any significant environmental impacts, including those that can be mitigated but not reduced to less than significant as a result of implementation of a project. As discussed throughout Chapter 4, Environmental Analysis, of this EIR, at the Project and cumulative levels, the Project would result in significant and unavoidable impacts related to greenhouse gas emissions and transportation. For all other environmental issue areas, the Project would result in either less-than-significant impacts or no impact.

Greenhouse Gas Significant Unavoidable Impact

After mitigation, the Project would still exceed the applied threshold of 3,000 MT CO2e per year by approximately 18,170 MT CO2e. No feasible mitigation measures beyond those already identified that would reduce these emissions to levels that are less than significant. Therefore, even with the incorporation of mitigation, long-term impacts associated with a cumulatively considerable increase in GHG emissions would be significant and unavoidable.

Transportation Significant Unavoidable Impacts

Development of the proposed Project is forecast to exceed the Town's VMT per Service Population impact threshold by 20.8% in the baseline conditions and 80.4% in the cumulative conditions. Therefore, the Project would have a potentially significant impact on project-generated VMT. The effectiveness of some of the VMT reduction measures is dependent on yet unknown tenant(s) and employee participation. Conservatively, this analysis assumes no reduction in VMT that may result from implementation of such measures and impacts remain potentially significant. Therefore, impacts would be significant and unavoidable.

Improvement measures required to mitigate the Project's LOS and queuing impacts would include fair-share contributions to intersection No. 5: I-15 NB Ramps - Outer I-15/ Stoddard Wells Road: Southbound approaches (AM and PM peak hours). Since Caltrans has jurisdiction over these facilities, these improvements cannot be assumed to be in place prior to Project's occupancy. Additionally, no programs or plans are in place to implement improvements at this interchange or collect fair-share contributions. Therefore, the Project's potential impact to increase in hazardous conditions (i.e., queuing) would be significant and unavoidable.

6.4 References Cited

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7 Alternatives

7.1 Alternatives to the Proposed Project

In accordance with California Environmental Quality Act (CEQA) Section 15126.6, this chapter of the environmental impact report (EIR) contains a comparative evaluation of the 1M Warehouse Project (Project) with alternatives to the Project, including a No Project Alternative. Consistent with CEQA Section 15126.6, this chapter focuses on alternatives to the Project that are capable of avoiding or substantially reducing any significant adverse impacts associated with the Project, even if the alternatives may impede attainment of Project objectives or prove less cost efficient. In addition, implementation of a Project alternative may potentially result in new impacts that would not have resulted from the Project.

The CEQA Guidelines require that the analysis of alternatives provide sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with a proposed project. Specifically, CEQA Guidelines Section 15126.6(a) outlines the scope of alternatives to a proposed project that must be evaluated:

> An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selection of a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.

Under case law and CEQA Guidelines Section 15126.6(f), the discussion of alternatives is subject to a rule of reason and need not be exhaustive. CEQA Guidelines Section 15126.6(d) states that "if an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternatives shall be discussed, but in less detail than the significant effects of the project as proposed." Determining factors that may be used to eliminate alternatives from detailed consideration in an EIR are (a) failure to meet most of the basic project objectives, (b) infeasibility, or (c) inability to avoid significant environmental impacts. CEQA Guidelines Section 15364 defines "feasibility" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."

An EIR need not consider a project alternative whose effects cannot be reasonably ascertained, whose implementation is remote and speculative, or whose execution does not substantially lessen or avoid the significant effects of a proposed project.

As discussed throughout Chapter 4, Environmental Analysis, of this EIR, at the project and cumulative levels, the Project would result in significant and unavoidable ~~air quality,~~ greenhouse gas (GHG) emissions~~,~~ and transportation impacts. For all other environmental issue areas, the Project would result in either less-than-significant impacts or no impact.

7.1.1 Project Objectives

The Project's objectives are as follows:

- **Objective 1:** Develop an industrial building approximately 1,000,000 square feet ± in size to meet the existing and growing demand for large-format logistics and warehouse buildings in the region.
- **Objective 2:** Develop a fiscally sound, jobs-producing, and tax-generating land use in north Apple Valley.
- **Objective 3:** Concentrate nonresidential uses near existing roadways, highways, and freeways in an effort to isolate and reduce any potential environmental impacts related to truck traffic congestion, air emissions, industrial noise, and biological resources to the greatest extent feasible.
- **Objective 4:** Create a project that takes advantage of and enhances existing infrastructure, including the proximity to major regional roadways, railroad service corridors, and other similar infrastructure.
- **Objective 5:** Implement the development patterns envisioned in the North Apple Valley Industrial Specific Plan.

7.2 Project Alternatives Considered and Rejected

An EIR is required to identify any alternatives that were considered by the lead agency but were rejected as infeasible. Among the factors described by CEQA Guidelines Section 15126.6 in determining whether to exclude alternatives from detailed consideration in an EIR are failure to meet most of the basic objectives of the project, infeasibility, or inability to avoid significant environmental impacts.

With respect to the feasibility of potential alternatives to a proposed project, CEQA Guidelines Section 15126.6(t)(l) states the following:

> Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries … and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site.

In determining an appropriate range of project alternatives to be evaluated in this EIR, a number of possible alternatives were initially considered and then rejected. Project alternatives were rejected because they could not accomplish the basic objectives of the Project, they would not have resulted in a reduction of significant adverse environmental impacts, or they were considered infeasible to construct or operate.

Alternative Land Uses

According to the Town of Apple Valley (Town) General Plan, the land use and zoning designation for the Project site is Specific Plan (SP). The Project site is located within the North Apple Valley Industrial Specific Plan and is designated as Specific Plan Industrial (I-SP). The Alternative land uses for the Project site, including residential, standalone retail, mining, and residential mixed-use, were considered and rejected because these land uses are not consistent with the Specific Plan Industrial designation. These land uses would require additional entitlements and discretionary approvals including an amendment to the Specific Plan.

Permitted uses in the I-SP designation include manufacturing facilities with showrooms and offices, regional warehousing facilities, and support services for manufacturing and warehousing. Land uses that deviate these activities, including

residential, standalone retail, mining, and residential mixed-use, are not identified in the North Apple Valley Industrial Specific Plan as being suitable within the I-SP zone (Town of Apple Valley 2006).

As such, without approval of a General Plan Amendment and Zone Change, which are discretionary approvals and are not required for the Project, residential, standalone retail, mining, and residential mixed-use land uses could not be developed upon the Project site.

Alternate Sites

CEQA does not require that an analysis of alternate sites always be included in an EIR. However, if the surrounding circumstances make it reasonable to consider an alternate site, then a project alternative should be considered and analyzed in the EIR. Pursuant to CEQA Guidelines Section 15126.6(f)(2), in making the decision to include or exclude analysis of an alternate site, the "key question and first step in analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need to be considered for inclusion in the EIR."

Development of the Project in an alternate location would have similar impacts as would occur with implementation of the Project at its proposed location. Thus, moving the Project to an alternative site – assuming that another approximately 67.3-acre property exists within the Town and is available – would merely displace environmental impacts instead of avoiding or minimizing them.

Further, if the alternate site were to be located farther from major regional transportation routes (e.g., Interstate [I]-15 and other local truck routes), operational impacts associated with traffic congestion, truck noise, and tailpipe air contaminant emissions would likely be greater than those associated with the Project and disclosed in this EIR, as the vehicles would need to travel farther on local roads to reach regional highway systems.

Moreover, according to the Southern California Association of Governments (SCAG) Comprehensive Regional Goods Movement Plan and Implementation Strategy, the region will run out of suitably zoned vacant land designated for warehouse facilities in or around 2028. At that time, forecasts show that the demand for warehousing space will be more than 1 billion square feet. The Comprehensive Regional Goods Movement Plan and Implementation Strategy also states that unless other land not currently zoned for warehousing becomes available, SCAG forecasts that by 2035, a projected shortfall of space of approximately 227 million square feet will occur (SCAG 2013). Thus, it is likely that selection of an alternate site would merely displace the development activity proposed by the Project to another location, resulting in the same or greater environmental effects, given the regional demand for logistics and warehousing space in the SCAG region.

7.3 Project Alternatives Under Further Consideration

The following provides analysis of the No Project/No Development Alternative (Alternative 1) and the two build alternatives: the Other Development Project Alternative (Alternative 2) and the Reduced Development Intensity Alternative (Alternative 3).

The evaluation below provides a relative comparison between the Project and each of the three Project alternatives. The analysis considers the issue areas evaluated in Chapter 4, Environment Analysis, and Chapter 5, Effects Found Not To Be Significant, of this EIR. In many cases, the Project and a Project alternative may share the same level of significance (i.e., both scenarios would result in a less-than-significant impact). However, although they might share the same level of

significance under CEQA, the actual degree of impact may be slightly different for each scenario, and this relative difference is the basis for a conclusion of greater or lesser impacts compared to the Project.

An environmentally superior alternative is identified among the alternatives evaluated in this EIR. An alternative would be environmentally superior to the Project if it would result in fewer or less significant environmental impacts while achieving most of the Project objectives.

7.3.1 No Project/No Development Alternative (Alternative 1)

Project Alternative 1 Summary

Under Alternative 1, construction of the Project would not occur. The Project site would remain unchanged, and development activities related to construction and operation of the proposed industrial/warehouse buildings, associated office spaces, surface parking and loading areas, and all other proposed on- and off-site improvements would not occur.

In the short term, consistent with the existing conditions, the Project site would continue to be undeveloped. Under Alternative 1, the Project site would remain vacant, undeveloped land, although the site would presumably continue to be subject to illegal dumping, trespassing, and unpermitted off-road vehicle use, similar to the existing conditions.

Project Alternative 1 Impact Analysis

The Project site would remain unchanged and would remain a vacant, undeveloped, yet disturbed property. On-site conditions would remain similar to existing conditions, and because development activities associated with the Project would not occur, nearly all environmental impacts would be reduced compared with Project conditions. Exceptions would include impacts related to agricultural and forestry resources, mineral resources, recreation, which would result in no impact, whether or not the Project is constructed on the Project site.

Impacts associated with hydrology and water quality would likely be greater under Alternative 1 than with the Project, as the new engineered stormwater drainage system would not be constructed on the Project site as proposed under the Project. Under existing conditions, no storm drain or treatment facilities are currently found on site, and thus, stormwater is not presently collected or treated on the Project site prior to being discharging off site. This same stormwater drainage scenario would continue to occur under Alternative 1, resulting in greater impacts related to surface drainage, water quality, erosion, and potentially periodic isolated flooding.

Project Alternative 1 Impact Conclusion

Overall, none of the mitigation measures (MMs) required for the Project would be necessary with Alternative 1, and this Project alternative would not result in any significant adverse and unavoidable impacts. However, Alternative 1 would not develop a jobs-producing and tax generating land use near transportation corridors within the housing-rich Victor Valley/High Desert region (Objective 1); concentrate non-residential uses near existing roadways, highways, and freeways (Objective 2); develop a fiscally sound and employment generating land use that maximizes utilization of warehouse permitted areas (Objective 3); create a project that takes advantage of and enhances existing infrastructure, including the proximity to major regional roadways such as I-15, railroad service corridors, and other similar infrastructure (Objective 4); or fulfill the existing and growing demand for logistics and warehouse uses in the region (Objective 5). As such, Alternative 1 would not meet any of the Project objectives.

7.3.2 Other Development Project Alternative (Alternative 2)

Under Alternative 2, the Project site would be redeveloped with other land uses, consistent with the property's I-SP designation.

Permitted uses in the I-SP designation include manufacturing facilities with showrooms and offices, regional warehousing facilities, and support services for manufacturing and warehousing. The North Apple Valley Industrial Specific Plan lists several different uses that are either specially or conditionally permitted under the I-SP designation. These include commercial storage facilities/mini-warehouses (i.e., self-storage facilities), offices, manufacturing, small and large equipment sales and rental, schools, vehicle rental and sales, minor and major vehicle repair, and vehicle wash facilities.

No zoning variances are being requested as part of the Project, and thus, the Project would be constructed consistent with the design requirements set forth for the I-SP designation in the North Apple Valley Industrial Specific Plan. It is assumed that Alternative 2 would involve development of a land use that would be permissible either by right or by a conditional use permit. For purposes of this analysis, it assumed that Alternative 2 would consist of a 900,000 square-foot warehouse and 100,000 square-foot showroom (i.e., Ikea or similar). It is also assumed that this alternative would share a similar development intensity/floor-area-ratio/site coverage as the Project. Land uses that are expressly not allowed under the I-SP designation—specifically residential—would not be considered under Alternative 2.

Project Alternative 2 Impact Analysis

It is assumed that Alternative 2 would involve construction and operation of a land use of similar development and operational intensity as the Project, would have a similar floor-area-ratio as the Project, and would be subject to the same federal, state, and local requirements (e.g., incorporation of a new engineered stormwater drainage system, architectural design review) as the Project. Similar to the proposed Project, it is anticipated that impacts associated with ~~air quality,~~ greenhouse gas emissions~~,~~ and transportation would still be significant and unavoidable. Thus, it is expected that environmental impacts associated with Alternative 2 would be similar to those environmental impacts resulting from implementation of the Project. This alternative would not avoid or substantially reduce the significant impacts of the Project, although it would meet all of the project objectives.

Aesthetics

Under Alternative 2, the Project would be constructed and operated as planned on the Project site. Alternative 2 would still involve the development of approximately 1,000,000 square feet of warehouse and showroom space, which would still be the primary visual feature on the Project site. For these reasons, aesthetics impacts would be similar under Alternative 2.

Air Quality

Under Alternative 2, the extent of construction activities would be the same compared to the Project. Thus, construction-related air quality emissions would not be reduced. ~~Therefore, air quality impacts would not be reduced to less than significant levels under Alternative 2,~~ Operational air quality impacts and may even be slightly increased due to the increase in trip generation. Air quality impacts would be similar under Alternative 2.~~As with the Project, Alternative 2 would require mitigation measures to reduce short term construction emissions of VOC. With required mitigation, construction of Alternative 2, would not exceed the numerical thresholds of significance established by~~

~~the Mojave Desert Air Quality Management District (MDAQMD); this is the same outcome that would occur under the Project~~.

~~However, long term operation of Alternative 2 would still likely result in significant and unavoidable impacts due to emissions of NOx and PM_{10}, which would violate the MDAQMD regional air quality standard and would contribute to an existing air quality violation. Alternative 2 would generate an increase in average daily vehicle trips compared to the Project, and impacts due to a conflict with the regional air quality standard and the level of contribution to an existing air quality violation would remain, and would be slightly increased. As such, Alternative 2 would not reduce, or avoid, the Project's significant and unavoidable impact due to operational air contaminant emissions.~~

~~As with the Project, impacts to nearby sensitive receptors would be significant and unavoidable under Alternative 2. Similar to the Project, emissions under Alternative 2 would be above the MDAQMD thresholds of significance. Therefore, air quality impacts would not be reduced to less than significant levels under Alternative 2, and may even be slightly increased due to the increase in trip generation.~~

Biological Resources

Under Alternative 2, the Project would be constructed and operated as planned on the entire Project site, and development intensity would not be reduced. Alternative 2 would develop the entirety of the Project site, resulting in a similar overall building footprint. As such, the project site and potential suitable habitat would still be disturbed as a result of development activities, which would not reduce impacts from a biological resources perspective. Therefore, biological resources impacts would be similar under Alternative 2.

Cultural, Tribal Cultural, and Paleontological Resources

Under Alternative 2, the Project would be constructed and operated as planned on the Project site, and with a similar development intensity. Similar to the Project, the entirety of the Project site would need to be disturbed to various extents, which would result in the same potential to disturb presently unknown/unrecorded cultural, tribal cultural, and paleontological resources as the Project. Therefore, cultural resources impacts would be similar under Alternative 2.

Energy

The level of construction activities would not be reduced under Alternative 2 compared to the Project. Thus, construction-related energy usage would be the same as the project. Alternative 2 would not generate fewer vehicle trips per day due and would not have a less building space than the Project as proposed; thus, on-site and mobile energy consumption would be similar to the Project. Accordingly, energy usage associated with long-term operation of Alternative 2 would be similar compared to the Project. Therefore, energy impacts would not be reduced under Alternative 2.

Greenhouse Gas Emissions

Similar to air quality, the extent of construction activities would be similar under Alternative 2 compared to the Project. Thus, construction-related GHG emissions would not be lessened. Alternative 2 would generate an increase in vehicle trips per day due to the use onsite with a 900,000 square-foot warehouse and 100,000 square-foot showroom (i.e., Ikea or similar). Accordingly, GHG emissions associated with long-term operation of Alternative 2 would be slightly increased compared to the Project. As discussed above, the Project would result in significant and unavoidable impacts with regard to generating GHG emissions. Implementation of the mitigation measures under the Project and Alternative 2 would not reduce potential operation-related GHG emissions. ~~However, the~~

~~effectiveness of the mitigation measures and the associated emission reductions cannot be accurately quantified at this time and GHG emissions impacts are inherently cumulative in nature~~. Similar to the Project, impacts would still remain significant and unavoidable.

Hazards and Hazardous Materials

Under Alternative 2, the Project would be constructed and operated as planned on the site, and with a similar development intensity. Incorporation of MM-HAZ-1 would still be required under Alternative 2, which mandates, among other requirements, the removal and disposal of on-site debris and used tires from the Project area in accordance with all applicable guidelines, and that a qualified environmental professional shall screen soils in the identified area prior to excavation and grading based on the nature of the potential contamination. As such, under Alternative 2, the cleanup activities required pursuit to MM-HAZ-1 would be initiated, and the Project would still help to remediate the Project site through compliance with MM-HAZ-1. Therefore, hazards and hazardous materials impacts would be similar under Alternative 2.

Hydrology and Water Quality

Under Alternative 2, the new engineered stormwater drainage system would be constructed on the Project site as proposed under the Project. Under existing conditions, no storm drain or treatment facilities are currently found on site, and thus, stormwater is not presently collected or treated on the Project site prior to being discharging off site. However, under Alternative 2, the Project and its on-site stormwater drainage system would be designed to comply with all state, regional, and local regulation related to site stormwater drainage and water quality during both construction and operation of the Project, regardless of the size of the Project. Therefore, hydrology and water quality impacts would be similar under Alternative 2.

Land Use and Planning

Similar to the proposed Project, Alternative 2 would be consistent with the Project Site's existing General Plan and Zoning Code. Given the substantial similarities in uses between the Project and Alternative 2, Alternative 2 would otherwise not conflict with any plans, policies, or ordinances adopted for the purposes of mitigating or avoiding environmental effects. Therefore, land use and planning impacts would be similar under Alternative 2.

Noise

Noise associated with Alternative 2 would occur during short-term construction activities and under long-term operation. The types of construction activities conducted on the Project site would be similar under Alternative 2 would generally cover the same physical area. The types of construction equipment used and the types of construction activities conducted on site would be similar under Alternative 2, and the peak daily noise levels generated during the construction phase would also be similar.

Under long-term operational conditions, noise generated by Alternative 2 would primarily be associated with vehicles traveling to and from the site, and on-site vehicle idling, maneuvering, and parking. Alternative 2 would generate an increase in daily trips compared to the Project, and, as such, would contribute to an increase in traffic-related noise to local roadways compared to the Project. The increase in traffic noise associated with Alternative 2 would continue to be noticeable to residents along the roadway segments impacted by the Project. Therefore, noise impacts would be slightly increased, but similar, under Alternative 2 due to the increase in traffic trips and associated noise.

Transportation and Traffic

In addition, the trip generation rate used to analyze the Project's estimated trip generation (refer to the Transportation Impact Analysis prepared for the Project [Appendix J]) assumed that the Project would support general light industrial and high-cube warehousing uses. Light industrial and high-cube warehousing uses often have lower trip generation rate (either daily or peak hour) than some of the other land uses that are permitted by right or conditional permitted in the CIBP zone, including but not limited to manufacturing facilities with showrooms and offices, regional warehousing facilities, and support services for manufacturing and warehousing (higher daily and peak hour trip generation rates). Based on the trip generation rates provided by the Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition, 2021., a "discount home furnishing super store" (900,000 square-foot warehouse and 100,000 square-foot showroom (i.e., Ikea or similar)) would result in daily trips of 20.00 trips per day per 1,000 square feet (TSF) which equals 20,000 daily trips; 570 trips per day during the AM peak hour; and 1,570 trips during the PM peak hour. High-cube warehousing (non-sort), which was the land use used to analyze the proposed Project, would generate 2,784 daily trips; 231 trips during the AM peak hour; and 246 trips during the PM peak hour. As such, a 900,000 square-foot warehouse and 100,000 square-foot showroom (i.e., Ikea or similar) could potentially result in greater peak hour or daily trip generation compared with the Project, even if the development footprint is similar or identical. Thus, there would be a potential for increased impacts associated with traffic congestion, tailpipe air and greenhouse gas (GHG) emissions, and traffic noise under Alternative 2.

VMT is largely dependent on the specific land use type of a particular project and the location of that project. Thus, the average trip length for passenger vehicle and truck trips associated with the Project would essentially remain constant. In addition, the Project's VMT per employee would also stay relatively the same under Alternative 2 as the Project's VMT per employee. Therefore, transportation impacts with regard to VMT would be similar under Alternative 2.

With regard to the Project's significant and unavoidable queueing and hazards impacts, the intersection that is anticipated to experience queueing issues under the Horizon Year (2040) conditions would experience these issues regardless of the Project. As such, even with a similar building-square footage and slight increase in trip generation, this intersection would continue to experience these issues. Improvement measures would still be required for Alternative 2; however, because the affected intersection is outside of the Town's jurisdiction, these improvements cannot be assumed to be in place prior to occupancy, and these impacts are considered significant and unavoidable. As such, transportation impacts with regard to queueing and hazards impacts would be similar under Alternative 2.

Utilities and Service Systems

Under Alternative 2, the Project would be constructed and operated as planned on the Project site, with a similar development intensity. All other on- and off-site improvements proposed as part of the Project are assumed to still be required under Alternative 2. As such, the same wet and dry utilities would be required, with construction and operational characteristics of these on- and off-site improvements being similar to the Project. Therefore, utilities and service systems impacts would be similar under Alternative 2.

Alternative 2 Impact Conclusion

All of the mitigation measures required for the Project would also apply to Alternative 2, as the land use type, development intensity, and/or site coverage would be similar to the Project, and thus, construction and operation

characteristics should also be relatively similar. There is the possibility under Alternative 2, however, that some impacts associated with trip generation may be greater than those resulting from implementation of the Project, given that a warehouse and showroom have a higher peak-hour and/or daily trip-generation rate.

As a 900,000 square-foot warehouse and 100,000 square-foot showroom (i.e., Ikea or similar) land use on the Project site, Alternative 2 would be expected to satisfy all of the Project objectives, including developing an industrial building to meet the growing demand for large-format logistics and warehouse buildings in the region (objective 1); developing a jobs-producing and tax generating land use in north Apple Valley (Objective 2); concentrating non-residential uses near existing roadways, highways, and freeways (Objective 3); creating a project that takes advantage of and enhances existing infrastructure, including the proximity to major regional roadways such as I-15 and U.S. Highway 395, railroad service corridors, and other similar infrastructure (Objective 4); and implementing development patterns envisioned in the North Apple Valley Industrial Specific Plan (Objective 5).

7.3.3 Reduced Development Intensity Alternative (Alternative 3)

In accordance with CEQA Section 15126.6, the purpose of conducting a Project alternative comparative analysis is to identify potential alternatives to the Project that are capable of avoiding or substantially reducing any significant adverse impacts associated with the Project, even if the alternatives may impede attainment of project objectives or prove less cost efficient. As a reminder, this EIR has identified the following Project impacts that would be significant and unavoidable:

~~As discussed in Section 4.2, Air Quality, of this EIR, the Project would exceed the numerical thresholds of significance established by the MDAQMD for emissions of NO_x and PM_{10}. Although mitigation measures have been recommended to minimize operational-related air quality impacts (MM AQ 1, MM AQ 2, and MM AQ 3), no feasible mitigation measures or Project design features beyond those already identified exist that would reduce these emissions to levels that are less than significant. Therefore, even with the incorporation of mitigation, long-term impacts associated with a cumulatively considerable net increase of criteria pollutants for which the Project region is non-attainment would be significant and unavoidable.~~

~~Operation of the Project could result in exceedances of the MDAQMD significance thresholds for NO_x and PM_{10}, and the Project would potentially result in health effects associated with those pollutants. Because construction of the Project would not exceed any MDAQMD thresholds (after implementation of MM AQ 1 and MM AQ 2), and operation of the Project would not exceed the MDAQMD thresholds for carbon monoxide (CO), VOC, SO_x or $PM_{2.5}$, and because the MDAQMD thresholds are based on levels that the Mojave Desert Air Basin can accommodate without affecting the attainment date for the ambient air quality standards and the ambient air quality standards are established to protect public health and welfare, the Project is not anticipated to result in health effects associated with CO, VOC, SO_x or $PM_{2.5}$. However, because operation of the Project could result in exceedances of MDAQMD significance thresholds for NO_x and PM_{10}, even after implementation of mitigation measures, the potential health effects associated with criteria air pollutants are conservatively considered significant and unavoidable. For these reasons, impacts associated with the conflicting with the MDAQMD would be significant and unavoidable.~~

As discussed in Section 4.6, Greenhouse Gas Emissions, of this EIR, the Project would result in potentially significant impacts with regard to generating GHG emissions. Implementation of mitigation measure MM-AQ-1~~s MM AQ 2 and MM AQ 3~~ would reduce ~~potential air quality impacts (in Section 4.2 in this EIR) and mitigation measures MM GHG 1, MM GHG 2 and MM GHG 3 would also reduce operation related GHG emissions~~GHG emissions, as indicated in Table 4.6-6. However, the reductions associated with MM-AQ-1 would not be sufficient to reduce the Project's GHG emissions below significance thresholds~~the effectiveness of the mitigation and the associated emission reductions~~

~~cannot be accurately quantified at this time and GHG emissions impacts are inherently cumulative in nature~~. As such, GHG impacts on the project level and cumulatively would remain significant and unavoidable.

Further, as outlined in Section 4.12, Transportation, an intersection in the vicinity of the Project site currently experiences periodic queuing issues during peak hours, which can lead to potential safety concern if a significant speed differential exists between queue vehicles and vehicles proceeding beyond the queue. The Project would result in additional traffic that would exacerbate these conditions under the Horizon Year (2040) Plus Project Conditions (queueing issues would continue to occur without Project-generated traffic for this intersection regardless of the Project). Improvement measures have been identified for which the Project would be required to either construct or contribute fair-share costs to address these conditions. However, this intersection is not within the Town's jurisdiction, but rather within the jurisdiction of other agencies, such as the California Department of Transportation. Since the Town does not have jurisdiction over these facilities, these improvements cannot be assumed to be in place prior to Project's occupancy, and these impacts are considered significant and unavoidable.

Project Alternative 3 Summary

As such, in an effort to reduce the Project's significant and unavoidable impacts, the Town considered a Reduced Development Intensity Alternative (Alternative 3). A Reduced Development Alternative would reduce project-related impacts associated with air quality, energy, GHG emissions, and trip generation.

Under Alternative 3, the Project would be constructed and operated as planned on the Project site, with the exception that the size of the proposed development would be reduced by 60%, equating to an industrial/warehouse project consisting of approximately 432,050 square feet, compared to the Project's 1,080,125 square feet. Since the building footprint would be reduced by 648,075 square feet (approximately 14.8 acres), this extra space on the Project site would remain vacant. All other on- and off-site improvements proposed as part of the Project are assumed to still be required under Alternative 3.

Alternative 3 Impact Analysis

Under Alternative 3, the Project's development footprint would be reduced by 60% compared to the Project. As a result, it is assumed that a similar reduction in the duration of construction activities and operational intensity would occur. Likewise, a smaller building footprint would be expected to support fewer operational activities than the larger footprints proposed as part of the Project. Thus, the severity of many environmental impacts related to construction and operational phases would be either the same or reduced under Alternative 3; however, impacts would not be substantially reduced or reduced below a level of significance. The environmental impacts that would have a reduction in severity include aesthetics, air quality, energy, and GHG emissions. However, because the development intensity would be reduced under Alternative 3 compared to the Project, certain environmental impacts would differ as a result of this reduction, as the following analysis demonstrates.

Aesthetics

Under Alternative 3, the Project would be constructed and operated as planned on the Project site, with the exception that the size of the proposed development would be reduced by 60%, equating to the 648,075 square feet (approximately 14.8 acres) of extra space on the Project site that would likely be left undeveloped. A reduction in building square footage would reduce the scale and massing of the buildings. Nonetheless, Alternative 3 would still involve the development of approximately 432,050 square feet of industrial space, which would still be the primary visual feature on the Project site. For these reasons, aesthetics impacts would be similar but lessened under Alternative 3.

Air Quality

Under Alternative 3, the extent of construction activities would be reduced compared to the Project. Thus, construction-related air quality emissions would be lessened. As with the Project, Alternative 3 would require mitigation measures to reduce short-term construction emissions of VOC. With required mitigation, Alternative 3, would not exceed the numerical thresholds of significance established by the Mojave Desert Air Quality Management District (MDAQMD); this is the same outcome that would occur under the Project.

Alternative 3 would generate fewer vehicle trips per day due to the reduction in the amount of building space. Accordingly, air pollutant emissions associated with long-term operation of Alternative 3 would be lessened compared to the Project.

However, Alternative 3 would still require implementation of mitigation measures similar to those imposed for the Project. Therefore, air quality impacts would be similar under Alternative 3. ~~Even with incorporation of mitigation measures, long-term operation of Alternative 3 would still likely result in significant and unavoidable impacts due to emissions of NOx and PM_{10}, which would violate the MDAQMD regional air quality standard and would contribute to an existing air quality violation. Because Alternative 3 would generate fewer average daily vehicle trips than would occur under the Project, impacts due to a conflict with the regional air quality standard and the level of contribution to an existing air quality violation would be minimized, but still not eliminated or reduced to less than significant levels. As such, Alternative 3 would reduce, but not avoid, the Project's significant and unavoidable impact due to operational air contaminantemissions.~~

~~As with the Project, impacts to nearby sensitive receptors would be significant and unavoidable under Alternative 3. Similar to the Project, emissions under Alternative 3 would be above the MDAQMD thresholds of significance. However, these impacts to sensitive receptors would be slightly reduced under Alternative 3 due to the reduction in daily vehicular trips compared to the Project. Therefore, air quality impacts would be lessened, but not reduced to less than significant levels, under Alternative 3.~~

Biological Resources

Under Alternative 3, the Project would be constructed and operated as planned on the entire Project site, although the development intensity would be reduced. Compared to the Project, Alternative 3 would develop less of the Project site, resulting in a smaller overall building footprint. However, in accordance with the Town's development standards, the undeveloped portion of the site would not be allowed to be completely unimproved, but instead would still need to be landscaped. As such, any vacant land and potential suitable habitat in these areas would still be disturbed as a result of landscaping activities, reducing any benefits from a biological resources perspective. Therefore, biological resources impacts would be similar under Alternative 3.

Cultural, Tribal Cultural, and Paleontological Resources

Under Alternative 3, the Project would be constructed and operated as planned on the Project site, but with a reduced development intensity. Compared to the Project, Alternative 3 would develop less of the Project site with buildings, parking and loading areas, and other associated improvements, resulting in a smaller overall building footprint on the site that would disturb less land. However, as previously discussed, Alternative 3 would likely not be able to maintain vacant areas on the Project site, but instead would still need to landscape these locations. As such, the entirety of the Project site would need to be disturbed to various extents, which would result in the same potential to disturb presently unknown/unrecorded cultural, tribal cultural, and paleontological resources as the Project. Therefore, cultural resources impacts would be similar under Alternative 3.

Energy

The level of construction activities would be reduced under Alternative 3 compared to the Project. Thus, construction-related energy usage would be lessened. Alternative 3 would also generate fewer vehicle trips per day due and would have a less building space than the Project as proposed, result in less on-site and mobile energy consumption. Accordingly, energy usage associated with long-term operation of Alternative 3 would be lessened compared to the Project. Therefore, energy impacts would be reduced under Alternative 3.

Greenhouse Gas Emissions

Similar to air quality, the extent of construction activities would be reduced under Alternative 3 compared to the Project. Thus, construction-related GHG emissions would be lessened. Alternative 3 would also generate fewer vehicle trips per day due to the reduction in the amount of building space. Accordingly, GHG emissions associated with long-term operation of Alternative 3 would be lessened compared to the Project. As discussed above, the Project would result in significant and unavoidable impacts with regard to generating GHG emissions. Implementation of the mitigation measures under the Project and Alternative 3 would reduce potential operation-related GHG emissions. However, the effectiveness of the mitigation measures and the associated emission reductions cannot be accurately quantified at this time and GHG emissions impacts are inherently cumulative in nature. In order to reduce potentially significant impacts associated with GHG, the project would need to be reduced in size by 86%. Based on a 60% reduction in development, GHG emissions impacts would be reduced under Alternative 3, but would still remain significant and unavoidable.

Hazards and Hazardous Materials

Under Alternative 3, the Project would be constructed and operated as planned on the site, with the exception that the development intensity would be reduced. Incorporation of MM-HAZ-1 would still be required under Alternative 3, which mandates, among other requirements, the removal and disposal of on-site debris and used tires from the Project area in accordance with all applicable guidelines, and that a qualified environmental professional shall screen soils in the identified area prior to excavation and grading based on the nature of the potential contamination. As such, under Alternative 3, the cleanup activities required pursuit to MM-HAZ-1 would be initiated, and the Project would still help to remediate the Project site through compliance with MM-HAZ-1. Therefore, hazards and hazardous materials impacts would be similar under Alternative 3.

Hydrology and Water Quality

Under Alternative 3, the new engineered stormwater drainage system would be constructed on the Project site as proposed under the Project. Under existing conditions, no storm drain or treatment facilities are currently found on site, and thus, stormwater is not presently collected or treated on the Project site prior to being discharging off site. However, under Alternative 3, the Project and its on-site stormwater drainage system would be designed to comply with all state, regional, and local regulation related to site stormwater drainage and water quality during both construction and operation of the Project, regardless of the size of the Project. Therefore, hydrology and water quality impacts would be similar under Alternative 3.

Land Use and Planning

Similar to the proposed Project, Alternative 3 would be consistent with the Project Site's existing General Plan and Zoning Code. Given the substantial similarities in uses between the Project and Alternative 3, Alternative 3 would otherwise not conflict with any plans, policies, or ordinances adopted for the purposes of mitigating or avoiding environmental effects. Therefore, land use and planning impacts would be similar under Alternative 3.

Noise

Noise associated with Alternative 3 would occur during short-term construction activities and under long-term operation. The types of construction activities conducted on the Project site would be similar under Alternative 3 would generally cover the same physical area. However, because Alternative 3 would result in construction of less building area on site, it is anticipated that the duration of noise impacts during the building construction and architectural coating phase would slightly decrease under Alternative 3 compared to the Project. Nonetheless, the types of construction equipment used and the types of construction activities conducted on site would be similar under Alternative 3, and the peak daily noise levels generated during the construction phase would also be similar.

Under long-term operational conditions, noise generated by Alternative 3 would primarily be associated with vehicles traveling to and from the site, and on-site vehicle idling, maneuvering, and parking. Alternative 3 would generate fewer daily trips than the Project, and, as such, would contribute less traffic-related noise to local roadways than the Project. However, the increase in traffic noise associated with Alternative 3 would still be noticeable to residents along the roadway segments impacted by the Project. Therefore, noise impacts would be similar under Alternative 3.

Transportation and Traffic

VMT is largely dependent on the specific land use type of a particular project and the location of that project. While a reduction in a Project's size could reduce the overall VMT associated with a given project, reducing a project's square footage would not necessarily have an effect on a project's average trip length. Thus, while under Alternative 3 the Project's development footprint would be reduced by 60% compared to the Project, the average trip length for passenger vehicle and truck trips associated with the Project would essentially remain constant. In addition, because a reduction in Project size would correlate to a similar reduction in on-site workforce, the Project's VMT per employee would also stay relatively the same under Alternative 3 as the Project's VMT per employee. Therefore, transportation impacts with regard to VMT would be similar under Alternative 3.

With regard to the Project's significant and unavoidable queueing and hazards impacts, the intersection that is anticipated to experience queueing issues under the Horizon Year (2040) conditions would experience these issues regardless of the Project. As such, even with the reduction in building-square footage and corresponding reduction in trip generation, this intersection would continue to experience these issues. Improvement measures would still be required for Alternative 3; however, because the affected intersection is outside of the Town's jurisdiction, these improvements cannot be assumed to be in place prior to occupancy, and these impacts are considered significant and unavoidable. As such, transportation impacts with regard to queueing and hazards impacts would be similar under Alternative 3.

Utilities and Service Systems

Under Alternative 3, the Project would be constructed and operated as planned on the Project site, with the exception that the size of the proposed development would be reduced by 60%. All other on- and off-site improvements proposed as part of the Project are assumed to still be required under Alternative 3. As such, the same wet and dry utilities would be required, with construction and operational characteristics of these on- and off-site improvements being similar to the Project. Therefore, utilities and service systems impacts would be similar under Alternative 3.

Alternative 3 Impact Conclusion

Based on the above, given that Alternative 3 would result in incremental reductions in both construction activity, daily operational trips on Project area roadways, and a reduction in the scale of the proposed buildings, Alternative 3 result in incremental reductions in the severity of impacts related to aesthetics, air quality, energy, and GHG emissions. Although impacts would be incrementally reduced, impacts would not be substantially reduced, or reduced below a level of significance. In the case of ~~air quality and~~ GHG, the reductions in Project-related trips would not be substantial enough as to reduce impacts to below a level of significance. Impacts associated with energy and noise are less than significant under both the Project and Alternative 3 scenarios, although emissions would be lessened under Alternative 3. All of the same mitigation measures required for the Project would be necessary for Alternative 3, and no new measures would be required.

Impacts associated with agriculture and forestry resources, biological resources, cultural, tribal cultural, and paleontological resources, geology and soils, hazards, hazardous materials, and wildfire, hydrology and water quality, land use and planning, mineral resources, population and housing, public services, recreation, noise, transportation, and utilities and service systems would generally be the same under Alternative 3 compared to the Project.

Alternative 3 would be expected to satisfy many of the Project objectives, concentrating non-residential uses near existing roadways, highways, and freeways (Objective 3); creating a project that takes advantage of and enhances existing infrastructure, including the proximity to major regional roadways such as I-15 and U.S. Highway 395, railroad service corridors, and other similar infrastructure (Objective 4); and implementing development patterns envisioned in the North Apple Valley Industrial Specific Plan (Objective 5). However, in regards to developing a jobs-producing and tax generating land use in north Apple Valley (Objective 2), Alternative 3 would create 362 jobs compared to the 904 that would be generated by the proposed project, which is a reduction of 542 jobs. In addition, Objective 1 is to develop an industrial building approximately 1,000,000 square feet in size to meet the growing demand for large-format logistics and warehousing buildings in the region. Alternative 3 would not meet this project objective.

7.4 Environmentally Superior Alternative

Section 15126(e)(2) of the State CEQA Guidelines requires an EIR to identify an "environmentally superior alternative." If the No Project/No Development Alternative is the environmentally superior alternative, the EIR must also identify an environmentally superior alternative from among the other Project alternatives.

As previously addressed, if the No Project/No Development Alternative is the environmentally superior alternative; this EIR analysis also evaluates another environmentally superior alternative among the remaining alternatives. Table 7-1 provides a comparison of the Project with the Project alternatives based on the environmental topic areas addressed in Chapter 4, Environmental Impact Analysis, of this EIR. Table 7-2 presents how the Project and each of the Project alternatives compare in terms of meeting the Project objectives.

Table 7-1. Project Alternatives Environmental Impacts Comparison

Environmental Issue	Project	No Project/No Development Alternative (Alternative 1)	Other Development Project Alternative (Alternative 2)	Reduced Development Intensity Alternative (Alternative 3)
Aesthetics	Less-than-Significant	Avoided	Similar	Similar but reduced

Table 7-1. Project Alternatives Environmental Impacts Comparison

Environmental Issue	Project	No Project/No Development Alternative (Alternative 1)	Other Development Project Alternative (Alternative 2)	Reduced Development Intensity Alternative (Alternative 3)
Air Quality	~~Significant and Unavoidable~~Less-than-Significant with Mitigation	Avoided	Greater~~, and significant and unavoidable impacts not avoided~~	Lessened~~, but significant and unavoidable impacts still not avoided~~
Biological Resources	Less-than-Significant with Mitigation	Avoided	Similar	Similar
Cultural, Tribal Cultural, and Paleontological Resources	Less-than-Significant with Mitigation	Avoided	Similar	Similar
Energy	Less-than-Significant	Avoided	Similar	Lessened
Greenhouse Gas Emissions	Significant and Unavoidable	Avoided	Greater, and significant and unavoidable impacts not avoided	Lessened, but significant and unavoidable impacts still not avoided
Hazards, Hazardous Materials, and Wildfire	Less-than-Significant with Mitigation	Greater	Similar	Similar
Hydrology and Water Quality	Less-than-Significant	Greater	Similar	Similar
Land Use and Planning	Less-than-Significant	Similar	Similar	Similar
Noise	Less-than-Significant	Avoided	Similar	Similar
Public Services	Less-than-Significant	Avoided	Similar	Similar
Transportation and Traffic	Significant and Unavoidable	Avoided	Greater, and significant and unavoidable impacts not avoided	Lessened, but significant and unavoidable impacts still not avoided
Utilities and Service Systems	Less-than-Significant	Avoided	Similar	Similar

Based on a comparison of Alternative 2 and Alternative 3, environmental impacts associated with aesthetics, air quality, energy and GHG emissions, would be less under Alternative 3 compared to Alternative 2. Impacts associated with biological resources, cultural, tribal cultural, and paleontological resources, hazards and hazardous materials, hydrology and water quality, transportation, and utilities and services systems would be similar under Alternative 3 compared to Alternative 2. Although Alternative 3 would reduce impacts compared to the proposed project, it would not avoid or substantially lessen impacts to below a level of significance. Alternative 2 would result in similar impacts as the project, but with an~~d~~ increase in trip generation rates, and would meet all of the project objectives.

However, Alternative 3 would not meet project Objective 1 of developing an industrial building approximately 1,000,000 square feet in size. Alternative 3 would also not meet Objective 2 to the same extent as the proposed project. Alternative 3 would produce less jobs and generate less tax revenue compared to the proposed project. In addition, Alternative 3 would also not meet Objective 5 to the same extent as the proposed project. Therefore, while Alternative 3 would have reduced impacts compared to the proposed project, it would not eliminate any of the significant and unavoidable impacts and it would not meet all project objectives.

Table 7-2. Comparison of Project Alternatives and Project Objectives

Project Objective	Would the Project or alternative meet the Project Objective?			
	Project	No Project/No Development Alternative (Alternative 1)	Other Development Project Alternative (Alternative 2)	Reduced Intensity Alternative (Alternative 3)
Objective 1: Develop an industrial building approximately 1,000,000 square feet ± in size to meet the existing and growing demand for large-format logistics and warehouse buildings in the region.	Yes	No	Yes	No
Objective 2: Develop a fiscally sound, jobs-producing, and tax-generating land use in north Apple Valley.	Yes	No	Yes	Not to the same extent as the proposed project.
Objective 3: Concentrate nonresidential uses near existing roadways, highways, and freeways in an effort to isolate and reduce any potential environmental impacts related to truck traffic congestion, air emissions, industrial noise, and biological resources to the greatest extent feasible.	Yes	No	Yes	Yes
Objective 4: Create a project that takes advantage of and enhances existing infrastructure, including the proximity to major regional roadways, railroad service corridors, and other similar infrastructure.	Yes	No	Yes	Yes
Objective 5: Implement the development patterns envisioned in the North Apple Valley Industrial Specific Plan.	Yes	No	Yes	Not to the same extent as the proposed project.

7.5 References Cited

SCAG (Southern California Association of Governments). 2013. Southern California Association of Governments Comprehensive Regional Goods Movement Plan and Implementation Strategy. http://www.freightworks.org/Pages/default.aspx.

Town of Apple Valley. 2006. *North Apple Valley Industrial Specific Plan*. https://www.applevalley.org/home/showpublisheddocument/18587/636149111285930000.

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3 Response to Comments

This chapter of the Final Environmental Impact Report (EIR) for the 1M Warehouse Project (Project) includes a copy of all comment letters that were submitted during the public review period for the Draft EIR, along with responses to comments in accordance with California Environmental Quality Act (CEQA) Guidelines Section 15088. The 45–day review period for the Draft EIR began on September 15, 2023 and ended on October 30, 2023.

The responses amplify or clarify information provided in the Draft EIR and/or refer the reader to the appropriate place in the document where the requested information can be found. Comments that are not directly related to environmental issues (e.g., opinions on the merits of the Project unrelated to its environmental impacts) are noted for the record. Where text changes in the Draft EIR are warranted based on comments received, updated Project information, or other information provided by City staff, those changes are noted in the response to comment and the reader is directed to Chapter 2, Changes to the Draft EIR, of this Final EIR.

These changes to the analysis contained in the Draft EIR represent only minor clarifications/amplifications and do not constitute significant new information. In accordance with CEQA Guidelines Section 15088.5, recirculation of the Draft EIR is not required.

All written comments on the Draft EIR are listed in Table 3-1. All comment letters received on the Draft EIR have been coded with a number to facilitate identification and tracking (see Table 3-1). The comment letters were reviewed and divided into individual comments, with each comment containing a single theme, issue, or concern. Individual comments and the responses to them were assigned corresponding numbers (e.g., A-1, B-2, C-3). To aid readers and commenters, electronically bracketed comment letters have been reproduced in this document and are included as Appendix A, with the corresponding responses provided immediately following each comment letter. The interested parties listed in Table 3-1 submitted letters during the public review period for the Draft EIR.

Table 3-1. Comments Received on the Draft EIR

Comment Letter	Commenter	Date
A	Mojave Air Quality Management District	September 25, 2023
B	Lozeau Drury on behalf of Supporters Alliance for Environmental Responsibility (SAFER)	October 24, 2023
C	Blum, Collins, & Ho on behalf of Golden State Environmental Justice Alliance	October 27, 2023
D	Advocates for the Environment	October 27, 2023
E	Center for Biological Diversity	
F	Adams Broadwell Joseph & Cardozo (Public Records Act Request)	October 13, 2023
G	Adams Broadwell Joseph & Cardozo (Request for Documents in Draft EIR)	October 13, 2023
H	Adams Broadwell Joseph & Cardozo (Request to Extend Public Review – References Requested Listed)	October 27, 2023
I	Adams Broadwell Joseph & Cardozo (Comments on Draft EIR)	October 30, 2023
J	Twenty-Nine Palms Band of Mission Indians	December 1, 2024
K	Adams Broadwell Joseph & Cardozo (Notice of Settlement)	May 16, 2024

To finalize the EIR for the Project, the following responses were prepared to comments that were received during the public review period.

Response to Comment Letter A

Mojave Desert Air Quality Management District
Chris Anderson
September 25, 2023

A-1 The Mojave Desert Air Quality Management District (District) provided introductory remarks and a summary of the project description to open its comments. No further response is required.

A-2 This comment notes a concern that the Draft Environmental Impact Report (DEIR) did not evaluate health risk impacts to a single-family residence that is within 650 feet of the project site. This residence was evaluated in the DEIR Health Risk Analysis but was not explicitly mentioned in the text because another sensitive receptor sits closer to the project boundary. This clarification has been inserted into the text of Section 4.2.4 of the Final EIR as follows (refer also to Chapter 2, Changes to the Draft EIR) (additions in underline, deletions in ~~strikeout~~):

> Potentially Significant Impact Before Mitigation. The potential impact of Project-generated air pollutant emissions at sensitive receptors has been considered. Sensitive receptors can include uses such as long-term health care facilities, rehabilitation centers, and retirement homes. Residences, schools, playgrounds, child-care centers, and athletic facilities can also be considered as sensitive receptors. The nearest sensitive receptors to the Project site are a fire center approximately 600 feet to the south, ~~as it~~which could potentially contain sleeping quarters, and a single-family residence approximately 650 feet to the east.

As no new environmental issues were identified, no further analysis is necessary.

A-3 This comment details the requirement of the submission of a Dust Control Plan (DCP) to the District prior to earth-moving activity. This is not a mitigation measure but is instead required by District Rule 403 Section D. The DEIR states that the project would comply with all District rules and regulations, including Rule 403, in PDF-AQ-1. The project shall complete a DCP within the requisite timeline.

A-4 This comment notes the requirement of the postage of signage compliant with Rule 403 Attachment B at each project site entrance no later than the commencement of construction. This is not a mitigation measure but is instead required by District Rule 403 Section D. The DEIR states that the project would comply with all District rules and regulations, including Rule 403, in PDF-AQ-1. The project shall post the signage within the requisite timeline.

A-5 This comment details the requirement of the postage of signage compliant with Rule 403 Attachment B at each project site entrance no later than the commencement of construction. This is not a mitigation measure but is instead required by District Rule 403 Section C. The DEIR states that the project would comply with all District rules and regulations, including Rule 403, in PDF-AQ-1. The project shall post the signage within the requisite timeline.

A-6 This comment notes that if perimeter fencing is installed during project construction, it is required to be wind fencing. This is not a mitigation measure but is instead required by District Rule 403 Attachment A. The DEIR states that the project would comply with all District rules and regulations, including Rule 403, in PDF-AQ-1. The project shall institute wind fencing if perimeter fencing is installed.

A-7 This comment details the requirement of the stabilization of maintenance roads, access roads, parking areas, and earthen surfaces. This is not a mitigation measure but is instead required by District Rule 403 Section C. The DEIR states that the project would comply with all District rules and regulations, including Rule 403, in PDF-AQ-1. The project shall stabilize all roads, parking lots, and earthen surfaces.

A-8 This comment notes that the project is required to obtain District permits for any miscellaneous process equipment that may not be exempt under District Rule 219. The project shall obtain all requisite District permits.

Response to Comment Letter B

Lozeau Drury LLP on behalf of Supporters Alliance for Environmental Responsibility
Brian B. Flynn
October 24, 2023

B-1 This comment introduces the Supporters Alliance for Environmental Responsibility (SAFER) and states concern regarding the Draft EIR. The comment states that the Draft EIR fails as an informational document and also fails to impose all feasible mitigation measures to reduce the project's impacts. The comment also requests that the Planning Department revise the Draft EIR and recirculate prior to considering the project for approval. The comment letter does not provide any specifics about what part of the analysis in the Draft EIR was inadequate and does not include any substantiation as to why the document should be recirculated. The comment does not provide substantial evidence of a significant environmental impact or the need to recirculate the Draft EIR. A general response to a general comment is sufficient. (*Browning-Ferris Indus. v. City Council* (1986) 181 Cal.App.3d 852, 862.) The Town disagrees with the commenter's assertion. The Draft EIR provides an accurate and thorough analysis of all of the project's potential environmental impacts pursuant to CEQA. As discussed throughout the Draft EIR, mitigation measures would be required for impacts related to [TOPICS] as these impact areas are potentially significant after the imposition of existing regulations and standard conditions. For other impact areas, the Draft EIR details that there is no nexus requiring mitigation pursuant to State CEQA Guidelines section 15126.4, subd. (a)(4)(A)-(B), as impacts would be less than significant.

No conditions exist that would require recirculation of the Draft EIR pursuant to State CEQA Guidelines section 15088.5. No new significant environmental impact would result from the Project or from a new mitigation measure proposed to be implemented, there is no substantial increase in the severity of an environmental impact, no feasible project alternative or mitigation measure considerably different from others previously analyzed would lessen the environmental impacts of the proposed project, and the Draft EIR is not fundamentally inadequate or conclusory in nature. The commenter was afforded the opportunity to provide specific comments on the Draft EIR during the public review period and no further comments were received.

Response to Comment Letter C

Blum, Collins & Ho LLP
Gary Ho, Attorney, Blum, Collins & Ho LLP
October 27, 2023

C-1 The comment notes that the comment letter has been submitted by Blum Collins on behalf of the Golden State Environmental Justice Alliance. Additionally, the commenter requested to be added to the public interest list for the Project. The Town of Apple Valley has added the commenter to the public interest list for the project and shall receive copies of environmental documents and public notices for the project. This comment does not raise any substantive issues with the adequacy of the EIR or raise any other CEQA issue; no further response is required or provided. This comment serves as an introduction to comments that follow.

C-2 This comment summarizes the proposed Project and does not identify specific areas where the EIR is inadequate or raise any other CEQA issue; therefore, no further response is required.

C-3 The commenter expresses concern that detailed plans were not provided as part of the Draft EIR and states that there is no way for the public to verify information concerning grading plans and proposed earthwork quantities.

The EIR included an appropriate level of detail based on then-available data and plans. As provided by CEQA Guidelines Section 15124, an EIR must only provide a "general description of the project's technical, economic, and environmental characteristics". As long as the requirements set forth in CEQA Guidelines Section 15124 are met, the Project Description may allow for the flexibility needed to respond to changing conditions that could impact the Project's final design. Information on the content of the site plan, floor plan and grading plans is provided within the Project Description of the Draft EIR in compliance with CEQA. (*See South of Market Community Action Network v. City and County of San Francisco* (2019) 33 Cal.App.5th 321, 333 [holding that design renderings were not required to be included as part of EIR for purposes of providing an adequate project description]). All plans are available at the Town of Apple Valley for public review. The Town will verify all Project details (i.e., earthwork quantities, floor area ratio and compliance with development standards) as part of the plan check process prior to issuing permits. The comment does not provide any substantial evidence concerning any environmental impact. Therefore, no further response is required.

C-4 This comment expresses a concern regarding the EIR's analysis of the Project's air quality impacts on the surrounding community. The comment states this is particularly important due to the Project site's location in an area that is burdened by pollution, as indicated by CalEnviroScreen. Neither the Town, the MDAQMD, nor the State CEQA Guidelines include thresholds that consider environmental justice such as the CalEnviroScreen results, but rather account for the potential health effects of a project with project-level thresholds. As such, there is currently no air quality guidance or thresholds to analyze areas with higher pollution burden differently from areas with lower pollution burden. While CalEnviroScreen is a useful tool in assessing a community's risk, it is not an appropriate tool for evaluating a project's impact on the environment as required under CEQA. An air quality emissions impact analysis and construction and operation health risk assessments were prepared for the Project and incorporated into the EIR (as described in Section 4.2 of the Draft EIR). As discussed in the Draft EIR, the Project would not result in exceedances of any criteria air pollutant threshold after implementation of feasible mitigation

(EIR p. 4.2-34; Table 4.2-11). In addition, the Project's incremental increase in potential cancer and non-cancer health risk impacts with regard to sensitive receptors in the vicinity of the Project and haul routes was determined to be less than significant with mitigation incorporated (EIR p. 4.2-34 through 4.2-41; Table 4.2-14). This comment is noted and forwarded to the decision-makers for their consideration; however, the EIR's analysis is adequate as provided and no further response is required.

C-5 The comment states that the Project census tract bears impacts from cleanup sites and solid waste via CalEnviroScreen. These existing sources of potential pollutants are not related to the Project. As discussed in Section 4.7 of the Draft EIR, a Phase I Environmental Site Assessment was completed for the Project and did not identify the Project site as being listed on any government databases (i.e., HAZNET, Historic CORTESE List, State/Tribal Voluntary Cleanup Sites, etc.) pertaining to the storage and disposal of petroleum products and hazardous materials/hazardous waste. See Response to Comment C-4 for further details regarding CalEnviroScreen and the Project's CEQA analysis.

C-6 The comment expresses a concern that the Project census tract has poor water quality and a community that is especially vulnerable to the impacts of pollution via CalEnviroScreen. The Project's impacts to water quality would be less than significant upon mandatory compliance with regulatory and permitting requirements, as discussed in Draft EIR Section 4.8. Therefore, the Project would not worsen or exacerbate any water quality issues. See Response to Comment C-4 for further details regarding CalEnviroScreen and the Project's CEQA analysis.

C-7 The comment states that California's Building Energy Code Compliance Software (CBECC) is the State of California's only approved compliance modeling software for non-residential building to show compliance with Title 24, and that CalEEMod is not listed as approved software. Of importance, the Project will be required to comply with Title 24 by law and the CalEEMod modeling is not intended to demonstrate compliance with Title 24, but rather, to provide a reasonable estimate of potential energy demand (including petroleum, which the CBECC software does not include) for public disclosure and informational purposes under CEQA. CalEEMod is a statewide land use emissions computer model, recommended by the SCAQMD, designed to provide a uniform platform to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects. The model quantifies indirect emissions from energy use, which incorporates Title 24 standards (www.caleemod.com, http://www.aqmd.gov/home/rulescompliance/ceqa/air-quality-modeling). As such, the DEIR appropriately quantified and disclosed the energy-related impacts, and no further analysis is required.

The comment also states that the modeling does not comply with the 2022 Building Energy Efficiency Standards, and under-reports energy impacts, but the comment does not provide evidence of this statement.

Overall, the commenter has not provided any substantial evidence to demonstrate that the use of CalEEMod to estimate energy demand is either inappropriate or inaccurate. Therefore, no revisions to the Draft EIR are required, and no further response is necessary.

C-8 This comment expresses a concern that the EIR did not include a consistency analysis with the Town's Climate Action Plan and General Plan and lists several policies within the General Plan that are believed to be applicable to the Project. The Draft EIR did indeed include a consistency analysis with applicable General Plan policies within the Land Use and Planning chapter under Section 4.9.5 (pages 4.9-9

through 4.9-24). The EIR did not include a consistency analysis for each and every goal, policy, and implementation policy of the General Plan because many of the goals and policies in the General Plan are Town-level planning efforts that are not applicable to the Project and would not be the responsibility of the Project Applicant to implement. For example, all Air Quality Element Programs/Policies and the Circulation Element Program cited by commenter are implemented by the Town. Measure ND-6 of the Town's Climate Action Plan (related to employee housing) likewise reflects a broader planning goal when taken in context with ND-1 to ND-5, and is not the responsibility of any individual project applicant or project. However, for purposes of this response to comment, each of the policies and programs mentioned by commenter are discussed below:

Climate Action Plan

1. ND-6. ND-6 discusses developing employee housing within one mile of an industrial project within the North Apple Valley Industrial Specific Plan. This is a broad planning policy that is generally applicable to reduce vehicular miles travelled by employees to such projects. Applicant does not own any property suitable for residential development and any such development will likely result through proposals by third-party developers or the Town in the future as demand allows.

2. ND-7. ND-7 is a policy to preserve trees on site as part of development. The project site is completely barren of trees and therefore this policy does not apply to the project.

3. ND-10. ND-10 relates to installing bus stops and securing scheduled transit service from the Victor Valley Transit Authority. Development of public transportation facilities and service is inherently dependent on the demand for such services. Such development is the Town's responsibility, not the responsibility of an individual development project located in a generally undeveloped area. Therefore, the project is not inconsistent with this policy.

4. ND-14. The proposed project is designed to be energy efficient and take advantage of the desert climate.

General Plan

1. Air Quality Element Policy 1.B. Tthe project will result in a significant and unavoidable impact from emission so greenhouse gases. However, the vast majority of such emissions are mobile emissions (vehicular and truck) that the project has minimal ability to lessen. The project will be compliant with Title 24 energy efficiency requirements. In fact, the project itself is designed to operate with 100% of its electrical demand met by renewable sources. Also on site equipment, including yard hostlers, fork lifts and landscaping equipment will be 100% electric.

2. Air Quality Element Policy 1.D. The Town required the project to prepare and EIR that analyzed the potential impact on local and regional air quality. As noted in Response to Comment C-4 above, with implementation of mitigation measures, the project will have a less than significant impact on local and regional air quality.

3. Air Quality Element Policy 1.D. The Town required the project to prepare and EIR that analyzed the potential impact on local and regional air quality. As noted in Response to Comment C-4 above,

with implementation of mitigation measures, the project will have a less than significant impact on local and regional air quality.

4. Circulation Element Program 1.A.4. The Town goal for roadway intersection performance is to maintain Level of Service D during both the morning and evening peak hour. If a project causes the degradation of performance to a level below LOS D, the Town requires mitigation to improve performance. Project generated traffic will not impact any intersections near the project site resulting in a degradation of LOS below LOS D. The Project will also be subject to the Town's traffic impact fee program that generates funds to improve roadway performance. Therefore, the project is consistent with this policy. Please see further Response to Comment C-10 below.

The goal of the consistency analysis is to provide the reader with a general overview of whether the Project is in harmony with the overall intent of the applicable goals and policies. It is within the Town's purview to decide if the project is consistent or inconsistent with applicable goals or policies. The thresholds used to determine the significance of a Project's land use impacts (per Appendix G of the CEQA Guidelines) ask whether a project would "Cause a significant environmental impact due to a conflict with any *applicable* land use plan, policy, or regulation adopted *for the purpose of avoiding or mitigating an environmental effect*" (emphasis added). Therefore, the Draft EIR included an analysis of the Project's consistency with each of the applicable General Plan goals and policies that have been adopted by the Town to avoid or mitigate environmental effects of new development projects. As such, the Draft EIR has evaluated the project's consistency with all applicable General Plan land use policies and no revisions are necessary. Because no new environmental issues were identified, no further analysis is necessary.

C-9 Commenter states that the EIR omits discussion of the project's consistency with other land use plans, policies or regulations. Please see Response to Comment C-8. Additionally, the commenter states that the EIR must be revised to include significant and unavoidable cumulatively considerable impacts related to GHG emissions and VMT. These significant and unavoidable impacts are correctly acknowledged within their respective technical sections of the Draft EIR (see Draft EIR at pages 4.6-29 to 4.6-31; 4.12-21). No further analysis is necessary.

C-10 The comment expresses concern that the assessment of fees, with regards to impacts at the I-15 northbound Ramps at Outer I-15/Stoddard Wells Road, is not adequate as there is no evidence mitigation will actually result. Section 4.12 (Transportation) of the Draft EIR concludes that the project would have a significant and unavoidable impact at this intersection. As part of the cumulative traffic impact analysis, Section 4.12 (Transportation, Threshold E) determined that the project may increase a hazardous condition due to queuing impacts at the I-15 northbound Ramps/Outer I-15/Stoddard Wells Road intersection under the Opening Year (2025) plus Project traffic conditions and Horizon Year (2040) plus Project conditions. Improvement measures required to mitigate the Project's queuing impacts would include fair-share contributions to this intersection. Since the Town does not have jurisdiction over these facilities, these improvements cannot be assumed to be in place prior to Project's occupancy. Thus, the DEIR noted that the Project's impact to increase in hazardous conditions (i.e., queuing) would be significant and unavoidable. Therefore, the EIR is not implying that the payment of fees would mitigate the identified impact. This comment also states that the EIR must be revised and recirculated to include the LOS analysis as cumulatively considerable significant land use impact

as the project conflicts with Transportation Impact Threshold A and Land Use and Planning Impact Threshold B because it is not consistent with the following General Plan policy:

- Circulation Element Program 1.A.4: The Town shall require that all intersections maintain a Level of Service D during both the morning and evening peak hour

The TIS prepared for the Project was not prepared solely for the purposes of environmental review under CEQA (although portions of the TIS were used to assist in the environmental review of the Project). Rather, the TIS was prepared to evaluate congestion-based level of service effects as required by the Town's Development Title standards. Pursuant to Senate Bill 743 and CEQA Guidelines Section 15064.3, congestion-based level of service effects (i.e., those analyzed in the TIS) may no longer be used to evaluate a Project's transportation impact. Any references to congestion-based level of service in the Draft EIR were to analyze traffic safety and potential hazards. With regard to land use impacts, freeway on-/off-ramps are not included within the Town of Apple Valley General Plan's roadway classifications, as they are subject to Caltrans jurisdiction rather than the Town of Apple Valley's (see General Plan II-41 to II-42). Notwithstanding, DEIR Table 4.9.3 (Town of Apple Valley General Plan Consistency Evaluation) identified that the Project "would not be in conformance with" Circulation Element Program 1.A.4 (see DEIR at 4.9-21) which included I-15 NB Ramps-Outer I-15/Stoddard Wells Road.

Stoddard Road east of the I-15 Freeway was increased to a "Major Divided Arterial" in the General Plan (General Plan Exhibit II-6) and was identified as "approaching capacity" in General Plan Table II-8; see General Plan p. II-48). General Plan EIR Table III-63 identified I-15 NB Ramps/Stoddard Wells Road as intersections in the planning area that were expected to operate below LOS C (which was previously the Town's standard for acceptable LOS) at General Plan buildout during AM and/or PM peak hours, based on seconds of delay (see General Plan EIR at III-298; Table III-63 Intersection Nos. 31 and 32).

General Plan EIR Mitigation Measure No. 18 states:

All new development shall be required to pay a "fair share" of improvements to surrounding roadways, bridges and signals that are impacted by and are located within and surrounding the development project.

Pursuant to General Plan EIR Mitigation Measure No. 1, it is the responsibility of the Town (not an individual project applicant) to "establish and maintain a master plan of roadways… [which]… shall ensure that roadway segments and intersections generally operate at level of Service C or better, wherever feasible, and that all intersections maintain a Level of Service D or better during both morning and evening peak hours. Likewise, the Town is required to "review traffic volumes resulting from General Plan build out to coordinate, program and if necessary, revise road improvements. This review shall take place every five years." (General Plan Mitigation Measure No. 17).

The Project will pay its fair share towards cost of improvements for the identified intersections (which are subject to Caltrans jurisdiction) consistent with the General Plan/General Plan EIR Mitigation Measure No. 18 and therefore, no significant and unavoidable land use impact will occur. The Town has noted these comments and forwarded them to the Town's decision-makers for consideration. However, because the Town has determined that the TIS meets the requirements of the Town's Development Title, and because the Project's transportation-related impacts (i.e., those that require

analysis under CEQA) have been adequately evaluated in the Draft EIR, the Town has determined that no further transportation-related analysis is necessary and the Draft EIR is adequate as provided.

C-11 This comment identifies the buildout square footage of the NAVISP, lists site building coverage of other projects in the NAVISP and states that the project has not demonstrated that it is within the buildout scenario of the NAVISP. The current Draft EIR is a project-level environmental document that serves to analyze any environmental impacts that may exceed or differ from what was analyzed in the 2006 EIR prepared for the NAVISP (as amended in 2007 and 2011). The maximum building coverage for the Industrial-General Land Use District is 45%. (NAVISP Table III-2). The proposed Project's site coverage is only 36.9% and is therefore in compliance with the NAVISP. The 22% building coverage assumption referenced by commenter is contained as a footnote to Table II-2 of the NAVISP, and does not constitute a limitation or requirement. Cumulative projects are properly included in Table 3-1 of the Draft EIR and accounted for throughout the analysis of the Draft EIR. All previously-constructed projects (i.e., completed prior to issuance of the NOP for the Draft EIR) within the NAVISP are considered part of the environmental baseline and have therefore been accounted for as part of the existing conditions. Therefore, no further analysis is required.

C-12 This comment states that the project is not within the General Plan buildout scenario, including all cumulative development constructed since approval of the General Plan, approved projects not yet constructed, and "projects in the pipeline." Similar to Response C-11, the current Draft EIR is a project-level environmental document that serves to analyze any environmental impacts that may exceed or differ from what was analyzed in the 2009 EIR prepared for the Town's General Plan. Development assumptions and scenarios presented in the General Plan and General Plan EIR do not serve as a "cap" on permissible square footage buildout within the Town. Cumulative projects are properly included in Table 3-1 of the Draft EIR and accounted for throughout the analysis of the Draft EIR. All previously-constructed projects (i.e., completed prior to issuance of the NOP for the Draft EIR) within the purview of the General Plan are considered part of the environmental baseline and have therefore been accounted for as part of the existing conditions. Therefore, no further analysis is required.

C-13 This comment expresses a concern that the Project is inconsistent with SCAG 2020-2045 RTP/SCS due to errors in the modeling. Consistency with the SCAG 2020-2045 RTP/SCS was included within Table 4.9-2 of the Land Use and Planning section of the Draft EIR. The analysis provided within Table 4.9-2 remains accurate and acknowledged that "The Project would involve development of an industrial use that inherently involves the emission of GHG and air contaminant emissions" but nonetheless analyzes the Project's furtherance of the broader goals of the RTP/SCS, such as by way of reducing commute distances and providing efficient goods movement in the region. Additional consistency analysis with the SCAG 2020-2045 RTP/SCS relative to greenhouse gas emissions is also provided at Draft EIR pages 4.6-35 to 4.6-36. The comment also expresses a concern regarding the EIR's air quality, GHG, and transportation analysis. Please refer to Responses C-7, C-17, and C-18 above in which these concerns are addressed.

C-14 Please refer to Response to Comment C-10.

C-15 This comment also states that the EIR has not adequately analyzed the project's potential to substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses; or the project's potential to result in inadequate emergency access. The comment notes that there are no exhibits adequately depicting the onsite turning radius available

for trucks maneuvering throughout the site. The Project's potential to substantially increase hazards due to a geometric design feature was analyzed in the Draft in within Chapter 4.12, Transportation under Threshold C and determined there were no hazardous design features that would occur as part of the Project's roadway improvements or site access. Appendix E, of the Final EIR, On-Site Truck Turning Template, shows truck inbound and outbound paths within the internal drive aisles and other areas within the Project site accessed by trucks that supports the analysis and conclusions within the Draft EIR. As shown, the internal drive aisles are anticipated to accommodate the wide turning radius of trucks as currently designed. The passenger vehicles spaces are not located within the truck/trailer path of travel.

The comment also states that by indicting that the indicating the "the site plan would be subject to plan review by the Town's Fire Department to ensure proper access for fire and emergency response is provided and required fire suppression features are included" is deferred mitigation after the CEQA public review process. No impacts were identified and therefore including this statement in the EIR is not deferred mitigation. The review of a project site plan during the CEQA process is conducted at a high level to ensure that the potential development is compliant with the local and building zoning requirements and that there are no major design issues. It is one of the first steps in the approval process, but is not the final approval of the site plan. A detailed engineering plan will be submitted to the City for final review during the construction permitting phase.

C-16 This comment states that the Draft EIR underreported the quantity of VMT generated by the Project and that the project's actual VMT generated is not consistent with the significance threshold and legislative intent of SB 743 to reduce greenhouse gas emissions by reducing VMT. The VMT analysis as presented in Section 4.12 (Transportation) of the Draft EIR did not include the project-generated truck VMT when identifying the project's potential impacts to VMT, consistent with guidance from the Governor's Office of Planning and Research (OPR) and the Town of Apple Valley VMT Significance Thresholds. SB-743, which was codified in Public Resources Code section 21099, was signed by the Governor in 2013 and directed the Governor's Office of Planning and Research (OPR) to identify alternative metrics for evaluating transportation impacts under CEQA. Per Section 21099 of the Public Resource Code, the selection of the VMT criteria for determining the significance of transportation impacts was intended to promote reductions of greenhouse gas emissions (GHG); to develop multimodal transportation networks; and to diversify land uses. The changes to the CEQA Guidelines in response to Section 21099 include a new section (15064.3) that specifies that Vehicle Miles Traveled (VMT) is the most appropriate measure of transportation impacts. In addition, Section 15064.3, subdivision (a), states, "For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project." In addition, various legislative mandates and state policies have established quantitative GHG emission reduction targets. Pursuant to Senate Bill 375, the California Air Resources Board GHG emissions reduction targets for metropolitan planning organizations (MPOs) call for reductions in GHG emissions only from cars and light trucks. Consequently, the VMT criteria and thresholds in the CEQA Guidelines related to employment generating uses (such as the project) do not apply to those components of proposed projects that involve commercial vehicles. However, the VMT criteria and thresholds would apply to those components that involve passenger vehicles.

A separate Technical Advisory (TA) issued by OPR[1] provides additional technical details on calculating VMT and assessing transportation impacts for various types of projects. The OPR Technical Advisory states that "automobile" refers to on-road passenger vehicles, specifically cars and light trucks. It does not include heavy-duty trucks, semi-trailers, construction equipment, or other commercial-type vehicles. While the OPR TA allows for heavy duty truck VMT to be included in modeling, it is important to note that this allowance was provided for modeling convenience and ease of calculation. The TA also states that the analysis should be based on an apples-to-apples comparison, wherein the same VMT (e.g., with trucks or without trucks) should be reported for both the threshold and the project. This was also clarified and noted during an informational question and answer session conducted by OPR to provide information and guidance on conducting project-level VMT analysis, that it is automobile VMT (i.e. cars and light duty trucks) that should to be quantified.

The following example from the County of Santa Barbara Environmental Thresholds Update summarizes the issue concisely: *For example, a proposed oil production or agricultural processing facility may involve significant numbers of commercial trucks and semitrailers that would haul supplies and products to and from the facility. The project may also involve employees and others who would travel to and from the facility in passenger vehicles. In this case, the VMT analysis would not address potential VMT generated by the commercial trucks and semi-trailers and, therefore, would not consider such VMT a significant transportation impact. Rather, the VMT analysis would focus on VMT generated by passenger vehicles traveling to and from the facility*[2].

The VMT metric used for measuring the Project's transportation impact is VMT per Service Population, an efficiency metric which does not include trucks or trucks equivalents. As such, trucks were not included for measuring against SB 743 VMT which is the threshold adopted by the Town of Apple Valley. In addition, to evaluate the Project's effect on VMT for the region, link based total VMT per service population was also calculated for both San Bernardino County and Unincorporated San Bernardino County without and with the project.

In keeping with the intent of Section 21099 of the Public Resource Code and Section 15064.3, subdivision (a) of the CEQA Guidelines (which specify that automobile VMT is the primary metric that should be evaluated), the extra step of removing heavy truck VMT from the San Bernardino Transportation Analysis Model (SBTAM) was undertaken to identify applicable thresholds as well as to provide for a project level analysis that most appropriately meets the intent of SB 743. The numbers reported in Section 4.12 (Transportation) of the Draft EIR are based on automobile (i.e. cars and light trucks) VMT for both the applicable threshold and the project VMT, allowing for an apples-to apples comparisons of VMT generated by vehicle types across project assessment, significance thresholds, and mitigation (if any).

C-17 This comment raises issue with the conclusions in the Draft EIR related to population and housing. With regard to the concern regarding the labor force that would be needed to construct the Project, the number of construction workers needed during any given period would largely depend on the specific stage of construction but would likely fluctuate between a few and several dozen workers on a daily basis. Based on information provided by the Project Applicant, they intend to construct the Project using

[1] OPR (California Governor's Office of Planning and Research). 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. December 2018. Accessed February 2021. http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf

[2] Santa Barbara County Environmental Thresholds and Guidelines Manual, http://www.countyofsb.org/uploadedFiles/plndev/Content/Projects/FINAL%20Ch.%2018%20Environmental%20Thresholds%20Update.pdf

a licensed general contractor with full-time staff that are assigned to construction projects on a rotating basis, depending on the nature of the construction phase and the required worker skillsets. As such, the Project's construction labor needs would be met by a pool of existing construction workers in the region.

Additionally, as states within the Purpose and Need in Chapter 3, Project Description, of the Draft EIR, the High Desert/Victor Valley region has long been identified as an area having a low jobs–housing ratio (i.e., an area that has more potential workers living in a community than there are jobs for them),[3] resulting in high numbers of residents commuting out of the region for work. Recognizing these trends, community leaders and officials have long sought to stimulate economic development within the High Desert region and provide residents with local employment opportunities. One strategy that community leaders and planners have used is to attract development of warehousing and distribution centers, which can provide hundreds of jobs per million square feet of development. As such, the Project would help meet the needs of the growing logistics sector while producing new jobs in a region that is typically viewed as housing rich and jobs poor.

As discussed in Section 5.9, Population and Housing, for purposes of analyses, employment estimates were calculated using average employment density factors reported by the Southern California Association of Governments. The Southern California Association of Governments reports that for every 1,195 square feet of warehouse space in San Bernardino County, the average numbers of jobs supported is one employee (Natelson Company Inc. 2001). The Project would include 1,080,125 square feet of industrial/warehouse space, excluding associated improvements. As such, the estimated number of employees required for operation would be approximately 904 (not 2,108 jobs, as incorrectly stated by the commenter).

According to the 2010 U.S. Census, the population of the Town was approximately 69,135 residents (Town of Apple Valley 2009b). According to the Town's General Plan, upon build-out, the Town could support a population of 185,858 residents (Town of Apple Valley 2009b). As such, the Project-related increase of approximately 904 employees would represent a nominal percentage of the Town's projected future population upon General Plan build-out.[4]

In addition, data provided by the California Employment Development Department in February 2022 found that the unemployment rate for San Bernardino County is at 5%, which is similar to the state average (5.4%) (EDD 2022). As such, the Project's temporary and permanent employment requirements could likely be met by the Town's existing labor force without people needing to relocate into the Project region, and the Project would not stimulate population growth or a population concentration above what is assumed in local and regional land use plans. Therefore, no impacts would occur.

Cumulative projects are properly included in Table 3-1 of the Draft EIR and accounted for throughout the analysis of the Draft EIR. All previously-constructed projects within the Town are considered part of

[3] A jobs–housing ratio is a commonly used economic metric used to determine whether or not a community or region provides a sufficient number of jobs for its residents. The metric is calculated by finding the relationship between where people work ("jobs") and where they live ("housing"). As of 2021, the Town had a jobs/housing ratio of 1.07, which is below regional targets ranging from 1.25–1.50 (SCAG 2021; APA 2003).

[4] Note that this represents a conservative approach, as this finding assumes that all future employees will have relocated to the Town as a result of the Project from outside of the Town, and that no future employees are already residents of the Town.

the environmental baseline and have therefore been accounted for as part of the existing conditions for purposes of population and housing impacts. Therefore, no further analysis is required.

In summary, because the Draft EIR's employment generation estimates are based on substantial evidence, the Draft EIR analysis with regard to population and housing is adequate as provided.

C-18 This comment identifies the buildout square footage of the NAVISP, lists site building coverage of other projects in the NAVISP and states that the project has not demonstrated that it is within the buildout scenario of the NAVISP. Please refer to Response C-11 above.

C-19 Cumulative projects are properly included in Table 3-1 of the Draft EIR and accounted for throughout the analysis of the Draft EIR. All previously-constructed projects within the Town are considered part of the environmental baseline and have therefore been accounted for as part of the existing conditions for purposes of population and housing impacts. Therefore, no further analysis is required.

C-20 This comment states that Section 6.2 Significant Irreversible Changes erroneously stated that the project site was designated as Regional Commercial (C-R) and within the Warehouse Distribution Regional Commercial Overlay. This has been corrected in the Final EIR to state the correct land use designations for the site.

C-21 This comment expresses a concern regarding the Draft EIR's alternatives analysis. CEQA does not require that the Town evaluate a certain number of alternatives, so long as the alternatives eliminate or reduce significant effects of the project, attain the project's basic objectives, and are potentially feasible. (Pub. Resources Code, §21002; State CEQA Guidelines, §15126.6(a)-(b).) The Draft EIR included a comprehensive alternatives analysis that included alternative land uses and alternative sites. Notably, residential uses were considered but rejected due to incompatibility issues with the Specific Plan Industrial designation. In addition, an alternative that would reduce all of the Project's significant and unavoidable impacts was considered; however, this would equate to a project 40% the size of the proposed Project, which would not be feasible. Commenter suggests that the EIR should have also analyzed a mix-use alternative that included affordable housing and local serving community uses. A mixed use alternative was not analyzed because it is not permitted under the project site's existing zoning and general plan designation. Also, such a use is incompatible with the purpose of the North Apple Valley Industrial Specific Plan and would introduce non-compatible residential uses into an area that will be surrounded by industrial uses. The Draft EIR's alternatives analysis thus met CEQA's requirement to evaluate a reasonable range of alternatives and is therefore adequate as provided.

C-22 The comment serves as a conclusion to the letter, and requests that the Town add the commenter to the Town's public interest list for the Project. The comment is noted and the Town has added the commenter to its list of parties to be notified for the Project. The comment does not identify specific areas where the EIR is inadequate; therefore, no further response is required.

C-23 The comment serves as an introduction to the attached SWAPE letter, introduces the Project, and summarizes the conclusion of the letter. The comment states that the DEIR fails to adequately evaluate and mitigate air quality, health risk, and greenhouse gas impacts, but does not raise any specific issues concerning the adequacy of the EIR.

C-24 This comment states that CalEEMod Version 2022.1 does not provide specific numeric changes in its output files, and requests the release of the .json project modeling input files. This comment pertains more to the differences between the current version of CalEEMod and the old version of the model rather than the analysis itself. Contrary to the commenter's assertion, the CalEEMod 2022 software is no longer in "soft release" as it was fully launched December 2022. In addition, as specifically identified in the CalEEMod User Guidedocumentation," CalEEMod utilizes widely accepted methodologies for estimating emissions combined with default data that can be used when site-specific information is not available" (CAPCOA 2022). As such, the changes to the default CalEEMod assumptions for the Project emissions modeling were appropriate based on applicant input and Project-specific information. CalEEMod provides default values for input parameters such as for warehouse building square footage. After the minimum project characteristic and land use information is inputted, CalEEMod provides default values so that the model may still be used to evaluate emissions from a land use development project in the event that such detailed information is not yet known (for instance, for a project in the planning stage). Similarly, CalEEMod provides a host of default values for the construction emissions analysis. Construction default values were utilized where proposed Project information was not readily available. Default inputs that were updated according to information provided by the Project Applicant include construction schedule phase dates for major activities (e.g., demolition, grading, building construction, paving, and architectural coating), construction truck and vehicle worker trips, and grading/excavation quantities.

Furthermore, the Project Applicant and their contractor(s) represent 'experts' in estimating construction activities for the project based on their experience with similar projects and their need to estimate construction activities, such as duration of construction and equipment needed, for budgeting purposes. Substantial evidence is defined in the CEQA statute to mean "facts, reasonable assumptions predicated on facts, and expert opinion supported by facts" (14 CCR 15384(b)). Because assumptions provided the Project Applicant and their team represent an expert opinion supported by facts, these assumptions constitute substantial evidence under CEQA that can be used to more accurately estimate project-generated emissions.

Therefore, the use of Project-specific data in CalEEMod is appropriate and fully in line with the CalEEMod User's Guide and the EIR's analysis is based on substantial evidence and is adequate as presented.

C-25 The commenter remarks that by the editing of default construction phases, the Project could be avoiding air quality impacts by lengthening phase lengths and thus reducing the intensity of daily activity. The edits that were made to construction phases at the request of the project Applicant are as follows:

- The demolition phase was deleted, as demolition would not take place as part of the project.
- The grading phase was reduced from a 75-day default length to 45 days.
- The building construction phase was reduced from a 740-day default length to 175 days.

As illustrated above, none of the phase lengths included in the project were lengthened, only shortened. Therefore, the edits to the construction schedule result in a higher intensity of daily activity than defaults, resulting in a more conservative analysis of worst-case daily emissions. Furthermore, please refer to Response to Comment C-24 in which general concerns about changing CalEEMod default values are addressed.

C-26 This comment notes that CalEEMod does not provide the model's fleet mix percentages and therefore the changes made to defaults are unsubstantiated. The default fleet mix in CalEEMod was revised to match the fleet mix provided in Appendix J, which was provided by experts on the Dudek transportation team. This fleet mix reflects the industry standard for the mix of vehicles that would access the project site during operation. Please refer to Response to Comment C-24 in which general concerns about changing CalEEMod default values are addressed.

C-27 This comment claims that unsubstantiated changes were made to CalEEMod operational water and wastewater values. Note that no outdoor water use was anticipated for the parking lot modeling land use. The commenter remarks that the CalEEMod modeling does not include water use for the "parking lot" land use, but this change to the modeling defaults was not noted in the DEIR or associated documents. This clarification has been inserted into the text of the Final EIR as follows (refer also to Chapter 2, Changes to the Draft EIR) (additions in underline, deletions in ~~strikeout~~):

Water Supply, Treatment, and Distribution

> Indirect GHG emissions result from the production of electricity used to convey, treat, and distribute water and wastewater. The amount of electricity required to convey, treat, and distribute water depends on the volume of water as well as the sources of the water. The default water demand in CalEEMod was adjusted to match the Water Supply Assessment (Appendix J) prepared for the Project. Note that no outdoor water use was anticipated for the "parking lot" modeling land use in CalEEMod, and modeling defaults were adjusted to zero water use for this land use as a result.

Note that CalEEMod default values were used for wastewater treatment values and percentages. Furthermore, please refer to Response to Comment C-24 in which general concerns about changing CalEEMod default values are addressed.

C-28 The comment reiterates previous concerns about changing default parameters in CalEEMod, specifically regarding architectural coatings. The Project has been designed to include a number of Project Design Features (PDFs) to minimize the Project's environmental impacts, including limiting the VOC content of architectural coatings. These PDFs are included as part of the Project; however, to ensure the PDFs are implemented during construction and operation, they will be included as enforceable conditions of approval by the Town. Furthermore, please refer to Response to Comment C-24 in which general concerns about changing CalEEMod default values are addressed.

C-29 The commenter used an outdated model, CalEEMod Version 2020.4.0 and all default assumptions to show increased emissions compared to what was included in the DEIR. Of import, CalEEMod 2020 is no longer the recommended model for emissions analysis (as of December 2022, when CalEEMod 2022 was fully launched). Default assumptions in CalEEMod 2020 are not considered representative of even CalEEMod 2022, let alone the Project-specific changes to defaults that were based on substantial evidence (i.e., input from experts, as described in Response to Comment C-16). Therefore, the results presented by the commenter are speculative and do not address any inadequacies of the EIR.

C-30 This comment finds issue with the Project's Health Risk Assessment (HRA), beginning by saying that the HRA is unreliable, as it relies on emissions calculated by CalEEMod. See Responses to Comments C-24 to C-29, which address concerns associated with the justification of changes made to the default

assumptions in CalEEMod 2022. The commenter follows by stating that the Draft EIR failed to provide dose and risk equations, which should have been based on the Office of Environmental Health Hazard Assessment (OEHHA) guidance. Notably, OEHHA guidance and equations were used as the basis of the health risk estimates. As described in the EIR (page 4.2-29), the construction and operational HRA health risk calculations were performed using the Hotspots Analysis and Reporting Program Version 2 (HARP2) Air Dispersion and Risk Tool (ADMRT, Version 22118). Of import, the risk analysis algorithms and default values used in HARP2 are based on the OEHHA guidelines (CARB 2015) and assumptions and results of the modeling were included in Appendix B-2 of the EIR.

C-31 The commenter states agreement with the Draft EIR in that the Project would result in a significant GHG impact but argues that the Draft EIR's conclusion of significant and unavoidable is incorrect. The comment then states that the EIR should include additional mitigation measures to reduce the Project's GHG emissions. This serves as an introduction to comments that follow.

C-32 The commenter suggests that additional feasible mitigation measures are available to reduce the Project's GHG impact and lists a total of 38 measures. The measures provided are taken from the State of California Department of Justice's *Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act*.

It should be noted that the following nine measures suggested by commenter have already been incorporated in the Draft EIR as part of Mitigation Measure MM-AQ-1 (see pages 4.2-42 through 4.2-44 of the Draft EIR):

- Using electric-powered hand tools, forklifts, and pressure washers, and providing electrical hook ups to the power grid rather than use of diesel-fueled generators to supply their power.
- Requiring all on-site motorized operational equipment, such as forklifts and yard trucks, to be zero-emission with the necessary charging or fueling stations provided.
- Posting both interior- and exterior-facing signs, including signs directed at all dock and delivery areas, identifying idling restriction and contact information to report violations to CARB, the local air district, and the building manager.
- Designing all project building roofs to accommodate the maximum future coverage of solar panels and installing the maximum solar power generation capacity feasible.
- Running conduit to designated locations for future electric truck charging stations.
- Constructing and maintaining electric light-duty vehicle charging stations proportional to the number of employee parking spaces (for example, requiring at least 10% of all employee parking spaces to be equipped with electric vehicle charging stations of at least Level 2 charging performance).
- Requiring facility operators to train managers and employees on efficient scheduling and load management to eliminate unnecessary queuing and idling of trucks.
- Forbidding trucks from idling for more than three minutes and requiring operators to turn off engines when not in use.
- Requiring that every tenant train its staff in charge of keeping vehicle records in diesel technologies and compliance with CARB regulations, by attending CARB-approved courses. Also require facility operators to maintain records on-site demonstrating compliance and make records available for inspection by the local jurisdiction, air district, and state upon request.

In addition, as detailed on pages 4.2-21 to 4.2-24 of the Draft EIR, the Applicant would incorporate a number of PDFs that would help reduce the Project's environmental impact with regard to air quality, greenhouse gas emissions, and energy. To ensure the PDFs are implemented during construction and operation, they will be included as enforceable conditions of approval by the Town of Apple Valley. These PDFs incorporate the feasible portions of eight of the measures recommended by commenter, listed below:

- Prohibiting off-road diesel-powered equipment from being in the "on" position for more than 10 hours per day.
- Requiring off-road construction equipment to be hybrid electric-diesel or zero emission, where available, and all diesel-fueled off-road construction equipment to be equipped with CARB Tier IV-compliant engines or better, and including this requirement in applicable bid documents, purchase orders, and contracts, with successful contractors demonstrating the ability to supply the compliant construction equipment for use prior to any ground-disturbing and construction activities. The project requires all construction equipment including engines operating at 150 horsepower or greater to be equipped with Tier 4 Interim engines.
- Using paints, architectural coatings, and industrial maintenance coatings that have volatile organic compound levels of less than 10 g/L.
- Keeping onsite and furnishing to the lead agency or other regulators upon request, all equipment maintenance records and data sheets, including design specifications and emission control tier classifications.
- Providing information on transit and ridesharing programs and services to construction employees.
- Unless the owner of the facility records a covenant on the title of the underlying property ensuring that the property cannot be used to provide refrigerated warehouse space, constructing electric plugs for electric transport refrigeration units at every dock door and requiring truck operators with transport refrigeration units to use the electric plugs when at loading docks.
- Providing tenants with information on incentive programs, such as the Carl Moyer Program and Voucher Incentive Program, to upgrade their fleets.
- Designing to LEED green building certification standards.

With regard to the remaining 21 measures suggested by commenter that were not already included within the Project, the feasibility of each measure is analyzed below:

Suggested Measure	Applicable/feasible to Include?
Designating an area in the construction site where electric-powered construction vehicles and equipment can charge.	**Feasible.** Additional language to this effect has been added to PDF-AQ-1.
Limiting the amount of daily grading disturbance area.	**Inapplicable**. As shown in Draft EIR Table 4.2-9, the Project's unmitigated maximum daily construction criteria air pollutant emissions would be less than significant without the need to limit the amount of daily grading disturbance area. In addition, during grading the Project will be required to comply with all applicable MDAQMD rules and regulations, including, but not limited to Rules 401 (Visible Emissions), 402

Suggested Measure	Applicable/feasible to Include?
	(Nuisance), and 403 (Fugitive Dust) (DEIR at 4.2-22). Therefore, this measure is duplicative/unnecessary.
Prohibiting grading on days with an Air Quality Index forecast of greater than 100 for particulates or ozone for the project area.	**Inapplicable**. In addition to compliance with MDAQMD Rules 401, 402 and 403, on days when the hourly average wind speed for north Apple Valley exceeds 20 miles per hour, additional dust control measures shall be implemented, such as increased surface watering. Grading and excavation shall be prohibited when sustained wind speed exceeds 30 miles per hour. (DEIR at 4.2-22). The Project's construction will not result in any criteria pollutant exceedance. (DEIR Table 4.2-9). Therefore, this measure is duplicative/unnecessary.
Forbidding idling of heavy equipment for more than three minutes.	**Feasible.** Additional language to this effect has been added to PDF-AQ-1.
Conducting an on-site inspection to verify compliance with construction mitigation and to identify other opportunities to further reduce construction impacts.	**Inapplicable**. Regular inspections will be conducted throughout construction by the Town of Apple Valley pursuant to its permitting authority and to verify compliance as outlined in the MMRP. Therefore, this measure is duplicative/unnecessary.
Providing meal options onsite or shuttles between the facility and nearby meal destinations for construction employees.	**Feasible.** Additional language to this effect has been added to PDF-AQ-1.
Requiring all heavy-duty vehicles engaged in drayage to or from the project site to be zero-emission beginning in 2030.	**Inapplicable**. The Project side is not proposed to include drayage use, which is defined as moving freight from port to truck or port to rail over short distances within the same geographical area.
Requiring tenants to use zero-emission light- and medium-duty vehicles as part of business operations.	**Infeasible**. This measure is infeasible to include as the end user/tenant of the Project is not yet known, and it cannot be determined whether such vehicles would be appropriate for future tenant's operational needs and at what percentage of overall vehicle fleet to allow for meaningful analysis or quantification of emissions reductions.
Installing solar photovoltaic systems on the project site of a specified electrical generation capacity that is equal to or greater than the building's projected energy needs, including all electrical chargers.	**Feasible**. The Project is already designed so that 100% of electrical demand will be met through renewable sources. Pursuant to revised MM AQ-1, the Project will include on-site solar generation that is sufficient to meet a minimum of 90% of the Project's total operational energy requirements. Any excess energy needs will be met through renewable sources through the Apple Valley Choice Energy 100% Renewable Energy Plan as required by MM-GHG-1. Through this program, all energy received from Southern California Edison is derived from renewable sources.
Constructing zero-emission truck charging/fueling stations proportional to the number of dock doors at the project.	**Feasible. Feasible.** The project as currently designed includes truck charging facilities, as stated in MM-AQ-1. Eight (8) truck charging facilities are incorporated into the project. This is reflected on the project site plan and associated planning materials that will be considered by the Town for approval. The current

Suggested Measure	Applicable/feasible to Include?
	number of electric semi-trucks in service in California is insufficient to support installation of charging facilities at each building truck dock. The project includes an oversized electrical room and panels to allow for easy implementation of additional electric charging facilities in the future should demand increase.
Oversizing electrical rooms by 25 percent or providing a secondary electrical room to accommodate future expansion of electric vehicle charging capability.	**Feasible.** The project contains an oversized electrical room to accommodate future expansion of charging capabilities.
Running conduit to an additional proportion of employee parking spaces for a future increase in the number of electric light-duty charging stations.	**Feasible.** The project will include electric charging facilities in a number that which exceed current California Building Code requirements.
Installing and maintaining, at the manufacturer's recommended maintenance intervals, air filtration systems at sensitive receptors within a certain radius of facility for the life of the project.	**Inapplicable**. The Project is located within the boundaries of the North Apple Valley Industrial Specific Plan, which is not near many sensitive receptors or vacant property zoned for the development of sensitive receptors in the future. MM AQ-1 would reduce all construction- and operational-related air quality impacts to less than significant. Therefore, this measure is unnecessary.
Installing and maintaining, at the manufacturer's recommended maintenance intervals, an air monitoring station proximate to sensitive receptors and the facility for the life of the project, and making the resulting data publicly available in real time.	**Inapplicable**. The Project is located within the boundaries of the North Apple Valley Industrial Specific Plan, which is not near many sensitive receptors or vacant property zoned for the development of sensitive receptors in the future. MM AQ-1 would reduce all construction- and operational-related air quality impacts to less than significant. Therefore, this measure is unnecessary.
Requiring operators to establish and promote a rideshare program that discourages single- occupancy vehicle trips and provides financial incentives for alternate modes of transportation, including carpooling, public transit, and biking.	**Feasible.** Additional language to this effect has been added to MM-AQ-1 and new MM TRANS-1.
Meeting CalGreen Tier 2 green building standards, including all provisions related to designated parking for clean air vehicles, electric vehicle charging, and bicycle parking.	**Inapplicable.** The purpose of the CalGreen Tier 2 standards is primarily to increase building efficiency. With regard to GHG emissions attributable to operation of the Project building, the Project will be designed to include rooftop solar panels that generate sufficient power to meet at least 90% of the Project's total operational base energy requirements from within the Project's building envelope (MM AQ-1). For any electricity needs not generated by on-site solar, Project tenants will be required to subscribe to the Apple Valley Choice Energy 100% Renewable Energy Plan, which is 100% renewable and 100% carbon-free, for the duration of occupancy, pursuant to MM GHG-1. The Project will comply with Measure ND-18 of the Town of Apple Valley Climate Action Plan, for the installation of common area electric vehicle charging station(s) and secure bicycle racks based on code

Suggested Measure	Applicable/feasible to Include?
	requirements in effect at the time of permit issuance. The provision of electric vehicle charging stations is included in MM AQ-1. By January 1, 2030, Level 2 (or faster) electric vehicle charging stations shall be installed for 25% of the employee parking spaces required. In addition, the vast majority of the Project's GHG emissions would come from heavy truck emissions, which would not be reduced by achieving CalGreen Tier 2 standards. Therefore, meeting CalGreen Tier 2 green building standards would not provide any meaningful reduction in GHG emissions and would be redundant of measures already being implemented by the Project.
Posting signs at every truck exit driveway providing directional information to the truck route.	**Feasible.** Additional language to this effect has been added to PDF-AQ-1.
Improving and maintaining vegetation and tree canopy for residents in and around the project area.	**Inapplicable.** The Project is not residential and nature and there are no residents in or around the Project area.
Requiring tenants to enroll in the United States Environmental Protection Agency's SmartWay program, and requiring tenants who own, operate, or hire trucking carriers with more than 100 trucks to use carriers that are SmartWay carriers.	**Partially feasible.** Prior to tenant occupancy, the Project Applicant or successor in interest shall provide documentation to the Town of Apple Valley demonstrating that occupants/tenants of the Project site have been provided informational documentation regarding the SmartWay program. (DEIR 4.2-24). However, as the future Project tenant is not yet known, it is not feasible to include this as a mandatory requirement.
Requiring all stand-by emergency generators to be powered by a non-diesel fuel.	**Inapplicable.** The Project would operate one diesel-fueled 300-horsepower (hp) fire pump for a maximum of 50 hours per year for routine testing and maintenance. This usage was accounted for in the Project's operational air quality impacts, which are less than significant with implementation of MM AQ-1. Therefore, this measure is unnecessary.
Designating an area in the construction site where electric-powered construction vehicles and equipment can charge.	**Feasible.** Additional language to this effect has been added to PDF-AQ-1.

C-33 This comment states the Project should not be approved without incorporating on-site renewable energy production such as solar based on the State's targets for renewable energy production for 2045. Notably, on-site renewable energy production is already part of the Project, and future tenants will be required to utilize Apple Valley Choice Energy 100% Renewable Energy Plan as required by MM-GHG-1. As described in Section 4.2 (Air Quality) of the Draft EIR, the Project includes substantial solar generation per MM-AQ-1. The Project Applicant has determined that it is feasible to require installation of rooftop solar panels that will generate sufficient power to meet at least 90% of project electrical demand . All additional electrical demand will be provided by SCE pursuant to the Apple Valley Choice Energy 100% Renewable Energy Plan. Pursuant to this plan, all electricity provided by SCE was originally generated by a renewable energy facility. These clarifications have been inserted into the text of the

Final EIR as follows (refer also to Chapter 2, Changes to the Draft EIR) (additions in underline, deletions in ~~strikeout~~):

MM-AQ-1 The Project shall implement the following measures in order to reduce operational air pollutant emissions to the extent feasible:

- Solar Power. ~~At a minimum, the roofs of the warehouse building shall be designed to provide the structural capacity to accommodate roof top solar panels.~~ The Project shall ~~be designed to~~ include rooftop solar panels that generate sufficient power to meet at least 90~~50~~% of the Project's total operational base energy requirements from within the Project's building envelope. The Town of Apple Valley shall verify the size and scope of the solar energy system based upon the analysis of the projected power requirements and generating capacity as well as the available solar panel installation space. In the event sufficient space is not available on the Project site to accommodate the needed number of solar panels to produce the operation's base power use, the Project Applicant or success or interest shall demonstrate how all available space has been maximized (e.g., roof, parking areas) for solar energy system use. Areas that provide for truck movement may be excluded from these calculations unless otherwise deemed acceptable by the supplied reports and applicable building standards. The Project Applicant or successor in interest, or as contractually delegated by the Project Applicant or successor in interest, shall install the solar energy system when the Town of Apple Valley has approved building permits and the necessary equipment has arrived. The operation of the system shall commence only when it has received permission to operate from the applicable utility. The solar energy system owner shall be responsible for maintaining the system at not less than 80% of the rated power for 20 years. At the end of the 20-year period, the owners, operators or tenants shall install a new photovoltaic system meeting the capacity and operational requirements of this measure, or continue to maintain the existing system, for the life of the Project. As the Project's demand for solar power increases, additional solar panels may be added to the Project.

C-34 The comment provides a disclaimer regarding limited knowledge of the Project and the limits of SWAPE's analysis. The comment does not address any inadequacies of the EIR and no further response is required.

C-35 This comment includes multiple appendices referenced by the commenter and the commenter's qualifications and experience. The comment does not raise any specific issues concerning the adequacy of the EIR, and no further response is required.

References Cited

CARB (California Air Resources Board) 2015. User Manual for the Hotspots Analysis and Reporting Program: Air Dispersion Modeling and Risk Assessment Tool. Version 2. https://ww2.arb.ca.gov/sites/default/files/classic/toxics/harp/docs2/harp2admrtuserguide. Pdf.

CAPCOA (California Air Pollution Control Officers Association) 2022. CalEEMod User Guide Version 2022.1. https://caleemod.com/documents/user-guide/01_User%20Guide.pdf

Response to Comment Letter D

Advocates for the Environment
Dean Wallraff, Executive Director
October 27, 2023

D-1 This comment is an introduction by Advocates for the Environment indicating that they received the Draft EIR and provides a summary of the Project as described in the Draft EIR.

The Town acknowledges the comment as an introduction to comments that follow. No further response is required or necessary.

D-2 This comment expresses a concern with the Draft EIR's numeric GHG significance threshold, suggesting that the Town should apply a net-zero threshold. The comment references two large housing projects in which net-zero thresholds were applied.

The Town has not yet adopted a numeric significance threshold for determining significant impacts associated with GHG emissions. Air districts typically act in an advisory capacity to local governments in establishing the framework for environmental review of air pollution impacts under CEQA. This may include recommendations regarding significance thresholds, analytical tools to estimate emissions and assess impacts, and mitigations for potentially significant impacts. Although air districts will also address some of these issues on a project-specific basis as responsible agencies, they may provide general guidance to local governments on these issues (SCAQMD 2008). While the Project is located within the jurisdiction of the MDAQMD, both MDAQMD and the South Coast Air Quality Management District (SCAQMD) have recommended thresholds and they are discussed below. Because SCAQMD's thresholds are more stringent and are backed by substantial evidence from an expert agency, the Town utilized SCAQMD's recommended thresholds in the Draft EIR.

On May 13, 2010 EPA finalized the GHG Tailoring Rule (75 FR 31514, June 3, 2010). The Tailoring Rule sets major source emissions thresholds that define when federal operating permits under Prevention Significant Deterioration (PSD) or Title V are required. The Tailoring Rule establishes a threshold of 100,000 tons per year or 90,719 MT per year of GHGs from new sources above which sources are considered major sources requiring a federal operating permit. As such, the MDAQMD has adopted a significance threshold for GHGs of 100,000 tons per year. More specifically, 100,000 tons per year of GHG emissions from a single facility constitutes major sources that require a federal operating permit. Similarly, the MDAQMDs NO_X significance threshold of 25 tons per year is equal to the major source threshold applicable to areas designated severe non-attainment for ozone. As such, use of the EPAs determination of whether a project is a major source and consequently establishing a threshold based on that is supported by substantial evidence.

The SCAQMD, which oversees the adjacent South Coast Air Basin, has recommended more stringent numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects; however, these thresholds were not adopted. The SCAQMD formed a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds until statewide significance thresholds or guidelines are established. From December 2008 to September 2010, the SCAQMD hosted working group meetings and revised the draft threshold proposal several times, although it did not officially

provide these proposals in a subsequent document. The SCAQMD has continued to consider adoption of significance thresholds for residential and general land use development projects. The most recent proposal, issued in September 2010, uses a tiered approach to evaluate potential GHG impacts from various uses (SCAQMD 2010), which includes a single numerical screening threshold of 3,000 MT CO_2e per year for all non-industrial projects. Based on the supporting analysis outlined in SCAQMD's draft GHG guidance and meeting notes, this 3,000 MT CO_2e per year level would capture 90 percent of GHG emissions from new residential or commercial projects in the region (SCAQMD 2008). Finally, the SCAQMD specifically recommended that the 3,000 MT CO_2e per year threshold be used by lead agencies for not only residential and commercial projects, but also industrial parks and warehouses (SCAQMD 2008).This type of market capture analysis captures a substantial fraction of the GHG emissions from future development to accommodate for future population and job growth and excludes small development projects that would contribute a relatively small fraction of the cumulative statewide GHG emissions.

The Town thus relies on use of the 3,000 MT CO_2e per year threshold to evaluate the potential for the Project to result in a significant GHG emissions impact under CEQA because it has been recommended by SCAQMD and SCAQMD is an expert agency in the Southern California region. Further, the SCAQMD provides substantial evidence that the thresholds are consistent with policy goals and 2050 GHG emissions reduction targets set by the State. Specifically, the thresholds were set at levels that capture 90 percent of the GHG emissions form the above-described uses, consistent with EO S-3-05 target of reducing GHGs to 80 percent below 1990 levels by 2050.

The Town rejects the comment's suggestion to apply a net-zero threshold for this Project because it finds that its use of SCAQMD's threshold is appropriate and supported by substantial evidence.

Moreover, the Town finds that application of a net-zero threshold is unprecedented for warehouse projects and would effectively result in a potential moratorium on such facilities within the Town. While application of a net-zero threshold may be appropriate for residential projects, it is not appropriate to apply such a threshold to warehouse projects where the vast majority of operational GHG emissions result from mobile-source emissions. The Town finds it is not currently feasible to entirely mitigate the Project's mobile-source GHG emissions due to current jurisdictional and technological constraints. Nonetheless, the Town will still require all feasible mitigation measures to reduce the Project's GHG emissions to the maximum extent practicable and anticipates that the Project's GHG emissions will reduce over time as more stringent regulations come into effect and technology improves and becomes more widespread.

With regards to the projects referenced by the commenter (the Newhall Ranch and Tejon Ranch projects) the 2022 CARB Scoping Plan notes that ". . . the Newhall and Tejon Ranch projects do not necessarily represent the type of development that California most needs to simultaneously tackle the housing and climate crises . . .". The 2022 CARB Scoping Plan cautions against using net-zero targets and specifically notes that jurisdictions considering a net-zero target should carefully consider the implications it may have on emissions in neighboring communities and beyond. Appendix D of the Scoping Plan states:

"Jurisdictions should also avoid creating targets that are impossible to meet as a basis to determine significance. For example, a net-zero target may imply that the GHG emissions of any project that are not reduced or offset to zero would be considered potentially significant. This may lead to undue

burdens and frustrate project approval processes, which may be particularly problematic for residential development in climate-smart, infill areas. In addition, some jurisdictions have more land capacity to remove and store carbon, while others host GHG-emitting facilities that serve necessary functions and will take time to transition to new technology."

D-3 The comment repeats the Draft EIR's finding that "MM-AQ-1 would reduce operational GHG emissions, to the extent feasible; however, impacts would remain significant and unavoidable." The comment expresses a concern that this statement was not supported by substantial evidence and that there are other readily available mitigation measures that could reduce the Project's GHG emissions.

Note also that the language quoted in Chapter 7 of the DEIR referring to the inability to accurately quantify the effectiveness of mitigation has been struck from the text of the Final EIR. As the commenter noted, these mitigation measures have indeed been quantified in Section 4.6. This clarification has been inserted into the text of the Final EIR as follows (refer also to Chapter 2, Changes to the Draft EIR) (additions in underline, deletions in ~~strikeout~~):

> In accordance with CEQA Section 15126.6, the purpose of conducting a Project alternative comparative analysis is to identify potential alternatives to the Project that are capable of avoiding or substantially reducing any significant adverse impacts associated with the Project, even if the alternatives may impede attainment of project objectives or prove less cost efficient. As a reminder, this EIR has identified the following Project impacts that would be significant and unavoidable:
>
> ~~As discussed in Section 4.2, Air Quality, of this EIR, the Project would exceed the numerical thresholds of significance established by the MDAQMD for emissions of NO_x and CO~~PM_{10}~~. Although m~~Mitigation measures (MM AQ 1) have been recommended to minimize operational-related air quality impacts (MM AQ 1, MM AQ 2, and MM AQ 3), no feasible mitigation measures or Project design features beyond those already identified exist that would reduce these emissions to levels that are less than significant. Therefore, even with the incorporation of mitigation, long-term impacts associated with a cumulatively considerable net increase of criteria pollutants for which the Project region is non-attainment would be significant and unavoidable.~~
>
> ~~Operation of the Project could~~ would ~~result in exceedances of the MDAQMD significance thresholds for NO_x and COPM~~$_{10}$ ~~without the inclusion of MM AQ 1~~, and the Project would potentially result in health effects associated with those pollutants. Because construction of the Project would not exceed any MDAQMD thresholds (after implementation of MM AQ 1 and MM AQ 2), and operation of the Project would not exceed the MDAQMD thresholds for carbon monoxide (CO), VOC, SO_x or $PM_{2.5}$, and because the MDAQMD thresholds are based on levels that the Mojave Desert Air Basin can accommodate without affecting the attainment date for the ambient air quality standards and the ambient air quality standards are established to protect public health and welfare, the Project is not anticipated to result in health effects associated with CO, VOC, SO_x or $PM_{2.5}$. However, because operation of the Project could result in exceedances of MDAQMD significance thresholds for NO_x and PM_{10}, even after implementation of mitigation measures, the potential health effects associated with criteria air pollutants are conservatively considered significant and unavoidable. For these reasons, impacts associated with the conflicting with the MDAQMD would be significant and unavoidable.~~

As discussed in Section 4.6, Greenhouse Gas Emissions, of this EIR, the Project would result in potentially significant impacts with regard to generating GHG emissions. Implementation of mitigation measures MM-AQ-1~~MM-AQ-2 and MM-AQ-3~~ would reduce ~~potential air quality~~GHG emissions, as indicated in Table 4.6-6 ~~impacts (in Section 4.2 in this EIR) and mitigation measures MM-GHG-1, MM-GHG-2 and MM-GHG-3 would also reduce operation-related GHG emissions~~. However, the reductions associated with MM-AQ-1 would not be sufficient to reduce the Project's GHG emissions below significance thresholds. ~~the effectiveness of the mitigation and the associated emission reductions cannot be accurately quantified at this time and GHG emissions impacts are inherently cumulative in nature.~~ As such, GHG impacts on the project level and cumulatively would remain significant and unavoidable.

This comment provides background information regarding the Draft EIR's analysis and serves as an introduction to comments that follow. Please refer to Responses to Comments D-4 through D-15, in which the Draft EIR's mitigation measures are discussed.

D-4 This comment asserts that it is feasible to mitigate the project's emissions beyond the provisions of MM-AQ-1 and summarizes the contents of MM-AQ-1. As specific arguments are made in the next paragraphs, please refer to Response to Comments 4-5 through 4-9.

D-5 This comment states that it would be feasible to install solar panels as part of MM-AQ-1, rather than designing the rooftop of the warehouse so it has the structural capacity for them. The Project installation of rooftop solar panels will generate sufficient power to meet approximately 90% of project electrical requirements. These clarifications have been inserted into the text of the Final EIR as follows (refer also to Chapter 2, Changes to the Draft EIR) (additions in underline, deletions in ~~strikeout~~):

MM-AQ-1 The Project shall implement the following measures in order to reduce operational air pollutant emissions to the extent feasible:

- Solar Power. ~~At a minimum, the roofs of the warehouse building shall be designed to provide the structural capacity to accommodate roof top solar panels.~~ The Project shall ~~be designed to~~ include rooftop solar panels that generate sufficient power to meet at least 90~~50~~% of the Project's total operational base energy requirements from within the Project's building envelope. The Town of Apple Valley shall verify the size and scope of the solar energy system based upon the analysis of the projected power requirements and generating capacity as well as the available solar panel installation space. In the event sufficient space is not available on the Project site to accommodate the needed number of solar panels to produce the operation's base power use, the Project Applicant or success or interest shall demonstrate how all available space has been maximized (e.g., roof, parking areas) for solar energy system use. Areas that provide for truck movement may be excluded from these calculations unless otherwise deemed acceptable by the supplied reports and applicable building standards. The Project Applicant or successor in interest, or as contractually delegated by the Project Applicant or successor in interest, shall install the solar energy system when the Town of Apple Valley has approved building permits and the necessary equipment has arrived. The operation of the system shall commence only when it has received permission to operate from the applicable utility. The solar energy system owner shall be responsible for maintaining the system at not less than 80% of the rated power for 20 years. At the end of the 20-year period, the owners, operators or tenants shall install a new photovoltaic system meeting the capacity and operational

requirements of this measure, or continue to maintain the existing system, for the life of the Project. As the Project's demand for solar power increases, additional solar panels may be added to the Project.

D-6 This comment expresses a concern regarding the requirements of 50% of the project's energy demands being met by solar panels and installing electric vehicle charging station at 25% of parking spots listed in MM-AQ-1. The comment inquires "why 50% of the Project's energy demands being met by solar panels would be the maximum feasible amount;" however, MM-AQ-1 states that it would meet 50% of the project's total operational base energy requirements using solar panels *at a minimum*. In fact, the solar panels are anticipated to generate nearly 100% of the electrical demand of the project. Using standard assumptions included in the Southern California Edison IA application, the Project's anticipated electrical demand is 2,073,000 KWH, while the proposed rooftop solar panels are projected to generate 1,989,484 KWH of electricity. See the edits made to MM-AQ-1 in Response to Comment 4-5 above. Furthermore, regarding electric vehicle charging stations, the project would install electric vehicle charging stations at 25% of employee parking spaces by 2030. Based on current and projected use and ownership of electric vehicles in California, requiring installation of EV charging stations at 25% percent of employee parking is reasonable. As of the end of 2022, only 4% of all automobiles in California are electric. Therefore, in the near term, the majority of EV charging stations will provide no GHG emission reduction at all. Although electric vehicle ownership is anticipated to increase significantly over the next 15-20 years, the high initial cost of electric vehicle ownership (25-30% more than a gas powered version of the same or comparable model) coupled with the level of projected wages of the employees of the Project, the Town believes that it is highly unlikely that more than 25% of the employees will utilize electric vehicles at the same time, thereby making development of additional charging facilities superfluous.

D-7 The commenter states that CARB's 2010 emissions standards for trucks only pertain to criteria air pollutants and would not reduce GHGs. The commenter states that this requirement is also contrary to preparing the warehouse to accommodate electric trucks, since the trucks would not emit criteria air pollutants. The commenter is correct that MM-AQ-1 sets a 2010 baseline year for trucks at the facility to establish minimum emissions standards, as well as incorporates design elements that will accommodate future electric trucks. However, these measures are complementary since they apply to reducing emissions in the near-term, as well as the long-term (i.e., as electric trucks become more readily available and feasible to operate).

The commenter further states that the Town should have adopted CARB's most recent standards, which account for tangible GHG reductions. However, contrary to the commenter's assertion that measures in MM-AQ-1 would not reduce GHGs, MM-AQ-1 further states that:

In addition, tenants shall be in, and monitor compliance with, all current air quality regulations for on-road trucks including CARB's Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation, Periodic Smoke Inspection Program, and the Statewide Truck and Bus Regulation. The building manager or their designee shall be responsible for enforcing these requirements.

Requiring trucks that achieve the 2010 emissions standards at a minimum does not preclude tenants from complying with all applicable regulations, which are required by law, such as CARB's Phase 1 and Phase 2 GHG Standards.

D-8 This comment expresses a concern with MM-AQ-1, inquiring why three minutes would be the maximum restriction feasible for on-site idling restrictions. The Town anticipates that some idling will be necessary during truck circulation and/or ingress/egress and determined that a maximum of three minutes would be allowable, which is more stringent than the five-minute idling restriction established by CARB's Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling (13 CCR Section 2485).

D-9 This comment expresses a concern with the effectiveness of the GHG reductions provided by a transportation management plan and calls for enforceable conditions that require infrastructural changes and incentives. However, the comment does not raise any specific issue regarding that analysis or provide any recommendations and, therefore, no more specific response can be provided or is required. The Town will include the comment as part of the Final EIR for review and consideration by the decision-makers prior to a final decision on the project. Please also see mitigation measure MM-TRANS-1.

D-10 This comment is a summary comment that reiterates previous concerns about the Draft EIR's GHG mitigation measures. Please refer to Response to Comments 4-5 through 4-9.

D-11 This comment provides examples from the DEIR where several mitigation measures were named other than MM-AQ-1. All mention of MM-AQ-2, MM-AQ-3, and MM-GHG-1 through MM-GHG-3 have been deleted from the document since inclusion of them in the EIR was a textual error. This clarification has been inserted into the text of the Final EIR as follows (refer also to Chapter 2, Changes to the Draft EIR) (additions in underline, deletions in ~~strikeout~~):

Table 4.6-7.

Construction Equipment	25% of energy demand electrified by 2030 and 75% electrified by 2045	*No Conflict*. As this Action pertains to the electrification of off-road equipment across California, the Project would not obstruct or interfere with its implementation. However, the Project would support the Action through the requirement that all cargo handling and landscaping equipment be zero-emission (MM-AQ-1~~2~~).

Section 4.6-4:

The Project's consistency with applicable 2019 CAP Update strategies is therefore based on the overarching categories described within the 2019 CAP Update, rather than the entire menu of policies. Without mitigation, the Project would not be consistent with many of these strategies. However, with implementation of ~~mitigation, specifically~~ MM-AQ-1 ~~and MM-AQ-2,~~ the Project would be consistent with all strategies and would support the Town's CAP.

- **Transportation Measures.** The Project would require measures that would support reducing GHGs through the transportation sector. Specifically, implementation of MM-AQ-1 would require installation of EV chargers and infrastructure for electric equipment and vehicles. In addition, MM-AQ-~~2~~1 requires the establishment of transportation demand management

programs for occupants with more than 250 employees in order to reduce employee commute vehicle emissions, as well as requirements to limit idling. Finally, although the requirement for all cargo handling and landscaping equipment to be zero-emission would not specifically be in the transportation sector, this aspect of MM-AQ-~~2~~1 would also substantially reduce GHG emissions.

- **Energy Efficiency Measures.** The Project would require measures that would support energy efficiency, as specified in MM-AQ-1. These would include, but not limited to, the installation of on-site solar panels sufficient to meet at least ~~75~~90% of the Project's total operational energy requirements from within the building envelope.
- **Renewable Energy Measures.** The Project would require the generation of renewable energy through the installation of on-site solar panels sufficient to meet at least ~~50~~90% of the Project's total operational energy requirements from within the building envelope, as described in MM-AQ-1.
- **Solid Waste Management Measures.** The Project would be consistent with the Solid Waste Management Measures of the 2019 CAP Update due to PDF-AQ-1, which requires that 65% of the nonhazardous construction and demolition waste shall be recycled and/or salvaged for reuse.

D-12 This comment restates the Draft EIR's mitigated GHG emissions and multiplies the Project's annual emissions by 30 years to estimate the Project's total emissions. This comment provides introductory information for subsequent comments. Please refer to Response to Comments D-13 through D-15.

D-13 This comment provides several mitigation measures that the commenter believes are feasible and that would reduce the Project's non-mobile source emissions. These suggested mitigation measures include the following: including renewable energy systems and batteries to power the warehouse during non-peak hours, solar water heaters, automatic light switches, and other project design features. These suggested measures are addressed below:

1. Renewable energy systems and batteries. The Project will include the installation of rooftop solar panels that will generate approximately 90% percent of the buildings operational electricity demand. The Project will also subscribe to the Town of Apple Valley Choice Energy 100% Renewable Energy Plan. Pursuant to this plan, all electricity provided by SCE was originally generated by a renewable energy facility. Therefore, by design 100% of all electrical demand for building operation will be satisfied through renewable sources.

2. Solar water heaters. Solar water heaters are included as a PDF. They are reflected on the Project plans and specifications to be considered by the Town of Apple Valley for approval. This has been included in PDF-AQ-1.

3. Automatic light switches. The Project is already designed to include automatic light monitoring to turn lights off in unoccupied areas. This has been included in PDF-AQ-1.

In addition to the above, the Project is implementing numerous mitigation measures that will further reduce non-mobile source emissions.

- MM-AQ-1's solar power measure, as edited in Response to Comment 4-5.

- The project's landscape plan shall emphasize drought-tolerant plants and use water-efficient irrigation techniques, as included in MM-AQ-1 of the DEIR.
- Project buildings will be outfitted exclusively with Energy Star-rated heating, cooling, lighting, and appliances, as included in MM-AQ-1 of the DEIR.
- Structures will be equipped with outdoor electric outlets in the front and rear of the structures to facilitate the use of electrical lawn and garden equipment, as included in MM-AQ-1 of the DEIR.
- All fixtures installed in restrooms and employee break areas would be U.S. Environmental Protection Agency WaterSense Certified or equivalent, as included in MM-AQ-1 of the DEIR.
- Buildings shall include high efficiency particulate air (HEPA) filtration systems within all warehouse facilities, as included in MM-AQ-1 of the DEIR.

As such, after revisions accounted for in Chapter 2, Changes to the Draft EIR, of this Final EIR, the required mitigation measures adequately address non-mobile emissions reductions strategies.

D-14 The commenter suggests that the Town could require the Project Applicant to enter into an agreement to buy clean power to offset electricity usage. This suggestion has been inserted into the text as a mitigation measure. This addition has been inserted into the text of the Final EIR as follows (refer also to Chapter 2, Changes to the Draft EIR) (additions in underline, deletions in ~~strikeout~~):

> MM-GHG-1 The Project shall require tenants to subscribe to the Apple Valley Choice Energy 100% Renewable Energy Plan, which is 100% renewable and 100% carbon-free, for the duration of occupancy. At each lease or change of building ownership, the new lessee or owner shall also be automatically enrolled in the Apple Valley Choice Energy 100% Renewable Energy Plan, which shall be verified by the City prior to issuance of each Certificate of Occupancy. Proof of election of the 100% renewable service option shall be provided to the City upon request, which requirement shall be contained in all tenant lease agreements.

D-15 This comment states that the Town should require the Project Applicant to purchase carbon offsets to mitigate the Project's GHG emissions to zero.

Although it is true that it is possible to purchase carbon offsets, recent Court of Appeal decisions have cast considerable doubt on the use of such offsets to mitigate GHG impacts from land use development projects. In *Golden Door Properties, LLC v. County of San Diego* (2020) 50 Cal.App.5th 467, the Court of Appeal invalidated a mitigation measure that required the purchase of offsets from a "CARB-approved registry, such as the Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard." (Id. at 510.) Although the court insisted its decision "should not be construed as blanket prohibition on using carbon offsets" to mitigate GHG emissions under CEQA, it found numerous flaws with the measure at issue and failed to provide a clear roadmap for how to craft a similar valid measure. The court also declined to express an opinion on a number of issues, including whether offsets could potentially be used to mitigate more than 8 percent of a project's emissions and the extent to which out-of-county offsets could be used. (Id. at 503, 513, n. 27.) Subsequent to *Golden Door* (and within the last year), another measure requiring the purchase of offsets was similarly found to be invalid in an unpublished Court of Appeal decision, with the court finding the measure's inclusion of additional standards for offsets did "not cure the defects found in Golden Door." (*Sierra Club v. County of San Diego* (Dec. 21, 2021, No. D077548) 2021 WL 6050624, at *11.) In light of such

uncertainty, the Town finds that carbon offsets are not a feasible method for mitigating the Project's GHG emissions.

In addition, it should be noted that the vast majority of emissions that will be generated by the Project, including mobile emissions and energy emissions, are subject to the California Cap and Trade program, which places an economy-wide "cap" on major sources of GHG emissions, such as refineries, power plants, industrial facilities and transportation fuels. For example, "'Fuel suppliers' are responsible for the carbon pollution from fuels under the Cap-and-Trade Program" and thus must acquire "allowances" to cover all carbon pollution from such fuels[5]. They may also purchase certain approved offsets to fulfill up to 8 percent of their compliance obligation. (See *Golden Door* at 485.) Given that more than 95 percent of the emissions that will be generated by the Project are covered by Cap and Trade and thus are already subject to a regulatory program that includes offsets, the Town finds it would be inappropriate and infeasible to use offsets to mitigate such emissions. Rather, mitigation measures should focus on reducing emissions from the Project.

Indeed, *Golden Door* and other cases make clear that the purchase of offsets is not a substitute for avoiding emissions and that measures that result in actual reductions in emissions from a development project are preferable to attempting to offset emissions via offsets. Thus, the DEIR requires the Project implement numerous mitigation measures designed to reduce the Project's GHG emissions. Furthermore, the Town has carefully considered comments suggesting additional mitigation measures, and, partly as a result of comments received on the Draft EIR, the Town has modified and added additional measures. While a complete listing of these mitigation measures is included within Chapter 2, Changes to the Draft EIR, of this Final EIR, at a glance, new measures include:

- Changes to MM-AQ-1, shown in Section 4.2.
- Changes to PDF-AQ-1, shown in Section 4.2.
- The addition of MM-GHG-1, shown in Section 4.6.
- The addition of MM-TRANS-1, shown in Section 4.12

While some quantification of the effect of mitigation is possible, many measures still remain difficult to quantify and the Town finds it would not be appropriate to do so at this time but notes that they would result in substantial reductions in emissions over the life of the Project.

With the addition of the new measures described above, the Town has determined that all feasible mitigation measures have been incorporated into the Final EIR. Such additional measures will result in fewer emissions than disclosed in the Draft EIR, however, because the Project would still result in a net increase in GHG emissions as compared to existing conditions, the Project's contribution to cumulative GHG impacts is still considered to be significant and unavoidable. For the reasons discussed above, the Town's experts disagree that the purchase of carbon offsets is a feasible or appropriate way to mitigate the Project's remaining GHG emissions.

D-16 This comment provides concluding remarks and reiterates comments made earlier in the Comment Letter. Please refer to Responses to Comments D-1 through D-16 in which these comments are addressed.

[5] FAQ for Fuel Purchasers: https://ww2.arb.ca.gov/sites/default/files/cap-and-trade/guidance/faq_fuel_purchasers.pdf

D-17 This comment requests that the Town add the commenter to its noticing list for the Project. The Town acknowledges this comment and has added the commenter to its noticing list.

References Cited

SCAQMD. 2008. *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*. October 2008.

SCAQMD. 2010. "Greenhouse Gases CEQA Significance Thresholds Working Group Meeting No. 15." September 28, 2010. Accessed August 2016. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-main-presentation.pdf?sfvrsn=2.

Response to Comment Letter E

Center for Biological Diversity
Ileene Anderson
October 30, 2023

E-1 This comment is an introduction to the comment letter. The comment introduces the Center for Biological Diversity and provides a brief overview of the proposed project. No further response is required.

E-2 This comment provides background information on the project area as it relates to western Joshua tree habitat and explains how increasing development, climate change, drought, wildfires, and invasives have led to ongoing reductions in western Joshua trees. The comment does not relate to the adequacy of the Draft EIR or include any comments on specific sections or analysis in the Draft EIR.

E-3 This comment states that the Center for Biological Diversity (CBD) believes the Draft Environmental Impact Report (DEIR) fails to disclose or adequately evaluate the impacts of destroying up to 160 acres of Joshua tree woodland which is a Natural Community of Concern.

As stated in DEIR Section 4.3, Biological Resources, the Biological Study Area (BSA) of the 1M Warehouse Project (Proposed Project) encompasses approximately 149.6 acres (92.0-acre Project footprint, specifically the 67.3-acre Project site, 24.7-acre off-site improvement areas, and a 57.6-acre 100-foot buffer), not 160 acres. Section 4.3.1, Existing Conditions, explains that the DEIR only analyzes the Project footprint (67.3-acre Project site and 24.7-acre off-site improvement areas) for direct impacts. The entire BSA was evaluated for indirect impacts.

While there are western Joshua trees within the 149.6-acre BSA, Joshua tree woodland requires Joshua trees to be evenly distributed at ≥ 1% absolute cover (CNPS 2024). This condition is not met (see DEIR section 4.3.1.2 Vegetation Communities and Land Covers).

Section 4.3.4, Impacts Analysis (pg. 4.3-24), explains that a Joshua Tree Preservation, Protection, and Relocation Plan, and California Desert Native Plant Relocation Plan were prepared to ensure the Project applicant meets the requirements of Chapter 9.76 (Plant Protection and Management Policy) of the Apple Valley Municipal Code to protect, preserve, and mitigate impacts to western Joshua trees.

Additionally, a WJTCA ITP, which requires the applicant to mitigate by paying the statutorily prescribed fees, is being submitted to CDFW and would mitigate for impacts to Joshua trees on a per-tree basis. Updates were made to the DEIR to reflect this change (see Response to Comment E-5 and E-6 below).

E-4 This comment states that the additional seven Joshua trees present within the 186-foot buffer area of the Joshua tree inventory survey area were not mapped on a figure. The CBD wished to clarify whether the Joshua trees are clustered or widely distributed.

After the enactment of the WJTCA in July 2023, Dudek's International Society of Arboriculture (ISA)–certified arborists conducted an additional western Joshua tree census to comply with new CDFW regulations. Dudek's Urban Forestry department revised the Project's Joshua Tree Preservation. Protection, and Relocation Plan, and Desert Native Plant Relocation Plan to reflect these changes.

As a result of the new Joshua tree census, Dudek's arborists recorded 19 Joshua trees within and adjacent to (within 50 feet of) the limits of the Project site (Appendix A, Joshua Tree Locations, of the revised plan), and presented in Appendix B, Tree Information Matrix, of the revised plan. In total, 3 Joshua trees are located within the Project site (1 western Joshua tree on site, and 2 western Joshua trees in the off-site improvement area), and an additional 16 trees are located within 50 feet of the Project site. Most of the trees are clustered in the southeast corner of the BSA.

E-5 This comment states that the DEIR fails to confirm that the Proposed Project will comply with Section 1927.3 of the Western Joshua Tree Conservation Act through payment of the elected fees or off-site conservation or through a CDFW-approved mitigation bank, or as required by an Incidental Take Permit.

EIR Section 4.3.4, Impacts Analysis (EIR 4.3-24), and Section 4.3.5, Mitigation Measures and Level of Significance After Mitigation (EIR 4.3-48), summarize the mitigation required due to impacts to Joshua trees and discusses the required payment in accordance with the WJTCA.

Edits have been made to the following text within the FEIR to clarify that the project would comply with Section 1927.3 of the WJTCA through payment of the elected fees as required by the ITP regardless of transplantation. Additions to the FEIR are shown here in underline text while deletions are shown in ~~strikethrough~~ text.

FEIR section 4.3.4 (pg. 4.3-23) defines the mitigation fees required for impacts to western Joshua trees:

Based on the site plan, implementation of the Project would result in direct impacts to ~~one~~ 3 western Joshua tree individuals. All ground-disturbing activities, even areas temporarily impacted, are considered permanent impacts to western Joshua trees. Direct impacts to western Joshua tree are considered significant absent mitigation under CEQA.

The Western Joshua Tree Conservation Act, Fish and Game Code section 1927.3 requires the applicant to mitigate by paying the statutorily prescribed fees. Trees located in the area described in Fish and Game Code section 1927.3 (d) are in the reduced fee area; therefore, impacts to western Joshua tree can be mitigated on a per-tree basis as follows:

- 5 meters or greater in height - $1,000
- 1 meter or greater but less than 5 meters in height - $200
- less than 1 meter in height - $150

Therefore, the Project would result in direct impacts to 1 Joshua tree 1 meter or greater but less than 5 meters in height, and 2 Joshua trees less than 1 meter in height. ~~Based on a literature review completed by CDFW (Vander Wall et al. 2006), CDFW would like the western Joshua tree locations to be buffered by 186 feet to account for the impacts to the seed bank for western Joshua trees and their associated habitat. Therefore, a 186 foot buffer (or radius) was applied to each western Joshua tree location. Direct impacts to this 186 foot buffer were analyzed, and the Project would result in 6.9 acres of direct impacts to western Joshua trees, their seed bank, and their associated habitat.~~

~~Based on The Western Joshua Tree Conservation Act, impacts to western Joshua tree can be mitigated on a per tree basis. Therefore, the project would result in direct impacts to one western Joshua tree.~~

As required by MM-BIO-1 (Conservation of Western Joshua Tree Lands), direct impacts to 3 western Joshua tree individuals ~~6.9 acres of western Joshua trees (which includes the associated 186 foot buffer applied to each individual western Joshua tree)~~ shall be mitigated through an ITP obtained from CDFW prior to Project activities in the form of a Western Joshua Tree Conservation Act ITP. ~~payment to a CDFW approved mitigation bank; alternatively direct impacts to one individual would be through payment through The Western Joshua Tree Conservation Act.~~

Section 4.3.5 once again defines the mitigation fees and addresses the requirement of payment even if transplantation occurs. The following edits will be made to FEIR section 4.3.5 (pg. 4.3-47):

MM-BIO-1 (Conservation of Western Joshua Tree Lands). Mitigation for direct impacts to 3 ~~one~~ western Joshua trees will be fulfilled through a payment of the elected fees as described in Section 1927.3 (d) of The Western Joshua Tree Conservation Act. In conformance with the fee schedule, mitigation will consist of payment of $1,000 for each western Joshua tree 5 meters or greater in height, and $~~5~~200 for each western Joshua tree 1 meter or greater but less than 5 meters in height, and $150 for each western Joshua tree less than ~~five~~1 meter ~~s~~ in height. Alternatively, mitigation will occur through off-site conservation or through a CDFW approved mitigation bank, or as required by an Incidental Take Permit, if received. The project will comply with Section 1927.3 of The Western Joshua Tree Conservation Act as required by the ITP, regardless of transplantation required by the Town of Apple Valley.

E-6 This comment states that the DEIR fails to evaluate the indirect impacts on the seven western Joshua trees located within the 186-foot zone for each tree. The CBD recommends an analysis of the direct or indirect impacts on these Joshua trees as well as avoidance, minimization, or mitigation of any impacts to ensure their persistence over time. This comment states the DEIR lacks a figure mapping the project in relation to the Joshua trees and therefore fails to disclose how close the warehouse will be built to the Joshua trees. The comment goes on not state that without this information, the DEIR lacks the evidence to conclude that the Project will not result in significant impacts to Joshua Tree habitat.

As stated in Response to Comment E-4 and E-5, an additional western Joshua tree census was conducted to comply with new regulations as a result of the enactment of the WJTCA in July 2023. Updates were made to the FEIR to reflect this change (FEIR Section 4.3.4, Impacts Analysis (EIR 4.3-24), and Section 4.3.5, Mitigation Measures and Level of Significance After Mitigation (EIR 4.3-48)). For a figure showing the location of each Joshua tree in relation to the proposed project, see Appendix A, Joshua Tree Locations, of the revised Joshua Tree Preservation, Protection, and Relocation Plan, and Desert Native Plant Relocation Plan.

DEIR Section 4.3.4, Impacts Analysis, analyzes both short-term and long-term indirect impacts to the 16 western Joshua trees within the 50-foot buffer. Additionally, this section outlines several mitigation measures, including MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), MM-BIO-6 (Construction Monitoring Notebook), MM-BIO-7 (Delineation of Property Boundaries), MM-BIO-8 (Hazardous Waste), and MM-BIO-9 (Herbicides) designed to reduce potential indirect impacts to western Joshua tree to less than significant.

The following edits have been made to FEIR section 4.3.4, indirect impacts to western Joshua tree (pg. 4.3-23):

~~With regards to western Joshua tree, typically CDFW considers any western Joshua tree within 186 feet of a direct impact to be indirectly impacted (Vander Wall et al. 2006). Thus, the Project would result in 8.6 acres of indirect impacts to western Joshua trees and would be considered significant absent mitigation.~~

In total, 16 western Joshua trees were mapped within the 50-foot survey buffer and the Project may result in indirect impacts to these western Joshua trees.

E-7 This comment states that the DEIR makes the incorrect assumption that mitigation for direct impacts to Joshua trees within the project footprint would also address potential significant direct or indirect impacts associated with the destruction or adverse modification of the already declining western Joshua tree's *habitat*. The comment states the DEIR lacks evidence to conclude that the Project will not have a significant impact on any sensitive natural community, and outlines the threats posed to western Joshua tree by climate change.

While there are western Joshua trees within the 149.6-acre BSA, Joshua tree woodland requires Joshua trees to be evenly distributed at ≥ 1% absolute cover (CNPS 2024). This condition is not met (see DEIR section 4.3.1.2 Vegetation Communities and Land Covers) and the site does not contain Joshua tree woodlands.

Additionally, the DEIR contains several mitigation measures to address both direct and indirect impacts to western Joshua tree and reduce impacts to a below a level of significance. This includes compliance with the WJTCA, the CDNPA, and Chapter 9.76 of the Apple Valley Municipal Code. According to CDFW, mitigation fees paid through the WJTCA are used for "the acquisition and conservation of western Joshua tree habitat and other actions to conserve western Joshua Tree. This will offset the impacts of permitted projects that negatively impact western Joshua trees and help to conserve the species on a landscape scale". Therefore, the DEIR makes every effort to mitigate impacts to western Joshua tree and follows Appendix G, Environmental Checklist, of the CEQA Guidelines.

E-8 This comment states that the DEIR does not acknowledge the significant impacts to Joshua trees, their pollinators, and dispersers associated with the reduction of habitat connectivity. Furthermore, CBD states that the construction of the Proposed Project will result in the further fragmentation of Joshua tree habitat, potentially resulting in significant adverse impacts to remnant Joshua tree woodland in nearby areas if pollinator or disperser populations are reduced. It is important to note the projects site is not Joshua tree woodlands, as described in responses above.

EIR Section 4.7.1, Existing Conditions (4.7-2), describes the areas surrounding the project site which is in the northeastern part of the Town of Apple Valley (Town). Although development intensities around the project site are low, the project site is within the existing urban fabric of the Town and is surrounded by varying levels of development (see DEIR Figure 3-2, Vicinity Map). Land uses surrounding the Project site consist of vacant land and relatively small developments. Specific land uses located in the immediate vicinity of the Project site include the following:

- North: Johnson Road and vacant land
- East: Sycamore Lane and primarily vacant land with a few residential uses
- South: Lafayette Street and the Apple Valley Fire Center

- West: Central Road and vacant land

In the broader Project vicinity, development includes commercial uses, warehouse/industrial buildings, and the Apple Valley Airport. Figure 3-8, Project Development Setting, depicts existing development within the vicinity of the Project site.

Furthermore, Section 4.3.4, Impacts Analysis (pg. 4.3-44), states that the BSA is not located within an essential connectivity area, natural landscape block, or linkage for the California Desert Linkage Network. It is approximately 2.5 miles south and 5.2 miles west of an area mapped as a linkage for the California Desert Linkage Network. Additionally, the BSA is mapped as an Area of Conservation Emphasis, Rank 3, which means "Connections with implementation flexibility" (CDFW 2023b), and no further actions are required.

E-9 This comment states that the CBD believes the DEIR lacks adequate information regarding the environmental setting for species other than western Joshua tree. The CBD recommends further analysis of impacts to rare plants, communities, and animals, including desert tortoise, burrowing owls, and more common species that may be found within the project site.

DEIR section 4.3.1.3 Plants and Wildlife Observed provides a discussion of all plants and wildlife observed within the Biological Survey Area (BSA), including common species. Species compendiums for plants and wildlife can be found in appendices E and F of appendix C of the DEIR.

DEIR section 4.3.1.4 Special-Status Plants provides a summary of the potential for rare plants to occur within the BSA, and a comprehensive analysis of rare plant species' potential to occur can be found in appendix G of appendix C. Based on this analysis, three special-status plant species were identified as having a potential to occur within the BSA: Mojave monkeyflower (*Diplacus mohavensis*), beaver dam breadroot (*Pediomelum castoreum*), and western Joshua tree (*Yucca brevifolia*). Therefore, these species were the target of focused rare plant surveys. Additionally, this section states the results of 2023 focused rare plant surveys: One special-status plant species, western Joshua tree, was observed within the BSA. No other listed species or non-listed CRPR 1 or CRPR 2 plants were observed during the focused surveys. Due to focused surveys being conducted during the appropriate blooming period, all other special-status plants are not expected to occur. In addition, there is no USFWS-designated critical habitat for listed plant species overlapping the BSA (Appendix G of Appendix C). Additionally, this section includes a discussion of desert native plants found within the BSA that are protected under the CDNPA or Apple Valley Municipal Code.

DEIR section 4.3.1.5 Special Status Wildlife provides a summary of special-status species' potential to occur within the BSA, and a comprehensive analysis of special-status wildlife species' potential to occur within the BSA can be found in Appendix H of Appendix C. Based on this analysis four special-status wildlife species were determined to have at least a moderate or high potential to occur within the BSA,: desert tortoise (*Gopherus agassizii*), burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanius ludovicianus*), Bendire's thrasher (*Toxostoma bendirei*), and American badger (*Taxidea taxus*). Additionally, LaConte's thrasher and desert kit fox were analyzed as they were observed within the BSA during 2023 surveys. A detailed discussion of these species' known range, habitat requirements, and the results of protocol surveys for Mohave ground squirrel and Mojave Desert tortoise, or incidental observations of species are also provided in Section 4.3.1.5.

The DEIR's analysis of direct impacts to rare plants found within the BSA (western Joshua trees) is discussed in response to comment E-3 through E-7 above.

The following edit will be made to section 4.3.4, Impact Analysis, of the FEIR (pg. 4.3-24): The Project would have no indirect impacts to non-listed special-status plant species within the BSA. However, mitigation measures in this section will address potential impacts to non-listed special-status plants that may exist outside the limits of the BSA, but which may be indirectly impacted by project implementation.

The following edit will be made to section 4.3.4, Impact Analysis, of the FEIR (pg. 4.3-26): MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Programs), MM-BIO-6 (Construction Monitoring Notebook), MM-BIO (7 Delineation of Property Boundaries), and MM-BIO-8 (Hazardous Waste), MM-BIO-9 (Herbicides), would reduce potential indirect impacts to western Joshua trees or other special-status plant species that may exist outside the limits of the BSA, to less than significant.

Section 4.3.4 of the DEIR provides a detailed analysis of both direct and indirect impacts to nesting birds and special-status wildlife species identified as occurring or having moderate to high potential to occur within the BSA (desert tortoise, burrowing owl, loggerhead shrike, Bendire's thrasher, LeConte's thrasher, American badger, and desert kit fox).

The DEIR provides the following mitigation measures to reduce direct impacts to special-status wildlife and nesting birds to below a level of significance: MM-BIO-10 (Pre-Construction Clearance Surveys for Mojave Desert Tortoise and Avoidance), MM-BIO-11 Restoration of Temporary Impacts, MM-BIO-12 (Pre-Construction Surveys for Burrowing Owl and Avoidance), MM-BIO-13 (Pre-Construction Nesting Bird Surveys and Avoidance), MM-BIO-14 (Pre-Construction Survey for American Badger and Avoidance), and MM-BIO-15 (Pre-Construction Survey for Desert Kit Fox and Avoidance).

Section 4.3.4 of the DEIR also discusses the following mitigation measures to reduce indirect impacts to special-status wildlife and nesting birds to a below a level of significance: MM-BIO-1 (Conservation of Western Joshua Tree Lands), MM-BIO-3 (Designated Biologist Authority), MM-BIO-4 (Compliance Monitoring), MM-BIO-5 (Education Program), MM-BIO-6 (Construction Monitoring Notebook), MM-BIO-(7 Delineation of Property Boundaries), MM-BIO-8 (Hazardous Waste), MM-BIO-13 (Pre-Construction Nesting Bird Surveys and Avoidance), MM-BIO-16 (Trash and Debris), MM-BIO-17 (Invasive Plant Management), and MM-BIO-18 (Lighting)

Definitions of all MMs can be found on pages 46-54 of section 4.3.4 of the DEIR.

E-10 The comment states that the CBD is concerned about those plant species which may be considered locally rare because they are at the edge of their range. The comment discusses the importance of protecting populations at the edge of their range considering stresses on these populations exacerbated by climate change.

As stated above, Appendix G of Appendix C contains a thorough discussion of rare plant species' potential to occur within the BSA. This analysis relied on California Native Plant Society rare plant ranks to identify potential rare plant species in the vicinity to be analyzed. CRPR 1 a 2 species were included in Dudek's analysis. This comment appears to refer to those rare plant species with a CRPR 4 rank, i.e.,

those species of limited distribution. While CRPR 4 taxa do not clearly meet CEQA standards and thresholds for impact considerations, the CNPS states "Some circumstances, such as local rarity, having occurrences peripheral to the taxon's distribution, or having occurrences on unusual substrates or rare and declining habitats, provide justification for treating some CRPR 4 taxa occurrences as regionally rare or unique" (CNPS 2020).

While CRPR 4 plants were not included as target species, the following eight CRPR 4 species occur in the vicinity of the BSA and the BSA meets their elevation and habitat requirements: white pygmy-poppy (*Canbya candida*), Mojave paintbrush (*Castilleja plagiotoma*), Mojave spineflower (*Chorizanthe spinosa*), ribbed cryptantha (*Johnstonella costata*), Torrey's box-thorn (*Lycium torreyi*), solitary blazing star (*Mentzelia eremophila*), crowned muilla (*Muilla coronate*), and Mojave fish-hook cactus (*Sclerocactus polyancistrus*) (CDFW 2024). All eight species bloom between March and July, and therefore would have been incidentally detected during the April 2023 focused rare plant survey during which all plants within the BSA were identified to the species or subspecies level when appropriate and inventoried (see Appendix E, Plant Compendium, of Appendix C).

E-11 The comment states that 87% of the BSA area is undisturbed, including a wash area. The comment goes on to state that the DEIR is unclear about the number of ephemeral washes within the BSA and restates that the DEIR recognizes that Unvegetated Wash and River Bottom may be considered a sensitive vegetation community under CEQA. The CBD recommends further analysis of ephemeral washes be included in the DEIR.

Figure 6, Jurisdictional Aquatic Resources, of Appendix C depicts all ephemeral washes and their location in reference to the proposed project within the BSA. Figure 9, Impacts to Jurisdictional Aquatic Resources, of Appendix C, depicts temporary and permanent impacts to aquatic resources (consisting of ephemeral washes). Appendix A, Aquatic Resources Delineation Report, of Appendix C provides a comprehensive analysis of aquatic resources and impacts to those aquatic resources. Additionally, a detailed discussion of impacts and mitigation measures required to reduce impacts to ephemeral washes on site is provided in section 4.3.4 Impact Analysis, under Threshold C. This section includes quantitative data of ephemeral washes found within the BSA and on impacts to ephemeral washes by project implementation. Additionally, this section identifies the regulatory agencies from which permits will need to be obtained to mitigate impacts to below a level of significance under CEQA.

Edits have been made to the following text (pg. 4.3-4) within the DEIR to clarify that unvegetated washes on site are sensitive land cover types but are not considered sensitive vegetation communities as by definition they lack vegetation and are therefore not included on CDFW's California Natural Communities List, and as such are not discussed under Section 4.3.4 CEQA threshold B.

Thus, unvegetated wash and river bottom may be considered sensitive ~~a sensitive vegetation community~~ under CEQA.

E-12 The comment states that neither the DEIR nor Appendix C affirmatively discusses the results of rare plant surveys. The CBD recommends that the DEIR be revised to include the rare plants that were targeted and a discussion of rare plant survey results.

Please see section 4.3.1.4 of the DEIR Special-Status Plants and/or section 5.3.1 Special-Status Plants of Appendix C which provide rare plant survey methodology, a list of target species, and results of rare plant survey conducted.

E-13 The comment states that the temperature range of 102°F to 118˚F (39°C to 48°C) recorded during a desert tortoise survey conducted in January 2023 seems inaccurate for the time of year. Additionally, the comment states there is no data sheet for the desert tortoise survey conducted on August 25th, 2023, and that it is unclear whether thewhole project was surveyed for desert tortoise as required by the small project protocol. The CDB recommends that the DEIR be revised to include all data sheets and a map of the extent of each survey performed by date.

The error on the desert tortoise survey data sheet for the survey conducted in January will be edited based on the data recorded in Table 2. Survey Conditions, of Appendix C. The following edit has been made to the data sheet: ~~Start Temp: 39 ºC; End Temp 48 ºC~~ Start Temp: 4 ºC; End Temp 7ºC. Additionally, a desert tortoise data sheet for the survey conducted on August 25th, 2023, has been added as Appendix C, Mojave Desert Tortoise Data Sheet, of Appendix C. Note that this final desert tortoise survey covered the off-site Improvement area located southeast of the intersection of Lafayette Street and Central Road, consisting of approximately 9 acres. The three desert tortoise surveys conducted between October 2022 and August 2023 covered the entire BSA. Acres listed in Appendix C of Appendix C on Mojave Desert Tortoise Data Sheets sum to greater than the total number of acres for the BSA because desert tortoise surveys slightly overlapped. Additionally, the end of each desert tortoise data sheet contains a description of the part of the BSA that was surveyed.

E-14 This comment refers to section 4.3.4 Impact Analysis, Threshold A, under Mojave Desert Tortoise. The comment restates information from the DEIR that should Mojave desert tortoise be located during the clearance survey, the Project would result in the permanent loss of 75.1 acres of suitable habitat for Mojave desert tortoise. The comment restates that mitigation for direct impacts would be fulfilled through conservation of suitable Mojave desert tortoise habitat through the purchase of credits at a minimum of 1:1 in-kind habitat replacement. The CBD goes on to state that typical occupied Mojave desert tortoise habitat mitigation ranges from 5:1 to 3:1. Additionally, the comment states that no mitigation is proposed for temporary impacts to desert tortoise.

While incidental take permits issued by CDFW can have mitigation ratios for desert tortoise higher than 1:1, in this case a 1:1 mitigation ratio is sufficient considering specific project details. Protocol level desert tortoise surveys conducted on site were negative, the project site is not within critical habitat for the species, and the project site is surrounded by similarly suitable habitat. Therefore, project implementation would likely not result in significant impacts to this species. However, despite this evidence, the DEIR still takes a conservative approach by incorporating mitigation measures for possible direct and indirect impacts to desert tortoise, including MM-BIO-10 (Pre-construction Clearance Surveys for Mojave Desert Tortoise and Avoidance), and habitat replacement should the species be detected on site prior to project commencement.

For mitigation measure proposed to reduce temporary impacts to desert tortoise, please refer to section 4.3.4 Impact Analysis, Threshold A, under Mojave Desert Tortoise. The DEIR states that the Project would also result in the temporary loss of 13.1 acres of suitable habitat for Mojave desert tortoise, specifically 8.5 acres of creosote bush scrub, 0.1 acres of creosote bush white bursage scrub, 0.03 acres of unvegetated wash and river bottom, and 4.5 acres of disturbed habitat. These direct

temporary impacts would be significant absent mitigation. As required by MM-BIO-11 (Restoration of Temporary Impacts), temporarily disturbed areas would be recontoured to natural grade (if the grade was modified during the temporary disturbance activity). The Project does not include revegetation or restoration of temporary impacts after Project completion. However, natural vegetation will be allowed to regenerate in temporary disturbed areas. Furthermore, if topsoil is removed during construction, the segregated topsoil will be replaced, and the native seed will be allowed to regenerate naturally.

E-15 The comment states that the DEIR should be revised to clarify which parcel the proposed project is located on in the figures provided in Appendix D, Mohave Ground Squirrel Protocol Survey Report, of Appendix C.

DEIR Section 1.2 Project Location (1-1) includes the Assessor's Parcel Numbers (APNs) in which the project site is located as well as surrounding streets (also see DEIR Figure 3-3, Project Aerial). The Mohave Ground Squirrel (MGS) Protocol Survey Report also identifies the parcel by surrounding streets, "… the southern parcel measures 77.1 acres … [and] is bordered by Johnson Road on the north, La Fayette Street on the south, Central Road on the west and Sycamore Lane on the east." The acreage in this report is outdated but does not affect the results of the survey as the entire current project site (67.3 acres) was surveyed and MGS "is unlikely to occupy the off-site improvement areas due to high levels of disturbance as well as a lack of connectivity between this area and known population areas" (see Figure 2, Survey Area and Figure 4b, South Grid Trapping Results). No further changes to the DEIR are required.

E-16 The comment states that the DEIR fails to adequately analyze the direct, indirect, and cumulative impacts of the proposed Project on other species and the environment. It goes on to state that the DEIR fails to fully analyze or disclose the project's direct, indirect, and cumulative impacts to numerous species including the desert tortoise as documented above, or to mitigate those impacts.

Please see response to E-9 above.

E-17 This comment states that the DEIR fails to identify if the mitigation for on-site occupied species habitat will be "nested" where a single mitigation site will be used to mitigate all species impacts. The CBD recommends that the DEIR be revised to clarify that should compensatory mitigation be required for multiple species, the mitigation site must host all those species. Otherwise, additional mitigation lands or credits must be acquired for the species to remain mitigated.

To address compensatory mitigation required for multiple species, the following edits have been made to the DEIR section 4.3.4 Impact Analysis (4.3-28 and 4.3-29):

As required by MM-BIO-10 (Pre-construction Clearance Surveys for Mojave Desert Tortoise and Avoidance), mitigation for direct impacts to 75.1 acres, should Mojave desert tortoise be found during pre-construction clearance surveys, would be fulfilled through conservation of suitable Mojave desert tortoise habitat through the purchase of credits at a minimum of 1:1 in-kind habitat replacement. Should habitat replacement occur at a single mitigation site, the site must host all special-status species observed during pre-construction surveys for which habitat replacement is required (i.e., desert tortoise and burrowing owl).

As required by MM-BIO-12 (Pre-construction Surveys for Burrowing Owl Avoidance), mitigation for direct impacts to 75.1 acres, should burrowing owl be found during pre-construction surveys, would be fulfilled through conservation of suitable burrowing owl habitat through the purchase of credits at a minimum of 1:1 in-kind habitat replacement. Should habitat replacement occur at a single mitigation site, the site must host all special-status species observed during pre-construction surveys for which habitat replacement is required (i.e., desert tortoise and burrowing owl).

E-18 The comment states that the proposed 1:1 mitigation ratio for occupied burrowing owl habitat is below the typical burrowing owl mitigation ratio of 3:1. Additionally, the comment states that the DEIR does not address mitigation for temporary impacts to burrowing owl.

Like desert tortoise, in this case a 1:1 mitigation ratio is sufficient considering specific project details. While a burrowing owl was incidentally observed on site in April of 2023, previous biological surveys on site indicate this burrow is likely only used for overwintering. The burrow complex was initially inspected in June 2022, and while the burrow complex did have sign (i.e., feathers, whitewash, casts, and fresh prey remain), no burrowing owls were observed. The burrow complex was inspected again in August and October of 2022, and both these inspections revealed no burrowing owls or fresh sign. These observations indicate that this burrow complex may be utilized by burrowing owls during the winter months but does not support year-round resident burrowing owls. Additionally, the project site is surrounded by similarly suitable habitat. Therefore, project implementation would likely not result in significant impacts to habitat for this species. Additionally, the DEIR incorporates mitigation measures for possible direct and indirect impacts to burrowing owl, including MM-BIO-12 (Pre-construction Surveys for Burrowing Owl and Avoidance), and habitat replacement should the species be detected on site prior to project commencement.

To address temporary impacts to burrowing owl, the DEIR states that as required by MM-BIO-11 (Restoration of Temporary Impacts), temporarily disturbed areas would be recontoured to natural grade (if the grade was modified during the temporary disturbance activity). The Project would not include revegetation or restoration of temporary impacts after Project completion. However, natural vegetation would be allowed to regenerate in temporary disturbed areas. Furthermore, if topsoil were to be removed during construction, the segregated topsoil would be replaced, and the native seed allowed to regenerate naturally. See section 4.3, page 33, for additional mitigation measures for short-term construction impacts to burrowing owl.

E-19 The comment summarizes mitigation measures outlined in the Desert Kit Fox Relocation and Mitigation Plan (Appendix J of Appendix C). While the comment states that the CBD supports the avoidance mitigation measures outlined in the plan, it states that the 1:1 mitigation of occupied desert kit fox habitat falls short of the established mitigation ratio of 3:1. Additionally, the comment states that the EIR does not address mitigation for temporary impacts to desert kit fox.

While desert kit fox is protected from take under CDFW's fur bearing mammals code, this species is not listed, nor is it a California Species of Special Concern. As such, the avoidance and mitigation measures outlined in the Desert Kit Fox Avoidance and Mitigation Plan are sufficient to avoid violating Cal. Code Regs. tit. 14 § 460, Furbearing Mammals. Additionally, the project site is surrounded by similarly suitable habitat. Therefore, project implementation would likely not result in significant impacts to habitat for this species.

E-20 The comment states that the city is undergoing planning for the Apple Valley Multiple Species Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP) and the Proposed Project is within the boundaries of the HCP/NCCP. The comment states that the DEIR must clarify how the proposed project will comply with the plan, by species, with the interim guidelines found in the Draft Public Review Planning Agreement document and in consultation with the city.

While the Draft Public Review Planning Agreement does not contain specific conservation goals per species, Section 4, Preliminary Conservation Objectives, on page 12 of the agreement outlines the following objectives that are relevant to the proposed project:

- Provide for the conservation of Covered Species, natural communities, and ecosystems on a landscape level within the Planning Area.
- Preserve the diversity of plant and animal communities throughout the Planning Area.
- Minimize and mitigate the take or loss of Covered Species.
- Ensure Covered Activities are appropriately designed to avoid, minimize and/or mitigate impacts to Covered Species, natural communities, and designated conservation areas and habitat linkages.
- Estimate the extent of impacts to species from incidental take caused by Covered Activities.

The DEIR provides mitigation measures MM-BIO-1 through MM-BIO-18 to prevent significant potential impacts to Covered species (see section 4.3.5 of the DEIR). Additionally, while the project does not overlap with any designated conservation areas or habitat linkages, the DEIR proposes MM-BIO-18 Lighting, to reduce lighting disturbances to wildlife and thereby reduce long-term indirect impacts to a wildlife movement around the project site to a less-than-significant level. Furthermore, MM-BIO-1 (Conservation of Western Joshua Tree Lands) and MM-BIO-2 (Relocation of Desert Native Plants) would reduce potential impacts to California desert native plants, complying with state and local regulations and preserving plant diversity within the plan area. Therefore, the Project would not be in conflict with the Apple Valley HCP/NCCP.

The Preliminary Conservation Objectives outlined in the Apple Valley Draft Public Review Planning Agreement are general and fully overlap with Appendix G, Environmental Checklist Form, of the CEQA Guidelines, which are already thoroughly analyzed for the project in sections 4.3.3, 4.3.4, and 4.3.5 of the DEIR. Therefore, specific Apple Valley HCP/NCCP additions to the DEIR are not necessary.

E-21 This comment provides a conclusion to the comment letter and no further response is required.

References

CDFW. 2024. RareFind, Version 5.0 (commercial subscription). California Natural Diversity Database (CNDDB). Sacramento, California: CDFW, Biogeographic Branch. Accessed January 2024. CNDDB Maps and Data (ca.gov)

CNPS. 2020. "Technical Memorandum: Considerations for Including CRPR 4 Plant Taxa in CEQA Biological Resource Impact Analysis". Sacramento, California: California Native Plant Society. Accessed January 2024 https://www.cnps.org/wp-content/uploads/2020/02/crpr4_technical_memo.pdf

CNPS. 2024. *A Manual of California Vegetation* (online edition). Sacramento, California: California Native Plant Society. Accessed January 2024. http://www.cnps.org/cnps/vegetation/.

Response to Comment Letter F

Adams Broadwell Joseph & Cardozo
Public Records Act Request
Sheila M. Sannadan, Legal Assistant
October 13, 2023

F-1 This comment states that the letter is provided on behalf of Californians Allied for a Responsible Economy (CARE CA). The comment requests immediate access to all public records related to the proposed project. The comment states that the request is being made pursuant to the California Public Records Act (Government Code Section 7920.000, et seq.) The comment provides a brief description of the proposed project. Although this comment does not raise any inadequacies of the Draft EIR or general CEQA concerns, the Town provided a response to this Public Records Act request on November 14, 2023.

Response to Comment Letter G

Adams Broadwell Joseph & Cardozo
Request for Documents in the EIR
Sheila M. Sannadan, Legal Assistant
October 13, 2023

G-1 This comment states that the letter is provided on behalf of Californians Allied for a Responsible Economy (CARE CA). This comment is a request for documents pursuant to the California Public Records Act The comment requests immediate access to any and all documents related to the proposed project. The comment provides a brief description of the proposed project. Although this comment does not raise any inadequacies of the Draft EIR or general CEQA concerns, the Town provided a response to on November 14, 2023.

Response to Comment Letter H

Adams Broadwell Joseph & Cardozo
Request to Extend Public Review – References Requested Listed
Sheila M. Sannadan, Legal Assistant
October 27, 2023

H-1 This comment states that the letter is provided on behalf of Californians Allied for a Responsible Economy (CARE CA). The comment further requests the public review period be extended by at least 45 days. See Response to Comments H-2 and H-3 below. No further response is required.

H-2 This comment lists all of the references being requested that were used in preparation of the Draft EIR. The Town of Apple Valley distributed the documents/references to Adams Broadwell Joseph & Cardozo on November 14, 2023.

H-3 This comment explains the need for the requested documents/references, which were needed in order for additional comments to be provided on the adequacy of the Draft EIR. The comment requests immediate access to the documents/references and requests that the public review period be extended to December 11, 2023. Please see Response to Comment H-2. The public review period was not extended and no further response is required.

Response to Comment Letter I

Adams Broadwell Joseph & Cardozo on behalf of CARE CA
Comments on Draft EIR
Kevin Carmichael
October 30, 2023

I-1 This comment is an introduction by Adams Broadwell Joseph & Cardozo indicating that they received the Draft Environmental Impact Report (DEIR) and provides a summary of the Project as described in the DEIR.

The Town acknowledges the comment as an introduction to comments that follow. No further response is required or necessary.

I-2 This comment asserts that the DEIR fails to comply with the requirements of CEQA. As specific arguments are made in the next paragraphs, please refer to Response to Comments I-3 through I-22.

I-3 This comment details the vested interests of CARE CA regarding the Project. This comment does not raise any substantive issues with the adequacy of the EIR. No further response is required or necessary.

I-4 This comment provides a summary of legal principles relevant to the CEQA process. This comment does not raise any substantive issues with the adequacy of the EIR. No further response is required or necessary.

I-5 This comment states that the DEIR fails to disclose the baseline environmental conditions related to the Project's health risk impacts. As specific arguments are made in the next paragraphs related to Valley Fever and noise impacts, please refer to Response to Comments I-6 through I-8.

I-6 This comment expresses a concern regarding the existing Valley Fever baseline information provided in the DEIR. The commenter provided an updated Valley Fever report from the California Department of Public Health. This clarification has been inserted into the text of the Final EIR as follows (additions in underline, deletions in ~~strikeout~~):

Section 4.2.1:

> **Valley Fever.** Coccidioidomycosis, more commonly known as "Valley Fever," is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline, sandy soils. ~~San Bernardino County is not considered a highly endemic region for Valley Fever as the latest report from the California Department of Public Health listed San Bernardino County as having 1.8 cases per 100,000 people (CDPH 2017).~~ San Bernardino County is not considered a highly endemic region for Valley Fever as the latest report from the California Department of Public Health listed San Bernardino County as having 11.4 cases per 100,000 people (CDPH 2022)

Section 4.2.4:

As discussed in Section 4.2.1 under the subsection Valley Fever, Valley Fever is not highly endemic to San Bernardino County with an incident rate of ~~1.8~~ 11.4 cases per 100,000 people (CDPH 20~~17~~21). In contrast, in 20~~16~~21 the statewide annual incident rate was ~~13.7~~ 20.1 per 100,000 people. The California counties considered highly endemic for Valley Fever in 2021 include Kern (306.2~~251.7~~ per 100,000), Kings (108.3~~157.3~~ per 100,000), ~~San Luis Obispo (82.8 per 100,000), Fresno (60.8 per 100,000),~~ Tulare (65.8~~45.3~~ per 100,000), San Luis Obispo (61.0~~82.8~~ per 100,000), Fresno (39.8~~60.8~~ per 100,000), Merced (28.3 per 100,000), and Monterey (27.0), which ~~Madera (31.5 per 100,000), and San Joaquin (25.3 per 100,000), and~~ accounted for ~~70~~52% of the reported cases in 20~~16~~21 (CDPH 2022~~17~~).

The commenter noted that San Bernardino County had the eighth-highest number of total Valley Fever cases in 2021 out of California's 58 counties, which is correct. However, they neglected to state that San Bernadino County's rate of Valley Fever cases of 11.4 per 100,000 people ranked 21st out of the 58 counties, and below the California average. The commenter also notes that CDPH has indicated that Valley Fever has historically been highest in years following a drought and that the year 2023 – 2024 may have higher than average precipitation and states that the Project construction period could occur at this time. The Town notes the comment provides factual background information about Valley Fever trends. However, the intimation of potential higher baseline Valley Fever rates during Project construction during future years is speculative and, therefore, no further response is required.

I-7 The commenter states that the DEIR fails to provide any construction worker Valley Fever training or specific Valley Fever mitigation, which exposes workers to potential health impacts caused by the Project. However, as potential *Coccidioides immitis* spore exposure occurs from fugitive dust inhalation, the Project's PDF-AQ-1 (Dust Control Measures) also controls for potential fungal spore exposure. This PDF is included as part of the Project; however, to ensure the PDFs are implemented during construction and operation, they will be included as enforceable conditions of approval by the Town of Apple Valley. PDF-AQ-1 has been expanded to include specific Valley Fever training, as follows (additions in underline, deletions in ~~strikeout~~):

PDF AQ-1. Dust Control Measures. The Project will be in ~~In~~ compliance with all applicable Rules and Regulations of the Mojave Desert Air Quality Management District (MDAQMD), including, but not limited to Rules 401 (Visibile Emissions), 402 (Nuisance), and 403 (Fugitive Dust). To ensure compliance with these Rules and Regulations, the Project Applicant or successor in interest shall prepare and submit a Dust Control Plan to the MDAQMD for approval. The Dust Control Plan shall document the best management practices (BMPs) that will be implemented during Project construction to prevent, to the maximum extent practicable, wind and soil erosion. BMPs that will be included in the Dust Control Plan shall include, but are not limited to, covering soil stockpiles when not in use and watering soils during earth-moving activities. On days when the hourly average wind speed for north Apple Valley exceeds 20 miles per hour, additional dust control measures shall be implemented, such as increased surface watering. Grading and excavation shall be prohibited when sustained wind speed exceeds 30 miles per hour.

In addition, the Project applicant or its designee shall provide to all Project construction employees the fact sheet entitled "Preventing Work-Related Coccidioidomycosis (Valley

Fever)" by the California Department of Public Health and ensure all employees are aware of the potential risks the site poses. The Project applicant or its designee shall inform all Project construction employees of all occupational responsibilities and requirements contained in these measures to reduce potential exposure to *Coccidioide*s spores.

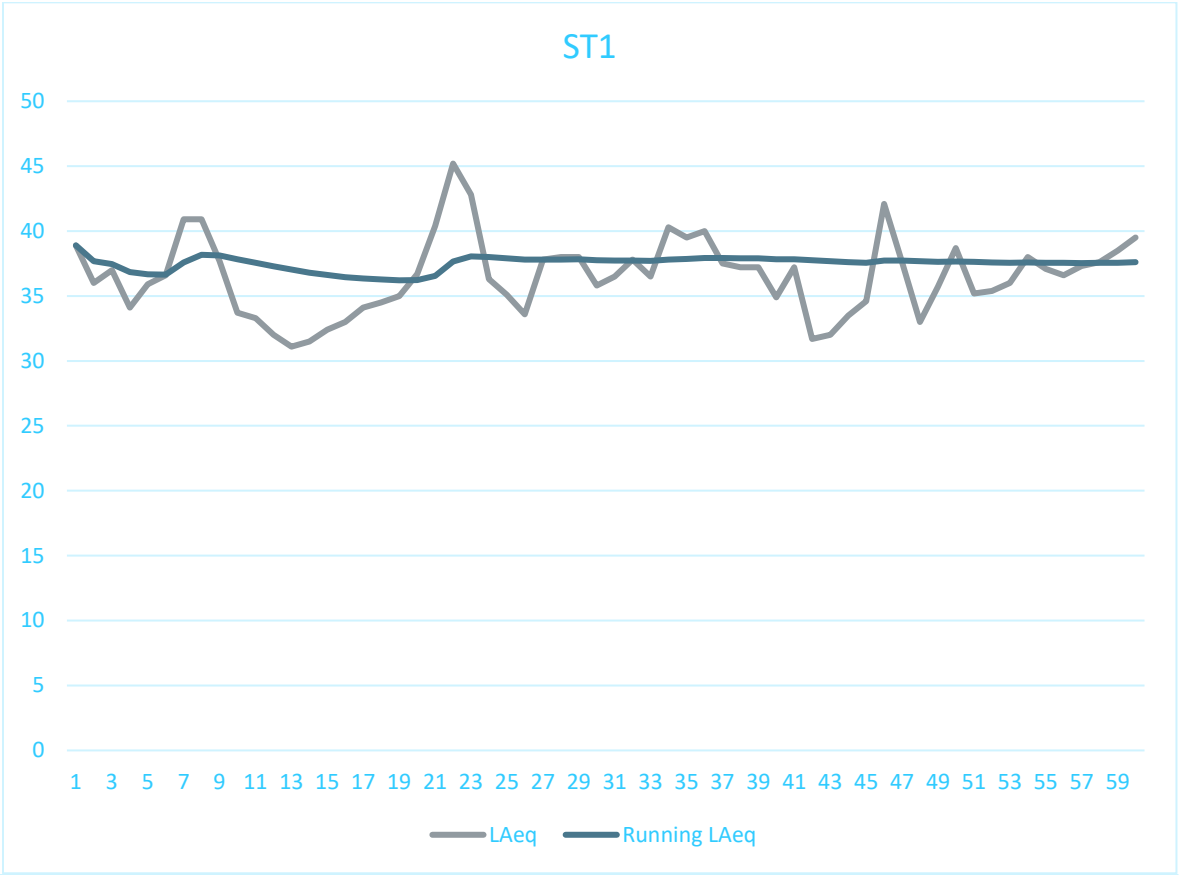
The training shall include all the following topics:

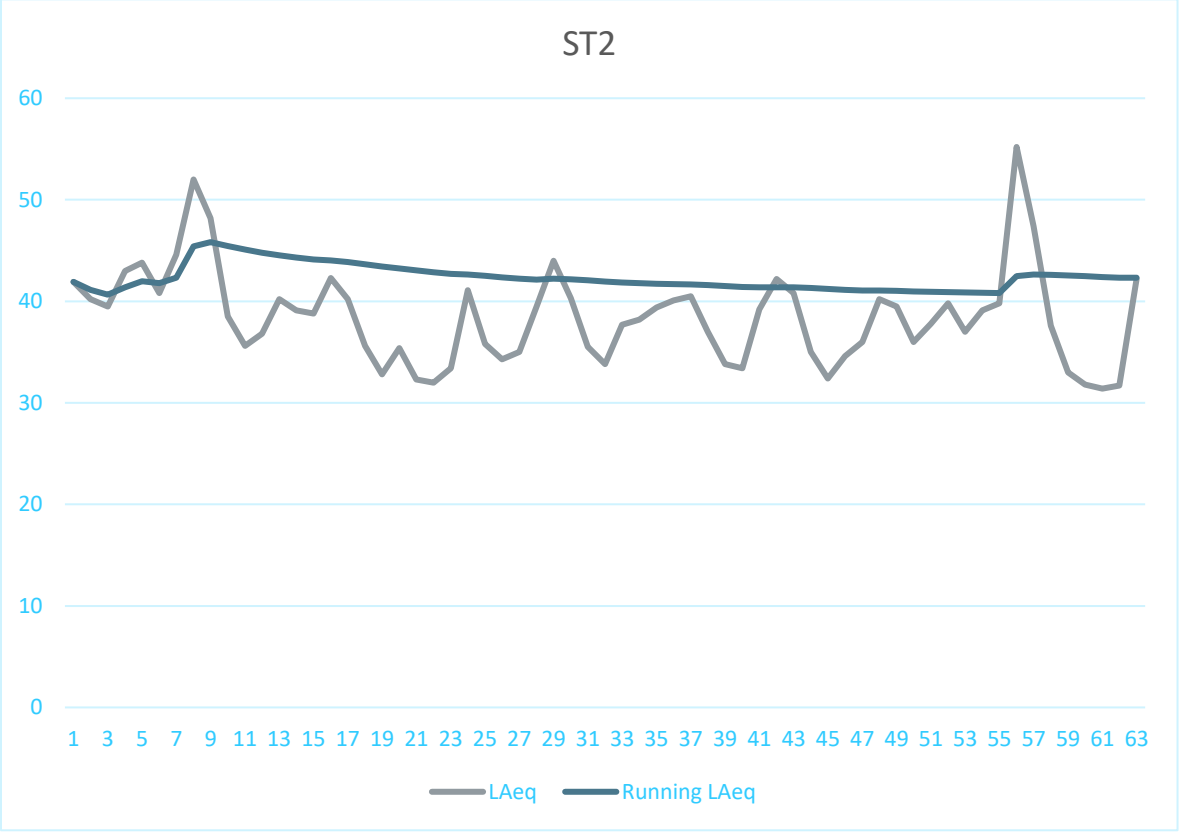
a. What Valley Fever is and how it is contracted.
b. High-risk areas and types of work and environmental conditions during which the risk of contracting Valley Fever is highest.
c. Personal risk factors that may create a higher risk for some individuals.
d. Personal and environmental exposure prevention methods.
e. Importance of early detection, diagnosis, and treatment.
f. Recognizing common signs and symptoms of Valley Fever.
g. Importance of reporting symptoms to the employer and seeking medical attention.
h. Common treatment and prognosis for Valley Fever.

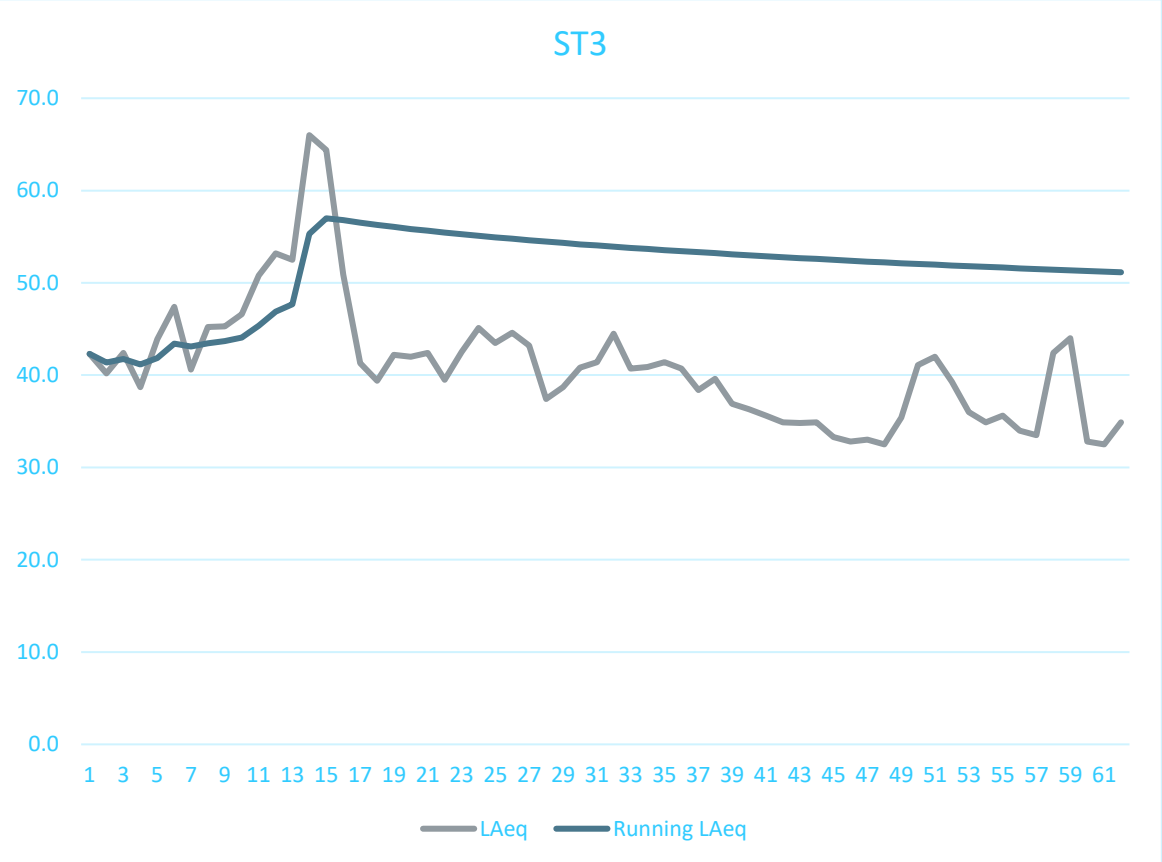
I-8 This comment states that the Draft EIR's noise measurements are inadequate to establish an ambient noise baseline against which to measure the potential operational and construction noise impacts of the Project. The comment states that the noise measurement duration (10 minutes each at five locations in the Project vicinity) is insufficient to calculate an L_{dn}/CNEL level.

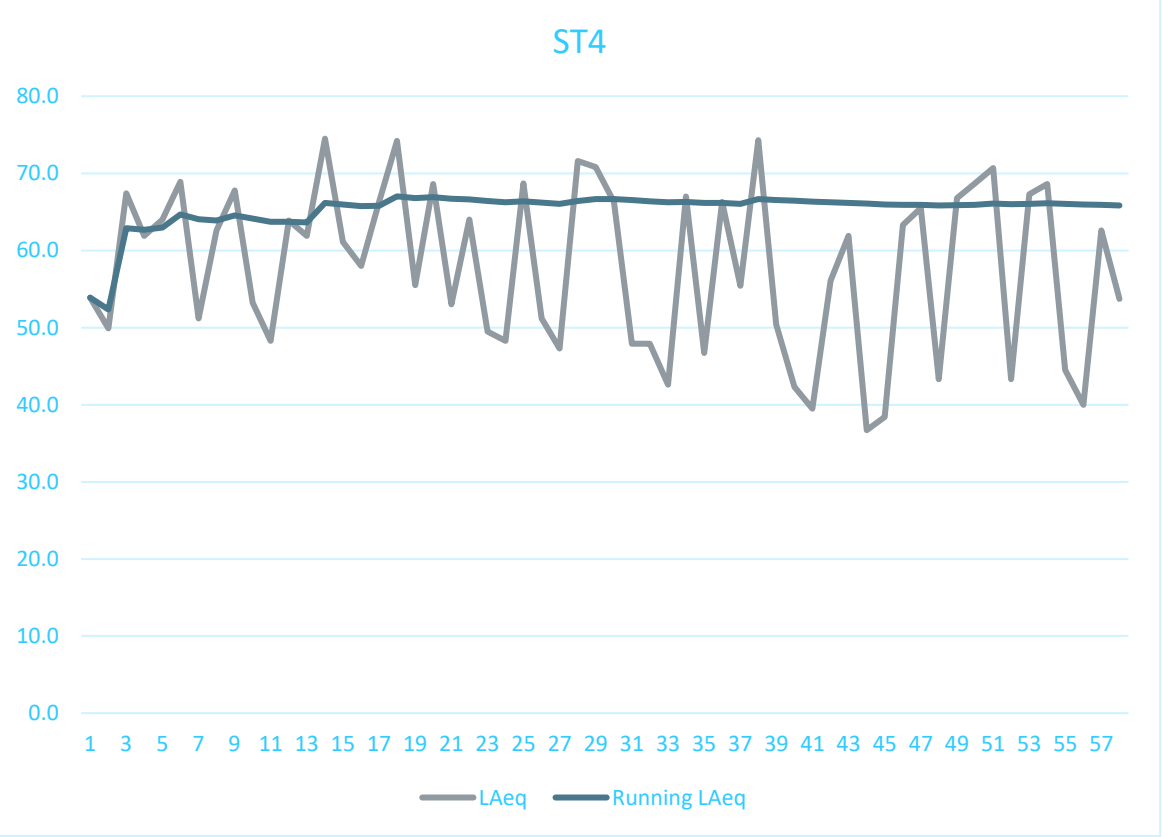
The baseline ambient noise monitoring for the proposed Project was conducted using methods that represent industry standards. Contrary to the stated opinion, short-term noise monitoring is commonly used to characterize typical noise conditions, including for areas dominated by transportation noise. As stated in the Technical Noise Supplement from the California Department of Transportation (Caltrans),[6] "A noise measurement representing an hourly L_{eq} does not need to last the entire hour. As long as noise levels do not change significantly, a shorter time period will usually be sufficient to represent the entire hour of interest." For this Project, the change in the average noise level (L_{eq}) was monitored by the field staff person throughout each measurement and was found to have stabilized well before 10 minutes had passed. This is generally due to the fact that, contrary to Commenter's assertions, the Project area is not characterized as a noise environment dominated by transportation uses. The Project is located within an undeveloped portion of Town resulting in a fairly consistent background noise environment. This indicated that the measurement duration was sufficient to accurately characterize the noise level. Please refer to the following five graphs that show how the cumulative average noise levels (the running average as the measurements progressed) had "leveled out." The noise levels were not changing significantly, consistent with guidance in the Caltrans Technical Noise Supplement. Furthermore, because multiple measurement locations (five in total) were carried out within the Project vicinity adjacent to noise-sensitive receivers, the local noise environment was adequately represented for the Project.

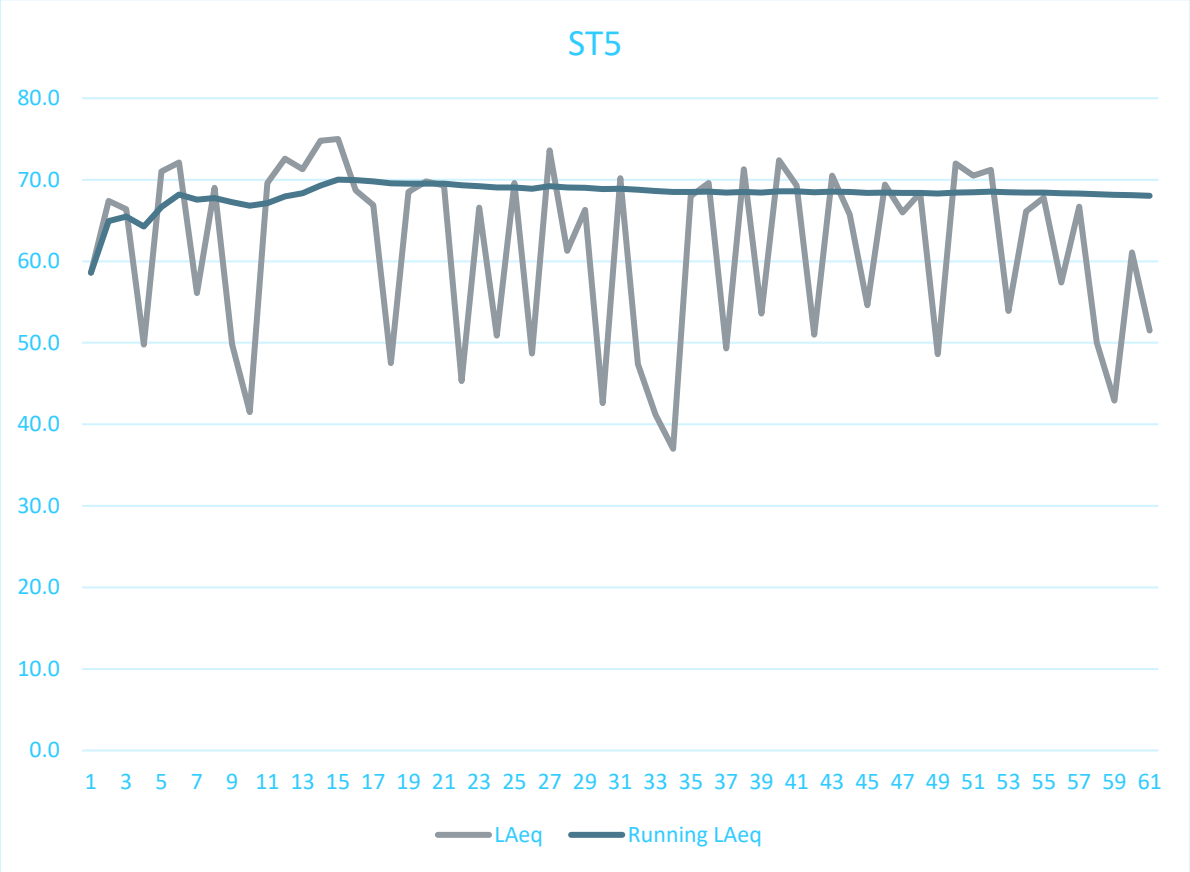
6 Caltrans (California Department of Transportation). 2013. *Technical Noise Supplement to the Caltrans Traffic Noise Analysis Protocol*. Division of Environmental Analysis, Environmental Engineering, Hazardous Waste, Air, Noise, Paleontology Office. September 2013.


ST1
50
45
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5
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1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59
LAeq
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ST2
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LAeq
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ST3
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LAeq
Running LAeq


ST4
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LAeq
Running LAeq



I-9 This comment alleges that the noise analysis included in the Draft EIR is legally inadequate. More specifically, commenter claims that (1) the noise model does not comply with the Federal Transit Authority FTA Manual, and (2) the Draft EIR noise analysis fails to properly calculate increases to Ldn/CNEL noise levels, and (3) the Draft EIR fails to support its significance determinations with substantial evidence.

Additional comments were provided within a technical memorandum prepared by Wilson Ihrig, Acoustic, Noise and Vibration Consultants, included as Appendix C to this comment letter (see Response to Comment I-31, infra). For greater ease of reference, the comments included within Appendix C are incorporated within responses to the main comment letter.

Commenter alleges that the model that the Draft EIR noise analysis is based on does not comply with the FTA Manual. Commenter asserts that the FTA Manual recommends a minimum of three one-hour Leq noise measurements during peak-hour, midday, and nighttime to properly estimate the Ldn/CNEL.

Appendix E from the 2018 "FTA Manual" apparently referenced by the commentor does include such guidance (offered as an "Option 3"), but there is also an "Option 4" that suggests a single 1-hour measurement can function as an estimate for day-night level (Ldn). But while such observations show a contrast to the partial-hour durations of the baseline measurements appearing in Table 4.10-2, they do not seem to have relevant context for the needs of this project noise study.

The 2013 Caltrans Technical Noise Supplement ("TeNS") states "a noise measurement representing an hourly Leq does not need to last the entire hour. As long as noise levels do not change significantly, a shorter time period will usually be sufficient to represent the entire hour of interest." Hence, the partial-hour measurements of baseline outdoor ambient sound level appearing in Table 4.10-2 of the EIR noise section are adequate for empirical sampling of daytime hourly Leq values that can be used to support project noise assessment or informational purposes, such as their apple-to-apple comparison with predicted project construction noise exposure average hourly Leq values to quantify an increase in the outdoor ambient sound environment.

The traffic noise assessment relies on usage of FHWA TNM 2.5, with traffic volume inputs for the six studied cases (see DEIR Table 4.10-11) to quantify estimates of traffic noise (as CNEL) and determine that no exceedances are expected, attributed solely to traffic, with respect to applicable criteria. The measured partial-hour baseline outdoor ambient sound levels may provide information for comparison with modeled estimates for the "Existing" case, but they also include other acoustical contributors present in the outdoor sound environment and may thus have limited utility in this traffic-only CNEL context.

Commenter also alleges that the Draft EIR's noise analysis is defective because it includes a calculation of CNEL without specifying how the levels were calculated or their relationship to the direct Leq measurements. DEIR Table 4.10-2 reflects the existing noise environment in the project vicinity based on actual noise measurements. Whereas DEIR Table 4.10-10 identifies the anticipated noise levels at the closest sensitive receptors by modeling future project-related noise. This modeling was based on the comprehensive study of noise levels associated with surface parking lots published in the Journal of Environmental Engineering and Landscape Management. The study determined average noise levels during the peak period of use of the parking lot. Using these published average noise levels and taking into consideration noise attenuation from distance to the noise source, the noise study determined the anticipated noise levels from project operation. Therefore, the noise measurements in DEIR Table 4.10-2 and 4.10-10 are consistent and the significance determinations are based on substantial evidence.

Commenter also asserts the Draft EIR lacks substantial evidence supporting the significance determinations for noise impacts due to a truncated and incomplete analysis of ambient noise levels. As noted in Response to Comment No. 8 above, the baseline ambient noise monitoring for the proposed Project was conducted using methods that represent industry standards. Contrary to the stated opinion, short-term noise monitoring is commonly used to characterize typical noise conditions, including for areas dominated by transportation noise. The Project is located within an undeveloped portion of Town resulting in a fairly consistent background noise environment. This indicated that the measurement duration was sufficient to accurately characterize the noise level.

Additionally, the noise analysis adequately analyzes the noise resulting from traffic along area roadways. To arrive at the estimated 24-hour average weighted CNEL values, the noise analysis assumed, based on typical travel patterns, that the peak hourly traffic volume on local roadways is approximately equal to 10% of the average daily traffic. In general, 10% of the average daily traffic is accepted to be equivalent to the worst-case hourly traffic volume, and using this value in the noise model results in an average hourly equivalent noise level approximately equal to the CNEL for the corresponding average daily traffic and actual hourly traffic distribution. Thus, this relationship results in a CNEL value that is representative of traffic noise resulting from typical daytime, evening, and nighttime traffic distribution.

Additionally, please see Table 4-17 from page 52 of the 2018 Federal Transit Administration's transit noise and vibration guidance manual, provided below.[7] For each listed distance range for roadways, and even the population density ranges, the Leq and Ldn value estimates are the same. Thus, there is a reasonable expectation that measuring a representative sample of daytime Leq also yields Ldn.

Table 4-17 Estimating Existing Noise Exposure for General Noise Assessment

Dominant Existing Noise Source	Distance from Major Noise Source, ft*	Population Density, people per sq. mi.	*Noise Exposure Estimates*			
			L_{eq} Day	L_{eq} Evening	L_{eq} Night	L_{dn}
Interstate Highway**	10–50		75	70	65	75
	50–100		70	65	60	70
	100–200		65	60	55	65
	200–400		60	55	50	60
	400–800		55	50	45	55
	800 and up		50	45	40	50
Other Roadway†	10–50		70	65	60	70
	50–100		65	60	55	65
	100–200		60	55	50	60
	200–400		55	50	45	55
	400 and up		50	45	40	50
Railway††	10–30		--	--	--	75
	30–60		--	--	--	70
	60–120		--	--	--	65
	120–240		--	--	--	60
	240–500		--	--	--	55
	500–800		--	--	--	50
	800 and up		--	--	--	45
Population		1–100	35	30	25	35
		100–300	40	35	30	40
		300–1000	45	40	35	45
		1000–3000	50	45	40	50
		3000–10000	55	50	45	55
		10000–30000	60	55	50	60
		30000 and up	65	60	55	65

* Distances do not include shielding from intervening rows of buildings. Generally, for estimating shielding attenuation in populated areas, assume 1 row of buildings every 100 ft, 4.5 dB for the first row, and 1.5 dB for every subsequent row up to a maximum of 10 dB attenuation.
** Roadways with 4 or more lanes that permit trucks, with traffic at 60 mph.
† Parkways with traffic at 55 mph, but without trucks, and city streets with the equivalent of 75 or more heavy trucks per hour and 300 or more medium trucks per hour at 30 mph.
†† Main line railroad corridors typically carrying 5-10 trains per day at speeds of 30-40 mph.

Commenter further alleges the noise analysis in the Draft EIR is defective because the significance determination is based solely on compliance with Town noise ordinance. This comment cites the case of *King & Gardiner Farms LLC v. County of Kern* (2020) 45 Cal.App.5th 814, for the proposition that an agency cannot rely solely on compliance with local noise regulations to conclude that there will be no significant noise impacts without considering the effects of noise increases.

As shown in DEIR Table 4.10-10 and in the impact analyses in Section 4.10, Noise, of the Draft EIR, estimated Project-related noise levels are compared to levels without the Project. Any one particular

[7] Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. September 2018. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf.

standard is not considered, and data for both increase and absolute noise levels are provided and addressed.

This comment claims that the analysis did not provide an adequate evaluation of the increase in operational noise, stating that the report fails to evaluate the cumulative increase in Project operational noise over the existing conditions, a requirement under CEQA. "Table 4.10-11 solely compares the predicted daytime and nighttime operational Leq noise levels to the Apple Valley Municipal Code, without considering the increase over the existing ambient condition."

Additionally with regard to Table 4.10-11 and discussion of onsite operational noise, the last paragraph on page 4.10-17 of the EIR provides a clear comparison not just with Apple Valley noise standards but also with existing ambient noise levels:

> "As shown in Table 4.10-11, which summarizes the results of the modeling for mechanical equipment and truck loading dock/truck yard activity noise, the resulting noise levels would not exceed the applicable noise standards for daytime or nighttime noise. Additionally, the estimated noise levels from the Project would be well below the existing measured daytime ambient noise levels in the Project vicinity, which ranged from approximately 62 to 66 dBA Leq."

This comment claims that the analysis did not provide an adequate evaluation of the increase in construction noise. The comment states that while the report compares the predicted construction noise levels to the Town of Apple Valley's 75 dBA Leq construction noise criteria, it lacks an evaluation of the increase in construction noise over the ambient level, a requirement under CEQA.

As stated in DEIR Section 4.10.2 (Relevant Plans, Policies, and Ordinances, Town of Apple Valley Municipal Code), Section 9.73.050 subsection (F) of the Municipal Code has specific numerical limits on noise from construction and demolition activities by time of day, land use and construction duration. The Town does not have a threshold for an increase above ambient noise levels during construction. Consistent with *King & Gardiner Farms LLC v. Kern County*, the quantitative difference between the measured ambient noise levels and the estimated construction noise levels will be discussed in the revised Final EIR Section 4.10, Noise.

Additional comments were provided within a technical memorandum prepared by Wilson Ihrig, Acoustic, Noise and Vibration Consultants, included as Appendix C to this comment letter (see Response to Comment I-31, *infra*). For greater ease of reference, the comments included within Appendix C are incorporated within responses to the main comment letter. The Wilson Ihrig technical memorandum claims that the analysis incorrectly applied vibration limits. The Town of Apple Valley municipal code stipulates a vibration limit of 0.01 inches/second over a 1 to 100 Hz range, applying at or beyond the private property boundary, as detailed in Section 4.10.2 of the report. However, the impact assessment only computed estimated construction vibration levels at 760 ft, the distance to the nearest sensitive receptor. This represents an incorrect application of the Town of Apple Valley's vibration criteria. The comment acknowledges that "Notably, all the construction equipment modeled has the potential to exceed the Apple Valley municipal code limit of 0.01 inches/second when operating near the site's boundary. The report itself indicates that a bulldozer would produce a vibration level of approximately 0.089 inches/second measured at 25 ft, which would exceed the 0.01 inches/second criteria. However, it should be noted that a vibration level of 0.01 inches/second is the threshold for

human perception and is unlikely to result in adverse effects given the lack of sensitive receivers in the surrounding area."

As the commentor acknowledges: "Notably, all the construction equipment modeled has the potential to exceed the Apple Valley municipal code limit of 0.01 inches/second when operating near the site's boundary. The report itself indicates that a bulldozer would produce a vibration level of approximately 0.089 inches/second measured at 25 ft, which would exceed the 0.01 inches/second criteria. However, it should be noted that a vibration level of 0.01 inches/second is the threshold for human perception and is unlikely to result in adverse effects given the lack of sensitive receivers in the surrounding area." In Dudek's opinion this threshold was most likely intended as a performance standard with respect to a facility or other land use after it's built—that is, as an operational standard but not as a threshold of significance for construction. The construction vibration analysis was conducted in accordance with typical standards of the practice for construction noise and vibration, assessing the potential impact at sensitive receivers.

I-10 This comment summarizes CEQA case law and expresses a concern with the DEIR, stating that it has not fully disclosed, analyzed, and mitigated all significant impacts. The comment asserts that the DEIR has adopted mitigation measures that are "vague, ineffective, and unenforceable." As specific arguments are made in the next paragraphs, please refer to Response to Comments I-11 through I-15.

I-11 The comment states that the transportation impacts analysis is flawed in numerous ways, most notably with respect to the Project's trip generation and trip length and the resulting vehicle miles traveled impacts. In addition, the comments states that the DEIR's incorrect and unsupported conclusions with respect to VMT and trip generation undermine the DEIR's air quality and GHG analyses. As specific arguments are made in the next paragraphs, please refer to Response to Comments I-12, I-13, and I-14.

I-12 The comment states that the DEIR lacks substantial evidence to support the estimated trip generation because the DEIR unreasonably and without justification relies on an unreasonably low trip generation rate in the ITE Manual for high-cube warehouse uses, and cites daily trip generation rates from several of the additional high-cube warehousing categories. The trip generation rate selected for this project was based on a number of factors, including discussion with the developer, review of the project site plan and comparison to similar characteristics of ITE surveyed sites, review of the sample sizes for each high-cube warehousing rate in the ITE Manual, consideration of both the daily and peak hour trip generation of each rate, and analysis of traffic counts conducted at a similar (existing) facility to what the developer identified as a target tenant.

Detail is provided below to describe additional reasoning behind the selection of ITE rate 155 (Fulfillment Center Warehouse - non-sort) for this project. The High-Cube Warehouse Vehicle Trip Generation Analysis (ITE 2016) and descriptions provided for each code in the ITE Trip Generation Manual were utilized as a reference to describe characteristics of the various high-cube warehousing facilities.

- 154 High-Cube Transload and Short-Term Storage Warehouse: [Daily rate – 1.4 trips/TSF; AM Peak – 0.08 trips/TSF; PM Peak – 0.10 trips/TSF] This is the least intensive of the high-cube warehousing facility rates. ITE defines Transload warehouses as those that usually process pallet loads or larger handling products of manufacturers, wholesalers/distributors, or retailers with little

or no storage durations, and Short-Term Storage warehouses as those that hold products on-site for a short time. Typically, these facilities have limited assembly and repacking that may occur within the facility, and they often have high-mechanized material handling systems, but lower levels of automation than other high-cube warehouses. This rate was not selected for analysis due to the transload/short-term functionality and low trip generation rates.

- 155 High-Cube Fulfillment Center Warehouse: ITE defines fulfillment center warehouses as those that provide storage and direct distribution of e-commerce product to end users. There is a high-level of automation in material handling equipment compared to the other high-cube warehouses (except for Parcel Hubs). In the 2021 version of the ITE Trip Generation Manual (11th Edition), ITE introduced a non-sort and sort subcategory to better categorize the types of fulfillment centers, as described below.
  - Non-Sort [Daily rate – 1.81 trips/TSF; AM Peak – 0.15 trips/TSF; PM Peak – 0.16 trips/TSF] This subcategory is a type of fulfillment center that ships large box items, processed primary with automation rather than through manual means. This rate was considered due to the developer's indication that the warehouse would be designed with a high-level of automation at the facility with the intent to process large box items. Additionally, the project site layout (including building height characteristics of (55 feet), passenger vehicle parking, trailer parking, and loading dock configurations, etc.) fit the descriptions of a non-sort facility. Further, counts were conducted at a similar (existing) facility in the region identified as a target tenant. These counts showed lower trip generation rates compared to this rate; as such, the ITE 155 (non-sort) rate was selected to provide a more conservative rate.
  - Sort [Daily rate – 6.44 trips/TSF; AM Peak – 0.87 trips/TSF; PM Peak – 1.20 trips/TSF] This subcategory is a type of fulfillment center that ships out smaller items, requiring extensive sorting, typically by manual means. This type of rate is typically associated with large Amazon fulfillment centers, and would include larger passenger vehicle parking areas than the site plan has allocated. As the developer has indicated that they would not be targeting Amazon as a potential tenant, nor would the building be developed to include higher intensity manual sorting of smaller items, this rate was not selected. Additionally, it must be noted that trip rates for the sort category are based on 2 to 3 surveyed sites, whereas trip rates for the non-sort rate are based on 10 to 22 surveyed sites. ITE cautions the use of trip generation rates based on small sample sizes because the data may not be accurate or representative of a project site.
- 156 High-Cube Parcel Hub: [Daily rate – 4.63 trips/TSF; AM Peak – 0.70 trips/TSF; PM Peak – 0.64 trips/TSF] This type of warehouse is specifically designed as a regional and local freight-forwarder facility for time sensitive shipments via airfreight and ground carriers (e.g., FedEx, UPS, and USPS are primary examples of tenants for this category). Parcel Hub facilities include specific characteristics, such as very high truck parking ratios to dock positions (often 2:1 or more), with loading docks located on the two longer sides or all sides of the building, and with the building designed to be shallower compared to other high-cube warehouses (typically 150-300 feet across). The proposed project building is designed to be approximately 600 feet across, with truck parking to dock positions at approximately 1.5:1. Examples of typical parcel hub buildings that fall under this category can be found at the FedEx Ground shipping center at 330 Resource Dr, Bloomington, CA or the UPS Customer Center at 1457 E Victoria Ave, San Bernardino, CA. The project is not designed to support these building and site characteristics; therefore, it was not selected as a potential trip generation rate for analysis.

- 157 High-Cube Cold Storage Warehouse: [Daily rate – 2.12 trips/TSF; AM Peak – 0.11 trips/TSF; PM Peak – 0.12 trips/TSF] This type of warehouse is specifically designed with substantial temperature-controlled environments for frozen food and other perishable products. Cold storage warehouses have buildings designed with substantial insulation, including foundation, walls, and roof; limited or no break-bulk, repack, or assembly activities; and are designed with much higher building heights (70-100 feet) to maximize efficiency of refrigeration. The project is not designed to support these building and site characteristics; therefore, it was not selected as a potential trip generation rate for analysis. Additionally, although the commenter infers that this is a higher trip generator than the proposed project, it must be noted that peak hour trip rates are lower than those under the selected Fulfillment Center (non-sort) rate.

The commenter further references the WRCOG Study, which found that the average trip generation for fulfillment centers in the Inland Empire region was approximately 2.2 trips/TSF. While the daily trip generation is slightly higher than that averaged in the ITE Manual for non-sort fulfillment centers as noted above, the AM peak hour trip rate cited in the WRCOG Study is 0.122 trips/TSF and the PM peak hour rate is 0.165 trips/TSF, which are 0.028 lower and only 0.005 trips/TSF higher, respectively, than those in the ITE Manual. Additionally, the commentor indicates that the 2019 WRCOG Study found that the ITE Categories underestimate trip generation for fulfillment centers, partially inferring that the study was comparing their average rates to those in the current version of the ITE Manual (11th Edition), which was released in 2021. While previous editions of the ITE Manual may have reported lower rates compared to the data collected in the WRCOG Study, the 11th Edition of the ITE Manual incorporates the data gathered in the WRCOG Study. The WRCOG Study is included as Source 1011 in Chapter 9 of the ITE Manual.

I-13 The comment states that the Draft EIR uses inappropriate trip lengths when modeling the Project's air quality impacts from mobile sources. Specifically, the comment suggests that the 40-mile trip distance used in the Draft EIR for trucks may have underestimated mobile source emissions since it doesn't account for truck trips to any Ports. To provide an appropriate trip length assumption for heavy-duty truck trips, an EMFAC-based estimate of truck trip length has been conducted and provided as an appendix to this Final EIR (Appendix B). To verify an average operational truck trip distance, EMFAC data and the distance to the Port of Long Beach was examined. The Port of Long Beach was evaluated since it is the nearest major maritime cargo hub to the Project and potential origin/destination for haulage outside the Mojave Desert Air Basin (MDAB). As identified in Table 3-2, the weighted average trip distance using EMFAC was 38.48 miles, less than the SCAQMD recommendation of 40 miles. Therefore, the SCAQMD recommendation of 40 miles is a conservative estimation of average truck trip length, and the Town's CEQA experts disagree with the assertion that inappropriate trip lengths were used.

Table 3-2. Operational Truck Trip Distance

Vehicle	Percent of Trucks Trips (%)[1]	EMFAC Data			Trip Distance
		EMFAC Truck Classification	Region-wide VMT per Year	Region-wide Vehicle Trips per Year	VMT per Trip
2-3 Axle Trucks (Arriving and Departing)	37.4	LHDT1, LHDT2, and MHDT	239,858663[2]	75,555,121[2]	4.36
4+ Axle Trucks (Arriving from Port)	31.3 (50% of total HHDT Trips[4])	HHDT	N/A	N/A	108[3]
4+ Axle Trucks (Departing)	31.3 (50% of total HHDT Trips[4])	HHDT	484,181,030	86,827,430	9.77
				Weighted Average (All Truck Trips)	*38.48*

Notes:

1 Based on Project traffic impact analysis, Appendix I.

2 LHDT1, LHDT2, and MHDT conservatively based on EMFAC VMT and Trip data for MHDT.

3 Based on the distance from the Project site to the Port of Long Beach.

4 Percent of truck trips represents arrival and departure trips, therefore 50% of trips (arrival) conservatively assumed to originate at the Port of Long Beach. 50% of trips assumed to depart the Project facility and estimated truck trip distance is based on EMFAC county-wide average HHDT truck VMT per trip.

I-14 This comment states that the Transportation Demand Program (TDM) included as part of Mitigation Measure AQ-1 is inadequate mitigation for the Project's significant and unavoidable VMT impact; and that it constitutes deferred mitigation and is unenforceable. The TDM under MM AQ-1 is part of a multi-part mitigation measure which, when taken together with the other components, serves to reduce the Project's air quality emissions to a less than significant level. The TDM program is also the only feasible mitigation measure for the Project's VMT impact.

Although the commenter provides examples of other strategies that could be implemented to achieve additional reductions in VMT (end of trip bike facilities, subsidized or discounted transit program, ridesharing, employer sponsored vanpool, paid employee parking, etc.) these measures are either currently infeasible given the location of the Project, or cannot be committed to before the end user/tenant is known. For example, although the Project will provide the required number of bicycle spaces and pedestrian facilities along Project frontages, employees are unlikely to bike to work in the near future given the remote location of the Project in an undeveloped area that currently lacks pedestrian and bicycle facilities (see DEIR at p. 4.9-22; 4.12-3). Likewise, the closest bus stop is approximately 2.5 miles away, which means that most employees would likely not utilize subsidized or discounted transit passes to travel to work. (DEIR at 4.12-3). However, transit passes are included in MM AQ-1 to reflect the fact that additional transit stops will likely be made available as other development occurs in the area. The other measures suggested by commenter would be dependent upon the future tenant's scheduling needs and employee participation and therefore cannot be guaranteed, as discussed at DEIR pages 4.12-14 to 4.12-15). Therefore, the TDM program required for this Project is intended to be flexible to allow for future tenants to choose from a "menu" of options to reduce employee vehicle trips. The DEIR nonetheless conservatively concludes that VMT impacts

would remain significant and unavoidable due to the uncertainty surrounding the effectiveness of these measures, and the Project applicant's inability to legally bind a future, as-yet known tenant to measures that may be technically or economically infeasible.

To address the commenter's concern regarding enforceability, MM AQ-1 has been modified to clarify that the City's review and approval of the TDM must occur prior to the issuance of each Certificate of Occupancy. This requirement is also included in a new mitigation measure, TRANS-1. In addition, employer-sponsored vanpool and end-of-trip bike facilities have been added to the list of potential options, as suggested by commenter. The revised text of MM AQ-1 and new TRANS-1 are shown in the Errata. The DEIR's analysis of this significant and unavoidable impact is otherwise adequate and complies with CEQA, and no further response or revisions are necessary.

I-15 This comment expresses a concern with the DEIR, stating that it failed to account for the severity of air quality and health risk impacts and includes unsatisfactory mitigation. As specific arguments are made in the next paragraphs, please refer to Response to Comments I-16 through I-20.

I-16 This comment makes points made regarding the exposure of sensitive receptors to Valley Fever. Please refer to Responses to Comment I-25, where this comment is addressed in detail as part of the response to Dr. Clark's letter.

I-17 This comment provides a list of Valley Fever mitigation measures that the commenter argues should be inserted into the FEIR. As the DEIR did not identify a significant impact regarding potential health impacts from Valley Fever, the Project is not required to adopt all feasible mitigation measures. Furthermore, a PDF requiring a Dust Control Plan was already included in the DEIR, and a PDF requiring Valley Fever training will be included as an enforceable condition of approval.

I-18 This comment notes that while PDF-AQ-1 requires the use of Tier 4 Interim engines for all construction equipment using engines greater than 150 horsepower, it includes a clause that allows for the use of Tier 3 engines. The clause referred to is the following text: "An exemption from these [Tier 4 Interim] requirements may be granted by the Town of Apple Valley in the event that the Project Applicant or successor in interest documents that equipment with the required tier is not reasonably available and corresponding reductions in criteria air pollutant emissions are achieved from other construction equipment."

The text includes the following footnote: "For example, if a Tier 4 Interim piece of equipment is not reasonably available at the time of construction and a lower tier equipment is used instead (e.g., Tier 3), another piece of equipment could be upgraded from a lower tier to a higher tier (i.e., Tier 4) or replaced with an alternative-fueled (not diesel-fueled) equipment to offset the emissions associated with using a piece of equipment that does not meet Tier 4 Interim standards."

As stated in the text above, if Tier 4 Interim equipment cannot be procured for the Project, then the emissions associated with that piece of equipment will be offset by upgrading the tier of another piece of equipment.

The comment also questions the inclusion of Tier 4 Interim equipment as opposed to Tier 4 Final equipment. Note that all Air Quality impacts would be to less than significant with the inclusion of Tier

4 Interim equipment, and CEQA does not require the use of the best available equipment. However, the language in PDF-AQ-1 does not preclude the use of higher tier engines.

I-19 The comment suggests that the DEIR misrepresents the Project's GHG emissions but does not provide any specific evidence beyond that addressed in Responses to Comments I-11, I-12 and I-13. No further response is required.

I-8/I-9 *A response to this comment is provided above in Response to Comments I-8 and I-9. No further response is required.*

I-20 The commenter suggests that additional feasible mitigation measures are available to reduce the Project's GHG impact. The measures provided are taken from the State of California Department of Justice's *Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act*.

It should be noted that the following measures listed in the State of California Department of Justice's Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act have already been incorporated in the Draft EIR as part of Mitigation Measure MM-AQ-1 (see pages 4.2-42 through 4.2-44 of the Draft EIR):

- Using electric-powered hand tools, forklifts, and pressure washers, and providing electrical hook ups to the power grid rather than use of diesel-fueled generators to supply their power.
- Requiring all on-site motorized operational equipment, such as forklifts and yard trucks, to be zero-emission with the necessary charging or fueling stations provided.
- Posting both interior- and exterior-facing signs, including signs directed at all dock and delivery areas, identifying idling restriction and contact information to report violations to CARB, the local air district, and the building manager.
- Designing all project building roofs to accommodate the maximum future coverage of solar panels and installing the maximum solar power generation capacity feasible.
- Running conduit to designated locations for future electric truck charging stations.
- Constructing and maintaining electric light-duty vehicle charging stations proportional to the number of employee parking spaces (for example, requiring at least 10% of all employee parking spaces to be equipped with electric vehicle charging stations of at least Level 2 charging performance).
- Requiring facility operators to train managers and employees on efficient scheduling and load management to eliminate unnecessary queuing and idling of trucks.

In addition, as detailed on pages 4.2-21 to 4.2-24 of the Draft EIR, the Applicant would incorporate a number of Project Design Features (PDFs) that would help reduce the Project's environmental impact with regard to air quality, greenhouse gas emissions, and energy. To ensure the PDFs are implemented during construction and operation, they will be imposed as enforceable conditions of approval for the Project by the Town of Apple Valley. These PDFs incorporate the feasible portions of the State of California Department of Justice's Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act, listed below:

- Prohibiting off-road diesel-powered equipment from being in the "on" position for more than 10 hours per day.
- Requiring off-road construction equipment to be hybrid electric-diesel or zero emission, where available, and all diesel-fueled off-road construction equipment to be equipped with CARB Tier IV-compliant engines or better, and including this requirement in applicable bid documents, purchase orders, and contracts, with successful contractors demonstrating the ability to supply the compliant construction equipment for use prior to any ground-disturbing and construction activities. The project requires all construction equipment including engines operating at 150 horsepower or greater to be equipped with Tier 4 Interim engines.
- Using paints, architectural coatings, and industrial maintenance coatings that have volatile organic compound levels of less than 10 g/L.
- Keeping onsite and furnishing to the lead agency or other regulators upon request, all equipment maintenance records and data sheets, including design specifications and emission control tier classifications.
- Providing information on transit and ridesharing programs and services to construction employees.
- Unless the owner of the facility records a covenant on the title of the underlying property ensuring that the property cannot be used to provide refrigerated warehouse space, constructing electric plugs for electric transport refrigeration units at every dock door and requiring truck operators with transport refrigeration units to use the electric plugs when at loading docks.

For more information regarding the project's conformance with the Attorney General's recommendations, refer to response C-32. The comment does not address any inadequacies of the EIR and no further response is required.

I-21 The requisite findings are within the discretion of the Town's decisionmakers and are not within the purview of the DEIR. The DEIR is a public disclosure document that serves to provide information to the Town of Apple Valley's decisionmakers and elected officials when deciding whether or not to approve the Project. The DEIR has disclosed all impacts and included all feasible mitigation measures. CEQA case law recognizes that "it is nearly, if not absolutely, impossible for a project to be in perfect conformity with each and every policy set forth in the applicable [general] plan." (*Pfeiffer v. City of Sunnyvale City Council (2011) 200 Cal.App.4th 1552, 1563*.) No further response is necessary.

I-22 This comment provides concluding remarks and reiterates comments made earlier in the Comment Letter. Please refer to responses above in which these comments are addressed.

I-23 This comment provides introductory remarks. This comment does not raise any substantive issues with the adequacy of the EIR. The Town acknowledges the comment as an introduction to comments that follow. No further response is required or necessary.

I-24 This comment reiterates a description of the Project and states that the DEIR incorrectly concludes that no mitigation is required to prevent impacts from the project on air quality in the area, which is contradictory to facts provided within the DEIR. However, the commenter does not provide a page number nor a section reference of this conclusion. To the contrary, air quality mitigation is provided as MM AQ-1 (DEIR at 4.2-42 to 4.2-44) and has been further revised as part of this Final EIR. No further response is required or necessary.

I-25 This comment provides various responses to the Air Quality section's Valley Fever analysis. It correctly notes an erroneous reference to MDAQMD Rule 403.2, which has been corrected. This clarification has been inserted into the text of the Final EIR as follows (additions in underline, deletions in ~~strikeout~~):

Notably, the Project would implement PDF-AQ-1, which includes dust control measures in accordance with the MDAQMD ~~Rules 401 and 403.2~~Rule 403, which ~~that~~ would limit the amount of fugitive dust generated during construction.

The commenter argues that Valley Fever presents a health risk to sensitive receptors by claiming that mitigation included in MDAQMD Rule 403, aimed at PM_{10} particles, is not applicable to smaller particles because of their slower airborne settling rate. PM_{10} is defined by the Environmental Protection Agency (EPA) as "inhalable particles, with diameters that are generally 10 micrometers and smaller" (EPA 2023). Therefore, as PM_{10} is inclusive of all particles smaller than 10 micrometers, Rule 403 would by definition apply to all particles smaller than 10 micrometers. Furthermore, Rule 403 includes soil watering as part of its Dust Control Plan requirements. Soil watering would lower the likelihood of the suspension of particles, thus making the speed of their settling rate a nonfactor: "Watering increases the moisture content, which conglomerates particles and reduces their likelihood to become suspended" (EPA 2006).

The additional points included in the comment have been addressed in Responses to Comments I-6 and I-7. Please refer to these responses in which these comments are addressed. No further response is required or necessary.

I-26 This comment provides further context for remarks addressed in Response to Comment I-18. No further response is required or necessary.

I-27 This comment highlights other projects within the vicinity of the proposed project. The comment cites trip rates that do not apply to the project. In Section 4.2 Threshold E, the potential of the project to result in cumulatively considerable air quality impacts is addressed. The analysis concludes that the project will result in less than significant impacts to cumulative air quality. All cumulative projects were properly included within Table 3-1 of the DEIR. The two existing projects cited by commenter (Walmart and Big Lots Distribution Centers) are considered part of the environmental baseline and have therefore been accounted for as part of the existing conditions (i.e., existing noise levels DEIR section 4.10, Noise; water supply from Liberty Utilities section 4.13, Utilities, Table 4.13-2; baseline local ambient air quality data from section 4.2, Air Quality, Table 4.2-2).

I-28 This comment provides concluding remarks. No further response is required or necessary.

I-29 This comment provides a list of resumes for employees at Clark & Associates who prepared Exhibit A. No further response is required or necessary.

I-30 This comment is a technical memorandum prepared by Smart Mobility; identified as Exhibit B to the main comment letter. All of these comments have been addressed in Response to Comments I-11 through I-14. No further response is required or necessary.

I-31 This comment is a technical memorandum prepared by Wilson Ihrig, Acoustic, Noise and Vibration Consultants; identified as Exhibit C to the main comment letter. All of these comments have been addressed in Response to Comments I-8 and I-9. No further response is required or necessary.

References Cited

CDPH (California Department of Public Health) 2022. Epidemiologic Summary of Valley Fever (*Coccidioidomycosis*) in California, 2020-2021. https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciEpiSummary2020-2021.pdfEPA (Environmental Protection Agency) 2006. AP 42: Compilation of Air Emission Factors. Section 13.2.2: Unpaved Roads. https://www3.epa.gov/ttn/chief/ap42/ch13/final/c13s0202.pdf.

EPA 2023. Particulate Matter Basics. https://www.epa.gov/pm- pollution/particulate-matter-pm-basics.

Response to Comment Letter J

Twenty-Nine Palms Band of Mission Indians
Christopher Nicosia
December 1, 2023

J-1 This comment letter states that it is in regards to an informal consultation and that the Twenty-Nine Palms Band of Mission Indians has determined that the project is outside of the known Chemehuevi Traditional Use Area. No further response is required.

Response to Comment Letter K

Adams Broadwell Joseph & Cardozo
Notice of Settlement
Kevin Carmichael
May 16, 2024

K-1 This comment letter was provided after the close of public review. The comment is a lead-in to the requested additions/revisions to the project's Project Design Features (PDFs) and Mitigation Measures (MM) related to air quality, public health, and greenhouse gas emissions.

K-2 This comment requests project design feature PDF-AQ-1 be modified to include requested language regarding Tier 4 construction equipment. PDF-AQ-1 has been revised as requested and is shown in strikeout/underline in Section 4.2, Air Quality.

K-3 This comment requests that mitigation measure MM-AQ-1 be modified to include at a minimum two Level 3 electric chargers at the project site in a convenient location for heavy-duty truck access prior to beginning project operation. MM-AQ-1 has been revised as requested and is shown in strikeout/ underline in Section 4.2, Air Quality.

K-4 This comment requests project design feature PDF-AQ-1 be modified to include requested language regarding Valley Fever. PDF-AQ-1 has been revised as requested and is shown in strikeout/underline in Section 4.2, Air Quality.

K-5 This comment requests mitigation measure MM-TRANS-1 be modified to include requested language regarding on-site ridesharing and vanpooling, or financial incentives to workers for use of alternative transportation. MM-TRANS-1 has been revised as requested and is shown in strikeout/underline in Section 4.12, Transportation.

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4 Mitigation Monitoring and Reporting Program

4.1 Introduction

California Public Resources Code Section 21081.6 requires that, upon certification of an EIR, "the public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation." (PRC Section 21000–21177)

This Mitigation Monitoring and Reporting Program was developed in compliance with Section 21081.6 of the California Public Resources Code and Section 15097 of the CEQA Guidelines (14 CCR 15000–15387 and Appendices A–L.), and includes the following information:

- A list of mitigation measures
- The timing for implementation of the mitigation measures
- The party responsible for implementing or monitoring the mitigation measures
- The date of completion of monitoring

The Town of Apple Valley must adopt this Mitigation Monitoring and Reporting Program, or an equally effective program, if it approves the proposed Project with the mitigation measures that were adopted or made conditions of Project approval.

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4.2 Mitigation Monitoring and Reporting Program Table

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
Air Quality				
MM-AQ-1. The Project shall implement the following measures in order to reduce operational off-road equipment, stationary source, and on-road vehicle air pollutant emissions to the extent feasible: ▪ **Solar Power.** The Project shall include rooftop solar panels that generate sufficient power to meet at least 90% of the Project's total operational base energy requirements from within the Project's building envelope. The Town of Apple Valley shall verify the size and scope of the solar energy system based upon the analysis of the projected power requirements and generating capacity as well as the available solar panel installation space. In the event sufficient space is not available on the Project site to accommodate the needed number of solar panels to produce the operation's base power use, the Project Applicant or success or interest shall demonstrate how all available space has been maximized (e.g., roof, parking areas) for solar energy system use. Areas that provide for truck movement may be excluded from these calculations unless otherwise deemed acceptable by the supplied reports and applicable building standards. The Project Applicant or successor in interest, or as contractually delegated by the Project Applicant or successor in interest, shall install the solar energy system when the Town of Apple Valley has approved building permits and the necessary equipment has arrived. The operation of the system shall commence only when it has received permission to operate from the applicable utility. The solar energy system owner shall be responsible for maintaining the system at not less than 80% of the rated power for 20 years. At the end of the 20-year period, the owners, operators, or tenants shall install a new photovoltaic system meeting the capacity and operational requirements of this measure, or continue to maintain the existing system, for the life	Prior to issuance of a Certificate of Occupancy	Town of Apple Valley		

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
of the Project. As the Project's demand for solar power increases, additional solar panels may be added to the Project. ▪ **Electrical Infrastructure for Electric Equipment and Vehicles.** The Project shall be designed to include electrical infrastructure to accommodate the required number of electric vehicle charging stations, the anticipated number charging stations for electric cargo handling equipment, and the potential installation of additional automobile and truck electric vehicle charging stations. Electrical conduit shall be installed within reasonable locations (e.g., parking areas, at or near dock doors) at the time of building construction to satisfy this requirement. The Project's electrical rooms shall be of sufficient size to accommodate the upsizing of electrical equipment to accommodate potential future electrical loads. ▪ **Electric Vehicle Charging Stations.** Prior to issuance of a Certificate of Occupancy, Level 2 (or faster) electric vehicle charging stations shall be installed on site for employees for the percentage of employee parking spaces commensurate with Title 24 requirements in effect at the time of building permit issuance plus additional charging stations equal to 5% of the total employee parking spaces in the building permit, whichever is greater. By January 1, 2030, Level 2 (or faster) electric vehicle charging stations shall be installed for 25% of the employee parking spaces required. Furthermore, the Applicant shall install at minimum two Level 3 electric chargers at the Project site in a place convenient for heavy-duty truck access prior to beginning Project operation. ▪ **Sustainable Energy, Waste, and Water Design Measures.** The Project Applicant or successor in interest shall implement the following measures: - The Project's landscape plan shall emphasize drought-tolerant plants and use water-efficient irrigation techniques - All heating, cooling, lighting, and appliance fixtures shall be Energy Star-rated				

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
- All fixtures installed in restrooms and employee break areas would be U.S. Environmental Protection Agency WaterSense Certified or equivalent - Structures shall be equipped with outdoor electric outlets in the front and rear of the structures to facilitate use of electrical lawn and garden equipment - Provide storage areas for recyclables and green waste, as well as food waste storage if a pick-up service is available - Buildings shall include high efficiency particulate air (HEPA) filtration systems within in all warehouse facilities ▪ **Zero-Emission or Near-Zero-Emission Equipment.** The following measure shall be implemented during all ongoing business operations and shall be included as part of contractual lease agreement language to ensure that tenants and operators of the Project are informed of the following operational responsibility: - All equipment and appliances operating on the Project site shall be zero-emission or near-zero-emission equipment. This requirement shall apply to indoor and outdoor equipment such as forklifts, handheld landscaping equipment, yard equipment, office appliances, etc. The building manager or their designee shall be responsible for enforcing these requirements. ▪ **Truck Requirements and Restrictions.** The following measure shall be implemented during all ongoing business operations and shall be included as part of contractual lease agreement language to ensure that tenants and operators of the Project are informed of the following operational responsibility: - Only haul trucks meeting California Air Resources Board (CARB) model year 2010 engine emission standards shall be used for the on-road transport of materials to and from the Project site. In addition, tenants shall be in, and monitor compliance with, all current air quality regulations for on-road trucks including CARB's Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation, Periodic Smoke Inspection Program, and the Statewide Truck and Bus Regulation. The				

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
building manager or their designee shall be responsible for enforcing these requirements. ▪ **Idling Time Restriction.** The following measure shall be implemented during all ongoing business operations and shall be included as part of contractual lease agreement language to ensure that tenants and operators of the Project are informed of the following operational responsibility: - Upon commencement of operations, the tenant/operator of the Project shall be required to restrict truck idling on site to a maximum of 3 minutes, subject to exceptions defined by the California Air Resources Board's commercial vehicle idling requirements. The building manager or their designee shall be responsible for enforcing this requirement. ▪ **Anti-Idling Implementation Measures.** The following measures shall be implemented to reduce air pollutant emissions from idling: - **Signage.** Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas that identify the Project's 3-minute idling restriction. At a minimum, each sign shall include: (1) instructions for truck drivers to shut off engines when not in use; (2) instructions for drivers of diesel trucks to restrict idling to no more than 3 minutes once the vehicle is stopped, the transmission is set to "neutral" or "park," and the parking brake is engaged; (3) telephone numbers of the building facilities manager and California Air Resources Board (CARB) to report violations; and (4) that penalties apply for violations. Prior to the issuance of an occupancy permit, the Town of Apple Valley shall conduct a site inspection to ensure that the signs are in place. - **Efficient Load Management.** The facility operator(s) shall be required to train managers and employees on efficient scheduling and load management to eliminate unnecessary queuing and idling of trucks.				

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
- **Anti-Idling Training.** Tenants and operators on the Project site shall ensure that site enforcement staff in charge of keeping the daily log and monitoring for excess idling will be trained/certified in diesel health effects and technologies, for example, by requiring attendance at CARB-approved courses (such as the free, 1-day Course No. 512). - **Transportation Demand Management Plan.** For a detailed synopsis of this measure, please refer to MM-TRANS-1 (Section 4.12).				
Air Quality Project Design Features				
PDF-AQ-1 Construction ▪ **Heavy-Duty Off-Road Construction Equipment Requirements/Restrictions.** During Project construction, all internal combustion engines/construction equipment greater than 25 horsepower operating on the Project site shall meet U.S. Environmental Protection Agency-certified Tier 4 Final emissions standards. The Project Applicant or successor in interest shall include this requirement in applicable bid documents, purchase orders, and contracts with successful contractors. Successful contractors must demonstrate the ability to supply the compliant construction equipment for use prior to any ground-disturbing and construction activities. An exemption from these requirements may be granted by the Town of Apple Valley in the event that the Project Applicant or successor in interest documents that equipment with the required tier is not reasonably available and corresponding reductions in criteria air pollutant emissions are achieved from other construction equipment.[1] Before an exemption may be considered by the Town of Apple Valley, the Project Applicant or successor in interest shall be required to demonstrate that at	During Construction, Site Design, and Operation	Town of Apple Valley		

[1] For example, if a Tier 4 Interim piece of equipment is not reasonably available at the time of construction and a lower tier equipment is used instead (e.g., Tier 3), another piece of equipment could be upgraded from a lower tier to a Tier 4 or replaced with an alternative-fueled (not diesel-fueled) equipment to offset the emissions associated with using a piece of equipment that does not meet Tier 4 Interim standards.

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
least two construction fleet owners/operators in the High Desert and San Bernardino Region were contacted and that those owners/operators confirmed Tier 4 Final or better equipment could not be located within the High Desert and San Bernardino Region. In the event that Tier 4 Final construction equipment is not available, the Project Applicant may utilize Tier 4 Interim or Tier 3 construction equipment outfitted with Best Available Control Technology (BACT) devices, including but not limited to CARB-certified Level 3 Diesel Particulate Filters (DPF). ▪ **Provision of Electrical Infrastructure for Construction and Use of Electric Construction Equipment.** After the grading phase of Project construction, the Project Applicant or successor in interest shall provide temporary electrical hook ups to the power grid, rather than diesel-fueled generators, for contractors' electric construction tools, such as saws, drills, and compressors. The use of diesel-fueled generators for on-site construction activities shall be prohibited unless electrical infrastructure is not yet available on the Project site. Diesel-fueled generators may be used for off-site construction work. All off-road equipment with a power rating below 19 kilowatts (e.g., plate compactors, pressure washers) used on site during Project construction must be electric-powered. The Project Applicant or successor in interest shall include these requirements in applicable bid documents, purchase orders, and contracts with successful contractors. ▪ **Construction Equipment Idling Restrictions.** The idling of heavy construction equipment for more than 5 minutes shall be prohibited. Signage shall be posted throughout the construction site informing construction personnel of the idling time limit. Idling time limits shall be noted in construction specifications. Subject to all other idling restrictions, heavy construction equipment shall not be left in the "on position" for more than 10 hours per day. ▪ **Construction Haul Truck Requirements.** All haul trucks entering the Project construction site during the grading and building				

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
construction phases shall meet California Air Resources Board model year 2014 engine emission standards. All heavy-duty haul trucks should also meet CARB's lowest optional low oxides of nitrogen (NO_x) standard. ▪ **Dust Control Measures.** The Project will be in compliance with all applicable Rules and Regulations of the Mojave Desert Air Quality Management District (MDAQMD), including, but not limited to Rules 401 (Visibile Emissions), 402 (Nuisance), and 403 (Fugitive Dust). To ensure compliance with these Rules and Regulations, the Project Applicant or successor in interest shall prepare and submit a Dust Control Plan to the MDAQMD for approval. The Dust Control Plan shall document the best management practices (BMPs) that will be implemented during Project construction to prevent, to the maximum extent practicable, wind and soil erosion. BMPs that will be included in the Dust Control Plan shall include, but are not limited to, covering soil stockpiles when not in use and watering soils during earth-moving activities. On days when the hourly average wind speed for north Apple Valley exceeds 20 miles per hour, additional dust control measures shall be implemented, such as increased surface watering. Grading and excavation shall be prohibited when sustained wind speed exceeds 30 miles per hour. In addition, the Project applicant or its designee shall provide to all Project construction employees the fact sheet entitled "Preventing Work-Related Coccidioidomycosis (Valley Fever)" by the California Department of Public Health and ensure all employees are aware of the potential risks the site poses. The Project applicant or its designee shall inform all Project construction employees of all occupational responsibilities and requirements contained in these measures to reduce potential exposure to *Coccidioides* spores. The training shall include all the following topics: a. What Valley Fever is and how it is contracted.				

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
b. High-risk areas and types of work and environmental conditions during which the risk of contracting Valley Fever is highest. c. Personal risk factors that may create a higher risk for some individuals. d. Personal and environmental exposure prevention methods. e. Importance of early detection, diagnosis, and treatment. f. Recognizing common signs and symptoms of Valley Fever. g. Importance of reporting symptoms to the employer and seeking medical attention. h. Common treatment and prognosis for Valley Fever. Furthermore, the Project shall implement the following actions related to Valley Fever: - An Injury Prevention Program, which shall include measures to prevent exposure to Valley Fever spores and the worker awareness training described in Labor Code Section 6709 (c) and (d). - National Institute for Occupational Safety and Health (NIOSH)-approved respirators for workers with a history of Valley Fever. - Half-face respirators equipped with a minimum N-95 protection factor for workers engaged in or working near soil disturbance activities. - The Applicant shall prevent transport of cocci outside the Project area during Project construction by (a) thoroughly cleaning vehicles and equipment before they are moved off-site to other work locations; (b) providing workers with coveralls, lockers or other daily changing facilities to keep work and street clothing and shoes separate; and (d) post warnings of potential Valley Fever exposure onsite and consider limiting access to visitors, especially those without adequate training and respiratory protection. - The Applicant shall provide prompt access to medical care to construction workers who have symptoms of Valley Fever.				

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
▪ **Construction Waste Recycling and Management.** Consistent with Section 5.408.1 of the California Green Building Standards Code Part 11, a minimum of 65% of the nonhazardous construction and demolition waste shall be recycled and/or salvage for reuse. ▪ **Architectural Coating Requirements.** Architectural and industrial maintenance coatings (e.g., paints) applied on the Project site shall have volatile organic compound levels of less than 10 grams per liter (g/L). ▪ **Construction Charging Area.** An area in the construction site shall be designated where electric-powered construction vehicles and equipment can charge. ▪ **Construction Employee Meal Options.** Meal options onsite or shuttles between the facility and nearby meal destinations shall be provided for construction employees. ▪ **Construction Logs.** The Project's construction manager shall maintain on the construction site construction logs detailing the following: - An inventory of construction equipment, maintenance records, and datasheets, including design specifications and emission control tier classifications - Verification that construction equipment operators have been advised of idling time limits and photographic evidence that signage with idling time limits have been posted around the construction site - Evidence that construction contractors have been provided with transit and ridesharing information for construction workers ▪ Construction logs shall be made available in the event that local, regional, or state officials (e.g., officials from the Town of Apple Valley, Mojave Desert Air Quality Management District, or California Air Resources Board) conduct an inspection at the Project site. **PDF-AQ-2 Site Design**				

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
▪ **Sustainable Design/LEED Measures.** The Project shall be designed so that it is able to achieve Leadership in Energy and Environmental Design (LEED) certification at the time of building permit application. Documentation shall be provided to the Town of Apple Valley demonstrating that the Project meets this requirement prior to the issuance of building permits. ▪ **Design of Ingress/Egress Points.** Entry gates into the loading dock/truck court areas shall be sufficiently positioned to ensure that all truck and other vehicles are contained on site and inside the property line. Queuing, or circling of vehicles, on public streets immediately pre- or post-entry to the Project shall be strictly prohibited unless queuing occurs in a deceleration lane or right turn lane exclusively serving the Project site. Signs shall be posted at every truck exit driveway providing directional information for the truck route. ▪ **Measures to Reduce the Urban Heat Island Effect.** The following measures shall be implemented to reduce the urban heat island effect: - The Project's roof structures shall be designed to include "cool roof" materials with a minimum aged reflectance and thermal emittance values that are equal to or greater than those specified in the current edition of the California Green Building Standards (CALGreen), Table A5.106.11.2.3 for Tier 1 standards. - Sufficient shade trees shall be provided throughout the Project site so that at least 30% of the automobile parking areas will be shaded within 15 years after Project construction is complete (excluding the truck courts where trees cannot be planted due to interference with truck maneuvering). **PDF-AQ-3 Operation** ▪ **Truck Routing Plan.** The Project Applicant or successor in interest shall establish and submit for approval to the Town of Apple Valley a Truck Routing Plan that provides for routes				

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
between the Project site and the State Highway System. The Truck Routing Plan shall include measures, such as signage, pavement markings, and enforcement, for preventing truck queuing, circling, stopping, and parking on public streets. The Truck Routing Plan shall make every effort to avoid passing sensitive receptors, to the greatest extent possible, unless otherwise superseded by an applicable truck routing ordinance adopted by the Town of Apple Valley. The tenant/operator of the Project shall be responsible for enforcement of the Truck Routing Plan. A revised plan shall be submitted to the Town of Apple Valley prior to a business license being issued by the Town of Apple Valley for any new tenant/operator of the Project site. The revised plan shall expand upon the original Truck Routing Plan and describe the operational characteristics of the use of the tenant/operator, including, but not limited to, hours of operations, types of items to be stored within the building, and whether any modifications to the Project's designated truck routes are necessary. The Town of Apple Valley shall have discretion to determine if changes to the Truck Routing Plan are necessary including any additional measures to alleviate truck routing and parking issues that may arise during the life of the Project. Signs and drive aisle pavement markings shall clearly identify the on-site circulation pattern to minimize unnecessary on-site vehicular travel. ▪ **Yard Sweeping to Reduce Fugitive Dust.** The following measure shall be implemented during all ongoing business operations and shall be included as part of contractual lease agreement language to ensure that tenants and operators of the Project are informed of the following operational responsibility: - Yard and parking area sweeping shall be periodically conducted to minimize dust generation from the Project site. The building manager or their designee shall be responsible for enforcing this requirement. ▪ **Restriction on Cold and/or Refrigerated Space.** Operations involving cold or refrigerated storage shall be prohibited unless				

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
additional environmental review, including a Health Risk Assessment, is conducted and certified pursuant to the California Environmental Quality Act. ▪ **Solar-Powered Water Heaters.** Solar-powered water heaters shall be installed on the Project site. ▪ **Timed Lighting.** A timer system for lighting to ensure that lights shall be switched off during times of non-operation shall be installed on the Project site. ▪ **Provision of Information Regarding Programs to Reduce Emissions from Trucks.** Prior to tenant occupancy, the Project Applicant or successor in interest shall provide documentation to the Town of Apple Valley demonstrating that occupants/tenants of the Project site have been provided informational documentation regarding: - Funding opportunities that provide incentives for using cleaner-than-required engines and equipment, such as the Carl Moyer Program and Voucher Incentive Program - The U.S. Environmental Protection Agency (EPA) SmartWay Program, which assists freight shippers, carriers, logistics companies, and other stakeholder partners with the U.S. EPA, to measure, benchmark, and improve logistics operations and reduce air pollutant emissions from the transport of cargo.				
Biological Resources				
MM-BIO-1. Conservation of Western Joshua Tree Lands. Mitigation for direct impacts to 3 western Joshua trees will be fulfilled through a payment of the elected fees as described in Section 1927.3 (d) of The Western Joshua Tree Conservation Act. In conformance with the fee schedule, mitigation will consist of payment of $1,000 for each western Joshua tree 5 meters or greater in height, and $200 for each western Joshua tree 1 meter or greater but less than 5 meters in height, and $150 for each western Joshua tree less than 1 meter in height. Alternatively, mitigation will occur through off-site conservation or through a CDFW approved mitigation bank, or as required by an Incidental Take Permit, if received. The project will comply with Section 1927.3 of The Western Joshua Tree	Prior to issuance of grading permits	Town of Apple Valley		

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
Conservation Act, regardless of transplantation required by the Town of Apple Valley.				
MM-BIO-2. Relocation of Desert Native Plants. Prior to the issuance of grading permits, the Project applicant shall submit an application and applicable fee paid to the Town of Apple Valley for removal or relocation of protected native desert plants under Town of Apple Valley Municipal Code Chapter 9.76, as required, and shall schedule a pre-construction site inspection with the appropriate authority. In addition, a plot plan shall be approved by the appropriate Town of Apple Valley Review Authority (County Certified Plant Expert, Planning Commission, or Town Council) indicating exactly which trees or plants are authorized to be removed. The application shall include certification from a qualified western Joshua tree and native desert plant expert(s) to determine that proposed removal or relocation of protected native desert plants are appropriate, supportive of a healthy environment, and in compliance with the Town of Apple Valley Municipal Code. Protected plants subject to Town of Apple Valley Municipal Code Chapter 9.76 may be relocated on site or within an area designated for the species. The application shall include a detailed plan for removal of all protected plants on the Project site. The plan shall be prepared by a qualified western Joshua tree and native desert plant expert(s). The plan shall include the following measures: ▪ Salvaged plants shall be transplanted expeditiously to either their final on-site location, or to an approved off-site area. If the plants cannot be expeditiously taken to their permanent relocation area at the time of excavation, they may be transplanted in a temporary area (stockpiled) prior to being moved to their permanent relocation site(s). ▪ Western Joshua trees shall be marked on their north facing side prior to excavation. Transplanted western Joshua trees shall be planted in the same orientation as they currently occur on the	Prior to issuance of grading permits and during ground clearing activities	Town of Apple Valley		

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
Project site, with the marking on the north side of the trees facing north at the relocation site(s). ▪ Transplanted plants shall be watered prior to and at the time of transplantation. The schedule of watering shall be determined by the qualified tree expert and desert native plant expert(s) to maintain plant health. Watering of the transplanted plants shall continue under the guidance of qualified tree expert and desert native plant expert(s) until it has been determined that the transplants have become established in the permanent relocation site(s) and no longer require supplemental watering.				
MM-BIO-3: Designated Biologist Authority. The Designated Biologist shall have authority to immediately stop any activity that does not comply with the biological resources mitigation measures and/or to order any reasonable measure to avoid the unauthorized take of an individual western Joshua tree.	During construction	Town of Apple Valley		
MM-BIO-4: Compliance Monitoring. The Designated Biologist shall be on site daily when impacts occur. The Designated Biologist shall conduct compliance inspections to minimize incidental take of western Joshua trees and impacts to other sensitive biological resources; prevent unlawful take of western Joshua trees; and ensure that signs, stakes, and fencing are intact, and that impacts are only occurring within the permitted impact footprint. Weekly written observation and inspection records that summarize oversight activities and compliance inspections and monitoring activities required by the Incidental Take Permit shall be prepared.	During construction	Town of Apple Valley		
MM-BIO-5: Education Program. An education program (Worker Environmental Awareness Program [WEAP]) for all persons employed or otherwise working in the Project area shall be administered before performing impacts. The WEAP shall consist of a presentation from the Designated Biologist that includes a discussion of the biology and status of western Joshua tree, burrowing owl, and loggerhead shrike; and other biological resources mitigation measures described in the CEQA document. Interpretation for non-English-speaking workers will be provided, and the same instruction shall be provided to any new workers before they are authorized to	During construction	Town of Apple Valley		

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
perform work in the Project area. Upon completion of the WEAP, employees shall sign a form stating they attended the program and understand all protection measures. This training shall be repeated at least once annually for long-term and/or permanent employees who will be conducting work in the Project area.				
MM-BIO-6: Construction Monitoring Notebook. The Designated Biologist shall maintain a construction-monitoring notebook on site throughout the construction period, which shall include a copy of the biological resources mitigation measures with attachments and a list of signatures of all personnel who have successfully completed the education program. The permittee shall ensure that a copy of the construction monitoring notebook is available for review at the Project site upon request by the California Department of Fish and Wildlife.	During construction	Town of Apple Valley		
MM-BIO-7: Delineation of Property Boundaries. Before beginning activities that would cause impacts, the contractor shall, in consultation with the Designated Biologist, clearly delineate the boundaries, consistent with the grading plan, within which the impacts will take place with fencing, stakes, or flags. All impacts within the fenced, staked, or flagged areas shall be avoided, and all fencing, stakes, and flags shall be maintained until the completion of impacts in that area.	Prior to commencement of ground disturbing activities	Town of Apple Valley		
MM-BIO-8: Hazardous Waste. The Applicant shall immediately stop work and, pursuant to pertinent state and federal statutes and regulations, arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills at the time of occurrence, or as soon as it is safe to do so.	During construction	Town of Apple Valley		
MM-BIO-9: Herbicides. The Applicant shall limit herbicide use for invasive plant species and shall use herbicides only if it has been determined that hand or mechanical efforts are infeasible. To prevent drift, the Applicant shall apply herbicides only when wind speeds are less than 7 miles per hour. All herbicide application shall be performed by a licensed applicator and in accordance with all applicable federal, state, and local laws and regulations.	During construction	Town of Apple Valley		

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
MM-BIO-10. Pre-construction Clearance Surveys for Mojave Desert Tortoise and Avoidance. Two consecutive pre-construction clearance survey in accordance with current U.S. Fish and Wildlife Service (USFWS) protocol shall be conducted to reevaluate locations of potential Mojave desert tortoise burrows within the Project limits so take of Mojave desert tortoise can be avoided. The first pre-construction clearance survey shall be conducted in areas supporting potentially suitable habitat 14 to 21 days prior to the start of construction activities, and a second survey shall be repeated within 72 hours prior to the start of construction activities; or alternatively, pre-construction clearance surveys may be conducted at any time following construction of a desert tortoise–proof fence encompassing the Project site that would ensure that tortoises cannot enter the Project after clearance surveys are completed. If no Mojave desert tortoises are found during the surveys, no further mitigation would be required; however, desert tortoise–proof fence encompassing the Project site shall remain in place until Project construction is completed and shall be monitored by a qualified biologist in compliance with current USFWS protocol. Should Mojave desert tortoise be located during the clearance survey, all methods used for handling desert tortoises during the clearance surveys must be in accordance with the USFWS Desert Tortoise Field Manual or Project-specific guidance contained in a biological opinion or Incidental Take Permit. No take of Mojave desert tortoise shall occur without authorization in the form of an Incidental Take Permit pursuant to California Fish and Game Code Section 2081 and a biological opinion or Habitat Conservation Plan. The Project applicant shall adhere to measures and conditions set forth within the Incidental Take Permit. Anyone who handles desert tortoises during clearance activities must have the appropriate authorizations from USFWS. The area cleared and number of Mojave desert tortoises found within that area shall be reported to the local USFWS and appropriate state wildlife agency. Notification shall be	<u>First survey</u> No more than 14 to 21 days before initiation of site preparation or grading activities. <u>Second Survey</u> Within 72 hours of the start of site preparation or grading activities.	Town of Apple Valley		

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
made in accordance with the conditions of the biological opinion or Incidental Take Permit. Should Mojave desert tortoise be located during the clearance survey, the Project would result in the loss of 75.1 acres of suitable habitat for Mojave desert tortoise. Mitigation for direct impacts to 75.1 acres shall be fulfilled through conservation of suitable Mojave desert tortoise habitat through the purchase of credits at a minimum of 1:1 in-kind habitat replacement of equal or better functions and values to those impacted by the Project, for a total of 75.1 acres or as otherwise determined through coordination with the USFWS and/or California Department of Fish and Wildlife.				
MM-BIO-11: Restoration of Temporary Impacts. Site construction areas subjected to temporary ground disturbance from the off-site utility improvement areas (e.g., trenching for installation of associated off-site utilities including sewer and gas), shall be recontoured to natural grade (if the grade was modified during the temporary disturbance activity), The Project does not include revegetation or restoration of temporary impacts after Project completion. However, natural vegetation will be allowed to regenerate in temporary disturbed areas. Furthermore, if topsoil is removed during construction, the segregated topsoil will be replaced, and the native seed will be allowed to regenerate naturally. This measure does not apply to situations that are urban/developed that are temporarily impacted and will be returned to an urban/developed land use.	Post construction	Town of Apple Valley		
MM-BIO-12: Pre-construction Surveys for Burrowing Owl and Avoidance. One pre-construction burrowing owl survey shall be completed no more than 14 days before initiation of site preparation or grading activities, and a second survey shall be completed within 24 hours of the start of site preparation or grading activities. If ground-disturbing activities are delayed or suspended for more than 30 days after the pre-construction surveys, the Project site and off-site improvement areas shall be resurveyed. Surveys for burrowing owl shall be conducted in accordance with protocols established in	<u>First survey</u> No more than 14 days before initiation of site preparation or grading activities. <u>Second Survey</u> Within 24 hours of the start of site preparation or grading activities.	Town of Apple Valley		

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
the California Department of Fish and Wildlife's 2012 (or most recent version) Staff Report on Burrowing Owl Mitigation. If burrowing owls are detected, the Burrowing Owl Relocation Plan shall be implemented in consultation with the California Department of Fish and Wildlife (CDFW). As required by the Burrowing Owl Relocation Plan, disturbance to burrows shall be avoided during the nesting season (February 1 through August 31). Buffers shall be established around occupied burrows in accordance with guidance provided in CDFW's Staff Report on Burrowing Owl Mitigation. No Project activities shall be allowed to encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until it is determined that occupied burrows have been vacated or the nesting season has completed. Outside of the nesting season, passive owl relocation techniques approved by CDFW shall be implemented. Owls shall be excluded from burrows in the immediate Project area and within a buffer zone by installing one-way doors in burrow entrances. These doors shall be placed at least 48 hours prior to ground-disturbing activities. The Project site shall be monitored daily for 1 week to confirm owl departure from burrows prior to any ground-disturbing activities. Compensatory mitigation for permanent loss of owl habitat shall be provided following the guidance in CDFW's Staff Report on Burrowing Owl Mitigation. Where possible, burrows shall be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe shall be inserted into the tunnels during excavation to maintain an escape route for any wildlife inside the burrow. Should burrowing owl be located during the clearance survey, the Project would result in the loss of 75.1 acres of suitable habitat for burrowing owl. Mitigation for direct impacts to 75.1 acres shall be fulfilled through conservation of suitable burrowing owl habitat through the purchase of credits at a minimum of 1:1 in-kind habitat				

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
replacement of equal or better functions and values to those impacted by the Project, for a total of 75.1 acres.				
MM-BIO-13: Pre-construction Nesting Bird Surveys and Avoidance. Special-status bird species that were observed within the Project include burrowing owl and LeConte's thrasher, and two additional special-status bird species have a moderate to high potential to occur: Bendire's thrasher and loggerhead shrike. The Project also contains trees, shrubs, and other vegetation that provide opportunities for other non-sensitive birds and raptors to nest on site. Construction activities shall avoid the migratory bird nesting season (typically February 1 through August 31) to reduce any potential significant impact to birds that may be nesting in the survey area. If construction activities must occur during the migratory bird nesting season, an avian nesting survey of the Project site and within 500 feet of all impact areas must be conducted to determine the presence/absence of protected migratory birds and active nests. The avian nesting survey shall be performed by a qualified wildlife biologist within 72 hours prior to the start of construction in accordance with the Migratory Bird Treaty Act and California Fish and Game Code Sections 3503, 3503.5, and 3513. If an active bird nest is found, the nest shall be flagged and mapped on the construction plans, along with an appropriate buffer established around the nest, which shall be determined by the biologist based on the species' sensitivity to disturbance (typically 300 feet for passerines and 500 feet for raptors and special-status species). The nest area shall be avoided until the nest is vacated, and the juveniles have fledged. The nest area shall be demarcated in the field with flagging and stakes or construction fencing. On-site construction monitoring shall be conducted when construction occurs in close proximately to an active nest buffer. No Project activities shall encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until it is determined that the nestlings have fledged, and the nest is no longer active.	If ground disturbing activities commence between February 1 through August 31, within 72 hours prior to the start of ground disturbing activities.	Town of Apple Valley		

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
MM-BIO-14. Pre-construction Survey for American Badger and Avoidance. A pre-construction survey for American badger shall be conducted within 10 days before initiation of site preparation or grading activities to determine the presence/absence of American badger. If discovered during the survey, an American badger mitigation and monitoring plan shall be developed. The mitigation and monitoring plan shall include avoidance and minimization measures to reduce potential impacts, as well as compensatory mitigation to offset direct or indirect impacts. The plan shall be developed in consultation with the California Department of Fish and Wildlife. At a minimum, the plan shall do the following: ▪ Identify pre-construction survey methods for American badger ▪ Describe feasible pre-construction and construction-phase avoidance methods ▪ Describe pre-construction and construction-phase relocation methods, including the possibility for passive relocation ▪ For burrows that will not be impacted by the Project, identify an appropriate construction exclusion zone for both active and natal burrows	Within 10 days before initiation of site preparation or grading activities.	Town of Apple Valley		
MM-BIO-15. Pre-construction Survey for Desert Kit Fox and Avoidance. A pre-construction survey for desert kit fox shall be conducted within 10 days before initiation of site preparation or grading activities to determine the presence/absence of desert kit fox. If desert kit fox is detected, the desert kit fox relocation and mitigation plan shall be implemented. As required by the desert kit fox relocation and mitigation plan, if an active non-natal desert kit fox den is detected, a 200-foot no disturbance buffer shall be established around the active den, unless otherwise authorized by the California Department of Fish and Wildlife (CDFW). Where required buffering will not be feasible, passive relocation, as outlined in the desert kit fox relocation and mitigation plan, shall be allowed with concurrence from the County of San Bernardino, CDFW, and U.S. Fish and Wildlife Service. If an active natal desert kit fox	Within 10 days before initiation of site preparation or grading activities.	Town of Apple Valley		

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
den is detected, an initial 200-foot no disturbance buffer shall be established around the natal den, and this buffer shall be maintained until the den can be verified to not host pups. Construction activities shall not be permitted in this area until the den has been vacated. Once the den is vacated, and if in danger by construction, it can be collapsed, if deemed necessary by a qualified biologist. A report to evaluate the success of the relocation efforts and any subsequent re-occupation, if applicable, shall be provided (including a comprehensive summary, tables, maps, and other necessary materials) at the end of the construction period. Data shall be readily available to the CDFW upon request. If an injured, sick, or dead desert kit fox is detected on any area associated with the Project, the designated CDFW personnel at both the Ontario office and the Wildlife Investigation Lab shall be notified as described within the desert kit fox relocation and mitigation plan.				
MM-BIO-16. Trash and Debris. The following avoidance and minimization measures shall be implemented during Project construction: ▪ Fully covered trash receptacles that are animal-proof shall be installed and used by the operator to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. Trash contained within the receptacles shall be removed at least once a week from the Project site. ▪ Construction work areas shall be kept clean of debris, such as cable, trash, and construction materials. All construction/contractor personnel shall collect all litter, vehicle fluids, and food waste from the Project site on a daily basis.	During Construction	Town of Apple Valley		
MM-BIO-17. Invasive Plant Management. To reduce the spread of invasive plant species, landscape plants within 200 feet of native vegetation communities shall not be on the most recent version of the California Invasive Plant Council's Inventory of Invasive Plants (http://www.cal-ipc.org/ip/inventory/index.php). Post-construction,	Post Construction	Town of Apple Valley		

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
the Project applicant shall continually remove invasive plant species on site by hand or mechanical methods, as feasible.				
MM-BIO-18. Lighting. Lighting for construction activities and operations within 50 feet of the outside edge of the impact footprint containing habitat for special-status wildlife shall be directed away from natural areas.	During Construction	Town of Apple Valley		
MM-BIO-19. Aquatic Resources Mitigation. The Project site supports aquatic resources that are considered jurisdictional under the Regional Water Quality Control Board (RWQCB) and the California Department of Fish and Wildlife (CDFW). Prior to construction activity, the applicant shall coordinate with the Lahontan RWQCB (Region 6) to ensure conformance with the requirements of the Porter–Cologne Water Quality Control Act (waste discharge requirement). Prior to activity within CDFW jurisdictional streambed or associated riparian habitat, the applicant shall coordinate with CDFW (Inland Deserts Region 6) relative to conformance to the Lake and Streambed Alteration permit requirements. The Project shall mitigate to ensure no-net-loss of waters at a minimum of 1:1 with purchase of credits (0.58 acres RWQCB/CDFW; specifically, 0.464 acres of on-site permanent impacts, 0.083 acres of permanent impacts within off-site improvement areas, and 0.033 acres of temporary impacts within off-site improvement areas) for impacts to aquatic resources as part of an overall strategy to ensure no net loss. Mitigation shall be completed through use of a mitigation bank (e.g., West Mojave Mitigation Bank) or other applicant-sponsored mitigation. Final mitigation ratios and credits shall be determined in consultation with RWQCB and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process. Additionally, the 0.033 acres of temporary impacts within the off-site improvement areas shall be recontoured to pre-Project contours, and a native seed mix shall be applied. Should applicant-sponsored mitigation be implemented, a Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared in accordance with State Water	Prior to and during construction	Town of Apple Valley		

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
Resources Control Board guidelines and approved by the agencies in accordance with the proposed program permits. The HMMP shall include a conceptual planting plan including planting zones, grading, and irrigation, as applicable; a conceptual planting plant palette; a long-term maintenance and monitoring plan; annual reporting requirements; and proposed success criteria. Any off-site applicant-sponsored mitigation shall be conserved and managed in perpetuity. Best management practices shall be implemented to avoid any indirect impacts on jurisdictional waters, including the following: ▪ Vehicles and equipment shall not be operated in ponded or flowing water except as described in permits. ▪ Water containing mud, silt, or other pollutants from grading or other activities shall not be allowed to enter jurisdictional waters or be placed in locations that may be subjected to high storm flows. ▪ Spoil sites shall not be located within 30 feet from the boundaries of jurisdictional waters or in locations that may be subject to high storm flows, where spoils might be washed back into drainages. ▪ Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife resources resulting from Project-related activities shall be prevented from contaminating the soil and/or entering avoided jurisdictional waters. ▪ No equipment maintenance shall be performed within 100 feet of jurisdictional waters, including wetlands and riparian areas, where petroleum products or other pollutants from the equipment may enter these areas. Fueling of equipment shall not occur on the Project site.				

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
Cultural and Tribal Cultural Resources				
MM-CUL-1. Cultural Resource Monitoring and Inadvertent Discovery Plan. Prior to ground disturbance activities, the Applicant and/or subsequent responsible parties shall retain a Principal Investigator/Archaeologist, meeting the Secretary of the Interior's Standards, and with experience in California prehistoric and historic resources (including experience within San Bernardino County preferred) Consulting Tribes to provide cultural resources services included monitoring and resource evaluation. The Principal Investigator will compose a Cultural Resource Monitoring and Inadvertent Discovery Plan (Plan). The Plan shall be submitted to the Lead Agency for dissemination to Consulting Tribes, including the Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN, also known as San Manuel Band of Mission Indians) and the Morongo Band of Mission Indians (MBMI). Once all parties review and approve the plan, it shall be adopted by the Lead Agency – the plan must be adopted prior to permitting for the project. The purpose of the Plan is to outline cultural monitoring protocols and a program of treatment and mitigation in the case of an inadvertent discovery of cultural resources during ground-disturbing phases and to provide for the proper identification, evaluation, treatment, and protection of any cultural resources in accordance with CEQA throughout the duration of the Project. Existence and importance of adherence to this Plan should be stated on all Project site plans intended for use by those conducting the ground disturbing activities.	Prior to commencement of ground disturbing activities	Town of Apple Valley		
MM-CUL-2. Workers Environmental Awareness Program (WEAP) Training. All construction personnel and monitors shall be briefed regarding unanticipated discoveries prior to the start of construction activities. A basic presentation should be prepared and presented by a qualified Archaeologist and Tribal Monitor to inform all personnel working on the Project about the archaeological sensitivity of the area. The purpose of the WEAP training is to provide specific details on the kinds of archaeological materials that may be identified during construction of the Project and explain the importance of and	Prior to commencement of ground disturbing activities	Town of Apple Valley		

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
legal basis for the protection of significant archaeological resources. Each worker should also learn the proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection, and the immediate contact of the Archaeologist and if appropriate, Tribal Monitor. Tribal Monitor from the Consulting Tribes, such as YSMN and MBMI, will be given ten days' notice prior to the training. Necessity of training attendance should be stated on all construction plans.				
MM-CUL-3. Cultural Resources Construction Monitoring. In consideration of the general sensitivity of the Project site for cultural resources, a qualified Archaeologist and regionally associated Tribal Monitor shall be retained to conduct on-site full-time cultural monitoring and to respond to any inadvertent discovery of archaeological resources. The Archaeologist and Tribal Monitor will attend a pre-grade meeting with the grading contractors to explain and coordinate the requirements of the monitoring plan. The Archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, should oversee and adjust monitoring efforts as needed (increase, decrease, or discontinue monitoring frequency) based on the observed potential for construction activities to encounter cultural deposits, in consultation with the Tribal Monitor. The Archaeologist should be responsible for maintaining monitoring logs. Following the completion of construction, the qualified Archaeologist should provide an archaeological monitoring report, including any significance testing or data recovery results, to the Lead Agency and Consulting Tribes for review and comment. Following approval by all parties, the report and all resource records will be submitted to the SCCIC, the Lead Agency, and Consulting Tribes.	During grading phases	Town of Apple Valley		
MM-CUL-4. Inadvertent Discovery of Archaeological Resources. In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Project, any project personnel have the authority to stop all construction work occurring within 100 feet of the find and notify the Archaeologist and Tribal	During construction	Town of Apple Valley		

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
Monitor if they are not already present. The Archaeologist and Tribal Monitor will direct the demarcation or barrier of an Environmentally Sensitive Area (ESA). The qualified Archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, will evaluate the significance of the find and determine whether or not additional study is warranted. Depending upon the significance of the find under the California Environmental Quality Act (14 CCR 15064.5(f); California PRC Section 21082), the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under CEQA, additional work, such as preparation of an archaeological treatment plan, testing, or data recovery, may be warranted. If the discovery is Native American in nature, consultation with the Tribal Monitor will be necessary. In addition, Consulting Tribes, including the YSMN and MBMI, shall be notified of any pre-contact archeological discoveries that may occur during project construction. Should any pre-contact archaeological inadvertent discoveries occur that are not covered by the CRMIDP, the Tribe and the Town shall consult in good faith on the appropriate treatment and evaluation of the site and the reburial and/or curation of the cultural materials.				
MM-CUL-5. Inadvertent Discovery of Human Remains. In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the county coroner shall be immediately notified of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the county coroner has determined the appropriate treatment and disposition of the human remains. If the county coroner determines that the remains are, or are believed to be, Native American, he or she shall follow all required protocols according to California Public Resources Code, Section 5097.98.	During Construction	Town of Apple Valley		
Greenhouse Gas Emissions				
MM-GHG-1. The Project shall require tenants to subscribe to the Apple Valley Choice Energy 100% Renewable Energy Plan, which is 100% renewable and 100% carbon-free, for the duration of	Prior to occupancy	Town of Apple Valley		

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
occupancy. At each lease or change of building ownership, the new lessee or owner shall also be automatically enrolled in the Apple Valley Choice Energy 100% Renewable Energy Plan, which shall be verified by the Town prior to issuance of each Certificate of Occupancy. Proof of election of the 100% renewable service option shall be provided to the Town upon request, which requirement shall be contained in all tenant lease agreements.				
Geological (Paleontological Resources)				
MM-GEO-1. Prior to commencement of any grading activity on site, the applicant shall retain a qualified paleontologist per the SVP (2010) guidelines. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the Project. The PRIMP shall be consistent with the SVP (2010) guidelines and should outline requirements for preconstruction meeting attendance and worker environmental awareness training, where monitoring is required within the proposed Project site based on construction plans and/or geotechnical reports, procedures for adequate paleontological monitoring and discoveries treatment, and paleontological methods (including sediment sampling for microvertebrate fossils), reporting, and collections management. The qualified paleontologist shall attend the preconstruction meeting and a qualified paleontological monitor shall be on site during all rough grading and other significant ground-disturbing activities (including augering) in previously undisturbed, fine-grained Pleistocene alluvial deposits. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will remove the rope and allow grading to recommence in the area of the find. Salvaged fossils deemed to be significant shall be donated to an accredited repository with retrievable storage such as the San Bernardino County Museum, Natural History Museum of Los Angeles County, or the Western Science Center. Costs for preparing the	Prior to commencement of ground disturbing activities	Town of Apple Valley		

Mitigation Measure	Implementation Timing	Agency Responsible for Monitoring	Initials	Date
fossils for accessioning into the accredited repository and any associated curation fees shall be paid by the Project proponent.				
Transportation				
MM-TRANS-1. The Project shall implement the following measures in order to reduce operational air pollutant emissions to the extent feasible: ▪ Transportation Demand Management Plan. For occupants with more than 250 employees, a Transportation Demand Management Program to reduce employee commute vehicle emissions shall be established, subject to review and approval by the Town of Apple Valley prior to issuance of each future Certificate of Occupancy. The Transportation Demand Management Plan shall apply to Project tenants through tenant leases. The TDM plan shall discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking, depending on future availability of pedestrian and bicycle facilities and transit stops within the Project vicinity and the employee scheduling needs of occupant. Examples of trip reduction measures may include, but are not limited to: - Transit passes - Car-sharing programs - Telecommuting and alternative work schedules - Ride sharing programs - Employer sponsored vanpool - Financial incentives to workers for use of alternate transportation - End-of-trip bike facilities	Prior to occupancy	Town of Apple Valley		

Appendix A

Public Review Comment Letters

Comment Letter A

Mojave Desert Air Quality Management District
Brad Poiriez, *Executive Director*
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September 25, 2023

Daniel Alcayaga, Planning Manager
Town of Apple Valley
14955 Dale Evans Parkway
Apple Valley, CA 92307

Project: Apple Valley 1M Warehouse Project DEIR

Dear Mr. Alcayaga:

The Mojave Desert Air Quality Management District (District) has received a request for comments on the Draft Environmental Impact Report (EIR) for the proposed 1M warehouse Project in Apple Valley. The Project includes the construction of a single 1,080,125 square foot industrial/warehouse building and associated improvements on 67.3 acres of vacant land. This approximately 67.3-acre Project site is located in the northern part of the Town, which is within the Victor Valley Region of San Bernardino County. In total, the Project would provide approximately 224 loading dock positions, approximately 317 tractor-trailer stalls, and approximately 1,262 passenger vehicle parking spaces. A-1

The District has reviewed the DEIR and is concerned that the air quality analysis has ignored impacts to sensitive receptors, despite having received concerned comments from those same sensitive receptors. The DEIR claims that "the nearest sensitive receptor to the Project site is a fire center approximately 600 feet to the south, as it could potentially contain sleeping quarters". While this the fire center is considered a sensitive receptor, it is not the only one near the proposed project site. There is also a single-family residence within 650 ft of the eastern boundary which will be equally exposed to emissions from the both construction and operational phases of the warehouse. Furthermore, the residence in question has submitted written correspondence which was noted in the scoping period comments but never addressed in the DEIR. The MDAQMD requests that the Final EIR officially recognize this residence as a sensitive receptor impacted by this project and include it in the final air quality analysis. A-2

The District requirse that the following dust mitigation measures be required for the construction portion of the development (enforceable by the District AND by the land use agency) should the project be approved:

- Prepare and submit to the MDAQMD, prior to commencing earth-moving activity, a dust control plan that describes all applicable dust control measures that will be implemented at the project; A-3

- Signage compliant with Rule 403 Attachment B shall be erected at each project site entrance not later than the commencement of construction. A-4

- Use a water truck to maintain moist disturbed surfaces and actively spread water during visible dusting episodes to minimize visible fugitive dust emissions. For projects with exposed sand or fines deposits (and for projects that expose such soils through earthmoving), chemical stabilization or covering with a stabilizing layer of gravel will be required to eliminate visible dust/sand from sand/fines deposits. A-5

- All perimeter fencing shall be wind fencing or the equivalent, to a minimum of four feet of height or the top of all perimeter fencing. The owner/operator shall maintain the wind fencing as needed to keep it intact and remove windblown dropout. This wind fencing requirement may be superseded by local ordinance, rule or project-specific biological mitigation prohibiting wind fencing. A-6

- All maintenance and access vehicular roads and parking areas shall be stabilized with chemical, gravel or asphaltic pavement sufficient to eliminate visible fugitive dust from vehicular travel and wind erosion. Take actions to prevent project-related trackout onto paved surfaces, and clean any project-related trackout within 24 hours. All other earthen surfaces within the project area shall be stabilized by natural or irrigated vegetation, compaction, chemical or other means sufficient to prohibit visible fugitive dust from wind erosion. A-7

- Obtain District permits for any miscellaneous process equipment that may not be exempt under District Rule 219 including, but not limited to: Internal Combustion Engines with a manufacture's maximum continuous rating greater than 50 brake horsepower. A-8

Thank you for the opportunity to review this planning document. If you have any questions regarding this letter, please contact me at (760) 245-1661, extension 6726, or Bertrand Gaschot at extension 4020.

Sincerely,

Chris Anderson
Planning and Air Monitoring Supervisor

CA/bg Apple Valley 1M Warehouse Project 2023 Sep 21

Comment Letter B

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Via Email

October 24, 2023

Mr. Daniel Alcayaga
Town of Apple Valley
Planning Department
14955 Dale Evans Parkway
Apple Valley, California 92307
dalcayaga@applevalley.org

Re: Comment on Draft Environmental Impact Report, 1M Warehouse Project (SCH 2023020285)

Dear Mr. Alcayaga:

This comment is submitted on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") regarding the Draft Environmental Impact Report ("DEIR") prepared for the 1M Warehouse Project (SCH 2023020285), which proposes the construction of a 1,080,125-square-foot industrial/warehouse building on approximately 67.3 acres, located at the intersection of Central Road and Lafayette Street in the City of Apple Valley ("Project").

B-1

SAFER is concerned that the DEIR fails as an informational document and fails to impose all feasible mitigation measures to reduce the Project's impacts. SAFER requests that the Planning Department address these shortcomings in a revised draft environmental impact report ("RDEIR") and recirculate the RDEIR prior to considering approvals for the Project.

SAFER reserves the right to supplement these comments during the administrative process. *Galante Vineyards v. Monterey Peninsula Water Management Dist.*, 60 Cal. App. 4th 1109, 1121 (1997).

Sincerely,

Brian B. Flynn
Lozeau Drury LLP

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October 27, 2023

Daniel Alcayaga, Planning Manager
City of Commerce
14955 Dale Evans Parkway
Apple Valley, CA 92307

VIA EMAIL TO:
dalcayaga@applevalley.org

Subject*: COMMENTS ON 1M WAREHOUSE EIR (SCH NO. 2023020285*)

Dear Mr. Alcayaga,

Thank you for the opportunity to comment on the Environmental Impact Report (EIR) for the proposed 1M Warehouse Project. Please accept and consider these comments on behalf of Golden State Environmental Justice Alliance. Also, Golden State Environmental Justice Alliance formally requests to be added to the public interest list regarding any subsequent environmental documents, public notices, public hearings, and notices of determination for this project. Send all communications to Golden State Environmental Justice Alliance P.O. Box 79222 Corona, CA 92877. C-1

1.0 Summary

The project proposes the construction and operation of one 1,080,125 square feet warehouse building on an approximately 67.3 acre vacant site. The building includes 15,000 square feet of office space. The building is designed as a cross-dock fulfillment center warehouse that includes 224 truck/trailer loading dock doors (112 dock doors each on the east and west sides of the building), 317 truck/trailer parking spaces, and 1,262 passenger car parking spaces. A tenant for the proposed industrial warehouse building has not yet been identified, but the EIR analyzes project would operate as an unrefrigerated warehouse and/or distribution facility C-2

3.0 Project Description

The EIR does not include a floor plan, detailed site plan, or a detailed grading plan. The basic components of a Planning Application include a detailed site plan, floor plan, conceptual grading plan, written narrative, and detailed elevations. Additionally, the site plan provided in Figure 3-10 has been edited to remove pertinent information from public view. For example, it does not C-3

provide any detailed information such as earthwork quantity notes, floor area ratio calculation, or project analysis in accordance with development standard requirements. Providing the grading plan and earthwork quantity notes is vital as the EIR states that "For onsite and off-site development, it was assumed that approximately 152,288 cubic yards of soil would be exported. After the modeling was completed, a new grading plan was released that stated the project would result in a net import of 13,400 cubic yards of material. Because the new grading plan results in the transport of significantly less material, and therefore fewer haul trucks, the modeling is conservative and has not been changed for this analysis." The EIR has not provided any method for the public to verify the claims made in this statement. The EIR references multiple versions of the grading plan, and no grading plans are included for public review. Verification of the import/export materials is vital as it directly informs the quantity of necessary truck hauling trips due to soil import/export during the grading phase of construction. A revised EIR must be prepared to include wholly accurate and adequate detailed project site plan, floor plan, grading plan (all versions discussed in the EIR), elevations, and project narrative for public review.

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4.2 Air Quality, 4.5 Energy, and 4.6 Greenhouse Gas Emissions

Please refer to attachments from SWAPE for a complete technical commentary and analysis.

The EIR does not include meaningful analysis of relevant environmental justice issues in reviewing potential impacts, including cumulative impacts from the proposed project. This is especially significant as the surrounding community is highly burdened by pollution. According to CalEnviroScreen 4.0[1], CalEPA's screening tool that ranks each census tract in the state for pollution and socioeconomic vulnerability, the proposed project's census tract (6071012104) is highly burdened by pollution. The surrounding community bears the impact of multiple sources of pollution and is more polluted than other census tracts in many pollution indicators measured by CalEnviroScreen. For example, the project census tract ranks in the 89th percentile for ozone burden, which is attributed to heavy vehicular traffic and truck activity in the area. Ozone can cause lung irritation, inflammation, and worsening of existing chronic health conditions, even at low levels of exposure[2].

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The census tract also bears more impacts from cleanup sites than 96% of the state. Chemicals in the buildings, soil, or water at cleanup sites can move into nearby communities through the air or movement of water[3]. The census tract ranks in the 93rd percentile for solid waste facility impacts. Solid waste facilities can expose people to hazardous chemicals, release toxic gases into the air

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[1] CalEnviroScreen 4.0 https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40
[2] OEHHA Ozone https://oehha.ca.gov/calenviroscreen/indicator/air-quality-ozone
[3] OEHHA Cleanup Sites https://oehha.ca.gov/calenviroscreen/indicator/cleanup-sites

(even after these facilites are closed), and chemicals can leach into soil around the facility and pose a health risk to nearby populations[4].

The census tract also ranks in the 79th percentile for drinking water, which indicates that it ranks with the worst quality drinking water in the state. Poor communities and people in rural areas are exposed to contaminants in their drinking water more often than people in other parts of the state[5].

Further, the census tract is a diverse community including 29% Hispanic and 6% African-American residents, whom are especially vulnerable to the impacts of pollution. The community has a high rate of low educational attainment, meaning 64% of the census tract over age 25 has not attained a high school diploma, which is an indication that they may lack health insurance or access to medical care. The community also has a high rate of poverty, meaning 64% of the households in the census tract have a total income before taxes that is less than the poverty level. Income can affect health when people cannot afford healthy living and working conditions, nutritious food and necessary medical care[6]. Poor communities are often located in areas with high levels of pollution[7]. Poverty can cause stress that weakens the immune system and causes people to become ill from pollution[8]. Living in poverty is also an indication that residents may lack health insurance or access to medical care. Medical care is vital for this census tract as it ranks in the 96th percentile for incidence of cardiovascular disease and 90th percentile for incidence of asthma.

C-6

California's Building Energy Code Compliance Software (CBECC) is the State's only approved energy compliance modeling software for non-residential buildings in compliance with Title 24[9]. CalEEMod is not listed as an approved software. The CalEEMod modeling does not comply with the 2022 Building Energy Efficiency Standards and under-reports the project's significant Energy impacts and fuel consumption to the public and decision makers. Since the EIR did not accurately or adequately model the energy impacts in compliance with Title 24, a finding of significance must be made. A revised EIR with modeling using the approved software (CBECC) must be circulated for public review in order to adequately analyze the project's significant environmental impacts. This is vital as the EIR utilizes CalEEMod as a source in its methodology and analysis, which is clearly not the approved software.

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[4] OEHHA Solid Waste Facilities https://oehha.ca.gov/calenviroscreen/indicator/solid-waste-sites-and-facilities
[5] OEHHA Drinking Water https://oehha.ca.gov/calenviroscreen/drinking-water
[6] OEHHA Poverty https://oehha.ca.gov/calenviroscreen/indicator/poverty
[7] Ibid.
[8] Ibid.
[9] California Energy Commission 2022 Energy Code Compliance Software https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-1

4.9 Land Use and Planning

The EIR does not provide a consistency analysis with all land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. The project has significant potential to conflict with many of these items, including but not limited to the following from the Climate Action Plan and General Plan and a revised EIR must be prepared with a consistency analysis in order to provide an adequate and accurate environmental document:

1. ND-6. For projects within the North Apple Valley Industrial Specific Plan, develop employee housing within one mile of the industrial project. (Climate Action Plan)

2. ND-7. Preserve trees occurring on-site either through in situ protection during and after construction, or through transplant and relocation within landscaped areas.(Climate Action Plan)

3. ND-10. Install bus stop(s) and secure scheduled transit service from Victor Valley Transit Authority. (Climate Action Plan)

4. ND-14. Use passive solar design by orienting buildings and incorporating landscaping to maximize passive solar heating during the winter, and minimize solar heating during the summer. (Climate Action Plan)

5. Air Quality Element Program 1.A.1: Apple Valley shall adhere to existing and future greenhouse gas and global warming rules, regulations, and requirements to monitor and reduce emissions.

6. Air Quality Element Policy 1.B: The Town shall proactively regulate local pollutant emitters by coordinating and cooperating with local, regional and federal efforts to monitor, manage and decrease the levels of major pollutants affecting the Town and region, with particular emphasis on PM10 and ozone emissions, as well as other emissions associated with diesel-fueled equipment and motor vehicles.

7. Air Quality Element Policy 1.D: All proposals for development activities within the Town shall be reviewed for their potential to adversely impact local and regional air quality and shall be required to mitigate any significant impacts.

8. Air Quality Element Program 1.D.1: All projects that have the potential to generate significant levels of air pollution shall be required to provide detailed impact analyses and design mitigation measures that incorporate the most advanced technological methods available. Prior

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to the issuance of grading or demolition permits, the Town shall review and determine the effectiveness of proposed mitigation measures and set forth additional measures as needed.

9. Circulation Element Program 1.A.4: The Town shall require that all intersections maintain a Level of Service D during both the morning and evening peak hour.

Further, the EIR omits discussion and analysis regarding the project's inconsistency with other land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. For example, the project will have a significant and unavoidable cumulatively considerable impact to Greenhouse Gas Emissions because it will exceed the threshold of 3,000 metric tons of CO2e per year by approximately 18,170 metric tons of CO2e. The Land Use and Planning analysis omits any discussion regarding inconsistencies with California's statewide GHG reduction goals for 2030 and 2050. The project will also have significant and unavoidable impacts due to VMT, which is inconsistent with the legislative intent of SB743. The EIR must be revised to include these significant and unavoidable cumulatively considerable impacts for analysis and include a finding of significance.

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Appendix J: Transportation Impact Analysis determined the following Caltrans jurisdiction is identified to experience significant and unavoidable impacts resulting from the project:

1. (Intersection #5) I-15 NB Ramps - Outer I-15/Stoddard Wells Road – LOS F during AM and PM peak hours

Any improvements constructed or in-lieu fees/fair share fees paid for the I-15 are beyond the control/scope of the lead agency. An assessment of fees is appropriate when linked to a specific mitigation program. (*Anderson First Coalition v. City of Anderson* (2005) 130 Cal.App.4th 1173, *Save our Peninsula Comm. v. Monterey County Bd. Of Supers.* (2001) 87 Cal.App.4th 99, 141.) Payment of fees is not sufficient where there is no evidence mitigation will actually result. (*Gray v. County of Madera* (2008) 167 Cal.App.4th 1099,1122.) The assessment of fees here is not adequate as there is no evidence mitigation will actually result. The improvements required are not part of an existing DIF/TUMF program and therefore are not planned to occur at all or by any certain date, whether by Apple Valley or Caltrans. Any improvements recommended or fees paid to mitigate impacts for the I-15 are beyond the control of the lead agency and evidence that these improvements will be completed or approved by Caltrans has not been provided. The EIR must be revised and recirculated to include the LOS analysis as cumulatively considerable significant impact as the project conflicts with Transportation Impact Threshold A and Land Use and Planning Impact Threshold B because it is not consistent with the following General Plan policy:

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1. Circulation Element Program 1.A.4: The Town shall require that all intersections maintain a Level of Service D during both the morning and evening peak hour.

C-10 Cont.

The EIR has not provided any information or analysis on the buildout conditions of the General Plan or the North Apple Valley Industrial Specific Plan (NAVISP). Table II-2: Specific Plan Land Use Designations Buildout Summary of the NAVISP[10] states that the Industrial - Specific Plan designation will have a buildout square footage of 42,599,240, and this analysis is based upon new development construction at 22% building coverage of the site. The EIR states the proposed project will have 36.9% building coverage of the site, which is nearly double the quantity analyzed for every site in the NAVISP. Other projects in the NAVISP area have also constructed at higher building coverage rates than the NAVISP analyzed, such as the Project Jupiter Distribution Warehouse[11] that was constructed at 29% building coverage of the site, the Development at Dale Evans and Lafayette[12] that was proposed at 35% building coverage of the site, and GTS Cold Storage[13] that was proposed at 49.9% building coverage of the site. The EIR has not demonstrated that the proposed project is within the buildout scenario of the NAVISP, including all cumulative development constructed since the inception of the NAVISP, approved projects not yet constructed, and "projects in the pipeline." A revised EIR must be prepared to include this analysis in order to provide an adequate and accurate environmental analysis.

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Table III-41: Preferred Alternative General Plan Land Use Designation Build Out Summary: Town & Unincorporated Lands of the General Plan EIR[14] states that the Industrial Specific Plan land use designation will have a buildout of 36,938,445 total square feet. The proposed project's 1,080,125 square feet represents 2.9% of the General Plan buildout for this land use designation, which is significant to be attributed to a single project. As discussed above, the EIR has not demonstrated that the proposed project is within the General Plan buildout scenario, including all cumulative development constructed since approval of the General Plan, approved projects not yet constructed, and "projects in the pipeline." Other recent industrial projects such as Project Jupiter Distribution Warehouse (1,360,875 square feet of industrial/warehouse space[15]), GTS Cold Storage (385,004 square feet of industrial/warehouse space[16]), and The Development at Dale

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[10] North Apple Valley Industrial Specific Plan
https://www.applevalley.org/home/showpublisheddocument/18587/636149111285930000
[11] Project Jupiter Distribution Warehouse https://ceqanet.opr.ca.gov/2016041058
[12] The Development at Dale Evans and Lafayette https://ceqanet.opr.ca.gov/2022120356/2
[13] GTS Cold Storage https://ceqanet.opr.ca.gov/2023080221
[14] Apple Valley General Plan EIR
https://www.applevalley.org/home/showpublisheddocument/24331/636552384686570000
[15] Project Jupiter Distribution Warehouse https://ceqanet.opr.ca.gov/2016041058
[16] GTS Cold Storage https://ceqanet.opr.ca.gov/2023080221

Evans and Lafayette (1,207,544 square feet of industrial/warehouse space[17]) cumulatively with the proposed project generate 4,033,548 square feet of industrial/warehouse space, which is 10.9% of the General Plan buildout capacity accounted for by only four recent industrial projects. A revised EIR must be prepared to include this analysis in order to provide an adequate and accurate environmental analysis.

C-12 Cont.

Table 4.9-2: Consistency with 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy Goals provides a misleading and erroneous consistency analysis with SCAG's 2020-2045 Connect SoCal RTP/SCS. Due to errors in modeling, modeling without supporting evidence (as noted throughout this comment letter and attachments) and the EIR's determination that the project will have significant and unavoidable cumulatively considerable impacts to Greenhouse Gas Emissions and Transportation (hazardous queueing and VMT), the proposed project is directly inconsistent with Goal 5 to reduce greenhouse gas emissions and improve air quality, Goal 6 to support healthy and equitable communities, and Goal 7 to adapt to a changing climate. The EIR must be revised to include a finding of significance due to these direct inconsistencies with SCAG's 2020-2045 Connect SoCal RTP/SCS.

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4.12 Transportation

Appendix J: Transportation Impact Analysis determined the following Caltrans jurisdiction is identified to experience significant and unavoidable impacts resulting from the project:

1. (Intersection #5) I-15 NB Ramps - Outer I-15/Stoddard Wells Road – LOS F during AM and PM peak hours

Any improvements constructed or in-lieu fees/fair share fees paid for the I-15 are beyond the control/scope of the lead agency. An assessment of fees is appropriate when linked to a specific mitigation program. (*Anderson First Coalition v. City of Anderson* (2005) 130 Cal.App.4th 1173, *Save our Peninsula Comm. v. Monterey County Bd. Of Supers.* (2001) 87 Cal.App.4th 99, 141.) Payment of fees is not sufficient where there is no evidence mitigation will actually result. (*Gray v. County of Madera* (2008) 167 Cal.App.4th 1099,1122.) The assessment of fees here is not adequate as there is no evidence mitigation will actually result. The improvements required are not part of an existing DIF/TUMF program and therefore are not planned to occur at all or by any certain date, whether by Apple Valley or Caltrans. Any improvements recommended or fees paid to mitigate impacts for the I-15 are beyond the control of the lead agency and evidence that these improvements will be completed or approved by Caltrans has not been provided. The EIR must be revised and recirculated to include the LOS analysis as cumulatively considerable significant

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[17] The Development at Dale Evans and Lafayette https://ceqanet.opr.ca.gov/2022120356/2

impact as the project conflicts with Transportation Impact Threshold A and Land Use and Planning Impact Threshold B because it is not consistent with the following General Plan policy:

1. Circulation Element Program 1.A.4: The Town shall require that all intersections maintain a Level of Service D during both the morning and evening peak hour

C-14 Cont.

Although the EIR concludes the project would result in significant and unavoidable impacts due to an increase in hazardous conditions (queuing at I-15 NB ramps and Stoddard Wells Rd.), the EIR has not fully analyzed the project's impacts within this threshold. The EIR has not adequately analyzed the project's potential to substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses; or the project's potential to result in inadequate emergency access. The EIR has not provided any exhibits depicting the available truck/trailer turning radius at the intersection of the project driveways to determine if there is enough space available to accommodate heavy truck maneuvering. Further, there are no exhibits providing on-site analysis regarding available space on the property to accommodate heavy truck maneuvering. Notably, truck/trailer parking stalls are adjacent to the truck/trailer loading docks on the east and west sides of the building. These parking stalls that may be in use at any time and further restrict truck/trailer movement on the site. Additionally, heavy truck/trailers that enter the site from Johnson Road that need to utilize the loading docks on the west side of the building must utilize a windy road that traverses the passenger car parking area and creates further possibility of conflict between onsite vehicles. There are also no exhibits depicting emergency vehicle access. The EIR also states that, "the site plan would be subject to plan review by the Town's Fire Department to ensure proper access for fire and emergency response is provided and required fire suppression features are included," which is deferred mitigation to after the CEQA public review process. Deferring this environmental analysis required by CEQA to the construction permitting phase is improper mitigation, deferred mitigation, and does not comply with CEQA's requirement for meaningful disclosure and adequate informational documents. A revised EIR must be prepared to include a finding of significance due to these significant and unavoidable impacts.

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Further, the EIR has underreported the quantity VMT generated by the proposed project operations. The operational nature of industrial/warehouse uses involves high rates of truck/trailer/delivery van VMT due to traveling from large import hubs to regional distribution centers to smaller industrial parks and then to their final delivery destinations. Once employees arrive at work at the proposed project, they will conduct their jobs by driving delivery vans across the region as part of the daily operations as a warehouse, which will drastically increase project-generated VMT. The project's truck/trailer and delivery van activity is unable to utilize public transit or active transportation and it is misleading to the public and decision makers to exclude this activity from VMT analysis. Even though the EIR concludes the project's employees will

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generate a significant and unavoidable VMT impact, the project's total operational VMT generated further exceeds the significance threshold and legislative intent of SB 743 to reduce greenhouse gas emissions by reducing VMT. A revised EIR must be prepared to reflect a quantified VMT analysis that includes all truck/trailer and delivery van activity.

C-16 Cont.

5.6 Effects Found Not to be Significant: Population and Housing

The EIR utilizes uncertain language and does not provide any meaningful analysis or supporting evidence to substantiate the conclusion that there will be no significant impacts to population and housing. For example, the EIR states regarding the project's construction and operational jobs that "the Project's temporary and permanent employment requirements could *likely* be met by the *Town's* existing labor force without people needing to relocate into the Project *region.*" The EIR specifically states that the *Town's* existing labor force will accommodate the 2,108 jobs generated by the proposed project but only cites that the "unemployment rate for San Bernardino County is at 5%." The EIR has not provided evidence that the local workforce (the Town specifically or San Bernardino County) is qualified for or interested in work in the construction and/or industrial sector. Without this supporting evidence, the project must relying on the entire labor force within the greater SCAG region to fill the project's construction and operational jobs. This will increase VMT and emissions during all phases of construction and operations and a revised EIR must be prepared to account for longer worker trip distances.

C-17

SCAG's Connect SoCal Demographics and Growth Forecast[18] states that Apple Valley will add 12,200 jobs between 2016 - 2045. Utilizing the EIR's calculation of 904 employees, the project represents 7.4% of Apple Valley's employment growth from 2016 - 2045. A single project accounting for this amount of growth over 29 years represents a significant amount of growth. A revised EIR must be prepared to include this analysis, and also provide a cumulative analysis discussion of projects approved since 2016 and projects "in the pipeline" to determine if the project will exceed SCAG's employment and/or population growth forecast. For example, other recent projects such as Apple Valley 143 (2,520,000 square feet of industrial/warehouse space; 2,108 employees[19]), Apple Valley Commercial Project (49,995 square feet commercial space; 75 employees[20]), and The Development at Dale Evans and Lafayette (1,207,544 square feet of industrial/warehouse space; 1,172 employees[21]) combined with the proposed project will cumulatively generate 4,259 employees, which is 35% of Apple Valley's employment growth

[18] SCAG Connect SoCal Demographics and Growth Forecast adopted September 3, 2020 https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal_demographics-and-growth-forecast.pdf?1606001579
[19] Apple Valley 143 https://ceqanet.opr.ca.gov/2022070019
[20] Apple Valley Commercial Project https://ceqanet.opr.ca.gov/2021100585
[21] The Development at Dale Evans and Lafayette https://ceqanet.opr.ca.gov/2022120356/2

forecast over 29 years accounted for by only four recent projects. These totals increase exponentially when commercial and other industrial development activity is added to the brief list of recent activity above. A revised EIR must be prepared to include this information for analysis, and also provide a cumulative analysis discussion of projects approved since 2016 and projects "in the pipeline" to determine if the proposed project will exceed the employment/population growth forecasts by SCAG, the NAVISP, and/or the Town's General Plan.

C-17 Cont.

6.1 Growth Inducing Impacts and 6.2 Significant Irreversible Changes

The EIR has not provided an adequate or accurate cumulative analysis discussion here to demonstrate the impact of the proposed project in a cumulative setting. The EIR has not provided any information or analysis on the buildout conditions of the General Plan or the North Apple Valley Industrial Specific Plan (NAVISP). Table II-2: Specific Plan Land Use Designations Buildout Summary of the NAVISP[22] states that the Industrial - Specific Plan designation will have a buildout square footage of 42,599,240, and this analysis is based upon new development construction at 22% building coverage of the site. The EIR states the proposed project will have 36.9% building coverage of the site, which is nearly double the quantity analyzed for every site in the NAVISP. Other projects in the NAVISP area have also constructed at higher building coverage rates than the NAVISP analyzed, such as the Project Jupiter Distribution Warehouse[23] that was constructed at 29% building coverage of the site, the Development at Dale Evans and Lafayette[24] that was proposed at 35% building coverage of the site, and GTS Cold Storage[25] that was proposed at 49.9% building coverage of the site. The EIR has not demonstrated that the proposed project is within the buildout scenario of the NAVISP, including all cumulative development constructed since the inception of the NAVISP, approved projects not yet constructed, and "projects in the pipeline." A revised EIR must be prepared to include this analysis in order to provide an adequate and accurate environmental analysis.

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Further, employment generation has not been adequately analyzed as other recent projects such as Apple Valley 143 (2,520,000 square feet of industrial/warehouse space; 2,108 employees[26]), Apple Valley Commercial Project (49,995 square feet commercial space; 75 employees[27]), and The Development at Dale Evans and Lafayette (1,207,544 square feet of industrial/warehouse space;

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[22] North Apple Valley Industrial Specific Plan https://www.applevalley.org/home/showpublisheddocument/18587/636149111285930000
[23] Project Jupiter Distribution Warehouse https://ceqanet.opr.ca.gov/2016041058
[24] The Development at Dale Evans and Lafayette https://ceqanet.opr.ca.gov/2022120356/2
[25] GTS Cold Storage https://ceqanet.opr.ca.gov/2023080221
[26] Apple Valley 143 https://ceqanet.opr.ca.gov/2022070019
[27] Apple Valley Commercial Project https://ceqanet.opr.ca.gov/2021100585

1,172 employees[28]) combined with the proposed project will cumulatively generate 4,259 employees, which is 35% of Apple Valley's employment growth forecast over 29 years accounted for by only four recent projects. These totals increase exponentially when commercial and other industrial development activity is added to the brief list of recent activity above. A revised EIR must be prepared to include this information for analysis, and also provide a cumulative analysis discussion of projects approved since 2016 and projects "in the pipeline" to determine if the proposed project will exceed the employment/population growth forecasts by SCAG, the NAVISP, and/or the Town's General Plan.

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6.2 Significant Irreversible Changes

The EIR is erroneous and internally inconsistent in stating that, "According to the Town of Apple Valley General Plan and the Apple Valley Municipal Code, the land use and zoning designations for the Project site are Regional Commercial (C-R) with a Warehouse Distribution Regional Commercial Overlay." This information conflicts with the Project Description and several other portions of analysis within the EIR that state the project is located within the Industrial area of the NAVISP. The EIR must be revised and recirculated to include accurate information and accordingly update the analysis.

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7.0 Alternatives

The EIR is required to evaluate a reasonable range of alternatives to the proposed project which will avoid or substantially lessen any of the significant effects of the project (CEQA § 15126.6.) The alternatives chosen for analysis include the CEQA required "No Project" alternative and only two others - Other Development Project Alternative and Reduced Development Intensity Alternative. The EIR does not evaluate a reasonable range of alternatives as only two alternatives beyond the required No Project alternative is analyzed. The EIR does not include an alternatives that meets the project objectives and also eliminates all of the project's significant and unavoidable impacts. The EIR must be revised to include analysis of a reasonable range of alternatives and foster informed decision making (CEQA § 15126.6). This could include alternatives such as development of the site with a project that reduces all of the proposed project's significant and unavoidable impacts to less than significant levels, and a mixed-use project that provides affordable housing and local-serving commercial uses that may reduce VMT, GHG emissions, and improve Air Quality.

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[28] The Development at Dale Evans and Lafayette https://ceqanet.opr.ca.gov/2022120356/2

Conclusion

For the foregoing reasons, GSEJA believes the EIR is flawed and a revised EIR must be prepared for the proposed project and circulated for public review. Golden State Environmental Justice Alliance requests to be added to the public interest list regarding any subsequent environmental documents, public notices, public hearings, and notices of determination for this project. Send all communications to Golden State Environmental Justice Alliance P.O. Box 79222 Corona, CA 92877.

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Sincerely,



Gary Ho
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October 27, 2023

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Subject: Comments on the 1M Warehouse Project (SCH No. 2023020285)

Dear Mr. Ho,

We have reviewed the September 2023 Draft Environmental Impact Report ("DEIR") for the 1M Warehouse Project ("Project") located in the City of Apple Valley ("City"). The Project proposes to construct 1,080,125-square-feet ("SF") of warehouse space, 15,000-SF of office space, and 1,579 parking spaces on the 67.3-acre site.

Our review concludes that the DEIR fails to adequately evaluate the Project's air quality, health risk, and greenhouse gas impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project may be underestimated and inadequately addressed. An Environmental Impact Report ("EIR") should be prepared to adequately assess and mitigate the potential air quality, health risk, and greenhouse gas impacts that the project may have on the environment.

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Air Quality

Failure to Provide Complete CalEEMod Output Files

Land use development projects under the California Environmental Quality Act ("CEQA") typically evaluate air quality impacts and calculate potential criteria air pollutant emissions using the California Emissions Estimator Model ("CalEEMod").[1] CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user

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[1] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide.

can change the default values and input project-specific values, but CEQA requires that such changes be justified by substantial evidence. Once all of the values are inputted into the model, the Project's construction and operational emissions are calculated, and "output files" are generated. These output files disclose to the reader what parameters are used in calculating the Project's air pollutant emissions and demonstrate which default values are changed. Justifications are provided for the selected values.

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According to the DEIR, the Project's construction-related and operational emissions were calculated using CalEEMod Version 2022.1 (p. 4.2-21). However, this poses a problem as the currently available version is a soft-release which fails to provide complete output files.[2] Specifically, the "User Changes to Default Data" table no longer provides the quantitative counterparts to the changes to the default values (see excerpt below) (Appendix B-1, pp. 91, 180, 181, 237):

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Construction schedule adjusted according to project description and assumptions discussed with the PM.
Construction: Off-Road Equipment	CalEEMod defaults. Equipment assumptions for pipeline installation phase created using similar past pipeline projects. Assuming 10 air compressors for arc coating phase.
Construction: Trips and VMT	Assuming an even number of all trips. Assuming at least 4 vendor trips per day. Per PD, during the on-site grading and off-site pipeline phases, 150,000 CY and 2,288 CY of soil would be exported, respectively
Operations: Vehicle Data	Assuming 40 miles for truck trips as explained in the AQ section. Assuming H-W trip length of 34 miles for all passenger trips.
Operations: Fleet Mix	Fleetmix adjusted based on vehicle type split provided in traffic report. Unrefrigerated Warehouse-Rail used to estimate passenger vehicles and Unrefrigerated Warehouse-No Rail used to estimate trucks.
Operations: Water and Waste Water	No outdoor water use expected for parking lot.
Operations: Off-Road Equipment	Forklifts and yard truck calcs based on attached Excel spreadsheet.
Operations: Refrigerants	Warehouse is unrefrigerated.
Construction: Architectural Coatings	PDF that all arc coatings do not exceed 10 g/L
Operations: Architectural Coatings	PDF that all arc coatings are 10 g/L or less
Construction: Dust From Material Movement	Per PD, during the on-site grading and off-site pipeline phases, 150,000 CY and 2,288 CY of soil would be exported, respectively. This was summed in the Grading phase.

However, previous versions of CalEEMod, such as 2020.4.0, display the specific numeric changes to the model's default values (see example excerpt below):

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[2] "CalEEMod California Emissions Estimator Model Soft Release." California Air Pollution Control Officers Association (CAPCOA), 2022, *available at:* https://caleemod.com/.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	167.00
tblConstructionPhase	PhaseEndDate	11/22/2023	8/25/2023
tblConstructionPhase	PhaseEndDate	9/27/2023	6/30/2023
tblConstructionPhase	PhaseEndDate	10/25/2023	7/28/2023
tblConstructionPhase	PhaseStartDate	10/26/2023	7/29/2023
tblConstructionPhase	PhaseStartDate	9/28/2023	7/1/2023
tblLandUse	LandUseSquareFeet	160,000.00	160,371.00
tblLandUse	LandUseSquareFeet	119,000.00	41,155.00
tblLandUse	LotAcreage	3.67	3.68
tblLandUse	LotAcreage	2.73	2.74

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The output files associated with CalEEMod Version 2022.1 fail to divulge the exact parameters used to calculate Project emissions. To remedy this issue, the DEIR should have provided access to the model's ".JSON" output files, which allow third parties to review the model's revised input parameters.[3] Without access to the complete output files, including the specific numeric changes to the default values, we cannot verify that the DEIR's air modeling and subsequent analysis is an accurate reflection of the proposed Project. As a result, a revised EIR should be prepared to include an updated air quality analysis that correctly provides the complete output files for CalEEMod Version 2022.1 or includes an updated air model using an older release of CalEEMod.[4]

Unsubstantiated Changes to Individual Construction Phase Lengths

Review of the CalEEMod output files demonstrates that the "1M Warehouse – Mitigated Detailed Report" model include several changes to the default individual construction phase lengths (see excerpt below) (Appendix B-1, pp. 91, 180, 237).

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[3] "Video Tutorials for CalEEMod Version 2022.1." California Air Pollution Control Officers Association (CAPCOA), May 2022, *available at:* https://www.caleemod.com/tutorials.
[4] "CalEEMod Version 2020.4.0." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* http://www.aqmd.gov/caleemod/download-model.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Construction schedule adjusted according to project description and assumptions discussed with the PM.
Construction: Off-Road Equipment	CalEEMod defaults. Equipment assumptions for pipeline installation phase created using similar past pipeline projects. Assuming 10 air compressors for arc coating phase.
Construction: Trips and VMT	Assuming an even number of all trips. Assuming at least 4 vendor trips per day. Per PD, during the on-site grading and off-site pipeline phases, 150,000 CY and 2,288 CY of soil would be exported, respectively
Operations: Vehicle Data	Assuming 40 miles for truck trips as explained in the AQ section. Assuming H-W trip length of 34 miles for all passenger trips.
Operations: Fleet Mix	Fleetmix adjusted based on vehicle type split provided in traffic report. Unrefrigerated Warehouse-Rail used to estimate passenger vehicles and Unrefrigerated Warehouse-No Rail used to estimate trucks.
Operations: Water and Waste Water	No outdoor water use expected for parking lot.
Operations: Off-Road Equipment	Forklifts and yard truck calcs based on attached Excel spreadsheet.
Operations: Refrigerants	Warehouse is unrefrigerated.
Construction: Architectural Coatings	PDF that all arc coatings do not exceed 10 g/L
Operations: Architectural Coatings	PDF that all arc coatings are 10 g/L or less
Construction: Dust From Material Movement	Per PD, during the on-site grading and off-site pipeline phases, 150,000 CY and 2,288 CY of soil would be exported, respectively. This was summed in the Grading phase.

As a result of these changes, the model includes the following construction schedule (see excerpt below) (Appendix B-1, pp. 73, 162, 223):

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase
Site Preparation	Site Preparation	12/4/2023	1/12/2024	5.00	30.0
Grading	Grading	1/13/2024	3/15/2024	5.00	45.0
Building Construction	Building Construction	8/31/2024	5/2/2025	5.00	175
Paving	Paving	5/3/2025	7/18/2025	5.00	55.0
Architectural Coating	Architectural Coating	7/19/2025	10/3/2025	5.00	55.0
Pipeline Installation	Trenching	3/16/2024	8/30/2024	5.00	120

The CalEEMod User's Guide requires any changes to model defaults be justified.[5] As demonstrated above in the "User Changes to Default Data" table, the justification provided for these changes is:

> "Construction schedule adjusted according to project description and assumptions discussed with the PM" (Appendix B-1, pp. 91, 180, 181, 237).

Regarding the Project's anticipated construction duration, the DEIR states:

> "Based on information provided by the Project Applicant, it is assumed that construction of the Project would begin December 2023 and would conclude towards the end of October 2025, lasting approximately 22 months" (p. 3-14).

Additionally, the DEIR includes the following schedule regarding the duration of construction phase lengths (p. 3-14):

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[5] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.

- Site preparation: December 2023 – January 2024
- Grading: January 2024 – March 2024
- Pipeline installation: March 2024 – August 2024
- Building construction: September 2024 – May 2025
- Paving: May 2025 – July 2025
- Architectural coating: July 2025 – October 2025

However, the changes to the individual construction phase lengths remain unsubstantiated. While the DEIR justifies a total length of Project construction of 22 months, the DEIR fails to provide a source for the individual construction phase lengths outlined above. Until a proper source is provided, the model should have included proportionately altered individual phase lengths to match the proposed construction duration of 22 months.[6]

The construction schedule included in the model presents an issue, as the construction emissions are improperly spread out over a longer period of time for some phases, but not for others. According to the CalEEMod User's Guide, each construction phase is associated with different emissions activities (see excerpt below).[7]

> ***Demolition*** involves removing buildings or structures.
>
> ***Site Preparation*** involves clearing vegetation (grubbing and tree/stump removal) and removing stones and other unwanted material or debris prior to grading.
>
> ***Grading*** involves the cut and fill of land to ensure that the proper base and slope is created for the foundation.
>
> ***Building Construction*** involves the construction of the foundation, structures and buildings.
>
> ***Architectural Coating*** involves the application of coatings to both the interior and exterior of buildings or structures, the painting of parking lot or parking garage striping, associated signage and curbs, and the painting of the walls or other components such as stair railings inside parking structures.
>
> ***Paving*** involves the laying of concrete or asphalt such as in parking lots, roads, driveways, or sidewalks.

By disproportionately altering and extending some of the individual construction phase lengths without proper justification, the model assumes there are a greater number of days to complete the construction activities required by the prolonged phases. As a result, there will be less construction activities required per day and, consequently, less pollutants emitted per day. Until we are able to verify the revised construction schedule, the model may underestimate the peak daily emissions associated with some phases of construction and should not be relied upon to determine Project significance.

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[6] See Attachment A for proportionately altered construction schedule.
[7] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 32.

Unsubstantiated Changes to Operational Vehicle Fleet Mix

Review of the CalEEMod output files demonstrates that the "1M Warehouse – Mitigated Detailed Report" model includes changes to the default operational vehicle fleet mix percentages (see excerpt below) (Appendix B-1, pp. 91, 180, 237).

Screen	Justification
Construction: Construction Phases	Construction schedule adjusted according to project description and assumptions discussed with the PM.
Construction: Off-Road Equipment	CalEEMod defaults. Equipment assumptions for pipeline installation phase created using similar past pipeline projects. Assuming 10 air compressors for arc coating phase.
Construction: Trips and VMT	Assuming an even number of all trips. Assuming at least 4 vendor trips per day. Per PD, during the on-site grading and off-site pipeline phases, 150,000 CY and 2,288 CY of soil would be exported, respectively
Operations: Vehicle Data	Assuming 40 miles for truck trips as explained in the AQ section. Assuming H-W trip length of 34 miles for all passenger trips.
Operations: Fleet Mix	Fleetmix adjusted based on vehicle type split provided in traffic report. Unrefrigerated Warehouse-Rail used to estimate passenger vehicles and Unrefrigerated Warehouse-No Rail used to estimate trucks.
Operations: Water and Waste Water	No outdoor water use expected for parking lot.
Operations: Off-Road Equipment	Mitigation = all electric cargo equipment
Operations: Refrigerants	Warehouse is unrefrigerated.
Construction: Architectural Coatings	PDF that all arc coatings do not exceed 10 g/L
Operations: Architectural Coatings	PDF that all arc coatings are 10 g/L or less
Construction: Dust From Material Movement	Per PD, during the on-site grading and off-site pipeline phases, 150,000 CY and 2,288 CY of soil would be exported, respectively. This was summed in the Grading phase.

Regarding fleet mix percentages, the DEIR includes the following table (see excerpt below) (Appendix J, pp. 31, Table 2):

Table 2. Project Trip Generation

Land Use	ITE Code	Size/ Units	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates[1]									
High-Cube Fulfillment Center Warehouse	155 (non-sort)	TSF	1.81	0.12	0.03	0.15	0.06	0.10	0.16
Trip Generation									
1M Warehouse	155	1080.125 TSF	1,955	131	31	162	67	105	173
Trip Generation (by Vehicle Classification)									
Vehicle Mix[2]									
Passenger Vehicles	72.5%		1,417	95	22	117	49	76	125
2-Axle Trucks	4.6%		90	6	1	7	3	5	8
3-Axle Trucks	5.7%		111	7	2	9	4	6	10
4+-Axle Trucks	17.2%		336	23	5	28	12	18	30
Total Trip Generation (non-PCE)			1,955	131	31	162	67	105	173
Vehicle Mix[2]	PCE Factor[3]								
Passenger Vehicles	1.0		1,417	95	22	117	49	76	125

However, these changes remain unsubstantiated. As previously discussed, the output files for CalEEMod 2022.1 do not present the numeric changes to any model defaults. Upon further review of the output files, the model's fleet mix percentages are not provided whatsoever. Until the DEIR verifies that the

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model includes the correct breakdown of every vehicle type that will access the Project site during operations, we cannot verify that the values included in the model are accurate.[8]

These unsubstantiated changes present an issue, as CalEEMod uses operational vehicle fleet mix percentages to calculate the Project's operational emissions associated with on-road vehicles.[9] By including several unsubstantiated changes to the default operational vehicle fleet mix percentages, the model may underestimate the Project's mobile-source operational emissions and should not be relied upon to determine Project significance.

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Unsubstantiated Changes to Operational Wastewater Values

Review of the CalEEMod output files demonstrates that "1M Warehouse – Mitigated Detailed Report" model includes changes to the default operational water and wastewater values (see excerpt below) (AQ & GHG Study, (Appendix B-1, pp. 91, 180, 237).

Screen	Justification
Construction: Construction Phases	Construction schedule adjusted according to project description and assumptions discussed with the PM.
Construction: Off-Road Equipment	CalEEMod defaults. Equipment assumptions for pipeline installation phase created using similar past pipeline projects. Assuming 10 air compressors for arc coating phase.
Construction: Trips and VMT	Assuming an even number of all trips. Assuming at least 4 vendor trips per day. Per PD, during the on-site grading and off-site pipeline phases, 150,000 CY and 2,288 CY of soil would be exported, respectively
Operations: Vehicle Data	Assuming 40 miles for truck trips as explained in the AQ section. Assuming H-W trip length of 34 miles for all passenger trips.
Operations: Fleet Mix	Fleetmix adjusted based on vehicle type split provided in traffic report. Unrefrigerated Warehouse-Rail used to estimate passenger vehicles and Unrefrigerated Warehouse-No Rail used to estimate trucks.
Operations: Water and Waste Water	No outdoor water use expected for parking lot.
Operations: Off-Road Equipment	Mitigation = all electric cargo equipment
Operations: Refrigerants	Warehouse is unrefrigerated.
Construction: Architectural Coatings	PDF that all arc coatings do not exceed 10 g/L
Operations: Architectural Coatings	PDF that all arc coatings are 10 g/L or less
Construction: Dust From Material Movement	Per PD, during the on-site grading and off-site pipeline phases, 150,000 CY and 2,288 CY of soil would be exported, respectively. This was summed in the Grading phase.

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As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[10] As demonstrated above in the "User Changes to Default Data" table, the justification provided for these changes is:

> "No outdoor water use expected for parking lot" (AQ & GHG Study, Appendix B-1, pp. 91, 180, 181, 237).

However, this justification is insufficient, as the DEIR and associated documents fail to mention or corroborate this claim. As previously discussed, the CalEEMod User's Guide requires changes to be supported by substantial evidence.[11] As the DEIR and associated documents fail to provide substantial

[8] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 38.
[9] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 36.
[10] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.
[11] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 13, 14.

evidence to support the assumption that no outdoor water use is expected to be of use in the parking lot, we cannot verify the changes.

Furthermore, additional review demonstrates that CalEEMod version 2022.1 fails to display the wastewater treatment values and percentages. As such, we cannot verify these changes.

These unsubstantiated changes present an issue, as each type of wastewater treatment system is associated with different GHG emission factors, which are used by CalEEMod to calculate the Project's total GHG emissions.[12] By including unsubstantiated changes to the default wastewater treatment system percentages, the model may underestimate the Project's GHG emissions and should not be relied upon to determine Project significance.

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Unsubstantiated Reductions to Architectural Coating Emission Factors

Review of the CalEEMod output files demonstrates that the "1M Warehouse – Mitigated Detailed Report" model includes changes to the default architectural coating emission factors (see excerpt below) (Appendix B-1, pp. 91, 180, 237).

Screen	Justification
Construction: Construction Phases	Construction schedule adjusted according to project description and assumptions discussed with the PM.
Construction: Off-Road Equipment	CalEEMod defaults. Equipment assumptions for pipeline installation phase created using similar past pipeline projects. Assuming 10 air compressors for arc coating phase.
Construction: Trips and VMT	Assuming an even number of all trips. Assuming at least 4 vendor trips per day. Per PD, during the on-site grading and off-site pipeline phases, 150,000 CY and 2,288 CY of soil would be exported, respectively
Operations: Vehicle Data	Assuming 40 miles for truck trips as explained in the AQ section. Assuming H-W trip length of 34 miles for all passenger trips.
Operations: Fleet Mix	Fleetmix adjusted based on vehicle type split provided in traffic report. Unrefrigerated Warehouse-Rail used to estimate passenger vehicles and Unrefrigerated Warehouse-No Rail used to estimate trucks.
Operations: Water and Waste Water	No outdoor water use expected for parking lot.
Operations: Off-Road Equipment	Mitigation = all electric cargo equipment
Operations: Refrigerants	Warehouse is unrefrigerated.
Construction: Architectural Coatings	PDF that all arc coatings do not exceed 10 g/L
Operations: Architectural Coatings	PDF that all arc coatings are 10 g/L or less
Construction: Dust From Material Movement	Per PD, during the on-site grading and off-site pipeline phases, 150,000 CY and 2,288 CY of soil would be exported, respectively. This was summed in the Grading phase.

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As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[13] As demonstrated above in the "User Changes to Default Data" table, the justification provided for these changes is:

> "PDF that all arc coatings do not exceed 10 g/L" (Appendix B-1, pp. 91, 180, 181, 237).

Furthermore, regarding the architectural coatings for to the proposed project, the DEIR states:

[12] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 45.
[13] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.

> "PDF-AQ-1: Architectural Coating Requirements. Architectural and industrial maintenance coatings (e.g., paints) applied on the Project site shall have volatile organic compound levels of less than 10 grams per liter (g/L)" (p. 4.2-22).

However, the reductions to the architectural coating emission factors remain unsubstantiated as the DEIR fails to explicitly require this Project Design Feature ("PDF") through formal mitigation measures. This is incorrect, as according to the Association of Environmental Professionals ("AEP") *CEQA Portal Topic Paper* on mitigation measures:

> "While not 'mitigation', a good practice is to include those project design feature(s) that address environmental impacts in the mitigation monitoring and reporting program (MMRP). Often the MMRP is all that accompanies building and construction plans through the permit process. If the design features are not listed as important to addressing an environmental impact, it is easy for someone not involved in the original environmental process to approve a change to the project that could eliminate one or more of the design features without understanding the resulting environmental impact."[14]

As demonstrated in the excerpt above, measures that are not formally included in the mitigation monitoring and reporting program ("MMRP") may be eliminated from the Project's design altogether. As the use of architectural coating requirements are not formally included as mitigation measures, we cannot guarantee that these standards would be implemented, monitored, and enforced on the Project site.

These unsubstantiated reductions present an issue, as CalEEMod uses the architectural coating emission factors to calculate the Project's reactive organic gas/volatile organic compound ("ROG"/"VOC") emissions.[15] By including unsubstantiated reductions to the default architectural coating emission factors, the model may underestimate the Project's construction-related ROG/VOC emissions and should not be relied upon to determine Project significance.

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Updated Analysis Indicates a Potentially Significant Air Quality Impact

In an effort to more accurately estimate the Project's emissions we prepared an updated CalEEMod model, using the Project-specific information provided by the DEIR. In our updated model, we omitted the unsubstantiated changes to the operational vehicle fleet mix values, wastewater values, and architectural coating emission factors; additionally, we proportionately altered the construction phase lengths to match the total construction duration of 22 months.[16]

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[14] "CEQA Portal Topic Paper Mitigation Measures." AEP, February 2020, *available at:* https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf, p. 6.
[15] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 35, 40.
[16] See Attachment A for updated CalEEMod model.

Our updated analysis estimates that the VOC emissions associated with Project construction exceed the applicable MDAQMD threshold of 137 pounds per day ("lbs/day"), as referenced by the DEIR (p. 4.2-32, Table 4.2-9) (see table below).[17]

SWAPE Criteria Air Pollutant Emissions	
Construction	**VOC** (lbs/day)
DEIR	20.52
SWAPE	1,001.79
% Increase	4,782%
MDAQMD Threshold	**137**
Exceeds?	***Yes***

As demonstrated above, construction-related ROG emissions, as estimated by SWAPE, increase by approximately 4,782% and exceed the applicable MDAQMD significance threshold. Our updated modeling demonstrates that the Project would result in a potentially significant air quality impact that was not previously identified or addressed by the DEIR. As a result, a revised EIR should be prepared to adequately assess and mitigate the potential air quality impacts that the Project may have on the environment.

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Diesel Particulate Matter Emissions Inadequately Evaluated

The DEIR conducts a health risk analysis ("HRA") evaluating impacts from exposure to diesel particulate matter ("DPM") emissions during Project construction and operation. Specifically, the DEIR estimates that the maximum cancer risk posed to nearby, existing residential sensitive receptors as a result of Project construction and operation would be 3.65 and 2.95 in one million, respectively (see tables below) (p. 4.2-39, Table 4.2-12); p. 4.2-40, Table 4.2-14).

Table 4.2-12. Construction Health Risk Assessment Results – Unmitigated

Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
Maximum Individual Cancer Risk – Residential	Per Million	3.65	10	Less than Significant
Chronic Hazard Index – Residential	Index Value	0.0023	1.0	Less than Significant

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[17] "California Environmental Quality Act (CEQA) And Federal Conformity Guidelines." MDAQMD, August 2016, *available at*: https://www.mdaqmd.ca.gov/home/showdocument?id=192#:~:text=Significance%20Thresholds,-Any%20project%20is&text=Exposes%20sensitive%20receptors%20to%20substantial,than%20or%20equal%20to%201, p. 10.

Table 4.2-14. Operational Health Risk Assessment Results - Mitigated

Impact Parameter	Units	Impact Level	CEQA Threshold	Level of Significance
Maximum Individual Cancer Risk – Residential	Per Million	2.95	10	Less than Significant
Chronic Hazard Index – Residential	Index Value	0.0008	1.0	Less than Significant

However, the DEIR's evaluation of the Project's potential health risks, as well as the subsequent less-than-significant impact conclusion, is unreliable for two reasons.

First, the DEIR's HRAs are unreliable, as they rely upon emissions estimates from a flawed air model, as discussed above in the section titled "Unsubstantiated Input Parameters Used to Estimate Project Emissions." As such, the HRAs are based on potentially underestimated DPM concentrations to calculate the health risk associated with Project construction. As a result, the DEIR's HRAs and resulting cancer risk should not be relied upon to determine Project significance.

Second, the DEIR fails to provide the HRA's exposure assumptions, such as Age Sensitivity Factors ("ASF") and Fraction of Time at Home ("FAH") values mentioned in the excerpt above. As a result, we cannot verify the calculation of the Project's construction cancer risk is accurate. Additionally, the DEIR and associated documents fail to include the dose and risk equations used to calculate the Project's construction and operational cancer risks. Furthermore, according to the *Risk Assessment Guidelines* provided by the Office of Environmental Health Hazard Assessment ("OEHHA"), the organization responsible for providing guidance on conducting HRAs in California, the DEIR's models should have used the following equation:[18]

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A. Equation 8.2.4 A: $RISK_{inh\text{-}res} = DOSE_{air} \times CPF \times ASF \times ED/AT \times FAH$

7. $RISK_{inh\text{-}res}$ = Residential inhalation cancer risk
8. $DOSE_{air}$ = Daily inhalation dose (mg/kg-day)
9. CPF = Inhalation cancer potency factor ($mg/kg\text{-}day^{-1}$)
10. ASF = Age sensitivity factor for a specified age group (unitless)
11. ED = Exposure duration (in years) for a specified age group
12. AT = Averaging time for lifetime cancer risk (years)
13. FAH = Fraction of time spent at home (unitless)

However, the DEIR and associated documents fail to include a dose and risk equation to calculate the Project's construction cancer risks. As such, we cannot verify that the DEIR's HRA is accurate, and the Project's cancer risks may be underestimated.

[18] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-7 Equation 8.2.4.

Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Impacts

The DEIR estimates that the Project would result in net annual mitigated greenhouse gas ("GHG") emissions of 21,169.5-metric tons of carbon dioxide equivalents per year ("MT CO_2e/year") (p. 4.6-31, Table 4.6-6).

Table 4.6-6. Estimated Annual Operation Greenhouse Gas Emissions - Mitigated

Emissions Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Mobile	15,788	0.12	1.57	16,282
Area	15.8	< 0.005	< 0.005	15.8
Energy	3,993	0.37	0.04	4,013
Water	246	6.52	0.16	455
Waste	90.9	9.05	0.00	317
Refrigerants	0.00	0.00	0.00	0.00
Off-Road Equipment	0.00	0.00	0.00	0.00
Stationary	11.4	< 0.005	< 0.005	11.5
Total	20,145	16.10	1.77	21,095
Amortized Construction Emissions				*74.5*
Operations with Amortized Construction GHG Emissions				21,169.5

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As such, the DEIR concludes that the Project would exceed the SCAQMD bright-line threshold of 3,000 MT CO_2e/year and result in a significant-and-unavoidable GHG impact, stating:

> "As depicted in Table 4.6-6, the Project would still exceed the applied threshold of 3,000 MT CO2e per year after mitigation by approximately 18,170 MT CO2e. No feasible mitigation measures beyond those already identified that would reduce these emissions to levels that are less than significant. Therefore, even with the incorporation of mitigation, long-term impacts associated with a cumulatively considerable increase in GHG emissions would be significant and unavoidable" (p. 4.6-31).

However, while we agree that the Project would result in a significant GHG impact, the DEIR's assertion that this impact is significant-and-unavoidable is incorrect. According to CEQA Guidelines § 15096(g)(2):

> "When an updated EIR has been prepared for a project, the Responsible Agency shall not approve the project as proposed if the agency finds any feasible alternative or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment."[19]

[19] "Cal. Code Regs. tit. 14 § 15096." California Legislature, *available at:* https://casetext.com/regulation/california-code-of-regulations/title-14-natural-resources/division-6-resources-agency/chapter-3-guidelines-for-implementation-of-the-california-environmental-quality-act/article-7-eir-process/section-15096-process-for-a-responsible-agency.

As indicated above, an impact can only be labeled as significant-and-unavoidable after all available, feasible mitigation is considered. Here, while the EIR implements MM-GHG-1 through MM-GHG-3, the DEIR fails to implement *all* feasible mitigation (p. 4.6-40). Therefore, the DEIR's conclusion that Project's GHG emissions would be significant-and-unavoidable is unsubstantiated. To reduce the Project's GHG impacts to the maximum extent possible, additional feasible mitigation measures should be incorporated, such as those suggested in the section of this letter titled "Feasible Mitigation Measures Available to Reduce Emissions." The Project should not be approved until a revised EIR is prepared, incorporating all feasible mitigation to reduce emissions to less-than-significant levels.

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Mitigation

Feasible Mitigation Measures Available to Reduce Emissions

Our analysis demonstrates that the Project would result in potentially significant air quality, health risk, and GHG impacts that should be mitigated further. In an effort to reduce emissions, the Project should consider the implementation of the following mitigation measures found in the California Department of Justice Warehouse Project Best Practices document.[20]

- Requiring off-road construction equipment to be hybrid electric-diesel or zero emission, where available, and all diesel-fueled off-road construction equipment to be equipped with CARB Tier IV-compliant engines or better, and including this requirement in applicable bid documents, purchase orders, and contracts, with successful contractors demonstrating the ability to supply the compliant construction equipment for use prior to any ground-disturbing and construction activities.
- Prohibiting off-road diesel-powered equipment from being in the "on" position for more than 10 hours per day.
- Using electric-powered hand tools, forklifts, and pressure washers, and providing electrical hook ups to the power grid rather than use of diesel-fueled generators to supply their power.
- Designating an area in the construction site where electric-powered construction vehicles and equipment can charge.
- Limiting the amount of daily grading disturbance area.
- Prohibiting grading on days with an Air Quality Index forecast of greater than 100 for particulates or ozone for the project area.
- Forbidding idling of heavy equipment for more than three minutes.
- Keeping onsite and furnishing to the lead agency or other regulators upon request, all equipment maintenance records and data sheets, including design specifications and emission control tier classifications.
- Conducting an on-site inspection to verify compliance with construction mitigation and to identify other opportunities to further reduce construction impacts.

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[20] "Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act." State of California Department of Justice, September 2022, *available at*: https://oag.ca.gov/system/files/media/warehouse-best-practices.pdf, p. 8 – 10.

- Using paints, architectural coatings, and industrial maintenance coatings that have volatile organic compound levels of less than 10 g/L.
- Providing information on transit and ridesharing programs and services to construction employees.
- Providing meal options onsite or shuttles between the facility and nearby meal destinations for construction employees.
- Requiring all heavy-duty vehicles engaged in drayage to or from the project site to be zero-emission beginning in 2030.
- Requiring all on-site motorized operational equipment, such as forklifts and yard trucks, to be zero-emission with the necessary charging or fueling stations provided.
- Requiring tenants to use zero-emission light- and medium-duty vehicles as part of business operations.
- Forbidding trucks from idling for more than three minutes and requiring operators to turn off engines when not in use.
- Posting both interior- and exterior-facing signs, including signs directed at all dock and delivery areas, identifying idling restrictions and contact information to report violations to CARB, the local air district, and the building manager.
- Installing solar photovoltaic systems on the project site of a specified electrical generation capacity that is equal to or greater than the building's projected energy needs, including all electrical chargers.
- Designing all project building roofs to accommodate the maximum future coverage of solar panels and installing the maximum solar power generation capacity feasible.
- Constructing zero-emission truck charging/fueling stations proportional to the number of dock doors at the project.
- Running conduit to designated locations for future electric truck charging stations.
- Unless the owner of the facility records a covenant on the title of the underlying property ensuring that the property cannot be used to provide refrigerated warehouse space, constructing electric plugs for electric transport refrigeration units at every dock door and requiring truck operators with transport refrigeration units to use the electric plugs when at loading docks.
- Oversizing electrical rooms by 25 percent or providing a secondary electrical room to accommodate future expansion of electric vehicle charging capability.
- Constructing and maintaining electric light-duty vehicle charging stations proportional to the number of employee parking spaces (for example, requiring at least 10% of all employee parking spaces to be equipped with electric vehicle charging stations of at least Level 2 charging performance)
- Running conduit to an additional proportion of employee parking spaces for a future increase in the number of electric light-duty charging stations.
- Installing and maintaining, at the manufacturer's recommended maintenance intervals, air filtration systems at sensitive receptors within a certain radius of facility for the life of the project.

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- Installing and maintaining, at the manufacturer's recommended maintenance intervals, an air monitoring station proximate to sensitive receptors and the facility for the life of the project, and making the resulting data publicly available in real time. While air monitoring does not mitigate the air quality or greenhouse gas impacts of a facility, it nonetheless benefits the affected community by providing information that can be used to improve air quality or avoid exposure to unhealthy air.
- Requiring all stand-by emergency generators to be powered by a non-diesel fuel.
- Requiring facility operators to train managers and employees on efficient scheduling and load management to eliminate unnecessary queuing and idling of trucks.
- Requiring operators to establish and promote a rideshare program that discourages single-occupancy vehicle trips and provides financial incentives for alternate modes of transportation, including carpooling, public transit, and biking.
- Meeting CalGreen Tier 2 green building standards, including all provisions related to designated parking for clean air vehicles, electric vehicle charging, and bicycle parking.
- Designing to LEED green building certification standards.
- Providing meal options onsite or shuttles between the facility and nearby meal destinations.
- Posting signs at every truck exit driveway providing directional information to the truck route.
- Improving and maintaining vegetation and tree canopy for residents in and around the project area.
- Requiring that every tenant train its staff in charge of keeping vehicle records in diesel technologies and compliance with CARB regulations, by attending CARB-approved courses. Also require facility operators to maintain records on-site demonstrating compliance and make records available for inspection by the local jurisdiction, air district, and state upon request.
- Requiring tenants to enroll in the United States Environmental Protection Agency's SmartWay program, and requiring tenants who own, operate, or hire trucking carriers with more than 100 trucks to use carriers that are SmartWay carriers.
- Providing tenants with information on incentive programs, such as the Carl Moyer Program and Voucher Incentive Program, to upgrade their fleets.

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These measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently, reduces emissions released during Project construction and operation.

As it is policy of the State that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers by December 31, 2045, we emphasize the applicability of incorporating solar power system into the Project design. Until the feasibility of incorporating on-site renewable energy production is considered, the Project should not be approved.

C-33

A revised EIR should be prepared to include all feasible mitigation measures, as well as include updated air quality, health risk, and GHG analyses to ensure that the necessary mitigation measures are implemented to reduce emissions to below thresholds. The revised EIR should also demonstrate a

commitment to the implementation of these measures prior to Project approval, to ensure that the Project's significant emissions are reduced to the maximum extent possible.

C-33 Cont.

Disclaimer

SWAPE has received limited discovery regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

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Sincerely,



Matt Hagemann, P.G., C.Hg.



Paul E. Rosenfeld, Ph.D.

Attachment A: Updated Construction Schedule
Attachment B: Updated CalEEMod Output Files
Attachment C: Matt Hagemann CV
Attachment D: Paul Rosenfeld CV

C-35

Attachment A

Construction Schedule Calculations					
Phase	Default Phase Length	Construction Duration	%	Construction Duration	Revised Phase Length
site prep	30	1334	0.0225	595	13
Grading	75	1334	0.0562	595	33
Building Construction	740	1334	0.5547	595	330
Paving	55	1334	0.0412	595	25
Architectural Coating	55	1334	0.0412	595	25
Pipeline Installation	120	1334	0.0900	595	54

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	Total Default Construction Duration	Revised Construction Duration
Start Date	12/4/2023	12/4/2023
End Date	7/30/2027	7/21/2025
Total Days	1334	595

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

1M Warehouse

San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	297.00	1000sqft	6.82	297,034.00	0
Unrefrigerated Warehouse-Rail	783.00	1000sqft	18.00	783,091.00	0
Parking Lot	1,023.00	1000sqft	23.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2025
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with EIR's Model.

Land Use - Consistent with EIR's Model.

Construction Phase - Consistent with Comment on: "Unsubstantiated Changes to Individual Construction Phase Lengths".

Off-road Equipment - Consistent with EIR's Model.

Off-road Equipment - Consistent with EIR's Model.

Off-road Equipment - Consistent with EIR's Model.

Off-road Equipment - Consistent with EIR's Model.

Off-road Equipment - Consistent with EIR's Model.

Off-road Equipment - CalEEMod defaults. Equipment assumptions for pipeline installation phase created using similar past pipeline projects. Assuming 10 air compressors for arc coating phase.

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1M Warehouse - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Trips and VMT - Assuming an even number of all trips. Assuming at least 4 vendor trips per day. Per PD, during the on-site grading and off-site pipeline phases, 150,000 CY and 2,288 CY of soil would be exported, respectively.

Grading - Per PD, during the on-site grading and off-site pipeline phases, 150,000 CY and 2,288 CY of soil would be exported, respectively. This was summed in the Grading phase.

Architectural Coating - See Comment on: "Unsubstantiated Changes to Architectural Coating Values".

Vehicle Trips - Consistent with EIR's Model.

Vehicle Emission Factors - Assuming 40 miles for truck trips as explained in the AQ section. Assuming H-W trip length of 34 miles for all passenger trips.

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust -

Area Coating - PDF that all arc coatings are 10 g/L or less.

Energy Use -

Water And Wastewater - See Comment on: "Unsubstantiated Changes to Operational Wastewater Values".

Solid Waste -

Construction Off-road Equipment Mitigation - Consistent with EIR's Model.

Operational Off-Road Equipment - Forklifts and yard truck calcs based on attached Excel spreadsheet.

Fleet Mix - See Comment on: "Unsubstantiated Changes to Operational Vehicle Fleet Mix".

Stationary Sources - Emergency Generators and Fire Pumps - Consistent with EIR's Model.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_Parking	0	61380
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	55.00	25.00
tblConstructionPhase	NumDays	740.00	330.00
tblConstructionPhase	NumDays	75.00	33.00
tblConstructionPhase	NumDays	55.00	25.00

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Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	NumDays	30.00	13.00
tblGrading	AcresOfGrading	99.00	135.00
tblGrading	AcresOfGrading	19.50	45.00
tblGrading	MaterialExported	0.00	152,288.00
tblLandUse	LandUseSquareFeet	297,000.00	297,034.00
tblLandUse	LandUseSquareFeet	783,000.00	783,091.00
tblLandUse	LandUseSquareFeet	1,023,000.00	0.00
tblLandUse	LotAcreage	17.98	18.00
tblLandUse	LotAcreage	23.48	23.50
tblOffRoadEquipment	HorsePower	78.00	37.00
tblOffRoadEquipment	HorsePower	231.00	367.00
tblOffRoadEquipment	HorsePower	158.00	36.00
tblOffRoadEquipment	HorsePower	89.00	82.00
tblOffRoadEquipment	HorsePower	84.00	14.00
tblOffRoadEquipment	HorsePower	187.00	148.00
tblOffRoadEquipment	HorsePower	130.00	81.00
tblOffRoadEquipment	HorsePower	132.00	89.00
tblOffRoadEquipment	HorsePower	80.00	36.00
tblOffRoadEquipment	HorsePower	247.00	367.00
tblOffRoadEquipment	HorsePower	247.00	367.00
tblOffRoadEquipment	HorsePower	367.00	423.00
tblOffRoadEquipment	HorsePower	97.00	84.00
tblOffRoadEquipment	HorsePower	97.00	84.00
tblOffRoadEquipment	HorsePower	97.00	84.00
tblOffRoadEquipment	HorsePower	78.00	37.00
tblOffRoadEquipment	HorsePower	81.00	33.00
tblOffRoadEquipment	HorsePower	158.00	36.00
tblOffRoadEquipment	HorsePower	89.00	82.00
tblOffRoadEquipment	HorsePower	130.00	81.00

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	HorsePower	132.00	89.00
tblOffRoadEquipment	HorsePower	84.00	11.00
tblOffRoadEquipment	HorsePower	80.00	36.00
tblOffRoadEquipment	HorsePower	97.00	84.00
tblOffRoadEquipment	LoadFactor	0.48	0.38
tblOffRoadEquipment	LoadFactor	0.73	0.48
tblOperationalOffRoadEquipment	OperFuelType	Diesel	CNG
tblOperationalOffRoadEquipment	OperHorsePower	89.00	82.00
tblOperationalOffRoadEquipment	OperHorsePower	89.00	82.00
tblOperationalOffRoadEquipment	OperHorsePower	89.00	200.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	24.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	24.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	24.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	98.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	32.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	300.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	8.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	15,057.00	418.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripLength	7.30	10.20
tblTripsAndVMT	VendorTripLength	7.30	10.20
tblTripsAndVMT	VendorTripLength	7.30	10.20
tblTripsAndVMT	VendorTripLength	7.30	10.20
tblTripsAndVMT	VendorTripLength	7.30	10.20
tblTripsAndVMT	VendorTripLength	7.30	10.20
tblTripsAndVMT	VendorTripNumber	0.00	4.00

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Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	177.00	178.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripLength	10.80	18.50
tblTripsAndVMT	WorkerTripLength	10.80	18.50
tblTripsAndVMT	WorkerTripLength	10.80	18.50
tblTripsAndVMT	WorkerTripLength	10.80	18.50
tblTripsAndVMT	WorkerTripLength	10.80	18.50
tblTripsAndVMT	WorkerTripLength	10.80	18.50
tblTripsAndVMT	WorkerTripNumber	23.00	24.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	91.00	92.00
tblVehicleTrips	ST_TR	1.74	538.00
tblVehicleTrips	ST_TR	1.74	1,417.00
tblVehicleTrips	SU_TR	1.74	538.00
tblVehicleTrips	SU_TR	1.74	1,417.00
tblVehicleTrips	WD_TR	1.74	538.00
tblVehicleTrips	WD_TR	1.74	1,417.00

C-35 Cont.

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0404	0.4003	0.3624	5.9000e-004	0.2377	0.0178	0.2555	0.0874	0.0164	0.1039	0.0000	52.3546	52.3546	0.0154	5.9000e-004	52.9141
2024	0.3808	2.7432	3.8165	0.0124	0.8875	0.0903	0.9779	0.2502	0.0841	0.3343	0.0000	1,134.5610	1,134.5610	0.1058	0.0716	1,158.5392
2025	12.7902	1.6551	2.5429	9.0000e-003	0.6620	0.0473	0.7093	0.1775	0.0441	0.2216	0.0000	830.8209	830.8209	0.0630	0.0555	848.9327
Maximum	**12.7902**	**2.7432**	**3.8165**	**0.0124**	**0.8875**	**0.0903**	**0.9779**	**0.2502**	**0.0841**	**0.3343**	**0.0000**	**1,134.5610**	**1,134.5610**	**0.1058**	**0.0716**	**1,158.5392**

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Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0404	0.4003	0.3624	5.9000e-004	0.1090	0.0178	0.1268	0.0399	0.0164	0.0563	0.0000	52.3546	52.3546	0.0154	5.9000e-004	52.9140
2024	0.3808	2.7432	3.8165	0.0124	0.8051	0.0903	0.8954	0.2223	0.0841	0.3064	0.0000	1,134.5607	1,134.5607	0.1058	0.0716	1,158.5388
2025	12.7902	1.6551	2.5429	9.0000e-003	0.6620	0.0473	0.7093	0.1775	0.0441	0.2216	0.0000	830.8207	830.8207	0.0630	0.0555	848.9325
Maximum	**12.7902**	**2.7432**	**3.8165**	**0.0124**	**0.8051**	**0.0903**	**0.8954**	**0.2223**	**0.0841**	**0.3064**	**0.0000**	**1,134.5607**	**1,134.5607**	**0.1058**	**0.0716**	**1,158.5388**

1M Warehouse - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	11.81	0.00	10.87	14.65	0.00	11.44	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	12-4-2023	3-3-2024	1.0832	1.0832
2	3-4-2024	6-3-2024	0.5894	0.5894
3	6-4-2024	9-3-2024	0.8093	0.8093
4	9-4-2024	12-3-2024	0.8109	0.8109
5	12-4-2024	3-3-2025	0.7785	0.7785
6	3-4-2025	6-3-2025	0.7726	0.7726
7	6-4-2025	9-3-2025	2.3748	2.3748
8	9-4-2025	9-30-2025	9.6724	9.6724
		Highest	9.6724	9.6724

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.4718	1.7000e-004	0.0193	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0376	0.0376	1.0000e-004	0.0000	0.0400
Energy	0.0117	0.1064	0.0894	6.4000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	115.8556	115.8556	2.2200e-003	2.1200e-003	116.5440
Mobile	584.6050	882.2586	5,812.1894	12.9597	1,397.1932	10.3950	1,407.5881	373.1964	9.7282	382.9246	0.0000	1,199,630.3181	1,199,630.3181	70.7668	61.8208	1,219,822.0887
Offroad	1.9145	44.7482	350.9945	0.0768		1.2202	1.2202		1.1749	1.1749	0.0000	8,191.8224	8,191.8224	2.6494	0.0000	8,258.0574
Stationary	0.0123	0.0344	0.0314	6.0000e-005		1.8100e-003	1.8100e-003		1.8100e-003	1.8100e-003	0.0000	5.7120	5.7120	8.0000e-004	0.0000	5.7320
Waste						0.0000	0.0000		0.0000	0.0000	206.0764	0.0000	206.0764	12.1788	0.0000	510.5456
Water						0.0000	0.0000		0.0000	0.0000	79.2342	0.0000	79.2342	8.1381	0.1922	339.9500
Total	**592.0153**	**927.1478**	**6,163.3239**	**13.0372**	**1,397.1932**	**11.6251**	**1,408.8183**	**373.1964**	**10.9131**	**384.1095**	**285.3106**	**1,207,943.7456**	**1,208,229.0562**	**93.7362**	**62.0151**	**1,229,052.9578**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.4718	1.7000e-004	0.0193	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0376	0.0376	1.0000e-004	0.0000	0.0400
Energy	0.0117	0.1064	0.0894	6.4000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	115.8556	115.8556	2.2200e-003	2.1200e-003	116.5440
Mobile	584.6050	882.2586	5,812.1894	12.9597	1,397.1932	10.3950	1,407.5881	373.1964	9.7282	382.9246	0.0000	1,199,630.3181	1,199,630.3181	70.7668	61.8208	1,219,822.0887
Offroad	1.9145	44.7482	350.9945	0.0768		1.2202	1.2202		1.1749	1.1749	0.0000	8,191.8224	8,191.8224	2.6494	0.0000	8,258.0574
Stationary	0.0123	0.0344	0.0314	6.0000e-005		1.8100e-003	1.8100e-003		1.8100e-003	1.8100e-003	0.0000	5.7120	5.7120	8.0000e-004	0.0000	5.7320
Waste						0.0000	0.0000		0.0000	0.0000	206.0764	0.0000	206.0764	12.1788	0.0000	510.5456
Water						0.0000	0.0000		0.0000	0.0000	79.2342	0.0000	79.2342	8.1381	0.1922	339.9500
Total	**592.0153**	**927.1478**	**6,163.3239**	**13.0372**	**1,397.1932**	**11.6251**	**1,408.8183**	**373.1964**	**10.9131**	**384.1095**	**285.3106**	**1,207,943.7456**	**1,208,229.0562**	**93.7362**	**62.0151**	**1,229,052.9578**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	site preparation	Site Preparation	12/4/2023	12/20/2023	5	13	
2	Grading	Grading	12/21/2023	2/5/2024	5	33	
3	Pipeline Installation	Trenching	2/6/2024	4/19/2024	5	54	
4	Building Construction	Building Construction	4/20/2024	7/25/2025	5	330	
5	Paving	Paving	7/26/2025	8/29/2025	5	25	
6	Architectural Coating	Architectural Coating	8/30/2025	10/3/2025	5	25	

Acres of Grading (Site Preparation Phase): 45

Acres of Grading (Grading Phase): 135

Acres of Paving: 23.5

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,620,188; Non-Residential Outdoor: 540,063; Striped Parking Area: 0 (Architectural Coating – sqft)

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OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
site preparation	Rubber Tired Dozers	3	8.00	367	0.40
site preparation	Tractors/Loaders/Backhoes	4	8.00	84	0.37
Grading	Excavators	2	8.00	36	0.38
Grading	Graders	1	8.00	148	0.41
Grading	Rubber Tired Dozers	1	8.00	367	0.40
Grading	Scrapers	2	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	84	0.37
Pipeline Installation	Air Compressors	1	8.00	37	0.38
Pipeline Installation	Concrete/Industrial Saws	1	8.00	33	0.48
Pipeline Installation	Excavators	1	8.00	36	0.38
Pipeline Installation	Forklifts	1	8.00	82	0.20
Pipeline Installation	Pavers	1	8.00	81	0.42

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Pipeline Installation	Paving Equipment	1	8.00	89	0.36
Pipeline Installation	Pumps	1	8.00	11	0.74
Pipeline Installation	Rollers	1	8.00	36	0.38
Pipeline Installation	Tractors/Loaders/Backhoes	1	8.00	84	0.37
Building Construction	Cranes	1	7.00	367	0.29
Building Construction	Forklifts	3	8.00	82	0.20
Building Construction	Generator Sets	1	8.00	14	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	84	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	81	0.42
Paving	Paving Equipment	2	8.00	89	0.36
Paving	Rollers	2	8.00	36	0.38
Architectural Coating	Air Compressors	1	6.00	37	0.48

C-35 Cont.

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
site preparation	7	18.00	4.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	4.00	418.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Installation	9	24.00	4.00	2.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	454.00	178.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	16.00	4.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	92.00	4.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Use Cleaner Engines for Construction Equipment

Water Exposed Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 site preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1413	0.0000	0.1413	0.0671	0.0000	0.0671	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0260	0.2571	0.2364	3.2000e-004		0.0119	0.0119		0.0109	0.0109	0.0000	28.1203	28.1203	9.0900e-003	0.0000	28.3477
Total	**0.0260**	**0.2571**	**0.2364**	**3.2000e-004**	**0.1413**	**0.0119**	**0.1532**	**0.0671**	**0.0109**	**0.0781**	**0.0000**	**28.1203**	**28.1203**	**9.0900e-003**	**0.0000**	**28.3477**

C-35 Cont.

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	1.2600e-003	4.4000e-004	1.0000e-005	2.4000e-004	1.0000e-005	2.5000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.6484	0.6484	2.0000e-005	1.0000e-004	0.6773
Worker	4.7000e-004	3.7000e-004	4.6200e-003	1.0000e-005	1.6100e-003	1.0000e-005	1.6200e-003	4.3000e-004	1.0000e-005	4.4000e-004	0.0000	1.2401	1.2401	3.0000e-005	3.0000e-005	1.2505
Total	**5.0000e-004**	**1.6300e-003**	**5.0600e-003**	**2.0000e-005**	**1.8500e-003**	**2.0000e-005**	**1.8700e-003**	**5.0000e-004**	**2.0000e-005**	**5.2000e-004**	**0.0000**	**1.8885**	**1.8885**	**5.0000e-005**	**1.3000e-004**	**1.9278**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 site preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0636	0.0000	0.0636	0.0302	0.0000	0.0302	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0260	0.2571	0.2364	3.2000e-004		0.0119	0.0119		0.0109	0.0109	0.0000	28.1203	28.1203	9.0900e-003	0.0000	28.3476
Total	**0.0260**	**0.2571**	**0.2364**	**3.2000e-004**	**0.0636**	**0.0119**	**0.0755**	**0.0302**	**0.0109**	**0.0411**	**0.0000**	**28.1203**	**28.1203**	**9.0900e-003**	**0.0000**	**28.3476**

C-35 Cont.

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	1.2600e-003	4.4000e-004	1.0000e-005	2.4000e-004	1.0000e-005	2.5000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.6484	0.6484	2.0000e-005	1.0000e-004	0.6773
Worker	4.7000e-004	3.7000e-004	4.6200e-003	1.0000e-005	1.6100e-003	1.0000e-005	1.6200e-003	4.3000e-004	1.0000e-005	4.4000e-004	0.0000	1.2401	1.2401	3.0000e-005	3.0000e-005	1.2505
Total	**5.0000e-004**	**1.6300e-003**	**5.0600e-003**	**2.0000e-005**	**1.8500e-003**	**2.0000e-005**	**1.8700e-003**	**5.0000e-004**	**2.0000e-005**	**5.2000e-004**	**0.0000**	**1.8885**	**1.8885**	**5.0000e-005**	**1.3000e-004**	**1.9278**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0927	0.0000	0.0927	0.0193	0.0000	0.0193	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0135	0.1355	0.1165	2.1000e-004		5.8700e-003	5.8700e-003		5.4000e-003	5.4000e-003	0.0000	18.7912	18.7912	6.0800e-003	0.0000	18.9432
Total	**0.0135**	**0.1355**	**0.1165**	**2.1000e-004**	**0.0927**	**5.8700e-003**	**0.0985**	**0.0193**	**5.4000e-003**	**0.0247**	**0.0000**	**18.7912**	**18.7912**	**6.0800e-003**	**0.0000**	**18.9432**

C-35 Cont.

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-004	5.1600e-003	1.5000e-003	2.0000e-005	7.6000e-004	5.0000e-005	8.1000e-004	2.1000e-004	5.0000e-005	2.6000e-004	0.0000	2.4636	2.4636	1.0000e-004	3.9000e-004	2.5826
Vendor	2.0000e-005	6.8000e-004	2.4000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3491	0.3491	1.0000e-005	5.0000e-005	0.3647
Worker	2.8000e-004	2.2000e-004	2.7600e-003	1.0000e-005	9.7000e-004	0.0000	9.7000e-004	2.6000e-004	0.0000	2.6000e-004	0.0000	0.7419	0.7419	2.0000e-005	2.0000e-005	0.7482
Total	**4.0000e-004**	**6.0600e-003**	**4.5000e-003**	**3.0000e-005**	**1.8600e-003**	**6.0000e-005**	**1.9200e-003**	**5.1000e-004**	**6.0000e-005**	**5.6000e-004**	**0.0000**	**3.5547**	**3.5547**	**1.3000e-004**	**4.6000e-004**	**3.6955**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0417	0.0000	0.0417	8.6900e-003	0.0000	8.6900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0135	0.1355	0.1165	2.1000e-004		5.8700e-003	5.8700e-003		5.4000e-003	5.4000e-003	0.0000	18.7912	18.7912	6.0800e-003	0.0000	18.9431
Total	**0.0135**	**0.1355**	**0.1165**	**2.1000e-004**	**0.0417**	**5.8700e-003**	**0.0476**	**8.6900e-003**	**5.4000e-003**	**0.0141**	**0.0000**	**18.7912**	**18.7912**	**6.0800e-003**	**0.0000**	**18.9431**

C-35 Cont.

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-004	5.1600e-003	1.5000e-003	2.0000e-005	7.6000e-004	5.0000e-005	8.1000e-004	2.1000e-004	5.0000e-005	2.6000e-004	0.0000	2.4636	2.4636	1.0000e-004	3.9000e-004	2.5826
Vendor	2.0000e-005	6.8000e-004	2.4000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3491	0.3491	1.0000e-005	5.0000e-005	0.3647
Worker	2.8000e-004	2.2000e-004	2.7600e-003	1.0000e-005	9.7000e-004	0.0000	9.7000e-004	2.6000e-004	0.0000	2.6000e-004	0.0000	0.7419	0.7419	2.0000e-005	2.0000e-005	0.7482
Total	**4.0000e-004**	**6.0600e-003**	**4.5000e-003**	**3.0000e-005**	**1.8600e-003**	**6.0000e-005**	**1.9200e-003**	**5.1000e-004**	**6.0000e-005**	**5.6000e-004**	**0.0000**	**3.5547**	**3.5547**	**1.3000e-004**	**4.6000e-004**	**3.6955**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1499	0.0000	0.1499	0.0508	0.0000	0.0508	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0477	0.4654	0.4197	7.9000e-004		0.0200	0.0200		0.0184	0.0184	0.0000	69.7731	69.7731	0.0226	0.0000	70.3373
Total	**0.0477**	**0.4654**	**0.4197**	**7.9000e-004**	**0.1499**	**0.0200**	**0.1698**	**0.0508**	**0.0184**	**0.0691**	**0.0000**	**69.7731**	**69.7731**	**0.0226**	**0.0000**	**70.3373**

C-35 Cont.

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.8000e-004	0.0192	5.5700e-003	9.0000e-005	2.8400e-003	1.9000e-004	3.0200e-003	7.8000e-004	1.8000e-004	9.6000e-004	0.0000	8.9917	8.9917	3.8000e-004	1.4300e-003	9.4259
Vendor	7.0000e-005	2.5400e-003	8.6000e-004	1.0000e-005	4.8000e-004	2.0000e-005	5.0000e-004	1.4000e-004	2.0000e-005	1.6000e-004	0.0000	1.2790	1.2790	3.0000e-005	1.9000e-004	1.3360
Worker	9.8000e-004	7.2000e-004	9.5400e-003	3.0000e-005	3.5900e-003	2.0000e-005	3.6000e-003	9.5000e-004	2.0000e-005	9.7000e-004	0.0000	2.6758	2.6758	6.0000e-005	7.0000e-005	2.6972
Total	**1.4300e-003**	**0.0225**	**0.0160**	**1.3000e-004**	**6.9100e-003**	**2.3000e-004**	**7.1200e-003**	**1.8700e-003**	**2.2000e-004**	**2.0900e-003**	**0.0000**	**12.9465**	**12.9465**	**4.7000e-004**	**1.6900e-003**	**13.4590**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0674	0.0000	0.0674	0.0228	0.0000	0.0228	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0477	0.4654	0.4197	7.9000e-004		0.0200	0.0200		0.0184	0.0184	0.0000	69.7730	69.7730	0.0226	0.0000	70.3372
Total	**0.0477**	**0.4654**	**0.4197**	**7.9000e-004**	**0.0674**	**0.0200**	**0.0874**	**0.0228**	**0.0184**	**0.0412**	**0.0000**	**69.7730**	**69.7730**	**0.0226**	**0.0000**	**70.3372**

C-35 Cont.

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.8000e-004	0.0192	5.5700e-003	9.0000e-005	2.8400e-003	1.9000e-004	3.0200e-003	7.8000e-004	1.8000e-004	9.6000e-004	0.0000	8.9917	8.9917	3.8000e-004	1.4300e-003	9.4259
Vendor	7.0000e-005	2.5400e-003	8.6000e-004	1.0000e-005	4.8000e-004	2.0000e-005	5.0000e-004	1.4000e-004	2.0000e-005	1.6000e-004	0.0000	1.2790	1.2790	3.0000e-005	1.9000e-004	1.3360
Worker	9.8000e-004	7.2000e-004	9.5400e-003	3.0000e-005	3.5900e-003	2.0000e-005	3.6000e-003	9.5000e-004	2.0000e-005	9.7000e-004	0.0000	2.6758	2.6758	6.0000e-005	7.0000e-005	2.6972
Total	**1.4300e-003**	**0.0225**	**0.0160**	**1.3000e-004**	**6.9100e-003**	**2.3000e-004**	**7.1200e-003**	**1.8700e-003**	**2.2000e-004**	**2.0900e-003**	**0.0000**	**12.9465**	**12.9465**	**4.7000e-004**	**1.6900e-003**	**13.4590**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Pipeline Installation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0335	0.2680	0.3246	4.7000e-004		0.0129	0.0129		0.0120	0.0120	0.0000	38.7574	38.7574	0.0105	0.0000	39.0188
Total	**0.0335**	**0.2680**	**0.3246**	**4.7000e-004**		**0.0129**	**0.0129**		**0.0120**	**0.0120**	**0.0000**	**38.7574**	**38.7574**	**0.0105**	**0.0000**	**39.0188**

C-35 Cont.

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.2000e-004	3.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0546	0.0546	0.0000	1.0000e-005	0.0572
Vendor	1.4000e-004	5.2700e-003	1.7800e-003	3.0000e-005	1.0100e-003	4.0000e-005	1.0500e-003	2.9000e-004	4.0000e-005	3.3000e-004	0.0000	2.6564	2.6564	7.0000e-005	3.9000e-004	2.7748
Worker	2.4400e-003	1.8000e-003	0.0238	7.0000e-005	8.9400e-003	4.0000e-005	8.9800e-003	2.3700e-003	4.0000e-005	2.4100e-003	0.0000	6.6688	6.6688	1.5000e-004	1.7000e-004	6.7221
Total	**2.5800e-003**	**7.1900e-003**	**0.0256**	**1.0000e-004**	**9.9700e-003**	**8.0000e-005**	**0.0101**	**2.6600e-003**	**8.0000e-005**	**2.7500e-003**	**0.0000**	**9.3798**	**9.3798**	**2.2000e-004**	**5.7000e-004**	**9.5541**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Pipeline Installation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0335	0.2680	0.3246	4.7000e-004		0.0129	0.0129		0.0120	0.0120	0.0000	38.7573	38.7573	0.0105	0.0000	39.0187
Total	**0.0335**	**0.2680**	**0.3246**	**4.7000e-004**		**0.0129**	**0.0129**		**0.0120**	**0.0120**	**0.0000**	**38.7573**	**38.7573**	**0.0105**	**0.0000**	**39.0187**

C-35 Cont.

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.2000e-004	3.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0546	0.0546	0.0000	1.0000e-005	0.0572
Vendor	1.4000e-004	5.2700e-003	1.7800e-003	3.0000e-005	1.0100e-003	4.0000e-005	1.0500e-003	2.9000e-004	4.0000e-005	3.3000e-004	0.0000	2.6564	2.6564	7.0000e-005	3.9000e-004	2.7748
Worker	2.4400e-003	1.8000e-003	0.0238	7.0000e-005	8.9400e-003	4.0000e-005	8.9800e-003	2.3700e-003	4.0000e-005	2.4100e-003	0.0000	6.6688	6.6688	1.5000e-004	1.7000e-004	6.7221
Total	**2.5800e-003**	**7.1900e-003**	**0.0256**	**1.0000e-004**	**9.9700e-003**	**8.0000e-005**	**0.0101**	**2.6600e-003**	**8.0000e-005**	**2.7500e-003**	**0.0000**	**9.3798**	**9.3798**	**2.2000e-004**	**5.7000e-004**	**9.5541**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1196	1.0752	1.2475	2.1200e-003		0.0483	0.0483		0.0450	0.0450	0.0000	180.1166	180.1166	0.0525	0.0000	181.4296
Total	**0.1196**	**1.0752**	**1.2475**	**2.1200e-003**		**0.0483**	**0.0483**		**0.0450**	**0.0450**	**0.0000**	**180.1166**	**180.1166**	**0.0525**	**0.0000**	**181.4296**

C-35 Cont.

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0207	0.7902	0.2672	4.0900e-003	0.1508	6.1700e-003	0.1570	0.0435	5.9000e-003	0.0494	0.0000	398.4097	398.4097	0.0102	0.0587	416.1631
Worker	0.1553	0.1148	1.5161	4.6400e-003	0.5700	2.7000e-003	0.5727	0.1514	2.4800e-003	0.1539	0.0000	425.1779	425.1779	9.4100e-003	0.0106	428.5773
Total	**0.1760**	**0.9049**	**1.7833**	**8.7300e-003**	**0.7208**	**8.8700e-003**	**0.7297**	**0.1949**	**8.3800e-003**	**0.2033**	**0.0000**	**823.5876**	**823.5876**	**0.0196**	**0.0693**	**844.7404**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1196	1.0752	1.2475	2.1200e-003		0.0483	0.0483		0.0450	0.0450	0.0000	180.1164	180.1164	0.0525	0.0000	181.4294
Total	**0.1196**	**1.0752**	**1.2475**	**2.1200e-003**		**0.0483**	**0.0483**		**0.0450**	**0.0450**	**0.0000**	**180.1164**	**180.1164**	**0.0525**	**0.0000**	**181.4294**

C-35 Cont.

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0207	0.7902	0.2672	4.0900e-003	0.1508	6.1700e-003	0.1570	0.0435	5.9000e-003	0.0494	0.0000	398.4097	398.4097	0.0102	0.0587	416.1631
Worker	0.1553	0.1148	1.5161	4.6400e-003	0.5700	2.7000e-003	0.5727	0.1514	2.4800e-003	0.1539	0.0000	425.1779	425.1779	9.4100e-003	0.0106	428.5773
Total	**0.1760**	**0.9049**	**1.7833**	**8.7300e-003**	**0.7208**	**8.8700e-003**	**0.7297**	**0.1949**	**8.3800e-003**	**0.2033**	**0.0000**	**823.5876**	**823.5876**	**0.0196**	**0.0693**	**844.7404**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0910	0.8109	0.9993	1.7300e-003		0.0342	0.0342		0.0319	0.0319	0.0000	146.5016	146.5016	0.0426	0.0000	147.5668
Total	**0.0910**	**0.8109**	**0.9993**	**1.7300e-003**		**0.0342**	**0.0342**		**0.0319**	**0.0319**	**0.0000**	**146.5016**	**146.5016**	**0.0426**	**0.0000**	**147.5668**

C-35 Cont.

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0165	0.6384	0.2133	3.2700e-003	0.1226	5.0100e-003	0.1276	0.0354	4.7900e-003	0.0402	0.0000	317.6763	317.6763	8.0200e-003	0.0468	331.8215
Worker	0.1176	0.0831	1.1421	3.6400e-003	0.4635	2.0800e-003	0.4656	0.1231	1.9200e-003	0.1250	0.0000	333.9569	333.9569	6.8800e-003	8.0200e-003	336.5200
Total	**0.1341**	**0.7215**	**1.3554**	**6.9100e-003**	**0.5861**	**7.0900e-003**	**0.5932**	**0.1585**	**6.7100e-003**	**0.1652**	**0.0000**	**651.6333**	**651.6333**	**0.0149**	**0.0548**	**668.3414**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0910	0.8109	0.9993	1.7300e-003		0.0342	0.0342		0.0319	0.0319	0.0000	146.5015	146.5015	0.0426	0.0000	147.5667
Total	**0.0910**	**0.8109**	**0.9993**	**1.7300e-003**		**0.0342**	**0.0342**		**0.0319**	**0.0319**	**0.0000**	**146.5015**	**146.5015**	**0.0426**	**0.0000**	**147.5667**

C-35 Cont.

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0165	0.6384	0.2133	3.2700e-003	0.1226	5.0100e-003	0.1276	0.0354	4.7900e-003	0.0402	0.0000	317.6763	317.6763	8.0200e-003	0.0468	331.8215
Worker	0.1176	0.0831	1.1421	3.6400e-003	0.4635	2.0800e-003	0.4656	0.1231	1.9200e-003	0.1250	0.0000	333.9569	333.9569	6.8800e-003	8.0200e-003	336.5200
Total	**0.1341**	**0.7215**	**1.3554**	**6.9100e-003**	**0.5861**	**7.0900e-003**	**0.5932**	**0.1585**	**6.7100e-003**	**0.1652**	**0.0000**	**651.6333**	**651.6333**	**0.0149**	**0.0548**	**668.3414**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0116	0.1035	0.1265	1.7000e-004		5.5300e-003	5.5300e-003		5.0900e-003	5.0900e-003	0.0000	15.3408	15.3408	4.9600e-003	0.0000	15.4649
Paving	0.0308					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0423**	**0.1035**	**0.1265**	**1.7000e-004**		**5.5300e-003**	**5.5300e-003**		**5.0900e-003**	**5.0900e-003**	**0.0000**	**15.3408**	**15.3408**	**4.9600e-003**	**0.0000**	**15.4649**

C-35 Cont.

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	2.4200e-003	8.1000e-004	1.0000e-005	4.7000e-004	2.0000e-005	4.8000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	1.2059	1.2059	3.0000e-005	1.8000e-004	1.2596
Worker	7.0000e-004	4.9000e-004	6.8000e-003	2.0000e-005	2.7600e-003	1.0000e-005	2.7700e-003	7.3000e-004	1.0000e-005	7.4000e-004	0.0000	1.9881	1.9881	4.0000e-005	5.0000e-005	2.0033
Total	**7.6000e-004**	**2.9100e-003**	**7.6100e-003**	**3.0000e-005**	**3.2300e-003**	**3.0000e-005**	**3.2500e-003**	**8.6000e-004**	**3.0000e-005**	**8.9000e-004**	**0.0000**	**3.1940**	**3.1940**	**7.0000e-005**	**2.3000e-004**	**3.2629**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0116	0.1035	0.1265	1.7000e-004		5.5300e-003	5.5300e-003		5.0900e-003	5.0900e-003	0.0000	15.3408	15.3408	4.9600e-003	0.0000	15.4648
Paving	0.0308					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0423**	**0.1035**	**0.1265**	**1.7000e-004**		**5.5300e-003**	**5.5300e-003**		**5.0900e-003**	**5.0900e-003**	**0.0000**	**15.3408**	**15.3408**	**4.9600e-003**	**0.0000**	**15.4648**

C-35 Cont.

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	2.4200e-003	8.1000e-004	1.0000e-005	4.7000e-004	2.0000e-005	4.8000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	1.2059	1.2059	3.0000e-005	1.8000e-004	1.2596
Worker	7.0000e-004	4.9000e-004	6.8000e-003	2.0000e-005	2.7600e-003	1.0000e-005	2.7700e-003	7.3000e-004	1.0000e-005	7.4000e-004	0.0000	1.9881	1.9881	4.0000e-005	5.0000e-005	2.0033
Total	**7.6000e-004**	**2.9100e-003**	**7.6100e-003**	**3.0000e-005**	**3.2300e-003**	**3.0000e-005**	**3.2500e-003**	**8.6000e-004**	**3.0000e-005**	**8.9000e-004**	**0.0000**	**3.1940**	**3.1940**	**7.0000e-005**	**2.3000e-004**	**3.2629**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	12.5160					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9400e-003	0.0110	0.0143	2.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	1.5140	1.5140	1.6000e-004	0.0000	1.5179
Total	**12.5179**	**0.0110**	**0.0143**	**2.0000e-005**		**3.4000e-004**	**3.4000e-004**		**3.4000e-004**	**3.4000e-004**	**0.0000**	**1.5140**	**1.5140**	**1.6000e-004**	**0.0000**	**1.5179**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	2.4200e-003	8.1000e-004	1.0000e-005	1.7800e-003	2.0000e-005	1.8000e-003	4.6000e-004	2.0000e-005	4.8000e-004	0.0000	1.2059	1.2059	3.0000e-005	1.8000e-004	1.2596
Worker	4.0300e-003	2.8400e-003	0.0391	1.2000e-004	0.0709	7.0000e-005	0.0710	0.0177	7.0000e-005	0.0178	0.0000	11.4314	11.4314	2.4000e-004	2.7000e-004	11.5192
Total	**4.0900e-003**	**5.2600e-003**	**0.0399**	**1.3000e-004**	**0.0727**	**9.0000e-005**	**0.0728**	**0.0182**	**9.0000e-005**	**0.0183**	**0.0000**	**12.6373**	**12.6373**	**2.7000e-004**	**4.5000e-004**	**12.7787**

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	12.5160					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9400e-003	0.0110	0.0143	2.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	1.5140	1.5140	1.6000e-004	0.0000	1.5179
Total	**12.5179**	**0.0110**	**0.0143**	**2.0000e-005**		**3.4000e-004**	**3.4000e-004**		**3.4000e-004**	**3.4000e-004**	**0.0000**	**1.5140**	**1.5140**	**1.6000e-004**	**0.0000**	**1.5179**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	2.4200e-003	8.1000e-004	1.0000e-005	1.7800e-003	2.0000e-005	1.8000e-003	4.6000e-004	2.0000e-005	4.8000e-004	0.0000	1.2059	1.2059	3.0000e-005	1.8000e-004	1.2596
Worker	4.0300e-003	2.8400e-003	0.0391	1.2000e-004	0.0709	7.0000e-005	0.0710	0.0177	7.0000e-005	0.0178	0.0000	11.4314	11.4314	2.4000e-004	2.7000e-004	11.5192
Total	**4.0900e-003**	**5.2600e-003**	**0.0399**	**1.3000e-004**	**0.0727**	**9.0000e-005**	**0.0728**	**0.0182**	**9.0000e-005**	**0.0183**	**0.0000**	**12.6373**	**12.6373**	**2.7000e-004**	**4.5000e-004**	**12.7787**

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	584.6050	882.2586	5,812.1894	12.9597	1,397.1932	10.3950	1,407.5881	373.1964	9.7282	382.9246	0.0000	1,199,630.3181	1,199,630.3181	70.7668	61.8208	1,219,822.0887
Unmitigated	584.6050	882.2586	5,812.1894	12.9597	1,397.1932	10.3950	1,407.5881	373.1964	9.7282	382.9246	0.0000	1,199,630.3181	1,199,630.3181	70.7668	61.8208	1,219,822.0887

C-35 Cont.

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	159,786.00	159,786.00	159786.00	466,497,007	466,497,007
Unrefrigerated Warehouse-Rail	1,109,511.00	1,109,511.00	1109511.00	3,239,229,724	3,239,229,724
Total	1,269,297.00	1,269,297.00	1,269,297.00	3,705,726,731	3,705,726,731

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606
Unrefrigerated Warehouse-No Rail	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606
Unrefrigerated Warehouse-Rail	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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Cont.

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0117	0.1064	0.0894	6.4000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	115.8556	115.8556	2.2200e-003	2.1200e-003	116.5440
NaturalGas Unmitigated	0.0117	0.1064	0.0894	6.4000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	115.8556	115.8556	2.2200e-003	2.1200e-003	116.5440

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	597038	3.2200e-003	0.0293	0.0246	1.8000e-004		2.2200e-003	2.2200e-003		2.2200e-003	2.2200e-003	0.0000	31.8602	31.8602	6.1000e-004	5.8000e-004	32.0496
Unrefrigerated Warehouse-Rail	1.57401e+006	8.4900e-003	0.0772	0.0648	4.6000e-004		5.8600e-003	5.8600e-003		5.8600e-003	5.8600e-003	0.0000	83.9953	83.9953	1.6100e-003	1.5400e-003	84.4945
Total		**0.0117**	**0.1064**	**0.0894**	**6.4000e-004**		**8.0800e-003**	**8.0800e-003**		**8.0800e-003**	**8.0800e-003**	**0.0000**	**115.8556**	**115.8556**	**2.2200e-003**	**2.1200e-003**	**116.5440**

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	597038	3.2200e-003	0.0293	0.0246	1.8000e-004		2.2200e-003	2.2200e-003		2.2200e-003	2.2200e-003	0.0000	31.8602	31.8602	6.1000e-004	5.8000e-004	32.0496
Unrefrigerated Warehouse-Rail	1.57401e+006	8.4900e-003	0.0772	0.0648	4.6000e-004		5.8600e-003	5.8600e-003		5.8600e-003	5.8600e-003	0.0000	83.9953	83.9953	1.6100e-003	1.5400e-003	84.4945
Total		**0.0117**	**0.1064**	**0.0894**	**6.4000e-004**		**8.0800e-003**	**8.0800e-003**		**8.0800e-003**	**8.0800e-003**	**0.0000**	**115.8556**	**115.8556**	**2.2200e-003**	**2.1200e-003**	**116.5440**

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	689119	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-Rail	1.81677e+006	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	689119	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-Rail	1.81677e+006	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

C-35 Cont.

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.4718	1.7000e-004	0.0193	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0376	0.0376	1.0000e-004	0.0000	0.0400
Unmitigated	5.4718	1.7000e-004	0.0193	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0376	0.0376	1.0000e-004	0.0000	0.0400

C-35 Cont.

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.2516					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.2184					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.7700e-003	1.7000e-004	0.0193	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0376	0.0376	1.0000e-004	0.0000	0.0400
Total	**5.4718**	**1.7000e-004**	**0.0193**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**0.0376**	**0.0376**	**1.0000e-004**	**0.0000**	**0.0400**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.2516					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.2184					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.7700e-003	1.7000e-004	0.0193	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0376	0.0376	1.0000e-004	0.0000	0.0400
Total	**5.4718**	**1.7000e-004**	**0.0193**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**0.0376**	**0.0376**	**1.0000e-004**	**0.0000**	**0.0400**

C-35 Cont.

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	79.2342	8.1381	0.1922	339.9500
Unmitigated	79.2342	8.1381	0.1922	339.9500

C-35 Cont.

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	68.6813 / 0	21.7894	2.2380	0.0528	93.4863
Unrefrigerated Warehouse-Rail	181.069 / 0	57.4448	5.9001	0.1393	246.4638
Total		**79.2342**	**8.1381**	**0.1922**	**339.9500**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	68.6813 / 0	21.7894	2.2380	0.0528	93.4863
Unrefrigerated Warehouse-Rail	181.069 / 0	57.4448	5.9001	0.1393	246.4638
Total		**79.2342**	**8.1381**	**0.1922**	**339.9500**

C-35 Cont.

8.0 Waste Detail

8.1 Mitigation Measures Waste

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	206.0764	12.1788	0.0000	510.5456
Unmitigated	206.0764	12.1788	0.0000	510.5456

C-35 Cont.

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	279.18	56.6710	3.3492	0.0000	140.4001
Unrefrigerated Warehouse-Rail	736.02	149.4054	8.8296	0.0000	370.1456
Total		**206.0764**	**12.1788**	**0.0000**	**510.5456**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	279.18	56.6710	3.3492	0.0000	140.4001
Unrefrigerated Warehouse-Rail	736.02	149.4054	8.8296	0.0000	370.1456
Total		**206.0764**	**12.1788**	**0.0000**	**510.5456**

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9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	98	24.00	260	82	0.20	CNG
Forklifts	32	24.00	260	82	0.20	Diesel
Forklifts	4	24.00	260	200	0.20	Diesel

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Forklifts	1.9145	44.7482	350.9945	0.0768		1.2202	1.2202		1.1749	1.1749	0.0000	8,191.8224	8,191.8224	2.6494	0.0000	8,258.0574
Total	**1.9145**	**44.7482**	**350.9945**	**0.0768**		**1.2202**	**1.2202**		**1.1749**	**1.1749**	**0.0000**	**8,191.8224**	**8,191.8224**	**2.6494**	**0.0000**	**8,258.0574**

C-35 Cont.

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Fire Pump	1	8	50	300	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Fire Pump - Diesel (300 - 600 HP)	0.0123	0.0344	0.0314	6.0000e-005		1.8100e-003	1.8100e-003		1.8100e-003	1.8100e-003	0.0000	5.7120	5.7120	8.0000e-004	0.0000	5.7320
Total	**0.0123**	**0.0344**	**0.0314**	**6.0000e-005**		**1.8100e-003**	**1.8100e-003**		**1.8100e-003**	**1.8100e-003**	**0.0000**	**5.7120**	**5.7120**	**8.0000e-004**	**0.0000**	**5.7320**

11.0 Vegetation

C-35 Cont.

1M Warehouse - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

1M Warehouse

San Bernardino-Mojave Desert County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	297.00	1000sqft	6.82	297,034.00	0
Unrefrigerated Warehouse-Rail	783.00	1000sqft	18.00	783,091.00	0
Parking Lot	1,023.00	1000sqft	23.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2025
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with EIR's Model.

Land Use - Consistent with EIR's Model.

Construction Phase - Consistent with Comment on: "Unsubstantiated Changes to Individual Construction Phase Lengths".

Off-road Equipment - Consistent with EIR's Model.

Off-road Equipment - Consistent with EIR's Model.

Off-road Equipment - Consistent with EIR's Model.

Off-road Equipment - Consistent with EIR's Model.

Off-road Equipment - Consistent with EIR's Model.

Off-road Equipment - CalEEMod defaults. Equipment assumptions for pipeline installation phase created using similar past pipeline projects. Assuming 10 air compressors for arc coating phase.

C-35 Cont.

1M Warehouse - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Trips and VMT - Assuming an even number of all trips. Assuming at least 4 vendor trips per day. Per PD, during the on-site grading and off-site pipeline phases, 150,000 CY and 2,288 CY of soil would be exported, respectively.

Grading - Per PD, during the on-site grading and off-site pipeline phases, 150,000 CY and 2,288 CY of soil would be exported, respectively. This was summed in the Grading phase.

Architectural Coating - See Comment on: "Unsubstantiated Changes to Architectural Coating Values".

Vehicle Trips - Consistent with EIR's Model.

Vehicle Emission Factors - Assuming 40 miles for truck trips as explained in the AQ section. Assuming H-W trip length of 34 miles for all passenger trips.

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust -

Area Coating - PDF that all arc coatings are 10 g/L or less.

Energy Use -

Water And Wastewater - See Comment on: "Unsubstantiated Changes to Operational Wastewater Values".

Solid Waste -

Construction Off-road Equipment Mitigation - Consistent with EIR's Model.

Operational Off-Road Equipment - Forklifts and yard truck calcs based on attached Excel spreadsheet.

Fleet Mix - See Comment on: "Unsubstantiated Changes to Operational Vehicle Fleet Mix".

Stationary Sources - Emergency Generators and Fire Pumps - Consistent with EIR's Model.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_Parking	0	61380
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	55.00	25.00
tblConstructionPhase	NumDays	740.00	330.00
tblConstructionPhase	NumDays	75.00	33.00
tblConstructionPhase	NumDays	55.00	25.00

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Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	NumDays	30.00	13.00
tblGrading	AcresOfGrading	99.00	135.00
tblGrading	AcresOfGrading	19.50	45.00
tblGrading	MaterialExported	0.00	152,288.00
tblLandUse	LandUseSquareFeet	297,000.00	297,034.00
tblLandUse	LandUseSquareFeet	783,000.00	783,091.00
tblLandUse	LandUseSquareFeet	1,023,000.00	0.00
tblLandUse	LotAcreage	17.98	18.00
tblLandUse	LotAcreage	23.48	23.50
tblOffRoadEquipment	HorsePower	78.00	37.00
tblOffRoadEquipment	HorsePower	231.00	367.00
tblOffRoadEquipment	HorsePower	158.00	36.00
tblOffRoadEquipment	HorsePower	89.00	82.00
tblOffRoadEquipment	HorsePower	84.00	14.00
tblOffRoadEquipment	HorsePower	187.00	148.00
tblOffRoadEquipment	HorsePower	130.00	81.00
tblOffRoadEquipment	HorsePower	132.00	89.00
tblOffRoadEquipment	HorsePower	80.00	36.00
tblOffRoadEquipment	HorsePower	247.00	367.00
tblOffRoadEquipment	HorsePower	247.00	367.00
tblOffRoadEquipment	HorsePower	367.00	423.00
tblOffRoadEquipment	HorsePower	97.00	84.00
tblOffRoadEquipment	HorsePower	97.00	84.00
tblOffRoadEquipment	HorsePower	97.00	84.00
tblOffRoadEquipment	HorsePower	78.00	37.00
tblOffRoadEquipment	HorsePower	81.00	33.00
tblOffRoadEquipment	HorsePower	158.00	36.00
tblOffRoadEquipment	HorsePower	89.00	82.00
tblOffRoadEquipment	HorsePower	130.00	81.00

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Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	HorsePower	132.00	89.00
tblOffRoadEquipment	HorsePower	84.00	11.00
tblOffRoadEquipment	HorsePower	80.00	36.00
tblOffRoadEquipment	HorsePower	97.00	84.00
tblOffRoadEquipment	LoadFactor	0.48	0.38
tblOffRoadEquipment	LoadFactor	0.73	0.48
tblOperationalOffRoadEquipment	OperFuelType	Diesel	CNG
tblOperationalOffRoadEquipment	OperHorsePower	89.00	82.00
tblOperationalOffRoadEquipment	OperHorsePower	89.00	82.00
tblOperationalOffRoadEquipment	OperHorsePower	89.00	200.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	24.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	24.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	24.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	98.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	32.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	300.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	8.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	15,057.00	418.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripLength	7.30	10.20
tblTripsAndVMT	VendorTripLength	7.30	10.20
tblTripsAndVMT	VendorTripLength	7.30	10.20
tblTripsAndVMT	VendorTripLength	7.30	10.20
tblTripsAndVMT	VendorTripLength	7.30	10.20
tblTripsAndVMT	VendorTripLength	7.30	10.20
tblTripsAndVMT	VendorTripNumber	0.00	4.00

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Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	177.00	178.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripLength	10.80	18.50
tblTripsAndVMT	WorkerTripLength	10.80	18.50
tblTripsAndVMT	WorkerTripLength	10.80	18.50
tblTripsAndVMT	WorkerTripLength	10.80	18.50
tblTripsAndVMT	WorkerTripLength	10.80	18.50
tblTripsAndVMT	WorkerTripLength	10.80	18.50
tblTripsAndVMT	WorkerTripNumber	23.00	24.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	91.00	92.00
tblVehicleTrips	ST_TR	1.74	538.00
tblVehicleTrips	ST_TR	1.74	1,417.00
tblVehicleTrips	SU_TR	1.74	538.00
tblVehicleTrips	SU_TR	1.74	1,417.00
tblVehicleTrips	WD_TR	1.74	538.00
tblVehicleTrips	WD_TR	1.74	1,417.00

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2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	4.0792	40.3323	37.2586	0.0717	22.0282	1.8305	23.8587	10.4051	1.6841	12.0892	0.0000	7,056.4759	7,056.4759	1.9556	0.1448	7,148.5257
2024	3.7890	37.4366	36.0841	0.1235	10.9014	1.5525	12.4539	3.9250	1.4289	5.3538	0.0000	12,579.0397	12,579.0397	1.9534	0.8310	12,848.4973
2025	1,001.7927	20.1581	34.3754	0.1207	8.0688	0.5576	8.6265	2.1778	0.5214	2.6992	0.0000	12,294.4624	12,294.4624	0.8566	0.8082	12,556.7309
Maximum	**1,001.7927**	**40.3323**	**37.2586**	**0.1235**	**22.0282**	**1.8305**	**23.8587**	**10.4051**	**1.6841**	**12.0892**	**0.0000**	**12,579.0397**	**12,579.0397**	**1.9556**	**0.8310**	**12,848.4973**

C-35 Cont.

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	4.0792	40.3323	37.2586	0.0717	10.0727	1.8305	11.9033	4.7252	1.6841	6.4093	0.0000	7,056.4759	7,056.4759	1.9556	0.1448	7,148.5257
2024	3.7890	37.4366	36.0841	0.1235	8.0689	1.5525	8.6970	2.1778	1.4289	3.2756	0.0000	12,579.0397	12,579.0397	1.9534	0.8310	12,848.4973
2025	1,001.7927	20.1581	34.3754	0.1207	8.0688	0.5576	8.6265	2.1778	0.5214	2.6992	0.0000	12,294.4624	12,294.4624	0.8566	0.8082	12,556.7309
Maximum	**1,001.7927**	**40.3323**	**37.2586**	**0.1235**	**10.0727**	**1.8305**	**11.9033**	**4.7252**	**1.6841**	**6.4093**	**0.0000**	**12,579.0397**	**12,579.0397**	**1.9556**	**0.8310**	**12,848.4973**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**36.07**	**0.00**	**34.96**	**44.99**	**0.00**	**38.52**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	29.9925	1.9400e-003	0.2142	2.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004		0.4603	0.4603	1.2000e-003		0.4902
Energy	0.0642	0.5832	0.4898	3.5000e-003		0.0443	0.0443		0.0443	0.0443		699.7748	699.7748	0.0134	0.0128	703.9332
Mobile	3,754.6191	4,479.7624	34,053.0013	75.6871	7,824.3907	57.1640	7,881.5547	2,086.7354	53.4968	2,140.2322		7,718,825.0727	7,718,825.0727	412.2821	360.7132	7,836,624.6595
Offroad	14.7266	344.2176	2,699.9606	0.5907		9.3860	9.3860		9.0378	9.0378	0.0000	69,461.1478	69,461.1478	22.4651		70,022.7764
Stationary	3.9386	11.0081	10.0425	0.0189		0.5794	0.5794		0.5794	0.5794		2,014.8339	2,014.8339	0.2825		2,021.8959
Total	**3,803.3409**	**4,835.5732**	**36,763.7084**	**76.3002**	**7,824.3907**	**67.1744**	**7,891.5651**	**2,086.7354**	**63.1591**	**2,149.8945**	**0.0000**	**7,791,001.2894**	**7,791,001.2894**	**435.0443**	**360.7260**	**7,909,373.7552**

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	29.9925	1.9400e-003	0.2142	2.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004		0.4603	0.4603	1.2000e-003		0.4902
Energy	0.0642	0.5832	0.4898	3.5000e-003		0.0443	0.0443		0.0443	0.0443		699.7748	699.7748	0.0134	0.0128	703.9332
Mobile	3,754.6191	4,479.7624	34,053.0013	75.6871	7,824.3907	57.1640	7,881.5547	2,086.7354	53.4968	2,140.2322		7,718,825.0727	7,718,825.0727	412.2821	360.7132	7,836,624.6595
Offroad	14.7266	344.2176	2,699.9606	0.5907		9.3860	9.3860		9.0378	9.0378	0.0000	69,461.1478	69,461.1478	22.4651		70,022.7764
Stationary	3.9386	11.0081	10.0425	0.0189		0.5794	0.5794		0.5794	0.5794		2,014.8339	2,014.8339	0.2825		2,021.8959
Total	**3,803.3409**	**4,835.5732**	**36,763.7084**	**76.3002**	**7,824.3907**	**67.1744**	**7,891.5651**	**2,086.7354**	**63.1591**	**2,149.8945**	**0.0000**	**7,791,001.2894**	**7,791,001.2894**	**435.0443**	**360.7260**	**7,909,373.7552**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	site preparation	Site Preparation	12/4/2023	12/20/2023	5	13	
2	Grading	Grading	12/21/2023	2/5/2024	5	33	
3	Pipeline Installation	Trenching	2/6/2024	4/19/2024	5	54	

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Building Construction	Building Construction	4/20/2024	7/25/2025	5	330	
5	Paving	Paving	7/26/2025	8/29/2025	5	25	
6	Architectural Coating	Architectural Coating	8/30/2025	10/3/2025	5	25	

Acres of Grading (Site Preparation Phase): 45

Acres of Grading (Grading Phase): 135

Acres of Paving: 23.5

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,620,188; Non-Residential Outdoor: 540,063; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
site preparation	Rubber Tired Dozers	3	8.00	367	0.40
site preparation	Tractors/Loaders/Backhoes	4	8.00	84	0.37
Grading	Excavators	2	8.00	36	0.38
Grading	Graders	1	8.00	148	0.41
Grading	Rubber Tired Dozers	1	8.00	367	0.40
Grading	Scrapers	2	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	84	0.37
Pipeline Installation	Air Compressors	1	8.00	37	0.38
Pipeline Installation	Concrete/Industrial Saws	1	8.00	33	0.48
Pipeline Installation	Excavators	1	8.00	36	0.38
Pipeline Installation	Forklifts	1	8.00	82	0.20
Pipeline Installation	Pavers	1	8.00	81	0.42
Pipeline Installation	Paving Equipment	1	8.00	89	0.36
Pipeline Installation	Pumps	1	8.00	11	0.74
Pipeline Installation	Rollers	1	8.00	36	0.38
Pipeline Installation	Tractors/Loaders/Backhoes	1	8.00	84	0.37
Building Construction	Cranes	1	7.00	367	0.29

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Building Construction	Forklifts	3	8.00	82	0.20
Building Construction	Generator Sets	1	8.00	14	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	84	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	81	0.42
Paving	Paving Equipment	2	8.00	89	0.36
Paving	Rollers	2	8.00	36	0.38
Architectural Coating	Air Compressors	1	6.00	37	0.48

Trips and VMT

C-35 Cont.

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
site preparation	7	18.00	4.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	4.00	418.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Installation	9	24.00	4.00	2.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	454.00	178.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	16.00	4.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	92.00	4.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Use Cleaner Engines for Construction Equipment

Water Exposed Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 site preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					21.7372	0.0000	21.7372	10.3271	0.0000	10.3271			0.0000			0.0000
Off-Road	3.9931	39.5606	36.3608	0.0492		1.8277	1.8277		1.6815	1.6815		4,768.8191	4,768.8191	1.5423		4,807.3774
Total	**3.9931**	**39.5606**	**36.3608**	**0.0492**	**21.7372**	**1.8277**	**23.5650**	**10.3271**	**1.6815**	**12.0086**		**4,768.8191**	**4,768.8191**	**1.5423**		**4,807.3774**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.4400e-003	0.1831	0.0664	1.0200e-003	0.0378	1.5500e-003	0.0394	0.0109	1.4800e-003	0.0124		109.8795	109.8795	2.8600e-003	0.0162	114.7747
Worker	0.0806	0.0512	0.8314	2.2500e-003	0.2532	1.2200e-003	0.2544	0.0671	1.1300e-003	0.0683		227.6621	227.6621	5.0000e-003	5.1700e-003	229.3264
Total	**0.0861**	**0.2343**	**0.8978**	**3.2700e-003**	**0.2910**	**2.7700e-003**	**0.2938**	**0.0780**	**2.6100e-003**	**0.0806**		**337.5416**	**337.5416**	**7.8600e-003**	**0.0214**	**344.1011**

C-35 Cont.

1M Warehouse - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 site preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.7818	0.0000	9.7818	4.6472	0.0000	4.6472			0.0000			0.0000
Off-Road	3.9931	39.5606	36.3608	0.0492		1.8277	1.8277		1.6815	1.6815	0.0000	4,768.8191	4,768.8191	1.5423		4,807.3774
Total	**3.9931**	**39.5606**	**36.3608**	**0.0492**	**9.7818**	**1.8277**	**11.6095**	**4.6472**	**1.6815**	**6.3287**	**0.0000**	**4,768.8191**	**4,768.8191**	**1.5423**		**4,807.3774**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.4400e-003	0.1831	0.0664	1.0200e-003	0.0378	1.5500e-003	0.0394	0.0109	1.4800e-003	0.0124		109.8795	109.8795	2.8600e-003	0.0162	114.7747
Worker	0.0806	0.0512	0.8314	2.2500e-003	0.2532	1.2200e-003	0.2544	0.0671	1.1300e-003	0.0683		227.6621	227.6621	5.0000e-003	5.1700e-003	229.3264
Total	**0.0861**	**0.2343**	**0.8978**	**3.2700e-003**	**0.2910**	**2.7700e-003**	**0.2938**	**0.0780**	**2.6100e-003**	**0.0806**		**337.5416**	**337.5416**	**7.8600e-003**	**0.0214**	**344.1011**

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					10.3605	0.0000	10.3605	3.7787	0.0000	3.7787			0.0000			0.0000
Off-Road	3.8665	38.6992	33.2907	0.0611		1.6780	1.6780		1.5438	1.5438		5,918.2208	5,918.2208	1.9141		5,966.0726
Total	**3.8665**	**38.6992**	**33.2907**	**0.0611**	**10.3605**	**1.6780**	**12.0385**	**3.7787**	**1.5438**	**5.3225**		**5,918.2208**	**5,918.2208**	**1.9141**		**5,966.0726**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0305	1.3931	0.4243	7.1100e-003	0.2218	0.0147	0.2365	0.0608	0.0140	0.0748		775.4177	775.4177	0.0331	0.1229	812.8714
Vendor	5.4400e-003	0.1831	0.0664	1.0200e-003	0.0378	1.5500e-003	0.0394	0.0109	1.4800e-003	0.0124		109.8795	109.8795	2.8600e-003	0.0162	114.7747
Worker	0.0896	0.0569	0.9237	2.5000e-003	0.2813	1.3600e-003	0.2827	0.0746	1.2500e-003	0.0759		252.9579	252.9579	5.5600e-003	5.7400e-003	254.8071
Total	**0.1255**	**1.6331**	**1.4145**	**0.0106**	**0.5409**	**0.0176**	**0.5585**	**0.1463**	**0.0168**	**0.1631**		**1,138.2551**	**1,138.2551**	**0.0415**	**0.1448**	**1,182.4531**

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.6622	0.0000	4.6622	1.7004	0.0000	1.7004			0.0000			0.0000
Off-Road	3.8665	38.6992	33.2907	0.0611		1.6780	1.6780		1.5438	1.5438	0.0000	5,918.2208	5,918.2208	1.9141		5,966.0726
Total	**3.8665**	**38.6992**	**33.2907**	**0.0611**	**4.6622**	**1.6780**	**6.3403**	**1.7004**	**1.5438**	**3.2442**	**0.0000**	**5,918.2208**	**5,918.2208**	**1.9141**		**5,966.0726**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0305	1.3931	0.4243	7.1100e-003	0.2218	0.0147	0.2365	0.0608	0.0140	0.0748		775.4177	775.4177	0.0331	0.1229	812.8714
Vendor	5.4400e-003	0.1831	0.0664	1.0200e-003	0.0378	1.5500e-003	0.0394	0.0109	1.4800e-003	0.0124		109.8795	109.8795	2.8600e-003	0.0162	114.7747
Worker	0.0896	0.0569	0.9237	2.5000e-003	0.2813	1.3600e-003	0.2827	0.0746	1.2500e-003	0.0759		252.9579	252.9579	5.5600e-003	5.7400e-003	254.8071
Total	**0.1255**	**1.6331**	**1.4145**	**0.0106**	**0.5409**	**0.0176**	**0.5585**	**0.1463**	**0.0168**	**0.1631**		**1,138.2551**	**1,138.2551**	**0.0415**	**0.1448**	**1,182.4531**

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					10.3605	0.0000	10.3605	3.7787	0.0000	3.7787			0.0000			0.0000
Off-Road	3.6702	35.8034	32.2814	0.0611		1.5352	1.5352		1.4124	1.4124		5,916.2840	5,916.2840	1.9135		5,964.1202
Total	**3.6702**	**35.8034**	**32.2814**	**0.0611**	**10.3605**	**1.5352**	**11.8957**	**3.7787**	**1.4124**	**5.1910**		**5,916.2840**	**5,916.2840**	**1.9135**		**5,964.1202**

C-35 Cont.

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0302	1.3978	0.4254	6.9900e-003	0.2218	0.0145	0.2363	0.0608	0.0138	0.0747		761.9499	761.9499	0.0321	0.1208	798.7420
Vendor	5.2900e-003	0.1850	0.0652	1.0100e-003	0.0378	1.5200e-003	0.0394	0.0109	1.4600e-003	0.0123		108.3730	108.3730	2.7700e-003	0.0160	113.1992
Worker	0.0832	0.0504	0.8580	2.4300e-003	0.2813	1.3100e-003	0.2826	0.0746	1.2000e-003	0.0758		245.5786	245.5786	5.0200e-003	5.3100e-003	247.2872
Total	**0.1188**	**1.6332**	**1.3486**	**0.0104**	**0.5409**	**0.0173**	**0.5582**	**0.1463**	**0.0165**	**0.1628**		**1,115.9014**	**1,115.9014**	**0.0399**	**0.1420**	**1,159.2284**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.6622	0.0000	4.6622	1.7004	0.0000	1.7004			0.0000			0.0000
Off-Road	3.6702	35.8034	32.2814	0.0611		1.5352	1.5352		1.4124	1.4124	0.0000	5,916.2840	5,916.2840	1.9135		5,964.1202
Total	**3.6702**	**35.8034**	**32.2814**	**0.0611**	**4.6622**	**1.5352**	**6.1974**	**1.7004**	**1.4124**	**3.1128**	**0.0000**	**5,916.2840**	**5,916.2840**	**1.9135**		**5,964.1202**

C-35 Cont.

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0302	1.3978	0.4254	6.9900e-003	0.2218	0.0145	0.2363	0.0608	0.0138	0.0747		761.9499	761.9499	0.0321	0.1208	798.7420
Vendor	5.2900e-003	0.1850	0.0652	1.0100e-003	0.0378	1.5200e-003	0.0394	0.0109	1.4600e-003	0.0123		108.3730	108.3730	2.7700e-003	0.0160	113.1992
Worker	0.0832	0.0504	0.8580	2.4300e-003	0.2813	1.3100e-003	0.2826	0.0746	1.2000e-003	0.0758		245.5786	245.5786	5.0200e-003	5.3100e-003	247.2872
Total	**0.1188**	**1.6332**	**1.3486**	**0.0104**	**0.5409**	**0.0173**	**0.5582**	**0.1463**	**0.0165**	**0.1628**		**1,115.9014**	**1,115.9014**	**0.0399**	**0.1420**	**1,159.2284**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Pipeline Installation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2420	9.9259	12.0216	0.0172		0.4766	0.4766		0.4459	0.4459		1,582.3208	1,582.3208	0.4269		1,592.9942
Total	**1.2420**	**9.9259**	**12.0216**	**0.0172**		**0.4766**	**0.4766**		**0.4459**	**0.4459**		**1,582.3208**	**1,582.3208**	**0.4269**		**1,592.9942**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.0000e-005	4.0900e-003	1.2400e-003	2.0000e-005	6.5000e-004	4.0000e-005	6.9000e-004	1.8000e-004	4.0000e-005	2.2000e-004		2.2279	2.2279	9.0000e-005	3.5000e-004	2.3355
Vendor	5.2900e-003	0.1850	0.0652	1.0100e-003	0.0378	1.5200e-003	0.0394	0.0109	1.4600e-003	0.0123		108.3730	108.3730	2.7700e-003	0.0160	113.1992
Worker	0.0999	0.0605	1.0296	2.9200e-003	0.3376	1.5700e-003	0.3391	0.0895	1.4400e-003	0.0910		294.6943	294.6943	6.0200e-003	6.3800e-003	296.7446
Total	**0.1053**	**0.2496**	**1.0960**	**3.9500e-003**	**0.3760**	**3.1300e-003**	**0.3792**	**0.1006**	**2.9400e-003**	**0.1035**		**405.2952**	**405.2952**	**8.8800e-003**	**0.0227**	**412.2794**

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Pipeline Installation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2420	9.9259	12.0216	0.0172		0.4766	0.4766		0.4459	0.4459	0.0000	1,582.3208	1,582.3208	0.4269		1,592.9942
Total	**1.2420**	**9.9259**	**12.0216**	**0.0172**		**0.4766**	**0.4766**		**0.4459**	**0.4459**	**0.0000**	**1,582.3208**	**1,582.3208**	**0.4269**		**1,592.9942**

C-35 Cont.

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.0000e-005	4.0900e-003	1.2400e-003	2.0000e-005	6.5000e-004	4.0000e-005	6.9000e-004	1.8000e-004	4.0000e-005	2.2000e-004		2.2279	2.2279	9.0000e-005	3.5000e-004	2.3355
Vendor	5.2900e-003	0.1850	0.0652	1.0100e-003	0.0378	1.5200e-003	0.0394	0.0109	1.4600e-003	0.0123		108.3730	108.3730	2.7700e-003	0.0160	113.1992
Worker	0.0999	0.0605	1.0296	2.9200e-003	0.3376	1.5700e-003	0.3391	0.0895	1.4400e-003	0.0910		294.6943	294.6943	6.0200e-003	6.3800e-003	296.7446
Total	**0.1053**	**0.2496**	**1.0960**	**3.9500e-003**	**0.3760**	**3.1300e-003**	**0.3792**	**0.1006**	**2.9400e-003**	**0.1035**		**405.2952**	**405.2952**	**8.8800e-003**	**0.0227**	**412.2794**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3138	11.8155	13.7084	0.0233		0.5309	0.5309		0.4948	0.4948		2,181.8085	2,181.8085	0.6362		2,197.7130
Total	**1.3138**	**11.8155**	**13.7084**	**0.0233**		**0.5309**	**0.5309**		**0.4948**	**0.4948**		**2,181.8085**	**2,181.8085**	**0.6362**		**2,197.7130**

C-35 Cont.

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2354	8.2343	2.8993	0.0450	1.6836	0.0677	1.7513	0.4845	0.0648	0.5493		4,822.5973	4,822.5973	0.1234	0.7104	5,037.3648
Worker	1.8893	1.1436	19.4765	0.0552	6.3853	0.0296	6.4149	1.6933	0.0273	1.7205		5,574.6339	5,574.6339	0.1139	0.1206	5,613.4194
Total	**2.1247**	**9.3779**	**22.3758**	**0.1001**	**8.0689**	**0.0973**	**8.1662**	**2.1778**	**0.0920**	**2.2699**		**10,397.2312**	**10,397.2312**	**0.2373**	**0.8310**	**10,650.7842**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3138	11.8155	13.7084	0.0233		0.5309	0.5309		0.4948	0.4948	0.0000	2,181.8085	2,181.8085	0.6362		2,197.7130
Total	**1.3138**	**11.8155**	**13.7084**	**0.0233**		**0.5309**	**0.5309**		**0.4948**	**0.4948**	**0.0000**	**2,181.8085**	**2,181.8085**	**0.6362**		**2,197.7130**

C-35 Cont.

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2354	8.2343	2.8993	0.0450	1.6836	0.0677	1.7513	0.4845	0.0648	0.5493		4,822.5973	4,822.5973	0.1234	0.7104	5,037.3648
Worker	1.8893	1.1436	19.4765	0.0552	6.3853	0.0296	6.4149	1.6933	0.0273	1.7205		5,574.6339	5,574.6339	0.1139	0.1206	5,613.4194
Total	**2.1247**	**9.3779**	**22.3758**	**0.1001**	**8.0689**	**0.0973**	**8.1662**	**2.1778**	**0.0920**	**2.2699**		**10,397.2312**	**10,397.2312**	**0.2373**	**0.8310**	**10,650.7842**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2299	10.9578	13.5034	0.0233		0.4619	0.4619		0.4308	0.4308		2,182.3026	2,182.3026	0.6347		2,198.1700
Total	**1.2299**	**10.9578**	**13.5034**	**0.0233**		**0.4619**	**0.4619**		**0.4308**	**0.4308**		**2,182.3026**	**2,182.3026**	**0.6347**		**2,198.1700**

C-35 Cont.

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2302	8.1820	2.8464	0.0441	1.6835	0.0676	1.7512	0.4845	0.0647	0.5492		4,728.7087	4,728.7087	0.1198	0.6961	4,939.1444
Worker	1.7584	1.0184	18.0256	0.0533	6.3853	0.0281	6.4134	1.6933	0.0259	1.7191		5,383.4511	5,383.4511	0.1021	0.1121	5,419.4165
Total	**1.9886**	**9.2004**	**20.8720**	**0.0974**	**8.0688**	**0.0957**	**8.1646**	**2.1778**	**0.0906**	**2.2684**		**10,112.1598**	**10,112.1598**	**0.2219**	**0.8082**	**10,358.5609**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2299	10.9578	13.5034	0.0233		0.4619	0.4619		0.4308	0.4308	0.0000	2,182.3026	2,182.3026	0.6347		2,198.1700
Total	**1.2299**	**10.9578**	**13.5034**	**0.0233**		**0.4619**	**0.4619**		**0.4308**	**0.4308**	**0.0000**	**2,182.3026**	**2,182.3026**	**0.6347**		**2,198.1700**

C-35 Cont.

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2302	8.1820	2.8464	0.0441	1.6835	0.0676	1.7512	0.4845	0.0647	0.5492		4,728.7087	4,728.7087	0.1198	0.6961	4,939.1444
Worker	1.7584	1.0184	18.0256	0.0533	6.3853	0.0281	6.4134	1.6933	0.0259	1.7191		5,383.4511	5,383.4511	0.1021	0.1121	5,419.4165
Total	**1.9886**	**9.2004**	**20.8720**	**0.0974**	**8.0688**	**0.0957**	**8.1646**	**2.1778**	**0.0906**	**2.2684**		**10,112.1598**	**10,112.1598**	**0.2219**	**0.8082**	**10,358.5609**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9241	8.2829	10.1181	0.0140		0.4424	0.4424		0.4070	0.4070		1,352.8292	1,352.8292	0.4375		1,363.7675
Paving	2.4628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.3869**	**8.2829**	**10.1181**	**0.0140**		**0.4424**	**0.4424**		**0.4070**	**0.4070**		**1,352.8292**	**1,352.8292**	**0.4375**		**1,363.7675**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.1700e-003	0.1839	0.0640	9.9000e-004	0.0378	1.5200e-003	0.0394	0.0109	1.4500e-003	0.0123		106.2631	106.2631	2.6900e-003	0.0156	110.9920
Worker	0.0620	0.0359	0.6353	1.8800e-003	0.2250	9.9000e-004	0.2260	0.0597	9.1000e-004	0.0606		189.7252	189.7252	3.6000e-003	3.9500e-003	190.9927
Total	**0.0671**	**0.2198**	**0.6992**	**2.8700e-003**	**0.2629**	**2.5100e-003**	**0.2654**	**0.0706**	**2.3600e-003**	**0.0729**		**295.9883**	**295.9883**	**6.2900e-003**	**0.0196**	**301.9847**

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9241	8.2829	10.1181	0.0140		0.4424	0.4424		0.4070	0.4070	0.0000	1,352.8292	1,352.8292	0.4375		1,363.7675
Paving	2.4628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.3869**	**8.2829**	**10.1181**	**0.0140**		**0.4424**	**0.4424**		**0.4070**	**0.4070**	**0.0000**	**1,352.8292**	**1,352.8292**	**0.4375**		**1,363.7675**

C-35 Cont.

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.1700e-003	0.1839	0.0640	9.9000e-004	0.0378	1.5200e-003	0.0394	0.0109	1.4500e-003	0.0123		106.2631	106.2631	2.6900e-003	0.0156	110.9920
Worker	0.0620	0.0359	0.6353	1.8800e-003	0.2250	9.9000e-004	0.2260	0.0597	9.1000e-004	0.0606		189.7252	189.7252	3.6000e-003	3.9500e-003	190.9927
Total	**0.0671**	**0.2198**	**0.6992**	**2.8700e-003**	**0.2629**	**2.5100e-003**	**0.2654**	**0.0706**	**2.3600e-003**	**0.0729**		**295.9883**	**295.9883**	**6.2900e-003**	**0.0196**	**301.9847**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1,001.2763					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1548	0.8821	1.1396	1.6400e-003		0.0273	0.0273		0.0273	0.0273		133.5074	133.5074	0.0139		133.8539
Total	**1,001.4312**	**0.8821**	**1.1396**	**1.6400e-003**		**0.0273**	**0.0273**		**0.0273**	**0.0273**		**133.5074**	**133.5074**	**0.0139**		**133.8539**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.1700e-003	0.1839	0.0640	9.9000e-004	0.1457	1.5200e-003	0.1472	0.0374	1.4500e-003	0.0388		106.2631	106.2631	2.6900e-003	0.0156	110.9920
Worker	0.3563	0.2064	3.6528	0.0108	5.7944	5.7000e-003	5.8001	1.4478	5.2400e-003	1.4530		1,090.9196	1,090.9196	0.0207	0.0227	1,098.2078
Total	**0.3615**	**0.3902**	**3.7167**	**0.0118**	**5.9401**	**7.2200e-003**	**5.9474**	**1.4852**	**6.6900e-003**	**1.4919**		**1,197.1827**	**1,197.1827**	**0.0234**	**0.0384**	**1,209.1998**

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1,001.2763					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1548	0.8821	1.1396	1.6400e-003		0.0273	0.0273		0.0273	0.0273	0.0000	133.5074	133.5074	0.0139		133.8539
Total	**1,001.4312**	**0.8821**	**1.1396**	**1.6400e-003**		**0.0273**	**0.0273**		**0.0273**	**0.0273**	**0.0000**	**133.5074**	**133.5074**	**0.0139**		**133.8539**

C-35 Cont.

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.1700e-003	0.1839	0.0640	9.9000e-004	0.1457	1.5200e-003	0.1472	0.0374	1.4500e-003	0.0388		106.2631	106.2631	2.6900e-003	0.0156	110.9920
Worker	0.3563	0.2064	3.6528	0.0108	5.7944	5.7000e-003	5.8001	1.4478	5.2400e-003	1.4530		1,090.9196	1,090.9196	0.0207	0.0227	1,098.2078
Total	**0.3615**	**0.3902**	**3.7167**	**0.0118**	**5.9401**	**7.2200e-003**	**5.9474**	**1.4852**	**6.6900e-003**	**1.4919**		**1,197.1827**	**1,197.1827**	**0.0234**	**0.0384**	**1,209.1998**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3,754.6191	4,479.7624	34,053.0013	75.6871	7,824.3907	57.1640	7,881.5547	2,086.7354	53.4968	2,140.2322		7,718,825.0727	7,718,825.0727	412.2821	360.7132	7,836,624.6595
Unmitigated	3,754.6191	4,479.7624	34,053.0013	75.6871	7,824.3907	57.1640	7,881.5547	2,086.7354	53.4968	2,140.2322		7,718,825.0727	7,718,825.0727	412.2821	360.7132	7,836,624.6595

C-35 Cont.

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	159,786.00	159,786.00	159786.00	466,497,007	466,497,007
Unrefrigerated Warehouse-Rail	1,109,511.00	1,109,511.00	1109511.00	3,239,229,724	3,239,229,724
Total	1,269,297.00	1,269,297.00	1,269,297.00	3,705,726,731	3,705,726,731

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606
Unrefrigerated Warehouse-No Rail	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606
Unrefrigerated Warehouse-Rail	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0642	0.5832	0.4898	3.5000e-003		0.0443	0.0443		0.0443	0.0443		699.7748	699.7748	0.0134	0.0128	703.9332
NaturalGas Unmitigated	0.0642	0.5832	0.4898	3.5000e-003		0.0443	0.0443		0.0443	0.0443		699.7748	699.7748	0.0134	0.0128	703.9332

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1635.72	0.0176	0.1604	0.1347	9.6000e-004		0.0122	0.0122		0.0122	0.0122		192.4378	192.4378	3.6900e-003	3.5300e-003	193.5814
Unrefrigerated Warehouse-Rail	4312.36	0.0465	0.4228	0.3551	2.5400e-003		0.0321	0.0321		0.0321	0.0321		507.3370	507.3370	9.7200e-003	9.3000e-003	510.3518
Total		**0.0642**	**0.5831**	**0.4899**	**3.5000e-003**		**0.0443**	**0.0443**		**0.0443**	**0.0443**		**699.7748**	**699.7748**	**0.0134**	**0.0128**	**703.9332**

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1.63572	0.0176	0.1604	0.1347	9.6000e-004		0.0122	0.0122		0.0122	0.0122		192.4378	192.4378	3.6900e-003	3.5300e-003	193.5814
Unrefrigerated Warehouse-Rail	4.31236	0.0465	0.4228	0.3551	2.5400e-003		0.0321	0.0321		0.0321	0.0321		507.3370	507.3370	9.7200e-003	9.3000e-003	510.3518
Total		**0.0642**	**0.5831**	**0.4899**	**3.5000e-003**		**0.0443**	**0.0443**		**0.0443**	**0.0443**		**699.7748**	**699.7748**	**0.0134**	**0.0128**	**703.9332**

C-35 Cont.

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	29.9925	1.9400e-003	0.2142	2.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004		0.4603	0.4603	1.2000e-003		0.4902
Unmitigated	29.9925	1.9400e-003	0.2142	2.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004		0.4603	0.4603	1.2000e-003		0.4902

C-35 Cont.

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.8581					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	23.1147					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0197	1.9400e-003	0.2142	2.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004		0.4603	0.4603	1.2000e-003		0.4902
Total	**29.9925**	**1.9400e-003**	**0.2142**	**2.0000e-005**		**7.6000e-004**	**7.6000e-004**		**7.6000e-004**	**7.6000e-004**		**0.4603**	**0.4603**	**1.2000e-003**		**0.4902**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.8581					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	23.1147					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0197	1.9400e-003	0.2142	2.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004		0.4603	0.4603	1.2000e-003		0.4902
Total	**29.9925**	**1.9400e-003**	**0.2142**	**2.0000e-005**		**7.6000e-004**	**7.6000e-004**		**7.6000e-004**	**7.6000e-004**		**0.4603**	**0.4603**	**1.2000e-003**		**0.4902**

C-35 Cont.

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	98	24.00	260	82	0.20	CNG
Forklifts	32	24.00	260	82	0.20	Diesel
Forklifts	4	24.00	260	200	0.20	Diesel

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Forklifts	14.7266	344.2176	2,699.9606	0.5907		9.3860	9.3860		9.0378	9.0378	0.0000	69,461.1478	69,461.1478	22.4651		70,022.7764
Total	**14.7266**	**344.2176**	**2,699.9606**	**0.5907**		**9.3860**	**9.3860**		**9.0378**	**9.0378**	**0.0000**	**69,461.1478**	**69,461.1478**	**22.4651**		**70,022.7764**

C-35 Cont.

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Fire Pump	1	8	50	300	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Fire Pump - Diesel (300 - 600 HP)	3.9386	11.0081	10.0425	0.0189		0.5794	0.5794		0.5794	0.5794		2,014.8339	2,014.8339	0.2825		2,021.8959
Total	**3.9386**	**11.0081**	**10.0425**	**0.0189**		**0.5794**	**0.5794**		**0.5794**	**0.5794**		**2,014.8339**	**2,014.8339**	**0.2825**		**2,021.8959**

C-35 Cont.

11.0 Vegetation

1M Warehouse - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

1M Warehouse

San Bernardino-Mojave Desert County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	297.00	1000sqft	6.82	297,034.00	0
Unrefrigerated Warehouse-Rail	783.00	1000sqft	18.00	783,091.00	0
Parking Lot	1,023.00	1000sqft	23.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2025
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with EIR's Model.

Land Use - Consistent with EIR's Model.

Construction Phase - Consistent with Comment on: "Unsubstantiated Changes to Individual Construction Phase Lengths".

Off-road Equipment - Consistent with EIR's Model.

Off-road Equipment - Consistent with EIR's Model.

Off-road Equipment - Consistent with EIR's Model.

Off-road Equipment - Consistent with EIR's Model.

Off-road Equipment - Consistent with EIR's Model.

Off-road Equipment - CalEEMod defaults. Equipment assumptions for pipeline installation phase created using similar past pipeline projects. Assuming 10 air compressors for arc coating phase.

C-35 Cont.

1M Warehouse - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Trips and VMT - Assuming an even number of all trips. Assuming at least 4 vendor trips per day. Per PD, during the on-site grading and off-site pipeline phases, 150,000 CY and 2,288 CY of soil would be exported, respectively.

Grading - Per PD, during the on-site grading and off-site pipeline phases, 150,000 CY and 2,288 CY of soil would be exported, respectively. This was summed in the Grading phase.

Architectural Coating - See Comment on: "Unsubstantiated Changes to Architectural Coating Values".

Vehicle Trips - Consistent with EIR's Model.

Road Dust -

Area Coating - PDF that all arc coatings are 10 g/L or less.

Energy Use -

Water And Wastewater - See Comment on: "Unsubstantiated Changes to Operational Wastewater Values".

Solid Waste -

Construction Off-road Equipment Mitigation - Consistent with EIR's Model.

Operational Off-Road Equipment - Forklifts and yard truck calcs based on attached Excel spreadsheet.

Fleet Mix - See Comment on: "Unsubstantiated Changes to Operational Vehicle Fleet Mix".

Stationary Sources - Emergency Generators and Fire Pumps - Consistent with EIR's Model.

Vehicle Emission Factors - Assuming 40 miles for truck trips as explained in the AQ section. Assuming H-W trip length of 34 miles for all passenger trips.

Vehicle Emission Factors -

Vehicle Emission Factors -

C-35 Cont.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_Parking	0	61380
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	30.00	13.00
tblConstructionPhase	NumDays	75.00	33.00
tblConstructionPhase	NumDays	740.00	330.00
tblConstructionPhase	NumDays	55.00	25.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	NumDays	55.00	25.00
tblGrading	AcresOfGrading	99.00	135.00
tblGrading	AcresOfGrading	19.50	45.00
tblGrading	MaterialExported	0.00	152,288.00
tblLandUse	LandUseSquareFeet	297,000.00	297,034.00
tblLandUse	LandUseSquareFeet	783,000.00	783,091.00
tblLandUse	LandUseSquareFeet	1,023,000.00	0.00
tblLandUse	LotAcreage	17.98	18.00
tblLandUse	LotAcreage	23.48	23.50
tblOffRoadEquipment	HorsePower	78.00	37.00
tblOffRoadEquipment	HorsePower	231.00	367.00
tblOffRoadEquipment	HorsePower	158.00	36.00
tblOffRoadEquipment	HorsePower	89.00	82.00
tblOffRoadEquipment	HorsePower	84.00	14.00
tblOffRoadEquipment	HorsePower	187.00	148.00
tblOffRoadEquipment	HorsePower	130.00	81.00
tblOffRoadEquipment	HorsePower	132.00	89.00
tblOffRoadEquipment	HorsePower	80.00	36.00
tblOffRoadEquipment	HorsePower	247.00	367.00
tblOffRoadEquipment	HorsePower	247.00	367.00
tblOffRoadEquipment	HorsePower	367.00	423.00
tblOffRoadEquipment	HorsePower	97.00	84.00
tblOffRoadEquipment	HorsePower	97.00	84.00
tblOffRoadEquipment	HorsePower	97.00	84.00
tblOffRoadEquipment	HorsePower	78.00	37.00
tblOffRoadEquipment	HorsePower	81.00	33.00
tblOffRoadEquipment	HorsePower	158.00	36.00
tblOffRoadEquipment	HorsePower	89.00	82.00
tblOffRoadEquipment	HorsePower	130.00	81.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	HorsePower	132.00	89.00
tblOffRoadEquipment	HorsePower	84.00	11.00
tblOffRoadEquipment	HorsePower	80.00	36.00
tblOffRoadEquipment	HorsePower	97.00	84.00
tblOffRoadEquipment	LoadFactor	0.48	0.38
tblOffRoadEquipment	LoadFactor	0.73	0.48
tblOperationalOffRoadEquipment	OperFuelType	Diesel	CNG
tblOperationalOffRoadEquipment	OperHorsePower	89.00	82.00
tblOperationalOffRoadEquipment	OperHorsePower	89.00	82.00
tblOperationalOffRoadEquipment	OperHorsePower	89.00	200.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	24.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	24.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	24.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	98.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	32.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	300.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	8.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	15,057.00	418.00
tblTripsAndVMT	VendorTripLength	7.30	10.20
tblTripsAndVMT	VendorTripLength	7.30	10.20
tblTripsAndVMT	VendorTripLength	7.30	10.20
tblTripsAndVMT	VendorTripLength	7.30	10.20
tblTripsAndVMT	VendorTripLength	7.30	10.20
tblTripsAndVMT	VendorTripLength	7.30	10.20
tblTripsAndVMT	VendorTripNumber	177.00	178.00

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Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripLength	10.80	18.50
tblTripsAndVMT	WorkerTripLength	10.80	18.50
tblTripsAndVMT	WorkerTripLength	10.80	18.50
tblTripsAndVMT	WorkerTripLength	10.80	18.50
tblTripsAndVMT	WorkerTripLength	10.80	18.50
tblTripsAndVMT	WorkerTripLength	10.80	18.50
tblTripsAndVMT	WorkerTripNumber	23.00	24.00
tblTripsAndVMT	WorkerTripNumber	91.00	92.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblVehicleTrips	ST_TR	1.74	538.00
tblVehicleTrips	ST_TR	1.74	1,417.00
tblVehicleTrips	SU_TR	1.74	538.00
tblVehicleTrips	SU_TR	1.74	1,417.00
tblVehicleTrips	WD_TR	1.74	538.00
tblVehicleTrips	WD_TR	1.74	1,417.00

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Cont.

2.0 Emissions Summary

1M Warehouse - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	4.0772	40.4206	37.1062	0.0715	22.0282	1.8305	23.8587	10.4051	1.6841	12.0892	0.0000	7,033.9790	7,033.9790	1.9554	0.1452	7,126.1436
2024	3.7849	37.5248	33.4808	0.1183	10.9014	1.5525	12.4540	3.9250	1.4289	5.3539	0.0000	12,062.7356	12,062.7356	1.9532	0.8363	12,333.7395
2025	1,001.7870	20.6504	31.1369	0.1158	8.0688	0.5578	8.6267	2.1778	0.5216	2.6994	0.0000	11,797.2697	11,797.2697	0.8547	0.8133	12,060.9953
Maximum	**1,001.7870**	**40.4206**	**37.1062**	**0.1183**	**22.0282**	**1.8305**	**23.8587**	**10.4051**	**1.6841**	**12.0892**	**0.0000**	**12,062.7356**	**12,062.7356**	**1.9554**	**0.8363**	**12,333.7395**

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Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	4.0772	40.4206	37.1062	0.0715	10.0727	1.8305	11.9033	4.7252	1.6841	6.4093	0.0000	7,033.9790	7,033.9790	1.9554	0.1452	7,126.1436
2024	3.7849	37.5248	33.4808	0.1183	8.0689	1.5525	8.6972	2.1778	1.4289	3.2756	0.0000	12,062.7356	12,062.7356	1.9532	0.8363	12,333.7395
2025	1,001.7870	20.6504	31.1369	0.1158	8.0688	0.5578	8.6267	2.1778	0.5216	2.6994	0.0000	11,797.2697	11,797.2697	0.8547	0.8133	12,060.9953
Maximum	**1,001.7870**	**40.4206**	**37.1062**	**0.1183**	**10.0727**	**1.8305**	**11.9033**	**4.7252**	**1.6841**	**6.4093**	**0.0000**	**12,062.7356**	**12,062.7356**	**1.9554**	**0.8363**	**12,333.7395**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**36.07**	**0.00**	**34.96**	**44.99**	**0.00**	**38.52**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	29.9925	1.9400e-003	0.2142	2.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004		0.4603	0.4603	1.2000e-003		0.4902
Energy	0.0642	0.5832	0.4898	3.5000e-003		0.0443	0.0443		0.0443	0.0443		699.7748	699.7748	0.0134	0.0128	703.9332
Mobile	3,241.8607	4,760.8290	30,691.0276	70.2436	7,824.3907	57.2097	7,881.6004	2,086.7354	53.5406	2,140.2760		7,169,263.8222	7,169,263.8222	424.2662	369.7116	7,290,044.5336
Offroad	14.7266	344.2176	2,699.9606	0.5907		9.3860	9.3860		9.0378	9.0378	0.0000	69,461.1478	69,461.1478	22.4651		70,022.7764
Stationary	3.9386	11.0081	10.0425	0.0189		0.5794	0.5794		0.5794	0.5794		2,014.8339	2,014.8339	0.2825		2,021.8959
Total	**3,290.5825**	**5,116.6398**	**33,401.7347**	**70.8568**	**7,824.3907**	**67.2201**	**7,891.6108**	**2,086.7354**	**63.2029**	**2,149.9383**	**0.0000**	**7,241,440.0390**	**7,241,440.0390**	**447.0285**	**369.7244**	**7,362,793.6293**

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	29.9925	1.9400e-003	0.2142	2.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004		0.4603	0.4603	1.2000e-003		0.4902
Energy	0.0642	0.5832	0.4898	3.5000e-003		0.0443	0.0443		0.0443	0.0443		699.7748	699.7748	0.0134	0.0128	703.9332
Mobile	3,241.8607	4,760.8290	30,691.0276	70.2436	7,824.3907	57.2097	7,881.6004	2,086.7354	53.5406	2,140.2760		7,169,263.8222	7,169,263.8222	424.2662	369.7116	7,290,044.5336
Offroad	14.7266	344.2176	2,699.9606	0.5907		9.3860	9.3860		9.0378	9.0378	0.0000	69,461.1478	69,461.1478	22.4651		70,022.7764
Stationary	3.9386	11.0081	10.0425	0.0189		0.5794	0.5794		0.5794	0.5794		2,014.8339	2,014.8339	0.2825		2,021.8959
Total	**3,290.5825**	**5,116.6398**	**33,401.7347**	**70.8568**	**7,824.3907**	**67.2201**	**7,891.6108**	**2,086.7354**	**63.2029**	**2,149.9383**	**0.0000**	**7,241,440.0390**	**7,241,440.0390**	**447.0285**	**369.7244**	**7,362,793.6293**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	site preparation	Site Preparation	12/4/2023	12/20/2023	5	13	
2	Grading	Grading	12/21/2023	2/5/2024	5	33	
3	Pipeline Installation	Trenching	2/6/2024	4/19/2024	5	54	

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Building Construction	Building Construction	4/20/2024	7/25/2025	5	330	
5	Paving	Paving	7/26/2025	8/29/2025	5	25	
6	Architectural Coating	Architectural Coating	8/30/2025	10/3/2025	5	25	

Acres of Grading (Site Preparation Phase): 45

Acres of Grading (Grading Phase): 135

Acres of Paving: 23.5

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,620,188; Non-Residential Outdoor: 540,063; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	1	7.00	367	0.29
Building Construction	Forklifts	3	8.00	82	0.20
Building Construction	Generator Sets	1	8.00	14	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	84	0.37
Building Construction	Welders	1	8.00	46	0.45
Pipeline Installation	Air Compressors	1	8.00	37	0.38
Pipeline Installation	Concrete/Industrial Saws	1	8.00	33	0.48
Pipeline Installation	Excavators	1	8.00	36	0.38
Pipeline Installation	Forklifts	1	8.00	82	0.20
Pipeline Installation	Pavers	1	8.00	81	0.42
Pipeline Installation	Paving Equipment	1	8.00	89	0.36
Pipeline Installation	Pumps	1	8.00	11	0.74
Pipeline Installation	Rollers	1	8.00	36	0.38
Pipeline Installation	Tractors/Loaders/Backhoes	1	8.00	84	0.37
Grading	Excavators	2	8.00	36	0.38
Grading	Graders	1	8.00	148	0.41
Grading	Rubber Tired Dozers	1	8.00	367	0.40

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading	Scrapers	2	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	84	0.37
Architectural Coating	Air Compressors	1	6.00	37	0.48
Paving	Pavers	2	8.00	81	0.42
Paving	Paving Equipment	2	8.00	89	0.36
Paving	Rollers	2	8.00	36	0.38
site preparation	Rubber Tired Dozers	3	8.00	367	0.40
site preparation	Tractors/Loaders/Backhoes	4	8.00	84	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	9	454.00	178.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Installation	9	24.00	4.00	2.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	4.00	418.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	92.00	4.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	16.00	4.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
site preparation	7	18.00	4.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Use Cleaner Engines for Construction Equipment

Water Exposed Area

C-35 Cont.

1M Warehouse - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 site preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					21.7372	0.0000	21.7372	10.3271	0.0000	10.3271			0.0000			0.0000
Off-Road	3.9931	39.5606	36.3608	0.0492		1.8277	1.8277		1.6815	1.6815		4,768.8191	4,768.8191	1.5423		4,807.3774
Total	**3.9931**	**39.5606**	**36.3608**	**0.0492**	**21.7372**	**1.8277**	**23.5650**	**10.3271**	**1.6815**	**12.0086**		**4,768.8191**	**4,768.8191**	**1.5423**		**4,807.3774**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.1300e-003	0.1930	0.0682	1.0300e-003	0.0378	1.5500e-003	0.0394	0.0109	1.4800e-003	0.0124		110.0656	110.0656	2.8400e-003	0.0162	114.9716
Worker	0.0790	0.0538	0.6772	2.0400e-003	0.2532	1.2200e-003	0.2544	0.0671	1.1300e-003	0.0683		206.1944	206.1944	4.9200e-003	5.3300e-003	207.9052
Total	**0.0841**	**0.2468**	**0.7454**	**3.0700e-003**	**0.2910**	**2.7700e-003**	**0.2938**	**0.0780**	**2.6100e-003**	**0.0806**		**316.2600**	**316.2600**	**7.7600e-003**	**0.0216**	**322.8767**

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 site preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.7818	0.0000	9.7818	4.6472	0.0000	4.6472			0.0000			0.0000
Off-Road	3.9931	39.5606	36.3608	0.0492		1.8277	1.8277		1.6815	1.6815	0.0000	4,768.8191	4,768.8191	1.5423		4,807.3774
Total	**3.9931**	**39.5606**	**36.3608**	**0.0492**	**9.7818**	**1.8277**	**11.6095**	**4.6472**	**1.6815**	**6.3287**	**0.0000**	**4,768.8191**	**4,768.8191**	**1.5423**		**4,807.3774**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.1300e-003	0.1930	0.0682	1.0300e-003	0.0378	1.5500e-003	0.0394	0.0109	1.4800e-003	0.0124		110.0656	110.0656	2.8400e-003	0.0162	114.9716
Worker	0.0790	0.0538	0.6772	2.0400e-003	0.2532	1.2200e-003	0.2544	0.0671	1.1300e-003	0.0683		206.1944	206.1944	4.9200e-003	5.3300e-003	207.9052
Total	**0.0841**	**0.2468**	**0.7454**	**3.0700e-003**	**0.2910**	**2.7700e-003**	**0.2938**	**0.0780**	**2.6100e-003**	**0.0806**		**316.2600**	**316.2600**	**7.7600e-003**	**0.0216**	**322.8767**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					10.3605	0.0000	10.3605	3.7787	0.0000	3.7787			0.0000			0.0000
Off-Road	3.8665	38.6992	33.2907	0.0611		1.6780	1.6780		1.5438	1.5438		5,918.2208	5,918.2208	1.9141		5,966.0726
Total	**3.8665**	**38.6992**	**33.2907**	**0.0611**	**10.3605**	**1.6780**	**12.0385**	**3.7787**	**1.5438**	**5.3225**		**5,918.2208**	**5,918.2208**	**1.9141**		**5,966.0726**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0282	1.4686	0.4320	7.1300e-003	0.2218	0.0147	0.2365	0.0608	0.0140	0.0749		776.5877	776.5877	0.0330	0.1231	814.0937
Vendor	5.1300e-003	0.1930	0.0682	1.0300e-003	0.0378	1.5500e-003	0.0394	0.0109	1.4800e-003	0.0124		110.0656	110.0656	2.8400e-003	0.0162	114.9716
Worker	0.0877	0.0598	0.7524	2.2700e-003	0.2813	1.3600e-003	0.2827	0.0746	1.2500e-003	0.0759		229.1049	229.1049	5.4700e-003	5.9200e-003	231.0057
Total	**0.1211**	**1.7214**	**1.2526**	**0.0104**	**0.5409**	**0.0176**	**0.5585**	**0.1463**	**0.0168**	**0.1631**		**1,115.7582**	**1,115.7582**	**0.0413**	**0.1452**	**1,160.0710**

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.6622	0.0000	4.6622	1.7004	0.0000	1.7004			0.0000			0.0000
Off-Road	3.8665	38.6992	33.2907	0.0611		1.6780	1.6780		1.5438	1.5438	0.0000	5,918.2208	5,918.2208	1.9141		5,966.0726
Total	**3.8665**	**38.6992**	**33.2907**	**0.0611**	**4.6622**	**1.6780**	**6.3403**	**1.7004**	**1.5438**	**3.2442**	**0.0000**	**5,918.2208**	**5,918.2208**	**1.9141**		**5,966.0726**

C-35 Cont.

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0282	1.4686	0.4320	7.1300e-003	0.2218	0.0147	0.2365	0.0608	0.0140	0.0749		776.5877	776.5877	0.0330	0.1231	814.0937
Vendor	5.1300e-003	0.1930	0.0682	1.0300e-003	0.0378	1.5500e-003	0.0394	0.0109	1.4800e-003	0.0124		110.0656	110.0656	2.8400e-003	0.0162	114.9716
Worker	0.0877	0.0598	0.7524	2.2700e-003	0.2813	1.3600e-003	0.2827	0.0746	1.2500e-003	0.0759		229.1049	229.1049	5.4700e-003	5.9200e-003	231.0057
Total	**0.1211**	**1.7214**	**1.2526**	**0.0104**	**0.5409**	**0.0176**	**0.5585**	**0.1463**	**0.0168**	**0.1631**		**1,115.7582**	**1,115.7582**	**0.0413**	**0.1452**	**1,160.0710**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					10.3605	0.0000	10.3605	3.7787	0.0000	3.7787			0.0000			0.0000
Off-Road	3.6702	35.8034	32.2814	0.0611		1.5352	1.5352		1.4124	1.4124		5,916.2840	5,916.2840	1.9135		5,964.1202
Total	**3.6702**	**35.8034**	**32.2814**	**0.0611**	**10.3605**	**1.5352**	**11.8957**	**3.7787**	**1.4124**	**5.1910**		**5,916.2840**	**5,916.2840**	**1.9135**		**5,964.1202**

C-35 Cont.

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0280	1.4734	0.4330	7.0000e-003	0.2218	0.0145	0.2363	0.0608	0.0139	0.0747		763.1081	763.1081	0.0320	0.1210	799.9519
Vendor	4.9800e-003	0.1950	0.0669	1.0100e-003	0.0378	1.5300e-003	0.0394	0.0109	1.4600e-003	0.0124		108.5579	108.5579	2.7600e-003	0.0160	113.3947
Worker	0.0818	0.0529	0.6995	2.2000e-003	0.2813	1.3100e-003	0.2826	0.0746	1.2000e-003	0.0758		222.4713	222.4713	4.9500e-003	5.4800e-003	224.2275
Total	**0.1147**	**1.7214**	**1.1994**	**0.0102**	**0.5409**	**0.0173**	**0.5583**	**0.1463**	**0.0165**	**0.1628**		**1,094.1374**	**1,094.1374**	**0.0397**	**0.1424**	**1,137.5741**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.6622	0.0000	4.6622	1.7004	0.0000	1.7004			0.0000			0.0000
Off-Road	3.6702	35.8034	32.2814	0.0611		1.5352	1.5352		1.4124	1.4124	0.0000	5,916.2840	5,916.2840	1.9135		5,964.1202
Total	**3.6702**	**35.8034**	**32.2814**	**0.0611**	**4.6622**	**1.5352**	**6.1974**	**1.7004**	**1.4124**	**3.1128**	**0.0000**	**5,916.2840**	**5,916.2840**	**1.9135**		**5,964.1202**

C-35 Cont.

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0280	1.4734	0.4330	7.0000e-003	0.2218	0.0145	0.2363	0.0608	0.0139	0.0747		763.1081	763.1081	0.0320	0.1210	799.9519
Vendor	4.9800e-003	0.1950	0.0669	1.0100e-003	0.0378	1.5300e-003	0.0394	0.0109	1.4600e-003	0.0124		108.5579	108.5579	2.7600e-003	0.0160	113.3947
Worker	0.0818	0.0529	0.6995	2.2000e-003	0.2813	1.3100e-003	0.2826	0.0746	1.2000e-003	0.0758		222.4713	222.4713	4.9500e-003	5.4800e-003	224.2275
Total	**0.1147**	**1.7214**	**1.1994**	**0.0102**	**0.5409**	**0.0173**	**0.5583**	**0.1463**	**0.0165**	**0.1628**		**1,094.1374**	**1,094.1374**	**0.0397**	**0.1424**	**1,137.5741**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Pipeline Installation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2420	9.9259	12.0216	0.0172		0.4766	0.4766		0.4459	0.4459		1,582.3208	1,582.3208	0.4269		1,592.9942
Total	**1.2420**	**9.9259**	**12.0216**	**0.0172**		**0.4766**	**0.4766**		**0.4459**	**0.4459**		**1,582.3208**	**1,582.3208**	**0.4269**		**1,592.9942**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.0000e-005	4.3100e-003	1.2700e-003	2.0000e-005	6.5000e-004	4.0000e-005	6.9000e-004	1.8000e-004	4.0000e-005	2.2000e-004		2.2313	2.2313	9.0000e-005	3.5000e-004	2.3390
Vendor	4.9800e-003	0.1950	0.0669	1.0100e-003	0.0378	1.5300e-003	0.0394	0.0109	1.4600e-003	0.0124		108.5579	108.5579	2.7600e-003	0.0160	113.3947
Worker	0.0981	0.0635	0.8394	2.6400e-003	0.3376	1.5700e-003	0.3391	0.0895	1.4400e-003	0.0910		266.9656	266.9656	5.9300e-003	6.5700e-003	269.0729
Total	**0.1032**	**0.2628**	**0.9075**	**3.6700e-003**	**0.3760**	**3.1400e-003**	**0.3792**	**0.1006**	**2.9400e-003**	**0.1035**		**377.7548**	**377.7548**	**8.7800e-003**	**0.0229**	**384.8067**

C-35 Cont.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Pipeline Installation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2420	9.9259	12.0216	0.0172		0.4766	0.4766		0.4459	0.4459	0.0000	1,582.3208	1,582.3208	0.4269		1,592.9942
Total	**1.2420**	**9.9259**	**12.0216**	**0.0172**		**0.4766**	**0.4766**		**0.4459**	**0.4459**	**0.0000**	**1,582.3208**	**1,582.3208**	**0.4269**		**1,592.9942**

C-35 Cont.

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.0000e-005	4.3100e-003	1.2700e-003	2.0000e-005	6.5000e-004	4.0000e-005	6.9000e-004	1.8000e-004	4.0000e-005	2.2000e-004		2.2313	2.2313	9.0000e-005	3.5000e-004	2.3390
Vendor	4.9800e-003	0.1950	0.0669	1.0100e-003	0.0378	1.5300e-003	0.0394	0.0109	1.4600e-003	0.0124		108.5579	108.5579	2.7600e-003	0.0160	113.3947
Worker	0.0981	0.0635	0.8394	2.6400e-003	0.3376	1.5700e-003	0.3391	0.0895	1.4400e-003	0.0910		266.9656	266.9656	5.9300e-003	6.5700e-003	269.0729
Total	**0.1032**	**0.2628**	**0.9075**	**3.6700e-003**	**0.3760**	**3.1400e-003**	**0.3792**	**0.1006**	**2.9400e-003**	**0.1035**		**377.7548**	**377.7548**	**8.7800e-003**	**0.0229**	**384.8067**

1M Warehouse - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3138	11.8155	13.7084	0.0233		0.5309	0.5309		0.4948	0.4948		2,181.8085	2,181.8085	0.6362		2,197.7130
Total	**1.3138**	**11.8155**	**13.7084**	**0.0233**		**0.5309**	**0.5309**		**0.4948**	**0.4948**		**2,181.8085**	**2,181.8085**	**0.6362**		**2,197.7130**

C-35 Cont.

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2216	8.6780	2.9776	0.0450	1.6836	0.0679	1.7514	0.4845	0.0649	0.5495		4,830.8284	4,830.8284	0.1226	0.7120	5,046.0634
Worker	1.8558	1.2015	15.8777	0.0500	6.3853	0.0296	6.4149	1.6933	0.0273	1.7205		5,050.0987	5,050.0987	0.1123	0.1244	5,089.9631
Total	**2.0774**	**9.8795**	**18.8553**	**0.0950**	**8.0689**	**0.0975**	**8.1664**	**2.1778**	**0.0922**	**2.2700**		**9,880.9270**	**9,880.9270**	**0.2349**	**0.8363**	**10,136.0265**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3138	11.8155	13.7084	0.0233		0.5309	0.5309		0.4948	0.4948	0.0000	2,181.8085	2,181.8085	0.6362		2,197.7130
Total	**1.3138**	**11.8155**	**13.7084**	**0.0233**		**0.5309**	**0.5309**		**0.4948**	**0.4948**	**0.0000**	**2,181.8085**	**2,181.8085**	**0.6362**		**2,197.7130**

C-35 Cont.

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2216	8.6780	2.9776	0.0450	1.6836	0.0679	1.7514	0.4845	0.0649	0.5495		4,830.8284	4,830.8284	0.1226	0.7120	5,046.0634
Worker	1.8558	1.2015	15.8777	0.0500	6.3853	0.0296	6.4149	1.6933	0.0273	1.7205		5,050.0987	5,050.0987	0.1123	0.1244	5,089.9631
Total	**2.0774**	**9.8795**	**18.8553**	**0.0950**	**8.0689**	**0.0975**	**8.1664**	**2.1778**	**0.0922**	**2.2700**		**9,880.9270**	**9,880.9270**	**0.2349**	**0.8363**	**10,136.0265**

1M Warehouse - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2299	10.9578	13.5034	0.0233		0.4619	0.4619		0.4308	0.4308		2,182.3026	2,182.3026	0.6347		2,198.1700
Total	**1.2299**	**10.9578**	**13.5034**	**0.0233**		**0.4619**	**0.4619**		**0.4308**	**0.4308**		**2,182.3026**	**2,182.3026**	**0.6347**		**2,198.1700**

C-35 Cont.

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2163	8.6230	2.9244	0.0442	1.6835	0.0678	1.7513	0.4845	0.0649	0.5494		4,736.8576	4,736.8576	0.1190	0.6977	4,947.7482
Worker	1.7319	1.0696	14.7091	0.0483	6.3853	0.0281	6.4134	1.6933	0.0259	1.7191		4,878.1095	4,878.1095	0.1010	0.1156	4,915.0771
Total	**1.9482**	**9.6927**	**17.6335**	**0.0924**	**8.0688**	**0.0959**	**8.1648**	**2.1778**	**0.0907**	**2.2685**		**9,614.9671**	**9,614.9671**	**0.2200**	**0.8133**	**9,862.8253**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2299	10.9578	13.5034	0.0233		0.4619	0.4619		0.4308	0.4308	0.0000	2,182.3026	2,182.3026	0.6347		2,198.1700
Total	**1.2299**	**10.9578**	**13.5034**	**0.0233**		**0.4619**	**0.4619**		**0.4308**	**0.4308**	**0.0000**	**2,182.3026**	**2,182.3026**	**0.6347**		**2,198.1700**

C-35 Cont.

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2163	8.6230	2.9244	0.0442	1.6835	0.0678	1.7513	0.4845	0.0649	0.5494		4,736.8576	4,736.8576	0.1190	0.6977	4,947.7482
Worker	1.7319	1.0696	14.7091	0.0483	6.3853	0.0281	6.4134	1.6933	0.0259	1.7191		4,878.1095	4,878.1095	0.1010	0.1156	4,915.0771
Total	**1.9482**	**9.6927**	**17.6335**	**0.0924**	**8.0688**	**0.0959**	**8.1648**	**2.1778**	**0.0907**	**2.2685**		**9,614.9671**	**9,614.9671**	**0.2200**	**0.8133**	**9,862.8253**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9241	8.2829	10.1181	0.0140		0.4424	0.4424		0.4070	0.4070		1,352.8292	1,352.8292	0.4375		1,363.7675
Paving	2.4628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.3869**	**8.2829**	**10.1181**	**0.0140**		**0.4424**	**0.4424**		**0.4070**	**0.4070**		**1,352.8292**	**1,352.8292**	**0.4375**		**1,363.7675**

C-35 Cont.

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.8600e-003	0.1938	0.0657	9.9000e-004	0.0378	1.5200e-003	0.0394	0.0109	1.4600e-003	0.0124		106.4462	106.4462	2.6700e-003	0.0157	111.1854
Worker	0.0610	0.0377	0.5184	1.7000e-003	0.2250	9.9000e-004	0.2260	0.0597	9.1000e-004	0.0606		171.9158	171.9158	3.5600e-003	4.0700e-003	173.2186
Total	**0.0659**	**0.2315**	**0.5841**	**2.6900e-003**	**0.2629**	**2.5100e-003**	**0.2654**	**0.0706**	**2.3700e-003**	**0.0729**		**278.3620**	**278.3620**	**6.2300e-003**	**0.0198**	**284.4039**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9241	8.2829	10.1181	0.0140		0.4424	0.4424		0.4070	0.4070	0.0000	1,352.8292	1,352.8292	0.4375		1,363.7675
Paving	2.4628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.3869**	**8.2829**	**10.1181**	**0.0140**		**0.4424**	**0.4424**		**0.4070**	**0.4070**	**0.0000**	**1,352.8292**	**1,352.8292**	**0.4375**		**1,363.7675**

C-35 Cont.

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.8600e-003	0.1938	0.0657	9.9000e-004	0.0378	1.5200e-003	0.0394	0.0109	1.4600e-003	0.0124		106.4462	106.4462	2.6700e-003	0.0157	111.1854
Worker	0.0610	0.0377	0.5184	1.7000e-003	0.2250	9.9000e-004	0.2260	0.0597	9.1000e-004	0.0606		171.9158	171.9158	3.5600e-003	4.0700e-003	173.2186
Total	**0.0659**	**0.2315**	**0.5841**	**2.6900e-003**	**0.2629**	**2.5100e-003**	**0.2654**	**0.0706**	**2.3700e-003**	**0.0729**		**278.3620**	**278.3620**	**6.2300e-003**	**0.0198**	**284.4039**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1,001.2763					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1548	0.8821	1.1396	1.6400e-003		0.0273	0.0273		0.0273	0.0273		133.5074	133.5074	0.0139		133.8539
Total	**1,001.4312**	**0.8821**	**1.1396**	**1.6400e-003**		**0.0273**	**0.0273**		**0.0273**	**0.0273**		**133.5074**	**133.5074**	**0.0139**		**133.8539**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.8600e-003	0.1938	0.0657	9.9000e-004	0.1457	1.5200e-003	0.1472	0.0374	1.4600e-003	0.0388		106.4462	106.4462	2.6700e-003	0.0157	111.1854
Worker	0.3510	0.2168	2.9807	9.7800e-003	5.7944	5.7000e-003	5.8001	1.4478	5.2400e-003	1.4530		988.5156	988.5156	0.0205	0.0234	996.0068
Total	**0.3558**	**0.4105**	**3.0464**	**0.0108**	**5.9401**	**7.2200e-003**	**5.9474**	**1.4852**	**6.7000e-003**	**1.4919**		**1,094.9618**	**1,094.9618**	**0.0231**	**0.0391**	**1,107.1922**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1,001.2763					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1548	0.8821	1.1396	1.6400e-003		0.0273	0.0273		0.0273	0.0273	0.0000	133.5074	133.5074	0.0139		133.8539
Total	**1,001.4312**	**0.8821**	**1.1396**	**1.6400e-003**		**0.0273**	**0.0273**		**0.0273**	**0.0273**	**0.0000**	**133.5074**	**133.5074**	**0.0139**		**133.8539**

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Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.8600e-003	0.1938	0.0657	9.9000e-004	0.1457	1.5200e-003	0.1472	0.0374	1.4600e-003	0.0388		106.4462	106.4462	2.6700e-003	0.0157	111.1854
Worker	0.3510	0.2168	2.9807	9.7800e-003	5.7944	5.7000e-003	5.8001	1.4478	5.2400e-003	1.4530		988.5156	988.5156	0.0205	0.0234	996.0068
Total	**0.3558**	**0.4105**	**3.0464**	**0.0108**	**5.9401**	**7.2200e-003**	**5.9474**	**1.4852**	**6.7000e-003**	**1.4919**		**1,094.9618**	**1,094.9618**	**0.0231**	**0.0391**	**1,107.1922**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3,241.8607	4,760.8290	30,691.0276	70.2436	7,824.3907	57.2097	7,881.6004	2,086.7354	53.5406	2,140.2760		7,169,263.8222	7,169,263.8222	424.2662	369.7116	7,290,044.5336
Unmitigated	3,241.8607	4,760.8290	30,691.0276	70.2436	7,824.3907	57.2097	7,881.6004	2,086.7354	53.5406	2,140.2760		7,169,263.8222	7,169,263.8222	424.2662	369.7116	7,290,044.5336

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4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	159,786.00	159,786.00	159786.00	466,497,007	466,497,007
Unrefrigerated Warehouse-Rail	1,109,511.00	1,109,511.00	1109511.00	3,239,229,724	3,239,229,724
Total	1,269,297.00	1,269,297.00	1,269,297.00	3,705,726,731	3,705,726,731

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606
Unrefrigerated Warehouse-No Rail	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606
Unrefrigerated Warehouse-Rail	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0642	0.5832	0.4898	3.5000e-003		0.0443	0.0443		0.0443	0.0443		699.7748	699.7748	0.0134	0.0128	703.9332
NaturalGas Unmitigated	0.0642	0.5832	0.4898	3.5000e-003		0.0443	0.0443		0.0443	0.0443		699.7748	699.7748	0.0134	0.0128	703.9332

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1635.72	0.0176	0.1604	0.1347	9.6000e-004		0.0122	0.0122		0.0122	0.0122		192.4378	192.4378	3.6900e-003	3.5300e-003	193.5814
Unrefrigerated Warehouse-Rail	4312.36	0.0465	0.4228	0.3551	2.5400e-003		0.0321	0.0321		0.0321	0.0321		507.3370	507.3370	9.7200e-003	9.3000e-003	510.3518
Total		**0.0642**	**0.5831**	**0.4899**	**3.5000e-003**		**0.0443**	**0.0443**		**0.0443**	**0.0443**		**699.7748**	**699.7748**	**0.0134**	**0.0128**	**703.9332**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1.63572	0.0176	0.1604	0.1347	9.6000e-004		0.0122	0.0122		0.0122	0.0122		192.4378	192.4378	3.6900e-003	3.5300e-003	193.5814
Unrefrigerated Warehouse-Rail	4.31236	0.0465	0.4228	0.3551	2.5400e-003		0.0321	0.0321		0.0321	0.0321		507.3370	507.3370	9.7200e-003	9.3000e-003	510.3518
Total		**0.0642**	**0.5831**	**0.4899**	**3.5000e-003**		**0.0443**	**0.0443**		**0.0443**	**0.0443**		**699.7748**	**699.7748**	**0.0134**	**0.0128**	**703.9332**

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6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	29.9925	1.9400e-003	0.2142	2.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004		0.4603	0.4603	1.2000e-003		0.4902
Unmitigated	29.9925	1.9400e-003	0.2142	2.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004		0.4603	0.4603	1.2000e-003		0.4902

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.8581					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	23.1147					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0197	1.9400e-003	0.2142	2.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004		0.4603	0.4603	1.2000e-003		0.4902
Total	**29.9925**	**1.9400e-003**	**0.2142**	**2.0000e-005**		**7.6000e-004**	**7.6000e-004**		**7.6000e-004**	**7.6000e-004**		**0.4603**	**0.4603**	**1.2000e-003**		**0.4902**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.8581					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	23.1147					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0197	1.9400e-003	0.2142	2.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004		0.4603	0.4603	1.2000e-003		0.4902
Total	**29.9925**	**1.9400e-003**	**0.2142**	**2.0000e-005**		**7.6000e-004**	**7.6000e-004**		**7.6000e-004**	**7.6000e-004**		**0.4603**	**0.4603**	**1.2000e-003**		**0.4902**

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7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	98	24.00	260	82	0.20	CNG
Forklifts	32	24.00	260	82	0.20	Diesel
Forklifts	4	24.00	260	200	0.20	Diesel

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Forklifts	14.7266	344.2176	2,699.9606	0.5907		9.3860	9.3860		9.0378	9.0378	0.0000	69,461.1478	69,461.1478	22.4651		70,022.7764
Total	**14.7266**	**344.2176**	**2,699.9606**	**0.5907**		**9.3860**	**9.3860**		**9.0378**	**9.0378**	**0.0000**	**69,461.1478**	**69,461.1478**	**22.4651**		**70,022.7764**

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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Fire Pump	1	8	50	300	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Fire Pump - Diesel (300 - 600 HP)	3.9386	11.0081	10.0425	0.0189		0.5794	0.5794		0.5794	0.5794		2,014.8339	2,014.8339	0.2825		2,021.8959
Total	**3.9386**	**11.0081**	**10.0425**	**0.0189**		**0.5794**	**0.5794**		**0.5794**	**0.5794**		**2,014.8339**	**2,014.8339**	**0.2825**		**2,021.8959**

11.0 Vegetation

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SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Geologic and Hydrogeologic Characterization
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
Industrial Stormwater Compliance
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

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Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, Matt has developed extensive client relationships and has managed complex projects that include consultation as an expert witness and a regulatory specialist, and a manager of projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2104, 2017;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at more than 100 industrial facilities.
- Expert witness on numerous cases including, for example, perfluorooctanoic acid (PFOA) contamination of groundwater, MTBE litigation, air toxins at hazards at a school, CERCLA compliance in assessment and remediation, and industrial stormwater contamination.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.

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With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

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- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted

public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

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Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9.

Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific

principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt is currently a part time geology instructor at Golden West College in Huntington Beach, California where he taught from 2010 to 2014 and in 2017.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

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Cont.

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

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Cont.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

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Cont.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examinations, 2009-2011.

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SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

SOIL WATER AIR PROTECTION ENTERPRISE
2656 29th Street, Suite 201
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Fax: (310) 452-5550
Email: prosenfeld@swape.com

Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Focus on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years of experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, industrial, military and agricultural sources, unconventional oil drilling operations, and locomotive and construction engines. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities. Dr. Rosenfeld has also successfully modeled exposure to contaminants distributed by water systems and via vapor intrusion.

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Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, creosote, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at sites and has testified as an expert witness on numerous cases involving exposure to soil, water and air contaminants from industrial, railroad, agricultural, and military sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

Rosenfeld P. E., Spaeth K., Hallman R., Bressler R., Smith, G., (2022) Cancer Risk and Diesel Exhaust Exposure Among Railroad Workers. *Water Air Soil Pollution.* **233,** 171.

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P**., (2015) Modeling the Effect of Refinery Emission On Residential Property Value. Journal of Real Estate Research. 27(3):321-342

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Cont.

Chen, J. A, Zapata A. R., Sutherland A. J., Molmen, D.R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*. Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution,* 123 (17), 319-327.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004.* New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality.* 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

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Cont.

Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld. (**1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

Rosenfeld, P.E., "The science for Perfluorinated Chemicals (PFAS): What makes remediation so hard?" Law Seminars International, (May 9-10, 2018) 800 Fifth Avenue, Suite 101 Seattle, WA.

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

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Cont.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

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Cont.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

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Cont.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

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Cont.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the Superior Court of the State of California, County of San Bernardino
Billy Wildrick, Plaintiff vs. BNSF Railway Company
Case No. CIVDS1711810
Rosenfeld Deposition 10-17-2022

In the State Court of Bibb County, State of Georgia
Richard Hutcherson, Plaintiff vs Norfolk Southern Railway Company
Case No. 10-SCCV-092007
Rosenfeld Deposition 10-6-2022

In the Civil District Court of the Parish of Orleans, State of Louisiana
Millard Clark, Plaintiff vs. Dixie Carriers, Inc. et al.
Case No. 2020-03891
Rosenfeld Deposition 9-15-2022

In The Circuit Court of Livingston County, State of Missouri, Circuit Civil Division
Shirley Ralls, Plaintiff vs. Canadian Pacific Railway and Soo Line Railroad
Case No. 18-LV-CC0020
Rosenfeld Deposition 9-7-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jonny C. Daniels, Plaintiff vs. CSX Transportation Inc.
Case No. 20-CA-5502
Rosenfeld Deposition 9-1-2022

In The Circuit Court of St. Louis County, State of Missouri
Kieth Luke et. al. Plaintiff vs. Monsanto Company et. al.
Case No. 19SL-CC03191
Rosenfeld Deposition 8-25-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jeffery S. Lamotte, Plaintiff vs. CSX Transportation Inc.
Case No. NO. 20-CA-0049
Rosenfeld Deposition 8-22-2022

In State of Minnesota District Court, County of St. Louis Sixth Judicial District
Greg Bean, Plaintiff vs. Soo Line Railroad Company
Case No. 69-DU-CV-21-760
Rosenfeld Deposition 8-17-2022

In United States District Court Western District of Washington at Tacoma, Washington
John D. Fitzgerald Plaintiff vs. BNSF
Case No. 3:21-cv-05288-RJB
Rosenfeld Deposition 8-11-2022

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Cont.

In Circuit Court of the Sixth Judicial Circuit, Macon Illinois
Rocky Bennyhoff Plaintiff vs. Norfolk Southern
Case No. 20-L-56
Rosenfeld Deposition 8-3-2022

In Court of Common Pleas, Hamilton County Ohio
Joe Briggins Plaintiff vs. CSX
Case No. A2004464
Rosenfeld Deposition 6-17-2022

In the Superior Court of the State of California, County of Kern
George LaFazia vs. BNSF Railway Company.
Case No. BCV-19-103087
Rosenfeld Deposition 5-17-2022

In the Circuit Court of Cook County Illinois
Bobby Earles vs. Penn Central et. al.
Case No. 2020-L-000550
Rosenfeld Deposition 4-16-2022

In United States District Court Easter District of Florida
Albert Hartman Plaintiff vs. Illinois Central
Case No. 2:20-cv-1633
Rosenfeld Deposition 4-4-2022

In the Circuit Court of the 4th Judicial Circuit, in and For Duval County, Florida
Barbara Steele vs. CSX Transportation
Case No.16-219-Ca-008796
Rosenfeld Deposition 3-15-2022

In United States District Court Easter District of New York
Romano et al. vs. Northrup Grumman Corporation
Case No. 16-cv-5760
Rosenfeld Deposition 3-10-2022

In the Circuit Court of Cook County Illinois
Linda Benjamin vs. Illinois Central
Case No. No. 2019 L 007599
Rosenfeld Deposition 1-26-2022

In the Circuit Court of Cook County Illinois
Donald Smith vs. Illinois Central
Case No. No. 2019 L 003426
Rosenfeld Deposition 1-24-2022

In the Circuit Court of Cook County Illinois
Jan Holeman vs. BNSF
Case No. 2019 L 000675
Rosenfeld Deposition 1-18-2022

In the State Court of Bibb County State of Georgia
Dwayne B. Garrett vs. Norfolk Southern
Case No. 20-SCCV-091232
Rosenfeld Deposition 11-10-2021

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In the Circuit Court of Cook County Illinois
Joseph Ruepke vs. BNSF
Case No. 2019 L 007730
Rosenfeld Deposition 11-5-2021

In the United States District Court For the District of Nebraska
Steven Gillett vs. BNSF
Case No. 4:20-cv-03120
Rosenfeld Deposition 10-28-2021

In the Montana Thirteenth District Court of Yellowstone County
James Eadus vs. Soo Line Railroad and BNSF
Case No. DV 19-1056
Rosenfeld Deposition 10-21-2021

In the Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al.cvs. Cerro Flow Products, Inc.
Case No. 0i9-L-2295
Rosenfeld Deposition 5-14-2021
Trial October 8-4-2021

In the Circuit Court of Cook County Illinois
Joseph Rafferty vs. Consolidated Rail Corporation and National Railroad Passenger Corporation d/b/a AMTRAK,
Case No. 18-L-6845
Rosenfeld Deposition 6-28-2021

In the United States District Court For the Northern District of Illinois
Theresa Romcoe vs. Northeast Illinois Regional Commuter Railroad Corporation d/b/a METRA Rail
Case No. 17-cv-8517
Rosenfeld Deposition 5-25-2021

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Cont.

In the Superior Court of the State of Arizona In and For the Cunty of Maricopa
Mary Tryon et al. vs. The City of Pheonix v. Cox Cactus Farm, L.L.C., Utah Shelter Systems, Inc.
Case No. CV20127-094749
Rosenfeld Deposition 5-7-2021

In the United States District Court for the Eastern District of Texas Beaumont Division
Robinson, Jeremy et al vs. CNA Insurance Company et al.
Case No. 1:17-cv-000508
Rosenfeld Deposition 3-25-2021

In the Superior Court of the State of California, County of San Bernardino
Gary Garner, Personal Representative for the Estate of Melvin Garner vs. BNSF Railway Company.
Case No. 1720288
Rosenfeld Deposition 2-23-2021

In the Superior Court of the State of California, County of Los Angeles, Spring Street Courthouse
Benny M Rodriguez vs. Union Pacific Railroad, A Corporation, et al.
Case No. 18STCV01162
Rosenfeld Deposition 12-23-2020

In the Circuit Court of Jackson County, Missouri
Karen Cornwell, Plaintiff, vs. Marathon Petroleum, LP, Defendant.
Case No. 1716-CV10006
Rosenfeld Deposition 8-30-2019

In the United States District Court For The District of New Jersey
Duarte et al, Plaintiffs, vs. United States Metals Refining Company et. al. Defendant.
Case No. 2:17-cv-01624-ES-SCM
Rosenfeld Deposition 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" Defendant.
Case No. 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No. BC615636
Rosenfeld Deposition 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No. BC646857
Rosenfeld Deposition 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiffs vs. The 3M Company et al., Defendants
Case No. 1:16-cv-02531-RBJ
Rosenfeld Deposition 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No. 1923
Rosenfeld Deposition 11-17-2017

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Cont.

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintifs vs. Chevron Corporation, et al., Defendants
Cause No. C12-01481
Rosenfeld Deposition 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition 8-23-2017

In United States District Court For The Southern District of Mississippi
Guy Manuel vs. The BP Exploration et al., Defendants
Case No. 1:19-cv-00315-RHW
Rosenfeld Deposition 4-22-2020

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No. LC102019 (c/w BC582154)
Rosenfeld Deposition 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., Plaintiffs, vs. Meritor Inc., et al., Defendants
Case No. 4:16-cv-52-DMB-JVM
Rosenfeld Deposition July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No. RG14711115
Rosenfeld Deposition September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No. LALA002187
Rosenfeld Deposition August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action No. 14-C-30000
Rosenfeld Deposition June 2015

In The Iowa District Court for Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No. 4980
Rosenfeld Deposition May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case No. CACE07030358 (26)
Rosenfeld Deposition December 2014

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Cont.

In the County Court of Dallas County Texas
Lisa Parr et al, Plaintiff, vs. Aruba et al, Defendant.
Case No. cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial April 2014

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., Plaintiffs, vs. Republic Services, Inc., et al., Defendants
Case No. 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition October 2012

In the United States District Court for the Middle District of Alabama, Northern Division
James K. Benefield, et al., Plaintiffs, vs. International Paper Company, Defendant.
Civil Action No. 2:09-cv-232-WHA-TFM
Rosenfeld Deposition July 2010, June 2011

In the Circuit Court of Jefferson County Alabama
Jaeanette Moss Anthony, et al., Plaintiffs, vs. Drummond Company Inc., et al., Defendants
Civil Action No. CV 2008-2076
Rosenfeld Deposition September 2010

In the United States District Court, Western District Lafayette Division
Ackle et al., Plaintiffs, vs. Citgo Petroleum Corporation, et al., Defendants.
Case No. 2:07CV1052
Rosenfeld Deposition July 2009

Comment Letter D

October 27, 2023

Advocates for the Environment

A non-profit public-interest law firm
and environmental advocacy organization



Daniel Alcayaga
Planning Manager
Town of Apple Valley
14955 Dale Evans Avenue,
Apple Valley, CA, 92307

Via U.S. Mail and email to dalcayaga@applevalley.org

re: Comments on the Draft Environmental Impact Report for the 1M Warehouse Project, SCH No. 2023020285

Dear Mr. Alcayaga:

Advocates for the Environment submits the comments in this letter regarding the Draft Environmental Impact Report (**DEIR**) for the 1M Warehouse Project (**Project**). The Project Site is located near the intersection of Central Road and Lafayette Street in the Town of Apple Valley (**Town**), County of San Bernadino, and is located on approximately 67.3 acres of land.

The Project includes the construction and operation of an approximately 1,080,125-square foot warehouse facility. We have reviewed the DEIR released in September 2023 and submit comments regarding the sufficiency of the DEIR's Greenhouse-Gas (**GHG**) analysis under the California Environmental Quality Act (**CEQA**).

D-1

The Town Should Require the Project to be Net-Zero

Given the current regulatory context and technological advancements, a net-zero significance threshold is feasible and eminently supportable. GHG emissions from buildings, including indirect emissions from offsite generation of electricity, direct emissions produced onsite, and from construction with cement and steel, amounted to 21% of global GHG emissions in 2019. (IPCC Sixth Assessment Report, Climate Change 2022, WGIII, Mitigation of Climate Change, p. 9-4.) This is a considerable portion of the total global GHG emissions.

It is much more economically efficient to construct new building projects to be net-zero than to obtain the same level of GHG reductions by expensively retrofitting older buildings to comply with climate change regulations. Climate damages will keep increasing until we reach net zero GHG emissions, and there is a California state policy requiring the state to be net-zero by 2045. It therefore is economically unsound to construct new buildings that are not net-zero.

D-2

Environmental groups have achieved tremendous outcomes by litigation under CEQA. Two of the largest mixed-use development projects in the history of California, Newhall Ranch (now FivePoint Valencia), and Centennial (part of Tejon Ranch) decided to move forward as net-zero communities after losing CEQA lawsuits to environmental groups. The ability for these large projects to become net-zero indicates that it is achievable, even for large-scale developments. The Applicant for this Project should do the same.

We urge the Town to adopt net-zero as the GHG significance threshold for this project and require full fair-share mitigation. This threshold is well-supported by plans for the reduction of GHG emissions in California, and particularly the CARB Climate Change Scoping Plans. The CARB 2017 Scoping Plan states that "achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development." (p. 101.)

Additionally, the CARB 2022 Scoping Plan reaffirms the necessity of a net zero target by expressing: "it is clear that California must transition away from fossil fuels to zero-emission technologies with all possible speed … in order to meet our GHG and air quality targets." (CARB 2022 Scoping Plan, p. 184.) CARB further encourages a net-zero threshold in its strategies for local actions in Appendix D to the 2022 Scoping Plan. (CARB 2022 Scoping Plan, Appendix D p. 24-26.)

Moving this Project forward as a net-zero project would not only be the right thing for the Town to do, but also would also help protect the Town and the Applicant from CEQA GHG litigation.

D-2 Cont.

GHG Mitigation is Insufficient under CEQA

The calculated project-related emissions amount to 37,982 metric tons of carbon dioxide equivalent (**MTCO2e**) per year (DEIR, p. 4.6-30). The lead agency adopted a numeric GHG significance threshold of below 3,000 MTCO2e, following the recommendations from the South Coast Air Quality Management District (**SCAQMD**) guidelines. (DEIR, p. 4.6-27.) Based on this threshold, Town concluded the Project would have significant GHG emissions.[1] To reduce this significant GHG impact, the GHG Analysis identified Air Quality Mitigation Measure 1 (**MM-AQ-1**). (DEIR, p. 4.6-36.)

The Town ultimately concluded that "the effectiveness of the mitigation and the associated emission reductions cannot be accurately quantified at this time." (DEIR, p. 7-9.) Nonetheless, after accounting for the GHG reductions from the proposed mitigation measures, the DEIR quantified mitigated emissions at 21,169.5 MTCO2e. (DEIR, p. 4.6-

D-3

[1] Note that the Town mentioned the SCAQMD's tier system for identifying significant impact, yet did not actually implement this method in the GHG analysis. (*See* DEIR, p. 4.2-26 – 4.2-27.)

31.) Despite the availability of other GHG mitigation and Project alternatives, the DEIR declared that the Project's quantified emissions were unavoidable, stating: "MM-AQ-1 would reduce operational GHG emissions, to the extent feasible; however, impacts would remain significant and unavoidable." (DEIR, p. 4.6-36.)

Yet, this statement was not supported by substantial evidence; there are other readily available mitigation measures, so the DEIR should include more mitigation to reduce the Project's GHG emissions to the extent required by CEQA.

D-3 Cont.

Infeasibility Finding Lacks Substantial Evidence

The conclusion that the Project will not be able to achieve any mitigation beyond which was identified in MM-AQ-1 is not supported with substantial evidence. Even though MM-AQ-1 is essentially eight mitigation measures in one package, it is still not sufficient to mitigate the Project's emissions to the extent feasible.

MM-AQ-1 includes the following actions: (1) Design the rooftop "to provide the structural capacity" for solar panels to meet 50% of the Project's base energy requirements; (2) Install electrical conduit and other infrastructure "to accommodate" chargers for electrical equipment and trucks; (3) Install electric vehicle charging stations for 25% of the employee parking spots; (4) Implement sustainable energy, water, and waste measures, as specified; (5) Enter into a contractual lease agreement that requires near-zero-emission equipment; (6) Adhere to CARB's model year 2010 emissions standards for trucks; (7) Restrict idling to three minutes and implement anti-idling management and training; and (8) Implement a Transportation Demand Management Plan to "encourage alternative modes of transportation." (DEIR, p. 1-4 – 1-8.)

D-4

While these measures are a good start, the Town did not demonstrate that these actions would represent the maximum feasible mitigation to support a finding that the Project's impact would be significant and unavoidable. The solar panel portion of MM-AQ-1 could feasibly install the solar panels, rather than simply design the rooftop so that it has the structural capacity for them. The Town did not provide any support for the infeasibility of actually installing solar panels to the maximum extent possible on the warehouse's roof space.

D-5

Additionally, the Town did not explain why 50% of the Project's energy being met by solar panels would be the maximum feasible amount. Likewise, the Town did not discuss why installing electric vehicle charging stations at only 25% of the employee parking spots is supported by substantial evidence.

D-6

Notably, CARB's 2010 emissions standards for trucks only regulate criteria pollutants such as NOx and PM, *not* GHGs. Therefore, it is not at all effective in the context of GHG mitigation, despite having the potential to alleviate local air quality impact. This is also

D-7

contradictory to the part of MM-AQ-1 that intends to prepare the warehouse to accommodate electric truck chargers, because zero emission trucks would also not emit criteria pollutants. Instead, the Town should have adopted CARB's most recent standards, which account for tangible GHG reductions.[2] The Town provided no reasoning why such updated standards would be unachievable for this Project.

D-7 Cont.

The Town also did not provide any support for why three minutes would be the maximum restriction feasible for on-site idling restrictions. It would seem feasible to instruct, train, and manage the warehouse site such that workers turn off the engine immediately upon putting the truck in park.

D-8

Additionally, a transportation management plan would have minimal effect on GHG reduction because it merely encourages changes in employee lifestyle to transition to alternative transportation measures and does not have enforceable conditions that require infrastructural changes and incentives to make it practical for employees to do so. The Town should have included enforceable actions which would achieve actual GHG reductions and did not explain why it would be infeasible to do so.

D-9

Overall, the lead agency carries the burden of including an adequate discussion of feasible mitigation measures, including identifying the reasons for infeasibility, and the failure to do so here is a violation of CEQA and insufficient to meet the Town's burden.

D-10

It Is Feasible to Adopt Further Mitigation Measures

CEQA requires that the lead agency identifies specific reasons for infeasibility of further mitigation when concluding significant and unavoidable impact. The Town did not specify why AQ-MM-1 was the only feasible mitigation measure, and in fact, several mitigation measures were named, but not explained in the DEIR or incorporated into the significance analysis for the GHG section.

The only mention of MM-AQ-2 is that "100% of forklifts and yard trucks are planned to be electrically powered," but this mitigation measure was not adopted in the GHG Analysis Section, nor the Table 1.1 Summary of Project Impacts, which listed the adopted mitigation measures for the Project. (DEIR, p. 4.6-34.) MM-AQ-3 is named without any mention to the details or explanation of the measure. (DEIR, p. 7-9.) Likewise, MM-GHG-1 through MM-GHG-3 were named in reference to operational emissions reductions but were not incorporated into the GHG Analysis Section, nor the Table 1.1 Summary of Project Impacts. (DEIR, p. 7-9; DEIR, p. 1-4.) The Town did not specify what actions some of these mitigation measures were designed to achieve, and it should have done so and

D-11

[2] *See* https://ww2.arb.ca.gov/our-work/programs/ghg-std-md-hd-eng-veh

implemented them as part of the Project's GHG mitigation measures, if applicable and feasible. D-11 Cont.

The Project's GHG Impacts Must be Fully Mitigated

CEQA requires that the Project include fair-share mitigation for all significant cumulative impacts. (*Napa Citizens for Honest Gov't v. Napa County Board of Supervisors* (2001) 91 Cal.App.4th 342, 364.) Here, this means mitigation of the full extent of the Project's GHG impacts. The DEIR claims that no other mitigation measures are feasible, beyond MM-AQ-1. But that conclusion is incorrect, and not supported by substantial evidence.

The amount of GHG emissions that comprises the Project's fair share is clear. The Project's mitigated annual emissions were estimated at 21,169.5 MTCO2e, and the reasonable lifespan this Project is approximately 30 years, as indicated by the amortization of construction emissions. (DEIR, p. 4.6-29.) Therefore, the Project would likely contribute to approximately 635,085 MTCO2e during its entire lifespan.[3] This would be a good starting point from which to subtract the effect of additional non-offset mitigation measures, before implementing offset purchases. D-12

Operational Emissions Reductions are Feasible

In addition to the recommended modifications to the existing mitigation measure AQ-MM-1 and the adoption of other mitigation measures named in the DEIR, there are several other mitigation measures that are feasible, including renewable energy systems and batteries to power the commercial buildings during non-peak hours, solar water heaters, automatic light switches, among many other mitigation strategies that can be incorporated in the project as design features or as mitigation measures. D-13

Even after implementing on-site emissions reductions to the maximum-feasible extent, the Town could also require the Applicant to enter into an agreement to buy clean power for the remaining warehouse's electricity usage.

Overall, there are more options available to mitigate emissions to the full extent of project emissions, but the measures identified in the DEIR were only able to mitigate less than half of the Project's impact.[4] D-14

[3] (21,169.5 MTCO2e) x (30 years) = 635,085 MTCO2e
[4] (37,982 MTCO2e − 21,169.5 MTCO2e)[mitigation measures impact] ÷ 37,982 MTCO2e [full project impact] = 0.4426 = 44.26%

Offsets Are Feasible

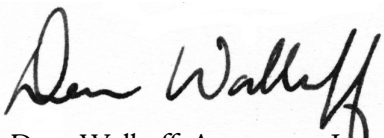
The DEIR did not mention offsets as an available mitigation measure when it concluded that further mitigation is not feasible, nor did it provide any explanation of why offsets would be infeasible. And offsets are acceptable mitigation measures under CEQA (See CEQA Guidelines § 15126.4 (c)(3).) Because the Town has provided no reason why offsets are infeasible, the EIR's conclusion that it is not feasible to fully mitigate the Project's GHG emissions is not supported by substantial evidence. The Town should require the Applicant to purchase offsets to the extent necessary to mitigate the Project's emissions. D-15

Conclusion

The DEIR fails to require all feasible mitigation, despite concluding that the significant GHG impact will be unavoidable. The lead agency has not met its burden of showing that such measures are infeasible, and therefore the DEIR should be amended to reflect all feasible mitigation to the fair-share extent, including offsets. D-16

Please put me on the interest list to receive updates about the progress of this Project. D-17

Sincerely,



Dean Wallraff, Attorney at Law
Executive Director, Advocates for the Environment

10211 Sunland Blvd., Shadow Hills, CA 91040. (818) 650-0030 X101 dw@aenv.org

Comment Letter E

CENTER for BIOLOGICAL DIVERSITY
Because life is good.
Protecting and restoring natural ecosystems and imperiled species through science, education, policy, and environmental law

via email

October 30, 2023

Mr. Daniel Alcayaga
Town of Apple Valley, Planning Department,
14955 Dale Evans Parkway,
Apple Valley, California 92307.
dalcayaga@applevalley.org

RE: Comments on Draft Environmental Impact Report (EIR) on the environmental effects associated with the 1M Warehouse Project (Proposed Project) – SCH# 2023020285

Dear Mr. Alcayaga,

These comments are respectfully submitted on behalf of the Center for Biological Diversity on the Draft Environmental Impact Report (EIR) on the environmental effects associated with the 1M Warehouse Project (Proposed Project). The Center is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. These comments are submitted on behalf of the Center's 1.7 million staff, members and supporters throughout California and beyond, many of whom live throughout southern California and enjoy visiting, studying, photographing, and hiking in the Mojave Desert, including the areas on and around the proposed project site in the Apple Valley area.
The Proposed Project would construct and operate a 1,080,125-square-foot industrial/warehouse building on a 67.3-acre undeveloped site that currently supports native plants and wildlife located in the Town of Apple Valley, California. The DEIR contemplates commencement of construction of the Project December 2023, which provides inadequate time to remedy the deficiencies in the DEIR which need to be addressed and recirculated in a revised DEIR.

E-1

THE DEIR'S ANALYSIS OF AND MITIGATION FOR THE PROJECT'S IMPACTS TO BIOLOGICAL RESOURCES IS INADEQUATE.

A. The Analysis of and Mitigation for Impacts to the Western Joshua Tree is Inadequate

1. The Project Site Is Home to a Natural Community of Concern.

The Project site is located in the eastern part of the City, in San Bernardino County's Apple Valley region. The City is located within the range of the western Joshua tree South population (YUBR South). The geographic area in which YUBR South is situated is comprised of 3.7 million acres, with just over 50% in private ownership, 48% federally owned, and just under 2% state, county and local owned (USFWS 2018). The USFWS (2018) estimates that 3,255,088 acres of this area was suitable for Joshua trees based on soils and other habitat factors. However, Joshua tree actually occupy only a fraction of this area, as they have a patchy and

E-2

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disjunct distribution, and large areas of former habitat have been lost to development or agricultural conversion.

Increasing development, climate change, increasing drought and wildfires, invasive species that adversely affect fire dynamics, and other threats have led to ongoing reductions in western Joshua trees and western Joshua tree habitat range-wide. Protecting western Joshua trees and their habitat from continued destruction and habitat loss is therefore of utmost importance to the persistence of the species in California. However, within the City and surrounding communities in particular, western Joshua tree habitat is shrinking at an alarming rate due to increasing development. While western Joshua trees currently persist in the less-developed areas of the City, they are absent from the more developed areas as well as the agricultural lands in the region, making the Project site all the more valuable.

E-2 Cont.

The Project site is comprised of ecologically significant habitat for Joshua trees. Joshua tree woodland is a community recognized by the California Department of Fish and Wildlife (CDFW) as a Natural Community of Concern. (DEIR at 5.3-5.) Sensitive natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects (CDFW 2018). CDFW's List of California Terrestrial Natural Communities is based on the best available information, and indicates which natural communities are considered sensitive at the current stage of the California vegetation classification effort.1 The DEIR fails to disclose or adequately evaluate the impacts from destroying up to160 acres of this Natural Community of Concern.

E-3

According to the DEIR the Project site will eliminate one Joshua tree (Appendix B of Appendix C at pg. 11 – Table 1) on the 67.3-acre Project site and 24.7-acre off-site "improvement areas" (DEIR at 4.3-1) Another seven Joshua trees currently live within the 186-foot Biological Survey Area (BSA) and will be retained on site during construction and operation of the warehouse. The DEIR fails to provide a map of the locations of the western Joshua trees on site. Are they clustered or widely distributed?

E-4

The one Joshua tree within the project footprint is large and "does not meet the defined criteria for improved likelihood of post-transplant success" (Appendix B of Appendix C at pg.13). However the DEIR leaves open the possibility of transplanting the Joshua tree if the City of Apple Valley requires it. The DEIR must confirm that, even if transplantation were to occur, the project would comply with Section in 1927.3 of the Western Joshua Tree Conservation Act through payment of the elected fees or off-site conservation or through a CDFW approved mitigation bank, or as required by an Incidental Take Permit (DEIR at 4.3-48)

E-5

Regarding the seven western Joshua trees retained on the proposed project site, the DEIR fails to evaluate the indirect impacts to the trees from the proposed project to assure their persistence over time. The DEIR, for example, fails even to map the project in relation to the Joshua Trees on site and therefore fails to disclose how close the warehouse will be built to the Joshua trees. Currently CDFW considers the impact analysis to include a 186-foot zone around a

E-6

1 *See* the Vegetation Classification and Mapping Program (VegCAMP) website for additional information on natural communities and vegetation classification. Available at: https://www.wildlife.ca.gov/Data/VegCAMP.

western Joshua tree as the site occupancy based on dispersal ability. Absent this crucial information on the areas included within the 186-foot zone for each tree, the DEIR simply lacks the evidence to conclude that the Project will not result in significant impacts to Joshua Tree habitat. If direct or indirect impacts occur within this zone for any western Joshua trees, a revised DEIR is needed to analyze, avoid, minimize, or mitigate any impacts. Absent the analysis of indirect impacts to on-site western Joshua tree, the DEIR also fails to provide a mitigation scenario for these trees if they do not persist over time on the proposed project site.

E-6 Cont.

The Project's proposed warehouse will require the removal of vegetation from the site prior to the start of construction, which will necessarily include any Joshua trees located in the Project footprint. Yet the DEIR is incorrect in concluding that mitigation for direct impacts would also address any potentially significant direct or indirect impacts associated with the destruction or adverse modification of the western Joshua tree's *habitat.* Accordingly, the DEIR lacks evidence to conclude that the Project will not have a significant impact on any sensitive natural community without once mentioning Joshua Tree habitat. (DEIR at 4.3-40.) Development, climate change, and increasing wildfire occurrences exacerbated by drought and invasive species negatively impact western Joshua trees and their habitat. (DeFalco et al. 2010; Harrower and Gilbert 2018.) Climate change, in particular, represents the single greatest threat to the continued existence of western Joshua trees. Even under the most optimistic climate scenarios, western Joshua trees will be eliminated from significant portions of their range by the end of the century; under warming scenarios consistent with current domestic and global emissions trajectories, the species will likely be close to being functionally extinct in the wild in California by century's end. (Dole et al. 2003; Cole et al. 2011.) Studies indicate that the species' range is contracting at lower elevations, recruitment is limited, and mortality is increasing, all of which would likely reflect a population already starting to decline due to recent warming. Even greater changes are projected to occur over the coming decades.

E-7

The DEIR does not acknowledge significant impacts to Joshua trees associated with the reduction in habitat connectivity. Maintaining successful habitat connectivity nearby is particularly important to western Joshua trees: for successful reproduction and recruitment, Joshua trees require the presence of their obligate pollinator, rodents to disperse and cache seeds and nurse plants to shelter emerging seedlings. Therefore, to the degree that any Joshua trees are left remaining on the Project site, such moths and rodents must have access to and also be maintained on site in order for these remnant western Joshua trees to successfully reproduce. Construction on the project site will reduce habitat connectivity necessary for sustainable Joshua tree recruitment onsite. Moreover, construction on the Project site will result not just in the loss of Joshua trees and their pollinators and dispersers from the site itself, but will further fragment habitat, potentially resulting in significant adverse impacts to remnant Joshua tree woodland in nearby areas if pollinator or disperser populations are reduced. None of these impacts are analyzed in the DEIR.

While the Western Joshua Tree Conservation Act allows for the payment of in lieu fees for the direct impacts to Joshus Trees, the Act does not offer an alternative mechanism to mitigate impacts to Joshua Tree Woodland. Accordingly, the EIR also still must analyze and mitigate the loss of Joshua Tree woodland, upon which a number of species rely. A revised DEIR must clearly address the ultimate direct and indirect impacts to western Joshua trees from the proposed project.

E-8

B. The DEIR Does Not Adequately Describe the Environmental Baseline for Various Other Species, and Survey Results.

The DEIR downplays and fails to provide adequate baseline information and description of the environmental setting for many species other than the western Joshua tree. This deficiency extends to the DEIR's analyses of rare plants, animals, and communities, including desert tortoise, burrowing owls, and other imperiled and desert species, as well as more common species present on the Project site. For some species or habitats baseline conditions are lacking or totally absent and as a result no impact assessment is provided for these biological resources. E-9

i. Rare Plants and Plant Communities

The Proposed Project site is interesting botanically because of the mix of typically transmontane and desert plants and the relative low diversity of non-native plants compared to native species (Appendix E of Appendix C). Some of these plant species may be considered locally rare species because they are at the edge of their range. Protecting populations at the edges of their range, particularly at the warmer and drier edge of their range, as climate change progresses, is an important strategy(Caissy et al. 2020; Leppig and White 2006). The revised DEIR needs to address this issue. E-10

Eighty-seven percent of the Proposed Project area is undisturbed, including a wash area (noted as Unvegetated wash and river bottom) which is an important ephemeral hydrological feature. The DEIR is unclear about the number washes within the proposed project area. For example in the Hydrology and Water Quality section, the DEIR states "Drainage at the Project site occurs as sheet flow with upgradient flows originating from numerous dry desert washes with several established drainages that cut across the northwest corner of the site." (at 4.8-2). The Biological section recognizes "Unvegetated Wash and River Bottom" and states that "may be jurisdictional by … Porter–Cologne Act, or CDFW pursuant to Section 1602 of the California Fish and Game Code. Thus, unvegetated wash and river bottom may be considered a sensitive vegetation community under CEQA.' At pg (4.3-4). However no further analysis is provided in the DEIR. The revised DEIR needs to address this issue. E-11

a. Rare Plants

The DEIR identifies the rare plant survey methodology used and the dates that the surveys were performed, but it does not affirmatively discuss the results of those surveys in the DEIR or Appendix C. While Appendix E - Plant Compendium does not list any rare plants as being present, the revised DEIR still needs to clearly include the rare plants that were targeted, the results of the rare plant survey and a discussion of the results. E-12

ii. Wildlife

The DEIR includes pre-Project surveys of Desert tortoise and Mohave ground squirrels.

a. Desert tortoise

Two or three surveys for Mojave desert tortoise were reported in the DEIR. The initial survey on October 24, 2022 covered 106 acres (Appendix C of Appendix C) with the southern area inaccessible. On January 17, 2023, another 50 acres were surveyed (Appendix C of Appendix C). While the data sheet for this survey indicates that it occurred between 8:45 am and 1:15 pm, the temperature ranges on the data sheet ranged from 102F to 118F (39C to 48C) which seems inaccurate for that time of year. There is no data sheet for surveys performed on August 25, 2023. It is unclear if the whole project site was surveyed as required by the "small project protocol". The revised DEIR needs to include all of the data sheets and a map of the extent of each survey was performed by date. E-13

In the analysis of impacts, the DEIR relies on pre-construction Mojave desert tortoise clearance survey "conducted in areas supporting potentially suitable habitat 14 to 21 days prior to the start of construction activities" (at pg. 4.3-26). If desert tortoise are found, the DEIR determines that 75.1 acres would be permanently impacted and 13.8 acres temporarily impacted of the 160-acre site. The permanent impacts are proposed to be mitigated at 1:1 ratio, which is well below established mitigation for occupied desert tortoise habitat. Typical occupied Mojave desert tortoise habitat mitigation ranges from 5:1 to 3:1. No mitigation is proposed for the temporary impacts. No analysis is analyzed for indirect impacts to on-site or off-site habitat for Mojave desert tortoise. The revised DEIR needs to analyze where needed and address these issues. E-14

b. Mohave ground squirrel

The map of where the Mohave ground squirrel live- and camera-trappings (Appendix D of Appendix C) have two grids on two parcels separated by about half a mile. Is the Proposed Project on the southern parcel? The revised DEIR needs to clarify which parcel the Proposed Project is located on. E-15

C. The DEIR Fails to Adequately Identify and Analyze Direct and Indirect Impacts to Other Species.

The DEIR fails to adequately analyze the direct, indirect, and cumulative impacts of the proposed Project on the environment. The City must look at avoidance, minimization and reasonable mitigation measures to avoid impacts in the DEIR but failed to do so here. Even in those cases where the extent of impacts may be somewhat uncertain due to the complexity of the issues, the City is not relieved of its responsibility to discuss avoidance through alternatives, minimization or mitigation of reasonably likely impacts at the outset. E-16

In addition to inadequately describing the baseline of biological conditions and analyzing impacts, the DEIR fails to fully analyze or disclose the Project's direct, indirect, and cumulative impacts to numerous species including the desert tortoise as documented above, or to mitigate those impacts.

It also fails to identify if the mitigation for on-site occupied species habitat will be "nested" where a single mitigation site will be used to mitigate all species impacts. The revised DEIR must require that each species' mitigation obligations must be met. If a mitigation site only hosts one or two of the species which need mitigation, then additional mitigation lands (or E-17

credits) must be acquired for the species that remain to be mitigated. The revised DEIR must require full mitigation for the project's permanent, temporary, direct, and indirect impacts over the timeframe of the proposed project's construction and operation.

E-17 Cont.

i. Burrowing Owl

For example, while the DEIR states that it will conduct burrowing owl surveys no more than 14 days before initiation of site preparation or grading activities, and a second survey will be completed within 24 hours of the start of site preparation or grading activities (DEIR at 4.3-27). If burrowing owls are located on site, the Burrowing Owl Translocation plan will be activated (Appendix I in Appendix C). If burrowing owls are located on site during the pre-construction surveys, 75.1 acres of mitigation is proposed at a 1:1 ratio. As with the desert tortoise, the mitigation ratio is well below established mitigation for occupied burrowing owl habitat. Typical occupied burrowing owl habitat mitigation is 3:1. No mitigation is proposed for13.8 acre of temporary impacts. No analysis is analyzed for indirect impacts to on-site or off-site habitat for burrowing owls. The revised DEIR needs to analyze where needed and address these issues.

E-18

ii. Desert Kit Fox

Another example is the desert kit fox where occupation of the site was confirmed during the Mohave ground squirrel surveys (4.3-31). In addition to its status as a special status species, the desert kit fox is also State-protected for hunting (Cal. Code Regs. tit. 14 § 460 - Fisher, Marten, River Otter, Desert Kit Fox and Red Fox), which disallows lethal take of the species. Because the Proposed Project site is occupied by the desert kit fox a Desert Kit Fox Relocation and Mitigation Plan has been created. It requires that "pre-construction surveys will commence within 10 days before the start of surface disturbance to determine if desert kit foxes are on the project site and off-site improvement areas, or within 200 feet of the project site and off-site improvement areas (where legal access has been granted)" (Appendix J of Appendix C). If desert kit fox are occupying burrows, the Relocation and Mitigation plan requires "If an active non-natal desert kit fox den is detected within the project site, off-site improvement areas, or 200-foot buffer area during the biological compliance monitoring, a 200-foot buffer will be established around the active den, unless otherwise authorized by CDFW." The plan continues "If an active natal desert kit fox den is detected within the project site, off-site improvement areas, or 200-foot buffer area during the biological compliance monitoring, an initial 200-foot no-disturbance buffer will be established around the natal den, and this buffer will be maintained until the den can be verified to not host pups. Construction activities will not be permitted in this area until the den has been vacated." While we support these avoidance measures during construction, the mitigation of occupied habitat of 1:1 still falls short of established mitigation for occupied desert kit fox habitat. Typical occupied desert kit fox habitat mitigation is 3:1. No mitigation is proposed for13.8 acre of temporary impacts. No analysis is analyzed for indirect impacts to on-site or off-site habitat for burrowing owls. The revised DEIR needs to analyze where needed and address these issues.

E-19

If additional species need to be mitigated due to the Proposed Project's impacts, then the same analyses for avoidance, minimization and mitigation need to be applied.

D. The Apple Valley Multiple Species Habitat Conservation Plan/Natural Communities Conservation Plan

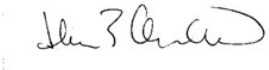
Currently, the City is undergoing planning for the Apple Valley Multiple Species Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP) and the Proposed Project is within the boundaries of the HCP/NCCP. The "covered species" list anticipated to be covered under the HCP/NCCP include four of the species either present on the site or may occur on the site: burrowing owl, desert kit fox, Mojave desert tortoise and western Joshua tree. The revised DEIR must clarify how the Proposed Project complies, by species, with the current interim guidelines found in the Draft Public Review Planning Agreement document and in consultation with the City. E-20

E. Conclusion

While the DEIR provides some data and analyses regarding biological impacts from the Proposed Project, it still fails to provide comprehensive analyses of the impacts. More data and analyses are needed in a revised DEIR. E-21

Thank you for the opportunity to submit these comments. Please feel free to reach out with any questions.

Sincerely,



Ileene Anderson
Senior Scientist/California Desert Director
Center for Biological Diversity

cc: Drew Kaiser, CDFW Drew.Kaiser@wildlife.ca.gov

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Comment Letter F

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October 13, 2023

Via U.S. Mail and Email

Daniel Alcayaga, AICP, Planning Manager
Planning Division
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Apple Valley, CA 92307
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Attn: Public Records Act Coordinator
Town Clerk's Office
Town of Apple Valley
14955 Dale Evans Parkway
Apple Valley, CA 92307
Email: records@applevalley.org; townclerk@applevalley.org

Re: Request for Immediate Access to Public Records – 1M Warehouse Project (SCH No. 2023020285)

Dear Mr. Alcayaga and Public Records Act Coordinator:

We are writing on behalf of Californians Allied for a Responsible Economy ("CARE CA") to request ***immediate access*** to any and all public records in the Town of Apple Valley's possession referring or related to the 1M Warehouse Project (SCH No. 2023020285), proposed by AP Investors Group ("Applicant"). This request includes, but is not limited to, any and all file materials, applications, correspondence, resolutions, memos, notes, analysis, email messages, files, maps, charts, and any other documents related to the Project. *This request does not include the Draft Environmental Impact Report ("DEIR") or documents referenced or relied upon in the DEIR, which we have requested in a separate letter pursuant to the California Environmental Quality Act.*

The Project proposes the construction and operation of a 1,080,125-square-foot industrial/warehouse building and associated improvements on approximately 68.2 acres of vacant land in the Town of Apple Valley, San Bernardino County, CA. The Project would involve associated improvements, including loading docks, truck and vehicle parking, bike parking, and landscaped areas. The Project site is located south of Johnson Road, east of Central Road, north of Lafayette Street, and west of Sycamore Lane. The Project site consists of Assessor's Parcel Numbers 0463-241-02 and 0463-241-03.

F-1

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This request is made pursuant to the **California Public Records Act** (Government Code §§ 7920.000, *et seq*.). This request is also made pursuant to Article I, section 3(b) of the California Constitution, which provides a Constitutional right of access to information concerning the conduct of government. Article I, section 3(b) provides that any statutory right to information shall be broadly construed to provide the greatest access to government information and further requires that any statute that limits the right of access to information shall be narrowly construed.

We request ***immediate access*** to review the above documents pursuant to section 7922.525 of the Public Records Act, which requires public records to be "open to inspection at all times during the office hours of a state or local agency" and provides that "every person has a right to inspect any public record."[1] Therefore, the 10-day response period applicable to a "request for a copy of records" under Section 7922.535(a) does not apply to this request.

We request access to the above records in their original form, as maintained by the agency.[2] Pursuant to Government Code Section 7922.570, if the requested documents are in electronic format, please upload them to a file hosting program such as Dropbox, NextRequest or a similar program. Alternatively, if the electronic documents are 10 MB or less (or can be easily broken into sections of 10 MB or less), they may be emailed to me as attachments.

We will pay for any direct costs of duplication associated with filling this request up to $200. However, please contact me at (650) 589-1660 with a cost estimate before copying/scanning the materials.

Please use the following contact information for all correspondence:

U.S. Mail
Sheila M. Sannadan
Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Suite 1000
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Email
ssannadan@adamsbroadwell.com

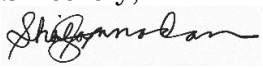
F-1
Cont.

[1] Gov. Code §7922.525(a).
[2] Gov. Code § 7922.570; *Sierra Club v. Super. Ct*. (2013) 57 Cal. 4th 157, 161-62.

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If you have any questions, please call me at (650) 589-1660 or email me at ssannadan@adamsbroadwell.com. Thank you for your assistance with this matter.

Sincerely,



Sheila M. Sannadan
Legal Assistant

SMS:ljl

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Comment Letter G

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October 13, 2023

Via U.S. Mail and Email

Daniel Alcayaga, AICP, Planning Manager
Planning Division Town of Apple Valley
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La Vonda M. Pearson, Director of Government Services/Town Clerk
Town of Apple Valley
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Email: townclerk@applevalley.org

Re: Request for Immediate Access to Documents Referenced in the Draft Environmental Impact Report – 1M Warehouse Project (SCH No. 2023020285)

Dear Mr. Alcayaga and Ms. Pearson:

We are writing on behalf of Californians Allied for a Responsible Economy ("CARE CA") to request ***immediate access*** to any and all documents referenced, incorporated by reference, and relied upon in the Draft Environmental Impact Report ("DEIR") prepared for the 1M Warehouse Project (SCH No. (SCH No. 2023020285), proposed by AP Investors Group ("Applicant"). *This request excludes a copy of the DEIR and its appendices. This request also excludes any documents that are currently available on Town of Apple Valley*.[1]

G-1

The Project proposes the construction and operation of a 1,080,125-square-foot industrial/warehouse building and associated improvements on approximately 68.2 acres of vacant land in the Town of Apple Valley, San Bernardino County, CA.

[1] Accessed https://www.applevalley.org/services/planning-division/environmental on October 13, 2023.

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The Project would involve associated improvements, including loading docks, truck and vehicle parking, bike parking, and landscaped areas. The Project site is located south of Johnson Road, east of Central Road, north of Lafayette Street, and west of Sycamore Lane. The Project site consists of Assessor's Parcel Numbers 0463-241-02 and 0463-241-03.

G-1 Cont.

Our request for ***immediate access*** to all documents referenced in the DEIR is made pursuant to the California Environmental Quality Act ("CEQA"), which requires that all documents referenced, incorporated by reference, and relied upon in an environmental review document be made available to the public for the entire comment period.[2]

Please use the following contact information for all correspondence:

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Adams Broadwell Joseph & Cardozo
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ssannadan@adamsbroadwell.com

If you have any questions, please call me at (650) 589-1660 or email me at ssannadan@adamsbroadwell.com. Thank you for your assistance with this matter.

Sincerely,

Sheila M. Sannadan
Legal Assistant

SMS:ljl

[2] *See* Public Resources Code § 21092(b)(1) (stating that "all documents referenced in the draft environmental impact report" shall be made "available for review"); 14 Cal. Code Reg. § 15087(c)(5) (stating that all documents incorporated by reference in the EIR . . . shall be readily accessible to the public"); see also *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 442, as modified (Apr. 18, 2007) (EIR must transparently incorporate and describe the reference materials relied on in its analysis); *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3rd 818, 831 ("[W]hatever is required to be considered in an EIR must be in that formal report. . ."), internal citations omitted.

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Comment Letter H

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October 27, 2023

Via Email and Overnight Mail

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Re: Request to Extend the Public Review and Comment Period for the Draft Environmental Impact Report - 1M Warehouse Project (SCH No. 2023020285)

Dear Mr. Alcayaga:

On behalf of Californians Allied for a Responsible Economy ("CARE CA") we respectfully request that the Town of Apple Valley ("Town") extend the public review and comment period for the Draft Environmental Impact Report ("DEIR") for the 1M Warehouse Project (SCH No. 2023020285)[1] ("Project") proposed by Uncommon Developers ("Applicant") **by at least 45 days** due to the Town's failure to provide timely access to the supporting documents for the DEIR. This request is made pursuant to the California Environmental Quality Act, Pub. Resources Code ("PRC") §§ 21000 et seq. ("CEQA") Section 21092(b)(1), which requires that "all documents referenced [or relied upon] in the draft environmental impact report or negative declaration" be available for review and "readily accessible" during the entire comment period.[2]

H-1

[1] Town of Apple Valley, Draft Environmental Impact Report, 1M Warehouse Project (SCH No. 2023020285) (hereinafter "DEIR") (September 15, 2023) available at https://ceqanet.opr.ca.gov/2023020285/2.
[2] PRC §§ 21092(b)(1) (emphasis added); 14 Cal. Code Regs. ("CCR") § 15087(c)(5).
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On October 13, 2023, we submitted a letter to the Town pursuant to CEQA Section 21092(b)(1) requesting "***immediate access to any and all documents referenced or relied upon***" in the DEIR ("DEIR Reference Request") (emphasis added).[3] Additionally, on October 13, 2023, we submitted a letter to the Town pursuant to California Public Records Act, Government Code §§ 6250, et seq. and Article I, section 3(b) of the California Constitution, requesting "***immediate access to any and all documents related***" to the Project ("PRA Request") (emphasis added).[4] The DEIR Request and the PRA Request were sent separately to avoid confusion as to what documents and records were sought.

To date the Town has not acknowledged receipt of the DEIR Request or the PRA Request, nor has CARE CA been provided with access to the requested documents.

In our review of the DEIR and its appendices we have identified numerous reference documents and files which are not available online and were not made available with the DEIR for review, including the following:

- Electronic copies of the live modeling files used to quantify the Project's air quality impacts from construction and operation, and live modeling files used to quantify the health risk impacts of the proposed Project including the following:
    - Live EMFAC output files;
    - Spreadsheets used to convert EMFAC output from g/VMT to g/s, calculate the Project's emissions sources such as trucks and TRUs, and emission spreadsheet calculations used to calculate weighted emission factors;
    - AERMOD Input and Output files;
    - Any other files related to post-processing using EMFAC emission rates done outside of AERMOD to calculate pollutant-specific concentrations;
    - Live cancer risk calculation spreadsheets;
    - HARP Input and Output files; and
    - CalEEMod Output Files.

H-2

[3] **Exhibit A** Letter from Adams, Broadwell, Joseph & Cardozo ("ABJC"), re Request for Immediate Access to Documents Referenced in the Draft Environmental Impact Report – 1M Warehouse Project (SCH No. 2023020285) (October 13, 2023).
[4] **Exhibit B** Letter from ABJC, re Request for Immediate Access to Public Records – 1M Warehouse Project (SCH No. 2023020285) (October 13, 2023).

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H-2 Cont.

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H-2
Cont.

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H-2 Cont.

These missing documents are critical to understanding and commenting on the DEIR's analysis of the Project's impacts to several critical resource areas, including, in particular, the DEIR's air quality, transportation, biological impacts, greenhouse gas, and hazardous materials analyses. We are unable to meaningfully review and comment on the DEIR without these documents.

Without access to these critical DEIR reference documents during the public comment period on the DEIR, CARE CA and other members of the public are precluded from having the meaningful opportunity to comment on the DEIR that is required by CEQA. The Town's failure to make the underlying DEIR documents available during the entire comment period makes public review particularly burdensome in this case because of the DEIR's reliance on missing documents for significance determinations and mitigation measures to address the Project's air quality, health risk, biological resources, greenhouse gas, and hazardous materials impacts. Without having access to these documents, CARE CA and other members of the public are unable to evaluate the accuracy of the Town's air quality, health risk, and hazardous materials impact analysis, or the efficacy of the Town's proposed mitigation measures. Additionally, the size of the DEIR and the Project's complexity make it difficult to effectively comment on the DEIR without the referenced documents by the current comment deadline of October 30, 2023.

H-3

The courts have held that the failure to provide even a few pages of a CEQA documents for a portion of the CEQA review period invalidates the entire CEQA process, and that such a failure must be remedied by permitting additional public comment.[5] It is also well settled that an EIR may not rely on hidden studies or documents that are not provided to the public.[6] By failing to make all documents referenced in the DEIR "readily available" during the current comment period, the

[5] *Ultramar v. South Coast Air Quality Man. Dist*. (1993) 17 Cal.App.4th 689, 699.
[6] *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3rd 818, 831 ("Whatever is required to be considered in an EIR must be in that formal report; what any official might have known from other writings or oral presentations cannot supply what is lacking in the report.").

Town is violating the clear procedural mandates of CEQA, to the detriment of CARE CA and other members of the public who wish to meaningfully review and comment on the DEIR.

Accordingly, we request that:

1) The Town immediately provide us with access to the missing documents requested in our October 13, 2023 DEIR Reference Request.

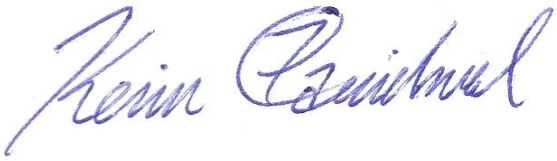
2) the Town extend the public review and comment period on the DEIR for at least 45 days from the date on which the Town releases these documents for public review.[7] If the missing documents are provided today, we request an extension to December 11, 2023.

H-3 Cont.

Given the short time before the current comment deadline, please contact me today with your response to this request.

Please feel free to call or email with any questions: Tel: (650) 589-1660, Email: kcarmichael@adamsbroadwell.com. Thank you for your prompt attention and response to this matter.

Sincerely,



Kevin Carmichael

KTC:ljl

[7] This Project has a 45-day public comment period, pursuant to 14 CCR § 15105 (projects submitted to the State Clearinghouse).

EXHIBIT A

ADAMS BROADWELL JOSEPH & CARDOZO
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AIDAN P. MARSHALL
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Of Counsel
MARC D. JOSEPH
DANIEL L. CARDOZO

October 13, 2023

Via U.S. Mail and Email

Daniel Alcayaga, AICP, Planning Manager
Planning Division Town of Apple Valley
14955 Dale Evans Parkway
Apple Valley, CA 92307
Email: dalcayaga@applevalley.org ; planning@applevalley.org

La Vonda M. Pearson, Director of Government Services/Town Clerk
Town of Apple Valley
14955 Dale Evans Pkwy
Apple Valley, CA 92307
Email: townclerk@applevalley.org

Re: Request for Immediate Access to Documents Referenced in the Draft Environmental Impact Report – 1M Warehouse Project (SCH No. 2023020285)

Dear Mr. Alcayaga and Ms. Pearson:

We are writing on behalf of Californians Allied for a Responsible Economy ("CARE CA") to request ***immediate access*** to any and all documents referenced, incorporated by reference, and relied upon in the Draft Environmental Impact Report ("DEIR") prepared for the 1M Warehouse Project (SCH No. (SCH No. 2023020285), proposed by AP Investors Group ("Applicant"). *This request excludes a copy of the DEIR and its appendices. This request also excludes any documents that are currently available on Town of Apple Valley*.[1]

The Project proposes the construction and operation of a 1,080,125-square-foot industrial/warehouse building and associated improvements on approximately 68.2 acres of vacant land in the Town of Apple Valley, San Bernardino County, CA.

[1] Accessed https://www.applevalley.org/services/planning-division/environmental on October 13, 2023.

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The Project would involve associated improvements, including loading docks, truck and vehicle parking, bike parking, and landscaped areas. The Project site is located south of Johnson Road, east of Central Road, north of Lafayette Street, and west of Sycamore Lane. The Project site consists of Assessor's Parcel Numbers 0463-241-02 and 0463-241-03.

Our request for ***immediate access*** to all documents referenced in the DEIR is made pursuant to the California Environmental Quality Act ("CEQA"), which requires that all documents referenced, incorporated by reference, and relied upon in an environmental review document be made available to the public for the entire comment period.[2]

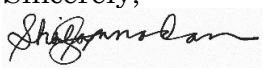
Please use the following contact information for all correspondence:

U.S. Mail
Sheila M. Sannadan
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601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080-7037

Email
ssannadan@adamsbroadwell.com

If you have any questions, please call me at (650) 589-1660 or email me at ssannadan@adamsbroadwell.com. Thank you for your assistance with this matter.

Sincerely,



Sheila M. Sannadan
Legal Assistant

SMS:ljl

[2] *See* Public Resources Code § 21092(b)(1) (stating that "all documents referenced in the draft environmental impact report" shall be made "available for review"); 14 Cal. Code Reg. § 15087(c)(5) (stating that all documents incorporated by reference in the EIR . . . shall be readily accessible to the public"); see also *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 442, as modified (Apr. 18, 2007) (EIR must transparently incorporate and describe the reference materials relied on in its analysis); *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3rd 818, 831 ("[W]hatever is required to be considered in an EIR must be in that formal report. . ."), internal citations omitted.

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EXHIBIT B

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Of Counsel
MARC D. JOSEPH
DANIEL L. CARDOZO

October 13, 2023

Via U.S. Mail and Email

Daniel Alcayaga, AICP, Planning Manager
Planning Division
Town of Apple Valley
14955 Dale Evans Parkway
Apple Valley, CA 92307
Email: dalcayaga@applevalley.org; planning@applevalley.org

Attn: Public Records Act Coordinator
Town Clerk's Office
Town of Apple Valley
14955 Dale Evans Parkway
Apple Valley, CA 92307
Email: records@applevalley.org; townclerk@applevalley.org

Re: Request for Immediate Access to Public Records – 1M Warehouse Project (SCH No. 2023020285)

Dear Mr. Alcayaga and Public Records Act Coordinator:

We are writing on behalf of Californians Allied for a Responsible Economy ("CARE CA") to request ***immediate access*** to any and all public records in the Town of Apple Valley's possession referring or related to the 1M Warehouse Project (SCH No. 2023020285), proposed by AP Investors Group ("Applicant"). This request includes, but is not limited to, any and all file materials, applications, correspondence, resolutions, memos, notes, analysis, email messages, files, maps, charts, and any other documents related to the Project. *This request does not include the Draft Environmental Impact Report ("DEIR") or documents referenced or relied upon in the DEIR, which we have requested in a separate letter pursuant to the California Environmental Quality Act.*

The Project proposes the construction and operation of a 1,080,125-square-foot industrial/warehouse building and associated improvements on approximately 68.2 acres of vacant land in the Town of Apple Valley, San Bernardino County, CA. The Project would involve associated improvements, including loading docks, truck and vehicle parking, bike parking, and landscaped areas. The Project site is located south of Johnson Road, east of Central Road, north of Lafayette Street, and west of Sycamore Lane. The Project site consists of Assessor's Parcel Numbers 0463-241-02 and 0463-241-03.

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This request is made pursuant to the **California Public Records Act** (Government Code §§ 7920.000, *et seq*.). This request is also made pursuant to Article I, section 3(b) of the California Constitution, which provides a Constitutional right of access to information concerning the conduct of government. Article I, section 3(b) provides that any statutory right to information shall be broadly construed to provide the greatest access to government information and further requires that any statute that limits the right of access to information shall be narrowly construed.

We request ***immediate access*** to review the above documents pursuant to section 7922.525 of the Public Records Act, which requires public records to be "open to inspection at all times during the office hours of a state or local agency" and provides that "every person has a right to inspect any public record."[1] Therefore, the 10-day response period applicable to a "request for a copy of records" under Section 7922.535(a) does not apply to this request.

We request access to the above records in their original form, as maintained by the agency.[2] Pursuant to Government Code Section 7922.570, if the requested documents are in electronic format, please upload them to a file hosting program such as Dropbox, NextRequest or a similar program. Alternatively, if the electronic documents are 10 MB or less (or can be easily broken into sections of 10 MB or less), they may be emailed to me as attachments.

We will pay for any direct costs of duplication associated with filling this request up to $200. However, please contact me at (650) 589-1660 with a cost estimate before copying/scanning the materials.

Please use the following contact information for all correspondence:

U.S. Mail
Sheila M. Sannadan
Adams Broadwell Joseph & Cardozo
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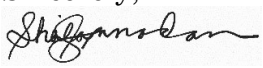
Email
ssannadan@adamsbroadwell.com

[1] Gov. Code §7922.525(a).
[2] Gov. Code § 7922.570; *Sierra Club v. Super. Ct*. (2013) 57 Cal. 4th 157, 161-62.

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If you have any questions, please call me at (650) 589-1660 or email me at ssannadan@adamsbroadwell.com. Thank you for your assistance with this matter.

Sincerely,



Sheila M. Sannadan
Legal Assistant

SMS:ljl

6756-003j

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Comment Letter I

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AIDAN P. MARSHALL
TARA C. RENGIFO

Of Counsel
MARC D. JOSEPH
DANIEL L. CARDOZO

October 30, 2023

Via Email and Overnight Mail

Town of Apple Valley
Attn: Daniel Alcayaga, AICP, Planning Manager
Development Services Department, Planning Division
14955 Dale Evans Parkway
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Email: dalcayaga@applevalley.org; planning@applevalley.org

Re: **Comments on the Draft Environmental Impact Report for the 1M Warehouse Project (SCH No. 2023020285)**

Dear Mr. Alcayaga:

We are writing on behalf of Californians Allied for a Responsible Economy ("CARE CA") to provide comments on the Draft Environmental Impact Report ("DEIR") for the 1M Warehouse Project (SCH No. 2023020285) ("Project")[1] proposed by Uncommon Developers ("Applicant") and prepared by the Town of Apple Valley ("Town") pursuant to the California Environmental Quality Act ("CEQA").[2]

The Project proposes the construction and operation of a 1,080,125-square-foot industrial/warehouse building on a 67.3-acre undeveloped site located at the northeast corner of Central Road and Lafayette Street in the Town of Apple Valley, California.[3] The approximately 67.3-acre Project site is located in the northern part of the Town, which is within the Victor Valley region of San Bernardino County. The Project site is located south of Johnson Road, west of Sycamore Lane, north of Lafayette Street, and east of Central Road (Assessor's Parcel Numbers 0463-241-02

I-1

[1] Town of Apple Valley, Draft Environmental Impact Report, 1M Warehouse Project (SCH No. 2023020285) (hereinafter "DEIR") (September 15, 2023) available at https://ceqanet.opr.ca.gov/2023020285/2.
[2] Pub. Resources Code (hereinafter "PRC") §§ 21000 et seq.; 14 Cal. Code Regs (hereinafter "CEQA Guidelines") §§ 15000 et seq.
[3] DEIR, p. 1-1.

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and 0463-241-03).[4] The Project also includes an approximately 1.75-mile off-site utilities alignment within developed roadways for proposed water and sewer lines. Regional access to the Project site is provided via Interstate 15, located approximately 4.6 miles west of the Project site.[5] Construction of the Project is anticipated to take 22 months, commencing in December 2023 and concluding in October 2025.[6] The Project requires approval of applications for Site Plan Review and a Lot Line Adjustment as well as certification of the EIR.[7]

I-1 Cont.

Based upon our review of the DEIR and supporting documentation, we conclude that the DEIR fails to comply with the requirements of CEQA. The DEIR fails to adequately analyze many of the Project's potentially significant environmental impacts and fails to propose enforceable mitigation measures that can reduce those impacts to a less than significant level, as required by CEQA. The Town therefore lacks substantial evidence to support the DEIR's conclusions that Project impacts would be mitigated to the greatest extent feasible.

As explained in these comments, there is substantial evidence that the Project will result in significant unmitigated impacts relating to air quality, health risk, greenhouse gas ("GHG") emissions, noise, and transportation. The Project also conflicts with applicable land use plans and policies, resulting in land use inconsistencies as well as significant impacts under CEQA. The Town may not approve the Project until the Town revises and recirculates the Project's DEIR to adequately analyze the Project's significant direct, indirect, and cumulative impacts, and incorporates all feasible mitigation measures to avoid or minimize these impacts to the greatest extent feasible.

I-2

We reviewed the DEIR and its technical appendices with the assistance of traffic and transportation expert Norman Marshall of Smart Mobility[8], health risk, air quality, GHG emissions and hazardous materials expert James Clark Ph.D.[9],

[4] DEIR, p. 1-1.
[5] DEIR, p. 1-1.
[6] DEIR, pp. 1-1 – 1-2.
[7] DEIR, p. 1-2.
[8] Mr. Marshall's technical comments (hereinafter "Marshall") and curricula vitae are attached hereto as Exhibit A.
[9] Dr. Clark's technical comments (hereinafter "Clark") and curricula vitae are attached hereto as Exhibit B.

and noise expert Luke Watry of Wilson Ihrig.[10] We reserve the right to supplement these comments at a later date, and at any later proceedings related to this Project.[11]

I-2 Cont.

I. STATEMENT OF INTEREST

CARE CA is an unincorporated association of individuals and labor organizations that may be adversely affected by the potential public and worker health and safety hazards, and the environmental impacts of the Project. The coalition includes the District Council of Ironworkers, Southern California Pipe Trades DC 16, along with their members, their families, and other individuals who live and work in the Town of Apple Valley and in San Bernardino County.

CARE CA advocates for protecting the environment and the health of their communities' workforces. CARE CA seeks to ensure a sustainable construction industry over the long-term by supporting projects that offer genuine economic and employment benefits, and which minimize adverse environmental and other impacts on local communities.

CARE CA includes individuals who live, work, recreate, and raise their families in the Town of Apple Valley and surrounding communities. Accordingly, they would be directly affected by the Project's environmental and health and safety impacts. Individual members may also work on the Project itself. They will be first in line to be exposed to any health and safety hazards that exist onsite.

I-3

In addition, CARE CA has an interest in enforcing environmental laws that encourage sustainable development and ensure a safe working environment for its members. Environmentally detrimental projects can jeopardize future jobs by making it more difficult and more expensive for business and industry to expand in the region, and by making the area less desirable for new businesses and new residents. Continued environmental degradation can, and has, caused construction moratoriums and other restrictions on growth that, in turn, reduce future employment opportunities.

[10] Mr. Watry's technical comments (hereinafter "Watry Comments") and curricula vitae are attached hereto as Exhibit C.

[11] Gov. Code § 65009(b); PRC § 21177(a); *Bakersfield Citizens for Local Control v. Bakersfield* ("*Bakersfield*") (2004) 124 Cal. App. 4th 1184, 1199-1203; see *Galante Vineyards v. Monterey Water Dist*. (1997) 60 Cal. App. 4th 1109, 1121.

II. LEGAL BACKGROUND

CEQA requires public agencies to analyze the potential environmental impacts of their proposed actions in an EIR.[12] "The foremost principle under CEQA is that the Legislature intended the act to be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language."[13]

CEQA has two primary purposes. First, CEQA is designed to inform decisionmakers and the public about the potential significant environmental effects of a project.[14] "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government.'"[15] The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return."[16] As the CEQA Guidelines explain, "[t]he EIR serves not only to protect the environment but also to demonstrate to the public that it is being protected."[17]

I-4

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring consideration of environmentally superior alternatives and adoption of all feasible mitigation measures.[18] The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to "identify ways that environmental damage can be avoided or significantly reduced."[19] If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has

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[12] PRC § 21100.
[13] *Laurel Heights Improvement Assn. v. Regents of Univ. of Cal ("Laurel Heights I")* (1988) 47 Cal.3d 376, 390 (internal quotations omitted).
[14] Pub. Resources Code § 21061; CEQA Guidelines §§ 15002(a)(1); 15003(b)-(e); *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, 517 ("[T]he basic purpose of an EIR is to provide public agencies and the public in general with detailed information about the effect [that] a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project.").
[15] *Citizens of Goleta Valley,* 52 Cal.3d at p. 564 (quoting *Laurel Heights I*, 47 Cal.3d at 392).
[16] *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810; *see also Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs*. (2001) 91 Cal.App.4th 1344, 1354 ("*Berkeley Jets*") (purpose of EIR is to inform the public and officials of environmental consequences of their decisions *before* they are made).
[17] CEQA Guidelines § 15003(b).
[18] CEQA Guidelines § 15002(a)(2), (3); *see also Berkeley Jets*, 91 Cal.App.4th at 1354; *Citizens of Goleta Valley*, 52 Cal.3d at p. 564.
[19] CEQA Guidelines § 15002(a)(2).

"eliminated or substantially lessened all significant effects on the environment" to the greatest extent feasible and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns."[20]

While courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position. A clearly inadequate or unsupported study is entitled to no judicial deference."[21] As the courts have explained, a prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decision-making and informed public participation, thereby thwarting the statutory goals of the EIR process."[22] "The ultimate inquiry, as case law and the CEQA guidelines make clear, is whether the EIR includes enough detail 'to enable who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.'"[23]

I-4 Cont.

III. THE DEIR FAILS TO ADEQUATELY ESTABLISH THE EXISTING BASELINE

The DEIR fails to accurately disclose the baseline environmental conditions related to the Project's health risk impacts. As a result, the DEIR lacks the necessary information against which to measure the Project's environmental impacts with regard to impacts on sensitive receptors from construction.

I-5

The existing environmental setting is the starting point from which the lead agency must measure whether a proposed project may cause a significant environmental impact.[24] CEQA defines the environmental setting as the physical environmental conditions in the vicinity of the project, as they exist at the time the

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[20] PRC § 21081(a)(3), (b); CEQA Guidelines §§ 15090(a), 15091(a), 15092(b)(2)(A), (B); *Covington v. Great Basin Unified Air Pollution Control Dist*. (2019) 43 Cal.App.5th 867, 883.
[21] *Berkeley Jets*, 91 Cal.App.4th at p. 1355 (emphasis added) (quoting *Laurel Heights I*, 47 Cal.3d at 391, 409, fn. 12).
[22] *Berkeley Jets*, 91 Cal.App.4th at p. 1355; *see also San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722 (error is prejudicial if the failure to include relevant information precludes informed decisionmaking and informed public participation, thereby thwarting the statutory goals of the EIR process); *Galante Vineyards*, 60 Cal.App.4th at p. 1117 (decision to approve a project is a nullity if based upon an EIR that does not provide decision-makers and the public with information about the project as required by CEQA); *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 946 (prejudicial abuse of discretion results where agency fails to comply with information disclosure provisions of CEQA).
[23] *Sierra Club,* 6 Cal.5th at p. 516 (quoting *Laurel Heights I*, 47 Cal.3d at 405).
[24] *See, e.g.*, *Communities for a Better Env't v. S. Coast Air Quality Mgmt. Dist.* (March 15, 2010) 48 Cal.4th 310, 316.
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notice of preparation is published, from both a local and regional perspective.[25] Describing the environmental setting accurately and completely for each environmental condition in the vicinity of the Project is critical to an accurate, meaningful evaluation of environmental impacts. The courts have clearly stated that,"[b]efore the impacts of a project can be assessed and mitigation measures considered, an [environmental review document] must describe the existing environment. It is only against this baseline that any significant environmental effects can be determined."[26]

I-5 Cont.

A. The DEIR Fails to Adequately Establish the Existing Baseline with Respect to Valley Fever

The DEIR fails to include accurate information regarding the known presence/issue of *Coccidiodes Immitis* ("Valley Fever Cocci")[27] in the vicinity of the Project site, thereby failing to provide context on the environmental setting of the Project. This results in the failure to analyze the potential impacts of Valley Fever exposure on Project construction workers and sensitive receptors and a corresponding failure to mitigate its potentially significant impacts on human health.

I-6

Valley Fever is a disease that can spread when persons are exposed to *Coccidioides immitis* ("*Cocci*") fungus spores during ground disturbance.[28] Impacts to human health from Valley Fever can be severe, cause long lasting health problems, and can even result in death.[29] The fungus lives in the top 2 to 12 inches of soil, and when disturbed by activities such as digging, construction activities (e.g. site preparation and grading), dust storms, or during earthquakes, the fungal spores become airborne.[30] The Project will disturb up to 45 acres of soil during the

[25] CEQA Guidelines §15125(a) (emphasis added); *Riverwatch v. County of San Diego* (1999) 76 Cal.App.4th 1428, 1453 ("*Riverwatch*").
[26] *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 952.
[27] San Bernardino County, Public Health, Environmental Health Services, *Coccidioidomycosis* (February 2017) available at http://www.sbcounty.gov/uploads/dph/dehs/Depts/EnvironmentalHealth/EHSDocuments/Coccidioidomycosis.pdf
[28] Clark Comments, p. 5.
[29] California Department of Public Health ("CDPH"), Valley Fever Basics (May 7, 2020), *available at* https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/ValleyFeverBasics.aspx.
[30] Clark Comments, p. 5.
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site preparation phase, 135 acres of soil during the grading phase, and 24.7 acres during the off-site pipeline installation phase which may lead to the release of fungus spores resulting in impacts to Project workers and nearby sensitive receptors.[31]

The DEIR cites a 2017 report regarding Valley Fever rates in San Bernardino County, and misleadingly states that "the *latest* report from the California Department of Public Health ("CDPH") listed San Bernardino County as having 1.8 cases of Valley Fever per 100,000 people."[32] This figure is outdated and misleading because the 2017 report is not the latest report available from CDPH.

In fact, according to the CDPH, the Valley Fever case rate in San Bernardino County has steadily increased from a case rate of 1.4 cases per 100,000 residents in 2015 to 10.7 per 100,000 residents in 2020, and 11.4 per 100,000 residents in 2021.[33] In San Bernardino County, there were 233 and 250 cases in 2020 and 2021 respectively, and the County had the ninth highest number of cases among California's 58 counties in 2020 and the eighth highest in 2021.[34] On August 1, 2023, CDPH published a press release ("CDPH Notice") notifying the public of a potential increased risk for Valley Fever in the California due to high rates of precipitation over the 2022-2023 winter season.[35] The CDPH Notice states that "[c]ases of Valley fever in California have historically been lowest during years of drought and highest during years immediately after a drought. The wet winter season California experienced could lead to more Valley fever cases this summer and fall."[36] Additionally, according to the National Oceanic and Atmospheric Administration ("NOAA") current predictions for the 2023-2024 winter season forecast higher than average precipitation for Southern California due to the presence of El Niño.[37] According to the DEIR, site preparation, grading and

I-6
Cont.

[31] DEIR, Appendix B, p. 166, see also DEIR, p. 4.3-1.
[32] DEIR, p. 4.2-8. (Emphasis provided)
[33] California Department of Public Health, Epidemiologic Summary of Valley Fever (Coccidioidomycosis) in California, 2020-2021 (hereinafter "Valley Fever Report") (December 2022) p. 5. Available at https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciEpiSummary2020-2021.pdf
[34] Valley Fever Summary, p. 5.
[35] California Department of Public Health, Potential Increased Risk for Valley Fever Expected (hereinafter "CDPH Notice") (August 1, 2023) available at https://www.cdph.ca.gov/Programs/OPA/Pages/NR23-023.aspx
[36] CDPH Notice
[37] National Oceanic and Atmospheric Administration, June 2023 ENSO update: El Niño is here (June 8, 2023) available at https://www.climate.gov/news-features/blogs/enso/june-2023-enso-update-el-nino-here.

pipeline installation at the Project site are anticipated to take place between December 2023 and August 2024 and will coincide with the risk period identified in the CDPH Notice.[38]

I-6 Cont.

Despite the known presence of Valley Fever in the Project's vicinity and the potential impacts posed by exposure to the fungus spores, the DEIR fails to provide accurate information regarding the prevalence of *Cocci* fungus spores in the Project's vicinity, fails to discuss available construction worker Valley Fever training,[39] and fails to include any Valley Fever-specific mitigation in the Project's Mitigation Monitoring and Reporting Program ("MMRP"). The lack of accurate information precludes meaningful analysis and mitigation of the potential health impacts the Project will cause to onsite construction workers and other individuals in close proximity to the Project site from disturbing soils which may be contaminated with *Cocci* spores site during Project construction.

I-7

The Town must prepare and recirculate a revised DEIR which includes a discussion of the potential for the presence of *Cocci* fungus spores at the Project site in order to accurately analyze and mitigate the Project's potentially significant health risk impacts from Valley Fever.

B. The DEIR's Noise Analysis Contains Inadequate Baseline Data.

The CEQA Guidelines require an EIR to consider "whether a project would result in… a substantial permanent increase in ambient noise levels in the vicinity of the project" or a "temporary or periodic increase in ambient noise levels in the vicinity of the project . . ."[40] The DEIR's Noise analysis fails to contain the baseline ambient noise data necessary to assess the significance of the Project's estimated 22-month construction and permanent operational noise impacts on sensitive receptors in the vicinity of the Project.

I-8

First, the DEIR's noise measurements are inadequate to establish an ambient noise baseline on which to measure the potential operational and construction noise impacts of the Project. The DEIR relies on a total of five, 10-

[38] DEIR, p. 4.2-24.
[39] California Labor Code § 6709 mandates that employers at worksites in counties where Valley Fever is highly endemic (i.e. where the annual incidence rate is greater than 20 cases per 100,000 persons per year) provide effective awareness training on Valley Fever to all employees. Labor Code § 6709(a-d). Although San Bernardino County Valley Fever incidents have not yet reached 20 per 100,000, they are steadily rising, indicating that the Valley Fever worker awareness training described in Section 6709 should be used at the Project site.
[40] CEQA Guidelines, Appendix G, Sec. XII(c)-(d).
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minute measurements taken on September 27, 2022, between 3:21PM and 5:27PM.[41] No long-term measurement were taken. Mr. Watry explains that industry practices call for measurement of ambient noise conditions over a period of several days in order to provide substantial evidence of existing noise levels, because a noise environment that is dominated by transport uses, as the Project vicinity is, can change hour to hour and day to day.[42] Additionally, Mr. Watry states that the short term noise measurements should have been at least 15 minutes long and taken concurrently with the traffic counts in order to validate the model that the DEIR relies on.[43]

I-8 Cont.

Second, the noise model does not comply with the Federal Transit Authority's 2018 Transit Noise and Vibration Impact Assessment Manual ("FTA Manual") guidance which recommends a minimum of three one-hour Leq noise measurements, including during peak-hour roadway traffic, midday, and nighttime recordings, to estimate the Ldn/CNEL.[44]

Third, the DEIR's noise analysis reports existing CNEL without specifying how the levels were calculated or their relationship to the direct Leq measurements in the DEIR.[45] Mr. Watry explains that the existing Ldn/CNEL cannot be determined based on the noise measurements collected for the DEIR.[46] Therefore, any analysis of increases to Ldn/CNEL from Project operation cannot be relied upon by the Town to determine the Project's noise impacts.[47]

I-9

The DEIR lacks substantial evidence to justify its reliance on a truncated ambient noise methodology which relies on incomplete noise measurements and does not inform the City or the public of the baseline against which noise levels will increase during Project construction and operation. The DEIR should be revised to include an updated baseline analysis that properly validates the model including 15-minute noise and traffic measurements during periods where truck volumes are comparable to the actual peak noise hour conditions, and a minimum of three one-hour Leq noise measurements, including during peak-hour roadway traffic, midday, and nighttime recordings, to estimate the Ldn/CNEL. The results of the revised noise calculations should be included in a recirculated DEIR.

[41] DEIR, Appendix I, pp. 17-26.
[42] Watry Comments, p. 2.
[43] Watry Comments, p. 2.
[44] Watry Comments, p. 2.
[45] Watry Comments, p. 2.
[46] Watry Comments, p. 2.
[47] Watry Comments, p. 2.

IV. THE DEIR FAILS TO DISCLOSE, ANALYZE AND MITIGATE POTENTIALLY SIGNIFICANT IMPACTS

An EIR must fully disclose all potentially significant impacts of a Project and implement all feasible mitigation to reduce those impacts to less than significant levels. The lead agency's significance determination with regard to each impact must be supported by accurate scientific and factual data.[48] An agency cannot conclude that an impact is less than significant unless it produces rigorous analysis and concrete substantial evidence justifying the finding.[49]

Moreover, the failure to provide information required by CEQA is a failure to proceed in the manner required by CEQA.[50] Challenges to an agency's failure to proceed in the manner required by CEQA, such as the failure to address a subject required to be covered in an EIR or to disclose information about a project's environmental effects or alternatives, are subject to a less deferential standard than challenges to an agency's factual conclusions.[51] In reviewing challenges to an agency's approval of an EIR based on a lack of substantial evidence, the court will 'determine de novo whether the agency has employed the correct procedures, scrupulously enforcing all legislatively mandated CEQA requirements.'[52]

Additionally, CEQA requires agencies to commit to all feasible mitigation measures to reduce significant environmental impacts.[53] In particular, the lead agency may not make required CEQA findings, including finding that a project impact is significant and unavoidable, unless the administrative record demonstrates that it has adopted all feasible mitigation to reduce significant environmental impacts to the greatest extent feasible.[54] Yet, as explained below, the DEIR falls far short of this mandate by adopting mitigation measures that are vague, ineffective, and unenforceable and by failing to commit to other feasible and effective mitigation strategies to address the significant transportation, air quality, GHG emissions and noise impacts of the Project.

I-10

[48] CEQA Guidelines § 15064(b).
[49] *Kings Cty. Farm Bur. v. Hanford* (1990) 221 Cal.App.3d 692, 732.
[50] *Sierra Club v. State Bd. Of Forestry* (1994) 7 Cal.4th 1215, 1236.
[51] *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 435.
[52] *Id., Madera Oversight Coal., Inc. v. County of Madera* (2011) 199 Cal. App. 4th 48, 102.
[53] CEQA Guidelines § 15002(a)(2).
[54] PRC § 21081(a)(3), (b); CEQA Guidelines §§ 15090, 15091; *Covington v. Great Basin Unified Air Pollution Control Dist*. (2019) 43 Cal.App.5th 867, 883.
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Even when the substantial evidence standard is applicable to agency decisions to certify an EIR and approve a project, reviewing courts will not 'uncritically rely on every study or analysis presented by a project proponent in support of its position. A clearly inadequate or unsupported study is entitled to no judicial deference.'"[55]

I-10 Cont.

A. The DEIR Fails to Adequately Disclose, Analyze and Mitigate the Project's Significant Transportation Impacts

The DEIR concludes that the transportation impacts of the Project will be significant and unavoidable. The transportation impacts analysis is flawed in numerous ways, most notably with respect to the Project's trip generation and trip length and the resulting vehicle miles traveled ("VMT") impacts. In addition, the DEIR's incorrect and unsupported conclusions with respect to VMT and trip generation undermine the DEIR's air quality and GHG analyses, which rely heavily on Project VMT in their respective analyses. As a result of these errors, the DEIR also fails to mitigate the Project's significant VMT impacts to the greatest extent feasible, as required by CEQA.[56]

I-11

1. The DEIR Incorrectly Calculates the Project's Operational Trip Generation

The DEIR's trip generation analysis is not supported by substantial evidence because it relies on unsupported assumptions regarding Project related truck trip generation.

The DEIR's transportation impacts analysis relies on the trip generation rates available in the Institute of Transportation Engineers, Trip Generation Manual, 11th Edition ("ITE Manual") for Category 155 – High-Cube Fulfillment Center Warehouse.[57] Based on the ITE Manual Category 155, the DEIR estimates that the Project will generate 1.81 vehicle trips per 1,000 square feet of building area, or 573 daily trips, with the AM and PM peak hours generating 162 and 173 trips respectively.[58]

I-12

[55] *Berkeley Jets*, 91 Cal.App.4th at 1355.
[56] Covington v Great Basin Unif. Air Pollution Control Dist. (2019) 43 Cal.App.5th 867, 879-883.
[57] DEIR, Appendix J, p. 23.
[58] DEIR, Appendix J, p. 23.
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The DEIR lacks substantial evidence to support the estimated trip generation because the DEIR unreasonably and without justification relies on an unreasonably low trip generation rate in the ITE Manual for high-cube warehouse uses. Mr. Marshall explains that the ITE Manual provides a range of trip generation rates that are applicable to the Project.[59] The ITE Manual provides five separate categories that are applicable to high-cube warehouse, each with different trip generation rates per 1,000 square feet as follows[60]:

- 154 High-Cube Transload and Short-Term Storage Warehouse – 1.4 trips
- 155 High-Cube Fulfillment Center Warehouse
  - Non-Sort – 1.81 trips
  - Sort – 6.44 trips
- 156 High-Cube Parcel Hub Warehouse – 4.63 trips
- 157 High-Cube Cold Storage Warehouse – 2.12 trips

As Mr. Marshall explains, the DEIR's project description is so general that the Project could fall within any of these categories. The DEIR states that "[a] tenant for the proposed industrial warehouse building has not yet been identified, but the Project would operate as an unrefrigerated warehouse and/or distribution facility."[61] Based on the fact that the future tenants are not known, the DEIR lacks support for its assumption that the Project will generate the 1.81 trips provided under Category 155, which is one of the least trip intensive use of all ITE warehouse categories for high-cube warehouses.

Moreover, a 2019 study of warehouse trip generation rates completed for the Western Riverside Council of Governments ("WRCOG Study")[62] analyzed actual trip generation rates from 16 warehouses in the Inland Empire region and found that the ITE Categories underestimate trip generation for fulfillment centers, finding an average trip generation for fulfillment centers of 2.2 trips per 1,000 square feet.[63] The WRCOG Study also details that the parcel hubs analyzed in the region generated as many as 14 trips per 1,000 square feet.[64]

I-12
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[59] Marshall, p. 6.
[60] Marshall, p. 3.
[61] DEIR, p. 1-2.
[62] Western Riverside Council of Governments Technical Advisory Committee, Staff Report, High-Cube Warehouse Trip Generation Study and Proposed TUMF Calculation Handbook Update (February 21, 2019) (hereinafter "WRCOG Study") PDF, p. 53. *available at* https://wrcog.us/AgendaCenter/ViewFile/Agenda/_02212019-292
[63] *Id. PDF p. 43.*
[64] *Id, PDF p. 50.*
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As noted above, the future tenants of the Project are unknown, and based on the variability of trip generation rates for high-cube warehouses reported in the ITE Manual, and the results of the WRCOG Study, it is evident that the DEIR underestimated the Project's operational trips. If the Town does not know what tenants will occupy the Project, nor what the full range of uses of the Project will be, the Town must analyze the most intensive reasonably foreseeable uses of the Project site.

I-12 Cont.

To reasonably analyze the full scope of the Project's impacts related to future tenant uses, analysis of the Projects trip generation should therefore use the most conservative estimate from the WRCOG Study and present the data in a revised and recirculated DEIR for public review.

A. The DEIR Underestimates Project VMT and Mobile Source GHGs

Transportation expert Norm Marshall explains that the DEIR potentially underestimates average trip lengths for both trucks and passenger vehicles.[65] Longer trip lengths results in greater impacts (including air quality, GHGs, and VMT). As a result, the analyses that rely on these trip lengths lack the support of substantial evidence. The DEIR's mobile source emissions analysis relies on the following reasoning to estimate the Project's trip lengths "truck trip lengths were based on the SCAQMD recommendation of 40 miles and assumed to be 100% of primary trips."[66] However, SCAQMD does not make a recommendation that a 40-mile trip length be assumed for warehouse project EIRs.[67] The DEIR's reference for the 40-mile figure is derived from SCAQMD's *Second Draft Staff Report Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program And Proposed Rule 316 -Fees for Rule 2305*[68] which clarifies that the 40-mile figure was the average truck trip length assumed by SCAQMD to be used in the rulemaking process for the proposed Rule 2305.[69] The document provides no indication that the 40-mile estimate was

I-13

[65] Marshall Comments, pp. 7-8.
[66] DEIR, p. 4.2-27 (
[67] Marshall Comments, p. 7.
[68] SCAQMD, Second Draft Staff Report Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program And Proposed Rule 316 -Fees for Rule 2305 (April 2021) available at www.aqmd.gov/docs/default-source/planning/fbmsm-docs/pr-2305_sr_2nd-draft_4-7-21_clean.pdf
[69] Id. p. 49

intended to inform trip length estimates for any other purpose, and no evidence that the estimate applies to actual truck trip lengths for this Project. Additionally, the Attorney General's ("AG") guidance document for warehouse projects states:

> CEQA requires full public disclosure of a project's anticipated truck trips, which entails calculating truck trip length based on likely truck trip destinations, rather than the distance from the facility to the edge of the air basin, local jurisdiction, or other truncated endpoint. All air pollution associated with the project must be considered, regardless of where those impacts occur.[70]

I-13 Cont.

In contrast to the approach recommended by the AG, the DEIR's estimated trip distances did not account for the Project's likely trip destinations. Mr. Marshall explains that, while it may be too early to determine specific truck trip origins and destinations, it is notable that important major freight origins and destinations are considerably further away than the 40-mile trip length assumed in the DEIR.[71] These include the Ports of Los Angeles and Long Beach – each approximately 110 miles away. The DEIR's analysis thus likely underestimates trip distances resulting in underestimation of Project related air quality, transportation and GHG emissions impacts.

B. The DEIR Improperly Defers VMT Mitigation and Fails to Identify All Feasible Mitigation Measures

The DEIR concludes that the Project would result in a significant and unavoidable VMT impact despite mitigation included in the DEIR. Specifically, the DEIR estimates that the Project would exceed the VMT screening thresholds by a wide margin: 20.8% in the baseline year and 80.4% in the horizon year.[72] To mitigate this significant impact, the DEIR identifies the following mitigation measure to be implemented:

> MM-AQ-1: Transportation Demand Management Plan. For occupants with more than 250 employees, a Transportation Demand management Program to reduce employee commute vehicle emissions shall be established, subject to review and approval by the Town of Apple Valley. The Transportation Demand Management Plan shall apply to Project tenants through tenant leases. The

I-14

[70] Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act (September 2022) pg. 7. available at https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/warehouse-best-practices.pdf
[71] Marshall Comments, p. 7.
[72] DEIR, p. 4.12-21.

TDM plan shall discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking. Examples of trip reduction measures may include, but are not limited to:

- Transit passes
- Car-sharing programs
- Telecommuting and alternative work schedules
- Ride sharing programs[73]

This measure fails to meet CEQA's standards for mitigation. CEQA provides that if the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has "eliminated or substantially lessened all significant effects on the environment" to the greatest extent feasible and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns."[74] Further, EIRs must mitigate significant impacts through measures that are "fully enforceable through permit conditions, agreements, or other legally binding instruments."[75] Deferring formulation of mitigation measures is generally impermissible.[76] If identification of specific mitigation measures is impractical until a later stage in the Project, specific performance criteria must be articulated and further approvals must be made contingent upon meeting these performance criteria.[77] Mitigation that does no more than allow approval by a lead agency without setting enforceable standards is inadequate.[78]

I-14 Cont.

Here, the measure improperly defers identification of specific VMT-reducing mitigation measures to a future date by allowing the future creation of a Transportation Demand Management ("TDM") Program outside of the CEQA process and with no specific requirements. MM-AQ-1 does not commit to any particular measures to reduce VMT. Nor does the measure articulate specific

[73] DEIR, p. 4.2-44.
[74] PRC § 21081(a)(3), (b); CEQA Guidelines §§ 15090(a), 15091(a), 15092(b)(2)(A), (B); *Covington v. Great Basin Unified Air Pollution Control Dist*. (2019) 43 Cal.App.5th 867, 883.
[75] CEQA Guidelines, § 15126.4, subd. (a)(2).
[76] *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 308-309; Pub. Resources Code, § 21061.
[77] *Gentry v. City of Murrieta* (1995) 36 Cal.App.4th 1359, 1393; *Quail Botanical*, *supra*, 29 Cal.App.4th at pg. 1604, fn. 5.
[78] *Endangered Habitats League, Inc. v. County of Orange,* (2005) 131 Cal.App.4th 777, 794.
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performance criteria to ensure that impacts would be mitigated to the greatest extent feasible. Simply requiring the TDM Plan to be prepared and approved by the Town is not enough.[79]

As a result of this improper deferral of mitigation, the DEIR also fails to comply with CEQA's requirement to reduce all significant effects on the environment to the greatest extent feasible. Additional, feasible VMT-reducing measures must be adopted until the expected 20.8% excess VMT is mitigated.

Mr. Marshall notes that, while MM-AQ-1 lists potential measures to reduce VMT, the measures are generic and are largely not applicable to the Project and that additional feasible mitigation measures are available in this case, including specific measures identified by the California Air Pollution Control Officers Association ("CAPCOA") in its *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity: Designed for Local Governments, Communities, and Project Developers* ("CAPCOA Handbook").[80] The Handbook includes data regarding GHG emissions and proven effective methods that a local agency can employ to reduce GHG impacts, including reduction in GHG impacts from VMT.[81]

I-14
Cont.

The Handbook states that the VMT reduction (and therefore, GHG emissions reduction) could be as great as 45 percent with the implementation of additional measures which include:

- T-7 Implement Commute Trip Reduction Marketing
- T-8 Provide Ridersharing Program
- T-9 Implement Subsidized or Discounted Transit Program
- T-10 Provide End-of Trip Bike Facilities
- T-11 Provide Employer-Sponsored Vanpool
- T-12 Price Workplace Parking
- T-13 Implement Employee Parking Cash-Out[82]

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[79] *Id.* ("mitigation measure[s] [that do] no more than require a report be prepared and followed" do not provide adequate information for informed decision making under CEQA."); CEQA Guidelines § 15126.4(a)(1)(B).

[80] California Air Pollution Control Officers Association ("CAPCOA") Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (hereinafter "CAPCOA Handbook") (December 2021) available at https://www.airquality.org/ClimateChange/Documents/Final%20Handbook_AB434.pdf

[81] CAPCOA Handbook, p. 35.

[82] CAPCOA Handbook, pp. 89-115.

Many of the individual measures included in the Handbook offer high potential reductions *even if only one measure is used*.[83] For example, the maximum reduction produced by "T-11 Provide Employer-Sponsored Vanpool" is 20.4 percent.[84]

The DEIR fails to include any analysis of the feasibility of the above methods, or any other methods, to reduce the Project's significant impacts and lacks substantial evidence to conclude that the Town has eliminated or substantially lessened all significant effects on the environment to the greatest extent feasible. Therefore, the DEIR violates CEQA, and the Town cannot conclude that the Project's VMT impacts are significant and unavoidable.[85] The Town must evaluate the feasibility and effectiveness of additional mitigation measures in a revised and recirculated DEIR for the Project.

I-14 Cont.

B. The DEIR Fails to Disclose, Analyze or Mitigate the Project's Significant Air Quality and Health Risk Impacts

The DEIR's air quality analysis concludes, with respect to air quality and health risks to sensitive receptors, that the Project's construction and operation will cause a significant unavoidable impact.[86] However, the Town failed to account for the severity of the impacts and failed to consider feasible mitigation measures to reduce the impacts.

I-15

1. The DEIR Fails to Analyze and Mitigate Potentially Significant Valley Fever Impacts from Project Construction

As detailed above, the DEIR incorrectly characterizes the potential presence of *Cocci* fungus spores at the Project site and fails to discuss or require any Valley Fever employee training measures to protect Project construction workers from Valley Fever exposure. As a result, the DEIR fails to analyze the Project's threat of Valley Fever exposure to workers and sensitive receptors, and fails to include critical mitigation measures to reduce the health risk impacts of Valley Fever.

I-16

[83] Marshall Comments, p. 4.
[84] CAPCOA Handbook, p. 104.
[85] CEQA Guidelines § 15002(a)(2).
[86] DEIR, p. 4-13.

According to the DEIR's air quality analysis, Project construction will include 30 days of site preparation which will disturb 45 acres of soil, 45 days of grading activities which will disturb 135 acres of soil at the Project site and 120 days of trenching for pipeline installation which will involve ground disturbing activities on 24.7 acres of dirt and paved roads.[87] Dr. Clark explains that, when soil containing Valley Fever spores is disturbed by construction activities, the spores become airborne, exposing construction workers and other nearby sensitive receptors to potential infection.[88] Sensitive receptors on and near the Project site, including workers and those who live or work nearby, are at risk from exposure from disturbed dust during Project construction.[89]

The most at-risk populations are construction and agricultural workers. Additionally, the potentially exposed population in surrounding areas is much larger than construction workers because the nonselective raising of dust during Project construction will carry the very small spores which measure 0.002–0.005 millimeters into nonendemic areas, potentially exposing large non-Project-related populations.[90] Furthermore, the small fungus spore particles will not be controlled by the conventional construction dust-control measures under the Mojave Desert Air Quality Management District ("MDAQMD") Rule 403.[91] Thus, off-site sensitive receptors may have a significant risk of exposure to Valley Fever spores with no mitigation.

I-16 Cont.

The DEIR must be revised and recirculated to include an analysis of the Project's significant Valley Fever impacts, and to require that any and all mitigation measures that will reduce Valley Fever risks are incorporated as binding mitigation in the Project's MMRP.

2. Feasible Mitigation is Available to Reduce the Project's Significant Health Risk Impacts from Valley Fever

CEQA imposes a duty on the Town to adopt all feasible mitigation measures to reduce potentially significant health impacts from the Project. Yet here, the

I-17

[87] DEIR, Appendix B, pp. 166 and 221; see also DEIR, p. 4.3-1.
[88] Clark Comments, p. 5.
[89] Clark Comments, p. 5.
[90] Clark Comments, p. 5.
[91] Clark Comments, p. 5; Mojave Desert Air Quality Management District, Rule 403: Fugitive Dust Control (October 26, 2020) available at https://www.mdaqmd.ca.gov/rules/rule-book/regulation-iv-prohibitions; DEIR, p. 5.2-8 *(note: the DEIR incorrectly refers to MDAQMD Rule 403.2 -Fugitive Dust Control for the Mojave Desert Planning Area, which was rescinded on October 26, 2020*)

DEIR fails to incorporate any mitigation measures that would address Valley Fever risks to construction employees and sensitive receptors.

In his comments, Dr. Clark proposes a variety of feasible mitigation measures the DEIR should consider and adopt in a revised DEIR to reduce potential health impacts from Valley Fever.[92] The following mitigation measures identified in Dr. Clark's comments are based on his experience during construction of projects in areas affected by the fungi that cause Valley Fever, these measures should be included in the DEIR's mitigation measures in addition to the requirements under MDAQMD Rule 403:

- Include specific requirements in the Project's Injury and Illness Prevention Program regarding safeguards to prevent Valley Fever.

- **Control dust exposure through the following methods:**
- Apply chemical stabilizers at least 24-hours prior to high wind event;
- Apply water to all disturbed areas a minimum of three times per day. Watering frequency should be increased to a minimum of four times per day if there is any evidence of visible wind-driven fugitive dust;
- Provide National Institute for Occupational Safety and Health (NIOSH)-approved respirators for workers with a prior history of Valley Fever.
- Half-face respirators equipped with a minimum N-95 protection factor for use during worker collocation with surface disturbance activities. Half-face respirators equipped with N-100 or P-100 filters should be used during digging activities. Employees should wear respirators when working near earth-moving machinery.
- Prohibit eating and smoking at the worksite, and provide separate, clean eating areas with hand-washing facilities.
- Avoid outdoor construction operations during unusually windy conditions or in dust storms.
- Consider limiting outdoor construction during the fall to essential jobs only, as the risk of cocci infection is higher during this season.

- **Prevent transport of cocci outside endemic areas:**
- Prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, and/or tailgate;

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[92] Clark Comments, pp. 6-8.

- Provide workers with coveralls daily, lockers (or other systems for keeping work and street clothing and shoes separate), daily changing and showering facilities.
- Clothing should be changed after work every day, preferably at the work site.
- Train workers to recognize that cocci may be transported offsite on contaminated equipment, clothing, and shoes; alternatively, consider installing boot-washing.
- Post warnings onsite and consider limiting access to visitors, especially those without adequate training and respiratory protection.

- **Improve medical surveillance for employees:**
- Employees should have prompt access to medical care, including suspected work-related illnesses and injuries.
- Work with a medical professional to develop a protocol to medically evaluate employees who have symptoms of Valley Fever.
- Consider preferentially contracting with 1-2 clinics in the area and communicate with the health care providers in those clinics to ensure that providers are aware that Valley Fever has been reported in the area. This will increase the likelihood that ill workers will receive prompt, proper and consistent medical care.
- Respirator clearance should include medical evaluation for all new employees, annual re-evaluation for changes in medical status, and annual training, and fit-testing.
- Skin testing is not recommended for evaluation of Valley Fever.
- If an employee is diagnosed with Valley Fever, a physician must determine if the employee should be taken off work, when they may return to work, and what type of work activities they may perform.

I-17 Cont.

Any mitigation measures must be included in the DEIR and be fully enforceable through permit conditions, agreements or other legally binding instruments.[93] Failure to include enforceable mitigation measures is considered a failure to proceed in the manner required by CEQA.[94] In order to meet this requirement, mitigation measures must be incorporated directly into the EIR to be enforceable.[95]

[93] CEQA Guidelines § 15126.4(a)(2).
[94] *San Joaquin Raptor Rescue Ctr. v. County of Merced* (2007) 149 Cal.App.4th 645, 672.
[95] *Lotus v. Dept of Transportation* (2014) 223 Cal. App. 4th 645, 651-52.
6756-006j

The DEIR must be revised and recirculated to include mitigation measures such as the those proposed by Dr. Clark to reduce the impacts of exposure to Valley Fever causing fungus spores and mitigate impacts to sensitive receptors. I-17 Cont.

3. The DEIR Fails to Require Effective Mitigation to Reduce the Project's Construction Air Quality Impacts

In order to mitigate the Project's potentially significant construction air quality impacts, the DEIR includes in its mitigation monitoring and reporting program ("MMRP") PDF-AQ-1, which, among other provisions, requires that all heavy duty off-road construction equipment meet U.S. Environmental Protection Agency ("USEPA) certified Tier 4 Interim emissions standards, and includes an exception to allow the use of Tier 3 construction equipment if Tier 4 Interim equipment is not available.[96] Dr. Clark explains that the USEPA standards for construction equipment are designed to lower emissions from off-road construction equipment.[97] The USEPA standards specify that Tier 4 Final standards are the cleanest burning equipment and have the lowest emissions compared to the other tiers.[98] Dr. Clark explains that Tier 3 equipment puts out 80% to 89% more PM_{10} than Tier 4 Interim equipment and 85% to 91% more PM_{10} than Tier 4 Final equipment. Additionally, Tier 3 equipment puts out 81% to 89% more $PM_{2.5}$ than Tier 4 Interim equipment and 85% to 92% more $PM_{2.5}$ than Tier 4 Final equipment. I-18

The DEIR fails to provide justification why PDF-AQ-1 allows for the use of Tier 3 and Tier 4 Interim equipment during Project construction. By requiring the use of Tier 4 Final construction equipment, the Project would see significant reductions in emissions. Furthermore, requiring Tier 4 Final construction equipment at the site is feasible, including Tier 4 Final equipment, which produces the highest available emissions reductions from the Tier 4 equipment categories. The Town must revise PDF-AQ-1 to require the use of Tier 4 Final construction equipment in order to reduce the Project's air quality and GHG emissions impacts to the greatest extent feasible.

C. The DEIR Fails to Analyze and Mitigate the Project's Significant GHG Emissions Impacts

The DEIR states that the Project's unmitigated GHG emissions impacts of 37,982 MTCO2e/year would exceed the SCAQMD GHG threshold of 3,000 MTCO2e I-19

[96] DEIR, p. 4.2-21.
[97] Clark Comments, p. 8.
[98] Clark Comments, p. 8.
6756-006j

and would result in a considerable contribution to cumulative emissions related to global climate change and therefore result in a significant impact.[99] The DEIR includes mitigation measure MM-AQ-1 to reduce the Project's impacts.[100] Despite the proposed mitigation measures, the DEIR concludes that the Project will result in the release of 21,169.5 MGCO2e/year, exceeding SCAQMD's threshold of 3,000 MTCO2e/year and resulting in significant and unavoidable GHG emissions impacts.[101]

As discussed above, the DEIR's failure to adequately analyze the Project's transportation and air quality impacts results in a failure to analyze the Project's GHG emissions impacts. The DEIR's errors in the Project VMT analysis results in an underestimation of the Project's GHG emissions from mobile sources. The DEIR's GHG analysis and conclusions are therefore not based on substantial evidence, whereas Mr. Marshall and Dr. Clark provide substantial evidence showing that the Project's GHG emissions will likely be much higher than stated in the DEIR. The Town must correct the errors in the DEIR's transportation and air quality impacts analyses to accurately estimate the Project's significant GHG emissions impacts.

I-19 Cont.

D. The DEIR Fails to Adequately Analyze Potentially Significant Noise Impacts

CEQA requires agencies to conduct noise analyses for projects that consider both the absolute noise levels expected, and the degree noise levels are expected to increase. Noise studies that rely on a single measure that excludes possible significant impacts from noise increases or noise extremes do not receive deference by reviewing courts.

In *King & Gardiner Farms, LLC v. County of Kern*, the Court of Appeal held that an agency cannot simply rely on compliance with local noise regulations to conclude there will be no significant noise impacts without considering the impacts of increases in noise.[102] The County approved an EIR for proposed zoning amendments to streamline oil and gas permitting.[103] The EIR included an analysis of noise impacts that determined significance based solely on whether the 65 decibel day-night average ("dBA DNL") threshold in the County General Plan would be

I-8 and I-9

[99] DEIR, p. 4.6-30.
[100] DEIR, pp. 1-4 – 1-8.
[101] DEIR, p. 4.6-31.
[102] *King & Gardiner Farms, LLC v. County of Kern* (2020) 45 Cal.App.5th 814, 894.
[103] *Id.* at 829.
6756-006j

exceeded.[104] The Court of Appeal reasoned that the County General Plan did not conclude that all increases in the magnitude of noise are insignificant until the 65 dBA DNL threshold is exceeded, so the General Plan "does not constitute substantial evidence that the magnitude of an increase in ambient noise is irrelevant."[105] Rather, an EIR's noise analysis should consider both the increase in noise level and the absolute noise level associated with a project in determining the significance of the project's noise impacts.[106] The Court of Appeal concluded that an agency cannot exclusively rely on "a single cumulative DNL metric for determining the significance of the project's noise impacts" while deciding "the magnitude of the increase in ambient noise is irrelevant."[107]

In *Berkeley Jets*, the Court of Appeal invalidated the Port of Oakland's EIR for expansion of the Oakland Airport because of its reliance on an improper noise standard.[108] The EIR evaluated the significance of noise impacts based on whether the estimated level of sound would exceed 65 dB Community Noise Equivalent Level ("CNEL").[109] However, as the Court of Appeal explained, the CNEL metric—which averages noise over the course of a day—could not be the sole indicator of significant effects from noise because it does not provide a meaningful analysis of the "degree single overflights will create noise levels over and above the existing ambient noise level at a given location, and the community reaction to aircraft noise, including sleep disturbance."[110] Therefore, the Court concluded, a revised EIR with additional study of noise impacts from flights was necessary.[111]

Here, the DEIR states that construction and operational noise impacts would not be significant. However, as explained above, the DEIR relies on an inadequate noise study to inform the Project's noise analysis, relies on improper thresholds of significance for construction and operational noise resulting in a failure to analyze and mitigate the Project's potentially significant noise impacts to the greatest extent feasible.

I-8 and I-9 Cont.

[104] *Id.* at 830, 889.
[105] *Id.* at 894.
[106] *Id.*
[107] *Id.*
[108] *Berkeley Jets*, 91 Cal.App.4th at 1381–1382.
[109] *Id.* at 1373.
[110] *Id.* at 1381–1382.
[111] *Id.* at 1382.

1. The DEIR Fails to Analyze and Mitigate Potentially Significant Construction and Operational Noise Impacts

CEQA does not set a numeric threshold for determining the significance of ambient noise increases. Lead agencies may select their own thresholds. The agency's selection of a threshold of significance must be supported by substantial evidence.[112]

The DEIR relies on the Town's noise ordinance, which sets a maximum noise level for construction and operational noise as its threshold of significance.[113] Reliance solely on the noise ordinance violates CEQA because it fails to consider whether the magnitude of changes in noise levels is significant.[114] The DEIR relies on the noise ordinance to determine the significance of the off-site construction noise, stating:

> [N]oise levels from construction are predicted to range from approximately 48 dBA Leq (during the architectural coating phase) to 61 dBA Leq (during the grading phase) at the nearest noise-sensitive receiver (a single-family residence approximately 850 feet from the nearest construction work). These noise levels would be lower than the Town of Apple Valley's construction noise standard at single-family residences for temporary (i.e., mobile) equipment of 75 dBA Leq. […] Therefore, noise from Project site construction would be less than significant. No noise mitigation is necessary.[115]

The DEIR's construction noise analysis omits a critical component, namely that the magnitude of the noise increase is not considered in the impact analysis.[116] The DEIR reports that the existing Leq at a nearby residence, receptor M1, is 39 dBA and that Project construction is expected to result in noise levels of 61 dBA Leq during the grading phase and noise levels of 57 dBA Leq during typical construction activity. Mr. Watry explains that this constitutes a four-fold increase of perceived noise levels at this receptor, resulting in a significant impact.[117]

I-8 and I-9 Cont.

[112] 14 CCR § 15064(b); *King & Gardiner Farms, LLC v. County of Kern* (2020) 45 Cal.App.5th 814, 884.
[113] AVMC, § 9.73.050.
[114] *King & Gardiner Farms*, 45 Cal.App.5th 814, 865.
[115] DEIR, p. 3.6-12.
[116] Watry Comments, p. 3.
[117] Watry Comments, p. 3.

The DEIR also fails to analyze the magnitude of the Project's potentially significant operational noise impacts. Mr. Watry calculated that the Project will generate 38.3 dBA CNEL at receptor M1 during operation, resulting in an increase of 9 dBA over the DEIR's reported ambient existing nighttime noise level of 29.8 dBA Leq.[118] Mr. Watry explains that this relative increase will be perceptible to the residents at receptor M1 and constitutes a significant impact. Mr. Watry states that the Project must employ additional mitigation measures, such as sound barriers to block line of sight from the operational noise sources in order to reduce the Project's significant impacts.[119]

I-8 and I-9 Cont.

The DEIR lacks substantial evidence to support its conclusion that the Project's construction and operational noise impacts will be less than significant because it failed to analyze the magnitude of noise increase from the Project. As a result, the DEIR fails to analyze and mitigate the Project's significant construction noise impacts. The DEIR must be revised and recirculated to analyze the Project's construction and operational noise impacts.

V. THE DEIR FAILS TO CONSIDER THE OFFICE OF THE ATTORNEY GENERAL'S BEST PRACTICES AND MITIGATION MEASURES FOR WAREHOUSE PROJECTS

In September 2022, the California Office of the Attorney General ("AG") released an updated version of its guidance document titled "*Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act*" ("Best Practices").[120] The Best Practices were developed to aid local agencies to achieve CEQA compliance, and promote environmentally-just development when they are considering warehouse project proposals.[121] The AG developed the Best Practices based on knowledge gained from monitoring, providing comments on, and litigating, warehouse development projects in California.[122] The Best Practices state that while CEQA analysis is necessarily project-specific, the document provides feasible best practices and mitigation measures which were adapted from actual warehouse projects in California.[123]

I-20

[118] Watry Comments, p. 3.
[119] Watry Comments, p. 3.
[120] California Office of the Attorney General, Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act (hereinafter "Best Practices") (September 2022) available at https://oag.ca.gov/system/files/media/warehouse-best-practices.pdf
[121] Best Practices, p. 1.
[122] Best Practices, p. 1
[123] Best Practices, p. 1.
6756-006j

The Best Practices provide examples of environmentally superior methods of developing warehouse projects and offers sample mitigation measures that a local agency should consider when faced with a project such as the Project proposed here. For example, the Best Practices encourage local governing bodies to proactively plan for logistics projects by establishing industrial districts near major highway and rail corridors but away from sensitive receptors in order to help attract investment while avoiding conflicts between warehouse facilities and residential communities.[124]

Here, the proposed Project defies many of the recommendations in the Best Practices. For example, with regard to the above recommendation to site projects close to freeways and away from sensitive receptors, the proposed Project site is located approximately 5-miles away from the closest freeway onramp onto Interstate 15 ("I-15"). The following excerpts from the Best Practices are included to demonstrate that the proposed Project is at odds with the guidance provided by the OAG.

The Best Practices recommend that local jurisdictions take care when considering potential impacts from air quality and GHG emissions from project construction and operation. The DEIR does not comply with many of the recommendations and fails to include mitigation measures that conform with the Best Practices, which for construction include:

- Requiring off-road construction equipment to be zero-emission, where available, and all diesel-fueled off-road construction equipment, to be equipped with CARB Tier IV-compliant engines or better, and including this requirement in applicable bid documents, purchase orders, and contracts, with successful contractors demonstrating the ability to supply the compliant construction equipment for use prior to any ground-disturbing and construction activities.
- Prohibiting grading on days with an Air Quality Index forecast of greater than 100 for particulates or ozone for the project area.
- Limiting the amount of daily grading disturbance area.[125]

For operational air quality and GHG emissions impacts, the Best Practices recommend:

I-20 Cont.

[124] Best Practices, p. 3.
[125] Best Practices, p. 8.

- Requiring all heavy-duty vehicles entering or operated on the project site to be zero-emission beginning in 2030.
- Requiring tenants to use zero-emission light- and medium-duty vehicles as part of business operations.
- Forbidding trucks from idling for more than two minutes and requiring operators to turn off engines when not in use.

I-20 Cont.

The DEIR fails to demonstrate conformance with the above recommendations. The Best Practices also include several recommendations and suggested mitigation measures regarding warehouse noise and transportation impacts that the DEIR fails to take into account. The Town must consider all of the recommendations of the AG and incorporate any feasible measures recommended in the Best Practices as mitigation measures in the DEIR to further reduce the Project's significant (and in some cases significant and unavoidable) air quality, GHG emissions, transportation, and noise impacts.

VII. THE TOWN MAY NOT MAKE THE REQUIRED FINDINGS TO APPROVE THE PROJECT'S LOCAL LAND USE PERMITS

The Project requires approval of Site Plan Review, Lot Line Adjustment and certification of the Environmental Impact Report. The Town cannot make the findings necessary to approve the Project's entitlements because the Project will result in significant environmental impacts that the Town has failed to analyze and mitigate.

In order to approve the Project's Site Plan Review Permit pursuant to the North Apple Valley Industrial Specific Plan, the Town must find that proposed Project is consistent with the following findings:

I-21

1. That the location, size, design, density, and intensity of the proposed development is consistent with the General Plan, the North Apple Valley Industrial Specific Plan, the Development Code, and the development policies and standards of the Town.
2. That the location, size and design of the proposed structures and improvements are compatible with the site's natural landforms, surrounding sites, structures, and streetscapes.
3. That the materials, textures, and details of the proposed construction are compatible with the adjacent and neighboring structures.
4. That quality in architectural design is maintained in order to enhance the visual environment of the Town and protect the economic value of existing structures.

5. That there are public facilities, services, and utilities available at the appropriate levels or that these shall be installed at the appropriate time to serve the project.
6. That access to the site and internal circulation are safe.
7. That the project is consistent with the uses described in the North Apple Valley Industrial Specific Plan, and analyzed in the North Apple Valley Industrial Specific Plan Environmental Impact Report (SCH No. 2006031112).[126]

The Town is precluded from making finding one above because it cannot find that the Project's location, size, design, density, and intensity is consistent with the Town's General Plan. The Project is inconsistent with the General Plan's Air Quality Element, Policy 1.D. which states that "[a]ll proposals for development activities within the Town shall be reviewed for their potential to adversely impact local and regional air quality and shall be required to mitigate any significant impacts."[127]

I-21 Cont.

As explained in detail above, the DEIR fails to effectively mitigate the Project's significant VMT, air quality, and health risk impacts to the greatest degree feasible. We provide several feasible mitigation measures that would further reduce the Project's significant impacts in these comments that the Town must consider prior to finding that the Project is consistent with Policy 1.D.

The Project's significant VMT, health risk, air quality and GHG impacts preclude the Town from making the findings required under the NAVISP to approve the Project's Site Plan Review. The Town must prepare a revised DEIR which adequately analyzes the significant impacts of the Project and adopts feasible mitigation measures to reduce the Project's impacts.

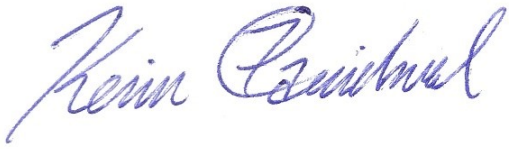
[126] Town of Apple Valley, North Apple Valley Industrial Specific Plan (Adopted October 24, 2006, Last Amended January 24, 2012) available at https://www.applevalley.org/home/showpublisheddocument/18587/636149111285930000
[127] Town of Apple Valley, 2009 General Plan, Air Quality Element (Adopted August 11, 2009) p. III-79. available at https://www.applevalley.org/services/planning-division/2009-general-plan.

VI. CONCLUSION

For the reasons discussed above, the DEIR for the Project is wholly inadequate under CEQA. It must be thoroughly revised to provide legally adequate analysis of, and mitigation for, all of the Project's potentially significant impacts. These revisions will necessarily require that the DEIR be recirculated for additional public review. Until the DEIR has been revised and recirculated, as described herein, the Town may not lawfully approve the Project. I-22

Thank you for your attention to these comments. Please include them in the record of proceedings for the Project.

Sincerely,

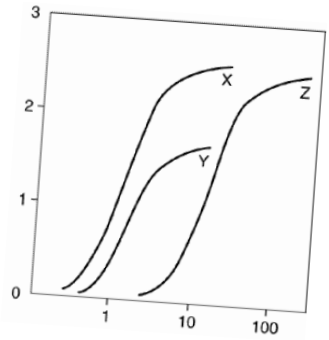


Kevin Carmichael

KTC:ljl

6756-006j

EXHIBIT A



Clark & Associates
Environmental Consulting, Inc.

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October 25, 2023

Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080

Attn: Mr. Kevin Carmichael

Subject: Comment Letter on Draft Environmental Impact Report (DEIR) 1M Warehouse Project, State Clearinghouse No. 2023020285 Apple Valley, California.

Dear Mr. Carmichael:

At the request of Adams Broadwell Joseph & Cardozo (ABJC), Clark and Associates (Clark) has reviewed materials related to the above referenced project.

Clark's review of the materials in no way constitutes a validation of the conclusions or materials contained within the DEIR. If we do not comment on a specific item, this does not constitute acceptance of the item.

I-23

Project Description:

The Project involves construction and operation of a 1,080,125-square-foot industrial/warehouse building on a 67.3-acre undeveloped site located at the northeast corner of Central Road and Lafayette Street in the Town of Apple Valley, California. Construction of the Project is anticipated to commence in December 2023 and conclude in October 2025, lasting approximately 22 months. Approximately 15,000 square feet of office space would be provided within the building. The building would have a maximum building height of 50 feet, measured from the finished floor to the top of building parapets. The building would have a floor area ratio (FAR) of

I-24

0.369.According to the DEIR, a tenant for the proposed industrial warehouse building has not yet been identified, but the Project would operate as an unrefrigerated warehouse and/or distribution facility. The DEIR states[1] that while operational hours are anticipated to follow common working hours (e.g., 8-12 hours per day), it was assumed that the facility could be operated 24 hours a day, 7 days a week. Additionally, cold or refrigerated storage would not be permitted in the proposed building subject to additional environmental review and approval by the Town.

For on-site and off-site development, it was assumed that approximately 150,000 cubic yards and 2,288 cubic yards of soil would be exported, respectively. For the analysis, it was generally assumed that heavy-duty construction equipment would be operating at the site 5 days per week.[2] The trenching necessary to install utilities to the site (labeled pipeline installation) is assumed to take 120 days and would effectively extend the area of impacts from the construction phase of the project beyond the project site boundaries.

I-24
Cont.

[1] Dudek. 2023. Environmental Impact Report 1M Warehouse Project, State Clearinghouse 2023020285. Prepared for Town of Apple Valley. Prepared by Dudek. Pg 3-14.

[2] *ibid*. Pg 3-15.



I-24
Cont.

Figure 1: Project Site Location

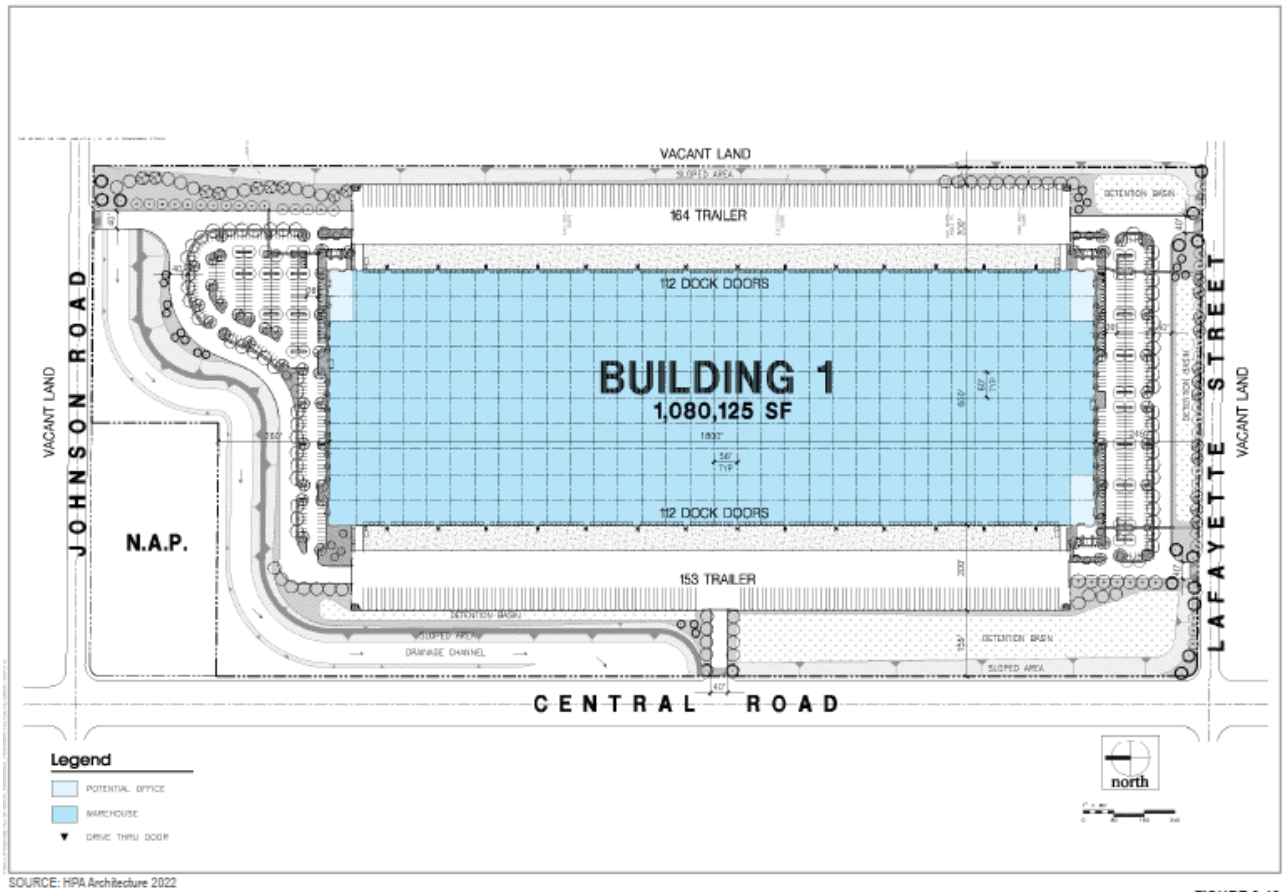


Figure 2: Project Site Plan

The DEIR concludes that no mitigation is required to prevent impacts from the project on air quality in the area. This conclusion is in conflict with the facts provided within the DEIR.

I-24 Cont.

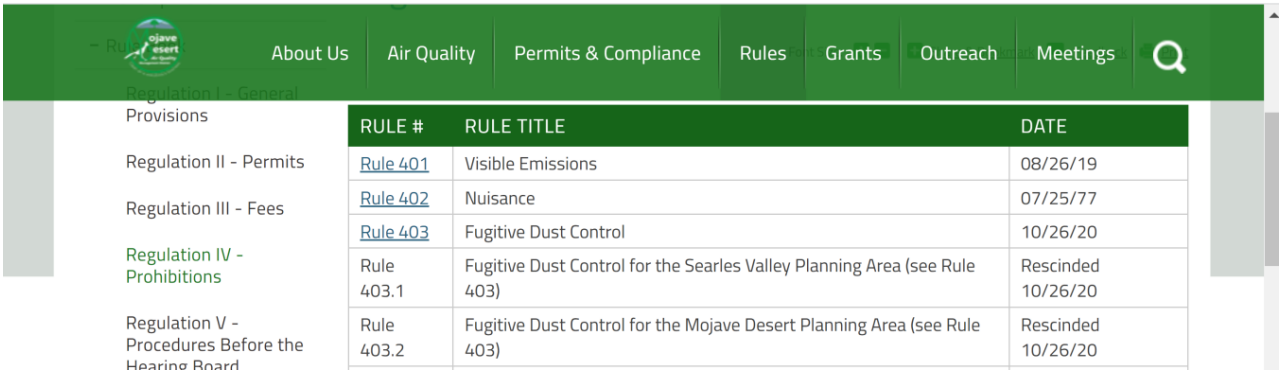
Specific Comments:

1. The DEIR Fails To Address Impacts from Exposure to *Coccidiodes Immitis* (Valley Fever Cocci) From Particulate Matter Released From Site During Construction Activities of The Project.

I-25

The Town's comments on the presence/issue of *Coccidiodes Immitis* (Valley Fever Cocci) in the High Desert Portion of Southern California and mitigation from existing dust suppression rules is

speculative at best. The Town assumes that "the Project would implement PDF-AQ-1, which includes dust control measures in accordance with the MDAQMD Rules 401 and 403.2, which that would limit the amount of fugitive dust generated during construction." Mojave Desert Air Quality Management District (MDAQMD) Rule 403.2 was rescinded in October, 2020 (nearly three years ago).



RULE #	RULE TITLE	DATE
Rule 401	Visible Emissions	08/26/19
Rule 402	Nuisance	07/25/77
Rule 403	Fugitive Dust Control	10/26/20
Rule 403.1	Fugitive Dust Control for the Searles Valley Planning Area (see Rule 403)	Rescinded 10/26/20
Rule 403.2	Fugitive Dust Control for the Mojave Desert Planning Area (see Rule 403)	Rescinded 10/26/20

Figure 3: MDAQMD List Of Rules

The Town is citing a rule that has been replaced by Rule 403. The Town must correct this error in its responses. In addition, Rule 403 only deals with emissions of particulate matter ten microns in diameter (PM_{10}).

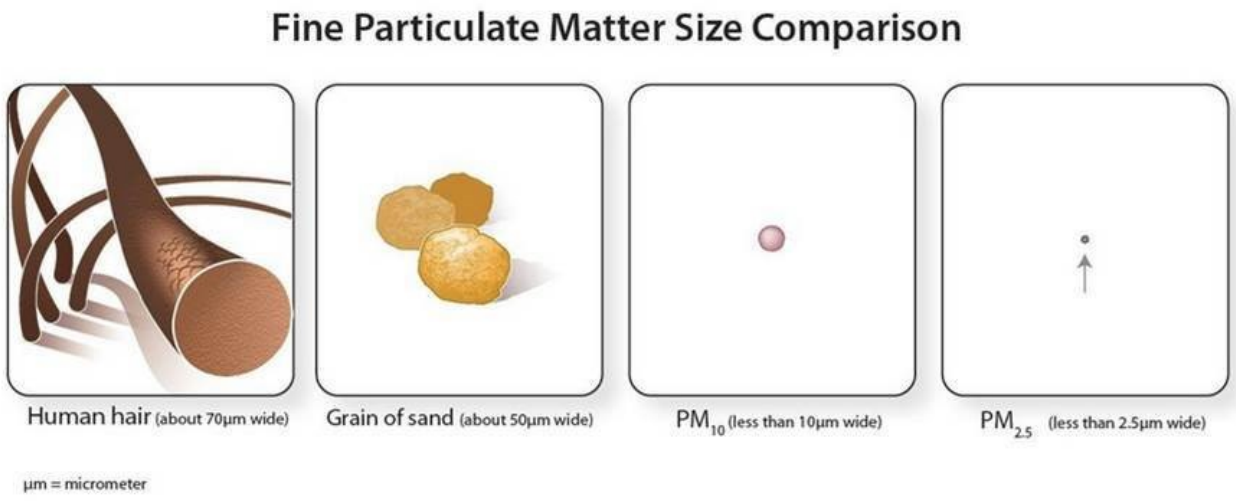


Figure 4: Fine Particle Matter Size Comparison

Very small particles require different mitigation measures than the much larger PM_{10}. The settling velocity of a particle (the amount of time a particle takes to fall to the ground) is proportional to the diameter of the spherical particle squared. The larger the particle diameter, the faster the particle

I-25 Cont.

will settle. The smaller the particle diameter, the longer it will stay suspended in air. As was noted in my initial comments *Coccidiodes Immitis* spores are very small. The spores are typically 0.002–0.005 millimeters ("mm") or 2 microns to 5 microns in diameter.

In a 2004 paper regarding the fate of viruses and bacteria, including spores, in the air, Utrup and Frey[3] noted that smaller particles like spores require significantly longer to settle out of air. For particles 10 um in diameter the settling time is measured in minutes. For particles less than 10 um in diameter, the settling time is measured in hours. This would allow the spores to travel significantly longer distances impacting receptors at greater distances.

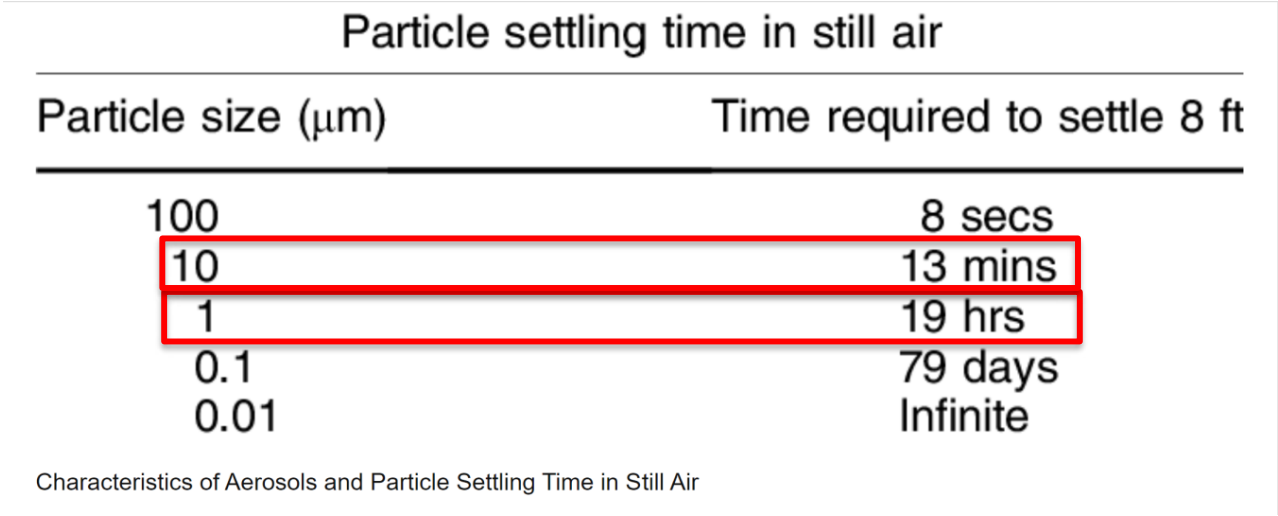


Figure 5: Particle Settling Times

Clearly, based on the particle size and setting rate, Valley Fever spores present in soils are capable of travel many miles following the disturbance of impacted soils. The City must correct their speculative answer with an accurate assessment of the threat posed to residents and other sensitive receptors in the area.

The Town's response that dust from the construction of the project is not anticipated to exacerbate or significantly add to the existing exposure of people to Valley Fever is misplaced at best. Further claiming that because the rate in the County is lower than other counties and should not be evaluated in a CEQA analysis not only fails to assess the threat to the community from a known hazard, it ignores the larger public health concern about rising Valley Fever rates in the County of San Bernardino. As noted in my initial comments since 2015, the number of cases of Valley Fever in

I-25 Cont.

[3] Utrup, L. and A. Frey. 2004. Fate of Bioterrorism-Relevant Viruses and Bacteria, Including Spores, Aerosolized into an Indoor Air Environment. *Experimental Biology and Medicine* 229(4):345-50

San Bernardino County has increased from 29 in 2015 to 229 in 2019 (an increase of 789 percent), as reported by the California Department of Public Health (CDPH).[4] In 2021, 66 cases were recorded in San Bernardino County,[5] twice as many as the amounts reported in 2015. In the first quarter of 2023, San Bernardino County reported 45 cases, representing a nearly 55% increase over the baseline year of 2015 in only one quarter of the year. Since Valley Fever cases are directly related to the disturbance of soils in the area, the City must directly address the impacts that the project's construction phase will have on the community.

Valley fever is the initial form of coccidioidomycosis infection. The acute form of Valley Fever can develop into a more serious disease, including chronic and disseminated coccidioidomycosis. The initial, or acute, form of coccidioidomycosis is often mild, with few or no symptoms. Signs and symptoms occur one to three weeks after exposure. They tend to be similar to flu symptoms. Symptoms can range from minor to severe, including:

- Fever
- Cough
- Tiredness
- Shortness of breath
- Headache
- Chills
- Night sweats
- Joint aches and muscle soreness
- Red, spotty rash, mainly on lower legs but sometimes on the chest, arms and back

If the initial coccidioidomycosis infection doesn't completely resolve, it may progress to a chronic form of pneumonia. This complication is most common in people with weakened immune systems. Signs and symptoms of chronic coccidioidomycosis include:

I-25 Cont.

[4] CDPH. 2019. Epidemiologic Summary of Valley Fever (Coccidiodomycosis) In California, 2019. Surveillance and Statistics Section, Infection Diseases Branch, Division of Communicable Disease Control, Center For Infectious Diseases, California Department of Public Health. https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciEpiSummary2019.pdf

[5] CDPH. 2023. Coccidiodomycosis In California, Provisional Monthly Report, January – March 2023 (as of March 31, 2023). Surveillance and Statistics Section, Infection Diseases Branch, Division of Communicable Disease Control, Center For Infectious Diseases, California Department of Public Health. https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciinCAProvisionalMonthlyReport.pdf

- Low-grade fever
- Weight loss
- Cough
- Chest pain
- Blood-tinged sputum (matter discharged during coughing)
- Nodules in the lungs

The most serious form of the disease, disseminated coccidioidomycosis, is uncommon. It occurs when the infection spreads (disseminates) beyond the lungs to other parts of the body. Most often these parts include the skin, bones, liver, brain, heart, and the membranes that protect the brain and spinal cord (meninges). Signs and symptoms of disseminated disease depend on the body parts affected and may include:

- Nodules, ulcers and skin lesions that are more serious than the rash that sometimes occurs with initial infection
- Painful lesions in the skull, spine or other bones
- Painful, swollen joints, especially in the knees or ankles
- Meningitis — an infection of the membranes and fluid surrounding the brain and spinal cord

Given the wide range of public health impacts from coccidioidomycosis infection/exposure it is clear that

I-25 Cont.

The Town's responses are not protective of the community and they should require specific mitigation measures to prevent the spread of Valley Fever in the community. The Town should require the following measures to ensure the safety of the community (listed below).

1. Include specific requirements in the Project's Injury and Illness Prevention Program (as required by Title 8, Section 3203) regarding safeguards to prevent Valley Fever.
2. Control dust exposure:
   - Apply chemical stabilizers at least 24-hours prior to high wind event;
   - Apply water to all disturbed areas a minimum of three times per day. Watering frequency should be increased to a minimum of four times per day if there is any evidence of visible wind-driven fugitive dust;
   - Provide National Institute for Occupational Safety and Health (NIOSH)-approved respirators for workers with a prior history of Valley Fever.

- Half-face respirators equipped with a minimum N-95 protection factor for use during worker collocation with surface disturbance activities. Half-face respirators equipped with N-100 or P-100 filters should be used during digging activities. Employees should wear respirators when working near earth-moving machinery.
- Prohibit eating and smoking at the worksite, and provide separate, clean eating areas with hand-washing facilities.
- Avoid outdoor construction operations during unusually windy conditions or in dust storms.
- Consider limiting outdoor construction during the fall to essential jobs only, as the risk of cocci infection is higher during this season.

3. Prevent transport of cocci outside endemic areas:
    - Thoroughly clean equipment, vehicles, and other items before they are moved off-site to other work locations.
    - Prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, and/or tailgate;
    - Load all haul trucks such that the freeboard is not less than six inches when material is transported on any paved public access road and apply water to the top of the load sufficient to limit VDE to 20 percent opacity; or cover haul trucks with a tarp or other suitable cover.
    - Provide workers with coveralls daily, lockers (or other systems for keeping work and street clothing and shoes separate), daily changing and showering facilities.
    - Clothing should be changed after work every day, preferably at the work site.
    - Train workers to recognize that cocci may be transported offsite on contaminated equipment, clothing, and shoes; alternatively, consider installing boot-washing.
    - Post warnings onsite and consider limiting access to visitors, especially those without adequate training and respiratory protection.
4. Improve medical surveillance for employees:
    - Employees should have prompt access to medical care, including suspected work-related illnesses and injuries.
    - Work with a medical professional to develop a protocol to medically evaluate

I-25 Cont.

employees who have symptoms of Valley Fever.

- Consider preferentially contracting with 1-2 clinics in the area and communicate with the health care providers in those clinics to ensure that providers are aware that Valley Fever has been reported in the area. This will increase the likelihood that ill workers will receive prompt, proper and consistent medical care.
- Respirator clearance should include medical evaluation for all new employees, annual re-evaluation for changes in medical status, and annual training, and fit-testing.
- Skin testing is not recommended for evaluation of Valley Fever.[6]
- If an employee is diagnosed with Valley Fever, a physician must determine if the employee should be taken off work, when they may return to work, and what type of work activities they may perform.

I-25 Cont.

The mitigation measures identified in this comment, based on actual experience during construction of solar and wind projects in endemic areas, should be required for the Project. The Town must include concrete measures like the ones listed above in a revised DEIR of the Project.

2. Air Quality Analysis Fails To Require The Use Of Tier 4 Final Technology For Off-Road Sources Of Diesel Exhaust On-Site.

The Project Air Quality Analysis fails to list mitigation measures to reduce construction related air quality emissions (particulate matter (PM_{10} and $PM_{2.5}$)) and fails to require the best emission technology level, Tier 4 Final, on construction equipment with a horsepower (hp) rating greater than 25 hp. The Air Quality Analysis assumes that Tier 4 interim technology will be utilized in a subset of equipment utilized during the construction phase of the Project (rubber tired dozers, scrapers, and cranes). The remaining equipment is assumed to be the averaged tier for available equipment.

I-26

Based upon a review of public records of the California Air Resources Board's (CARB) Diesel Off-Road Online Reporting System (DOORS), it is evident that the availability of Tiered construction

[6] Short-term skin tests that produce results within 48 hours are now available. See Kerry Klein, NPR for Central California, New Valley Fever Skin Test Shows Promise, But Obstacles Remain, November 21, 2016; available at http://kvpr.org/post/new-valley-fever-skin-test-shows-promise-obstacles-remain.

equipment is highly dependent on the type of equipment.

Table 1: Percent of Equipment in California DOORS Database by Emission Tier Level

Equipment Type (> 50 hp)	U.S. EPA Emission Tier Level					
	T0	T1	T2	T3	T4F	T4I
Aerial Lifts	1.63%	4.67%	14.86%	4.08%	**48.64%**	**26.12%**
Boom	0.15%	0.77%	5.22%	1.59%	**76.20%**	**16.06%**
Bore/Drill Rigs	11.53%	15.42%	16.86%	21.76%	**17.72%**	**14.34%**
Bucket	8.33%	18.33%	10.00%	6.67%	**33.33%**	**23.33%**
Concrete Mixer	0.00%	0.00%	0.00%	14.29%	**85.71%**	**0.00%**
Concrete Pump	1.30%	7.79%	40.26%	1.30%	**32.47%**	**16.88%**
Crane 35ton or more	5.57%	4.41%	5.37%	18.81%	**37.62%**	**27.45%**
Crane less than 35ton	20.37%	2.47%	6.79%	12.35%	**38.27%**	**19.75%**
Cranes	27.84%	11.49%	9.13%	26.60%	**10.82%**	**11.80%**
Crawler Tractors	26.56%	13.31%	13.11%	13.70%	**22.39%**	**10.93%**
Crushing/Processing Equipment	0.00%	0.78%	2.34%	14.06%	**74.22%**	**8.59%**
Drill Rig	7.09%	4.14%	8.86%	12.56%	**45.79%**	**17.87%**
Drill Rig (Mobile)	11.51%	8.71%	11.51%	17.26%	**30.95%**	**14.77%**
Excavators	5.24%	8.34%	13.95%	7.29%	**48.67%**	**16.50%**
Forklifts	9.57%	10.57%	13.82%	7.99%	**40.45%**	**17.46%**
Garbage Refuse	0.00%	0.00%	8.70%	8.70%	**43.48%**	**39.13%**
Garbage Transfer	0.00%	0.00%	0.00%	33.33%	**66.67%**	**0.00%**
Graders	29.78%	14.12%	12.89%	15.27%	**17.40%**	**10.52%**
Hopper Tractor Trailer	0.00%	0.00%	0.00%	0.00%	**50.00%**	**50.00%**
Mower	2.44%	7.27%	13.58%	1.10%	**54.40%**	**21.22%**
Nurse Rig Aircraft Supply	0.00%	0.00%	0.00%	0.00%	**100.00%**	**0.00%**
Nurse Rig Other	0.00%	0.00%	0.00%	100.00%	**0.00%**	**0.00%**
Off Highway Tractors	3.55%	6.28%	6.01%	8.74%	**65.30%**	**10.11%**
Off Highway Trucks	1.69%	3.87%	11.14%	5.81%	**62.23%**	**15.25%**
Off-Highway Tractors	18.25%	17.06%	20.98%	10.02%	**17.18%**	**16.31%**
Off-Highway Trucks	16.96%	12.96%	17.54%	20.81%	**16.13%**	**13.99%**
Other Construction Equipment	16.35%	14.20%	17.11%	10.53%	**24.03%**	**17.19%**
Other General Industrial Equipment	13.18%	16.56%	27.57%	8.61%	**13.80%**	**19.84%**
Other Material Handling Equipment	10.84%	11.39%	19.25%	15.55%	**26.63%**	**16.26%**
Other Truck	15.64%	10.34%	5.31%	13.41%	**36.87%**	**11.45%**
Pavers	12.11%	21.18%	16.99%	14.97%	**23.34%**	**11.41%**
Paving Equipment	6.49%	12.80%	12.74%	12.44%	**38.17%**	**17.05%**
Railcars or Track Cars	16.33%	8.16%	0.00%	14.29%	**51.02%**	**10.20%**
Rollers	14.09%	15.93%	18.30%	6.46%	**30.61%**	**14.59%**

I-26 Cont.

Equipment Type (> 50 hp)	U.S. EPA Emission Tier Level					
	T0	T1	T2	T3	T4F	T4I
Rough Terrain Forklifts	3.95%	9.32%	15.89%	8.11%	**41.94%**	**20.80%**
Rubber Tired Dozers	41.04%	10.02%	9.44%	19.65%	**15.22%**	**4.62%**
Rubber Tired Loaders	16.74%	12.71%	13.56%	14.94%	**29.29%**	**12.76%**
Scrapers	28.91%	10.98%	15.47%	30.41%	**10.15%**	**4.04%**
Skid Steer Loaders	3.70%	10.02%	15.81%	3.20%	**54.69%**	**12.58%**
Spray Truck	5.56%	4.17%	19.44%	2.78%	**34.72%**	**26.39%**
Spreader Tractor Trailer	0.00%	14.29%	28.57%	0.00%	**42.86%**	**14.29%**
Spreader Truck	4.17%	0.00%	4.17%	37.50%	**16.67%**	**25.00%**
Surfacing Equipment	15.38%	14.25%	10.18%	23.08%	**19.23%**	**17.65%**
Sweepers/Scrubbers	11.02%	20.84%	16.57%	6.61%	**25.75%**	**19.06%**
Tank Truck	4.05%	6.76%	8.11%	27.03%	**37.84%**	**16.22%**
Tanker Truck Trailer	0.00%	18.18%	0.00%	0.00%	**63.64%**	**18.18%**
Telescopic Handler	1.33%	0.00%	2.67%	0.00%	**80.00%**	**16.00%**
Tow Tractor	0.00%	100.00%	0.00%	0.00%	**0.00%**	**0.00%**
Tractors/Loaders/Backhoes	13.53%	16.50%	18.73%	8.96%	**29.23%**	**13.05%**
Trenchers	21.86%	19.57%	20.87%	3.28%	**21.86%**	**12.57%**
Vacuum Truck	2.21%	18.38%	15.44%	25.00%	**13.24%**	**14.71%**
Water Truck	21.79%	8.21%	16.43%	16.07%	**23.57%**	**13.57%**
Workover Rig (Mobile)	5.99%	15.14%	9.78%	17.35%	**7.10%**	**13.56%**
Yard Goat	4.40%	4.58%	9.41%	18.31%	**41.71%**	**21.33%**

I-26 Cont.

It is clear from the CARB data that access to Tier 4 interim certified equipment necessary for the construction phase are in short supply in the State. In particular, Tier 4 interim rubber dozers, scrapers, and cranes make up a small portion of the registered fleet in California. If the Proponent cannot acquire the necessary equipment during construction or delay the construction until the equipment is available, project construction could be substantially delayed while the Proponent searches for Tier equipment to comply with mitigation requirement. The Town must address the availability concerns for certified equipment and the impacts that will have on the surrounding environment in a revised EIR for the Project.

3. The DEIR Fails To Assess All Of The Projects Within The Immediate Vicinity Of The Project Site.

The DEIR indicates that there are 7 proposed projects within the vicinity of the proposed project (accounting for approximately 11.12 million square feet of development). The projects include the Apple Valley 143 Covington Development (2.6 million square feet of industrial warehousing), the Redwood Industrial – The Development (1.2 million square foot warehouse distribution center), the Loves Travel Center (travel center and RV park), the Inland Empire Logistics Center (3.9 million square foot logistics center), the Quary Pawnee Complex (1.46 million square foot industrial development), the Cordova Complex (1.56 million square foot industrial development), and the Green Trucking Solutions Cold Storage project (400,000 square foot cold-storage facility). Figure 3-9 of the DEIR (below) shows the location of the Loves Travel Center and the Apple Valley 143 Industrial Warehouse Project.



Figure 6: Cumulative Projects Listed In DEIR

The figure below indicates the location of all the existing and proposed projects that should have been included in Figure 3-9.

I-27

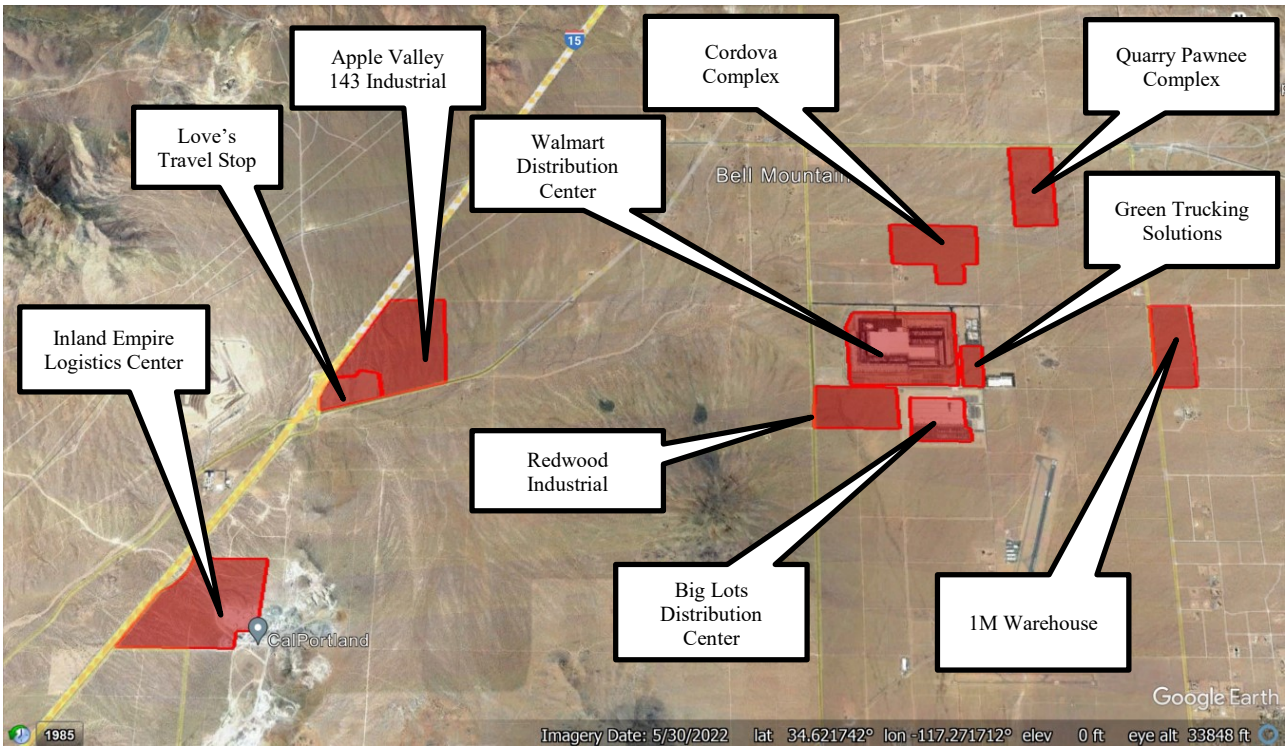


Figure 7: Cumulative Projects Planned Or Existing Near Project Site

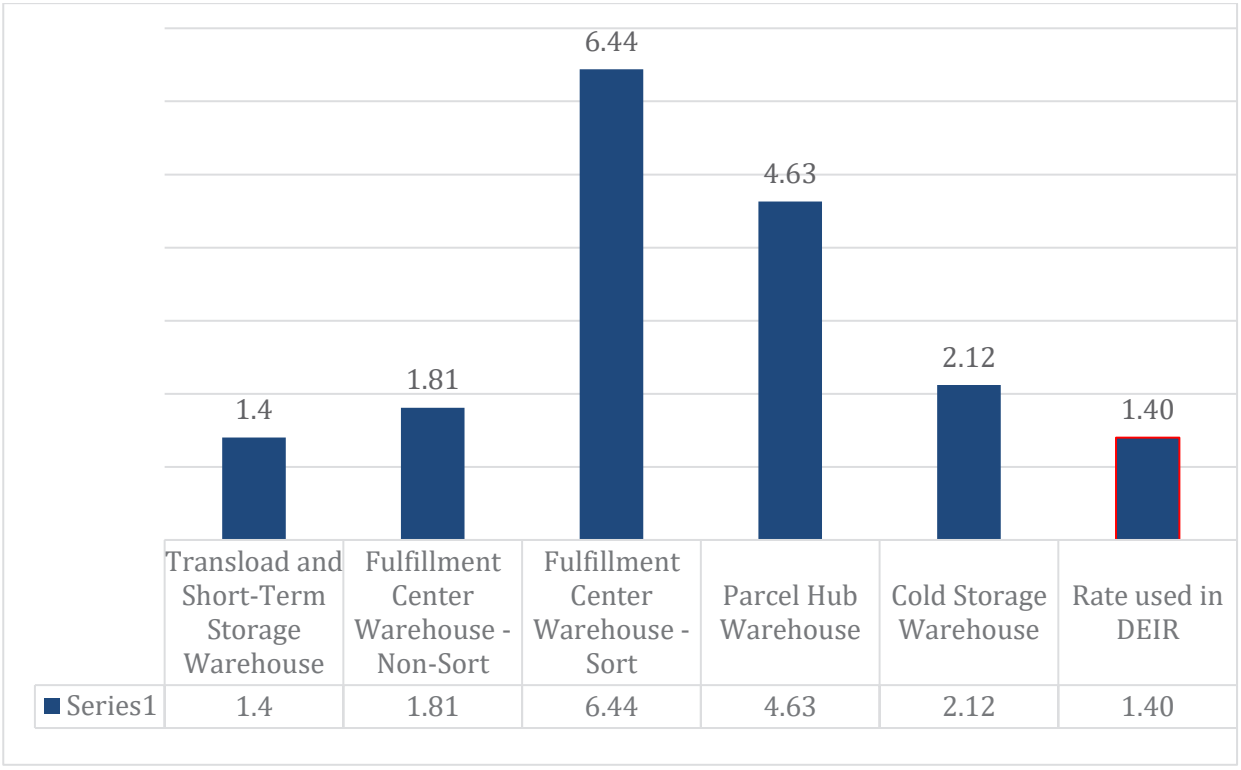
I-27 Cont.

Unaccounted for in the DEIR are the existing impacts from the Walmart Distribution Center and the Big Lots Distribution Center. According to the DEIR,[7] the Big Lots Warehouse encompasses approximately 1,360,875 square feet and the Walmart Distribution Center encompasses approximately 1,080,000 square feet.

The ITE manual includes a variety of average daily vehicle trips for high cube warehouses (HCWs) which range from a low of 1.4 per 1,000 square feet for transload and short-term storage warehouses to a high of 6.44 trips per square feet for fulfillment center warehouses.[8] An averaged value of all the warehouse HCW types reported in the ITE manual would be 3.28 trips per 1,000 square feet.

[7] Dudek. 2023. Environmental Impact Report 1M Warehouse Project, State Clearinghouse 2023020285. Prepared for Town of Apple Valley. Prepared by Dudek. Pg 4.13-14.

[8] Institute of Transportation Engineers (2020).



I-27 Cont.

Figure 8: Trip rates per 1,000 square feet as reported in ITE manual

Using the ITE manual rates above, the Walmart DC and Big Lots Warehouses (totaling 2,440,714 square feet of buildings) have between 3,417 to 15,718 trips daily. The traffic estimates and resulting air quality impacts (DPM emissions, ROG emissions, etc..) are unaccounted for in the DEIR. In addition, the level of service for all of the feeder routes to the project site will need to be upgraded to support the additional traffic burden. The DEIR is clearly failing to provide a clear representation of the projects in the area and should be revised in a new DEIR.

Conclusion

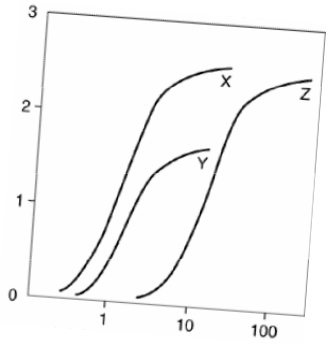
The facts identified and referenced in this comment letter lead me to reasonably conclude that the Project could result in significant impacts if allowed to proceed. A revised environmental impact report should be prepared to address these substantial concerns. I-28

Sincerely,



Exhibit A:

Curriculum Vitae



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James J. J. Clark, Ph.D.

Principal Toxicologist

Toxicology/Exposure Assessment Modeling

Risk Assessment/Analysis/Dispersion Modeling

Education:

Ph.D., Environmental Health Science, University of California, 1995

M.S., Environmental Health Science, University of California, 1993

B.S., Biophysical and Biochemical Sciences, University of Houston, 1987

Professional Experience:

Dr. Clark is a well recognized toxicologist, air modeler, and health scientist. He has 20 years of experience in researching the effects of environmental contaminants on human health including environmental fate and transport modeling (SCREEN3, AEROMOD, ISCST3, Johnson-Ettinger Vapor Intrusion Modeling); exposure assessment modeling (partitioning of contaminants in the environment as well as PBPK modeling); conducting and managing human health risk assessments for regulatory compliance and risk-based clean-up levels; and toxicological and medical literature research.

Significant projects performed by Dr. Clark include the following:

LITIGATION SUPPORT

Case: James Harold Caygle, et al, v. Drummond Company, Inc. Circuit Court for the Tenth Judicial Circuit, Jefferson County, Alabama. Civil Action. CV-2009

Client: Environmental Litgation Group, Birmingham, Alabama

Dr. Clark performed an air quality assessment of emissions from a coke factory located in Tarrant, Alabama. The assessment reviewed include a comprehensive review of air quality standards, measured concentrations of pollutants from factory, an inspection of the facility and detailed assessment of the impacts on the community. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Rose Roper V. Nissan North America, et al. Superior Court of the State Of California for the County Of Los Angeles – Central Civil West. Civil Action. NC041739

Client: Rose, Klein, Marias, LLP, Long Beach, California

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to multiple chemicals, including benzene, who later developed a respiratory distress. A review of the individual's medical and occupational history was performed to prepare an exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to respiratory irritants. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: O'Neil V. Sherwin Williams, et al. United States District Court Central District of California

Client: Rose, Klein, Marias, LLP, Long Beach, California

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to petroleum distillates who later developed a bladder cancer. A review of the individual's medical and occupational history was performed to prepare a quantitative exposure assessment. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Summary judgment for defendants.

Case: Moore V., Shell Oil Company, et al. Superior Court of the State Of California for the County Of Los Angeles

Client: Rose, Klein, Marias, LLP, Long Beach, California

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to chemicals while benzene who later developed a leukogenic disease. A review of the individual's medical and occupational history was performed to prepare a quantitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to refined petroleum hydrocarbons. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Raymond Saltonstall V. Fuller O'Brien, KILZ, and Zinsser, et al. United States District Court Central District of California

Client: Rose, Klein, Marias, LLP, Long Beach, California

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to benzene who later developed a leukogenic disease. A review of the individual's medical and occupational history was performed to prepare a quantitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to refined petroleum hydrocarbons. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Richard Boyer and Elizabeth Boyer, husband and wife, V. DESCO Corporation, et al. Circuit Court of Brooke County, West Virginia. Civil Action Number 04-C-7G.

Client: Frankovitch, Anetakis, Colantonio & Simon, Morgantown, West Virginia.

Dr. Clark performed a toxicological assessment of a family exposed to chlorinated solvents released from the defendant's facility into local drinking water supplies. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to chlorinated solvents. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: JoAnne R. Cook, V. DESCO Corporation, et al. Circuit Court of Brooke County, West Virginia. Civil Action Number 04-C-9R

Client: Frankovitch, Anetakis, Colantonio & Simon, Morgantown, West Virginia.

Dr. Clark performed a toxicological assessment of an individual exposed to chlorinated solvents released from the defendant's facility into local drinking water supplies. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to chlorinated solvents. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Patrick Allen And Susan Allen, husband and wife, and Andrew Allen, a minor, V. DESCO Corporation, et al. Circuit Court of Brooke County, West Virginia. Civil Action Number 04-C-W

Client: Frankovitch, Anetakis, Colantonio & Simon, Morgantown, West Virginia.

Dr. Clark performed a toxicological assessment of a family exposed to chlorinated solvents released from the defendant's facility into local drinking water supplies. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to chlorinated solvents. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Michael Fahey, Susan Fahey V. Atlantic Richfield Company, et al. United States District Court Central District of California Civil Action Number CV-06 7109 JCL.

Client: Rose, Klein, Marias, LLP, Long Beach, California

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to refined petroleum hydrocarbons who later developed a leukogenic disease. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to refined petroleum hydrocarbons. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Constance Acevedo, et al., V. California Spray-Chemical Company, et al., Superior Court of the State Of California, County Of Santa Cruz. Case No. CV 146344

Dr. Clark performed a comprehensive exposure assessment of community members exposed to toxic metals from a former lead arsenate manufacturing facility. The former manufacturing site had undergone a DTSC mandated removal action/remediation for the presence of the toxic metals at the site. Opinions were presented regarding the elevated levels of arsenic and lead (in attic dust and soils) found throughout the community and the potential for harm to the plaintiffs in question.

Case Result: Settlement in favor of defendant.

Case: Michael Nawrocki V. The Coastal Corporation, Kurk Fuel Company, Pautler Oil Service, State of New York Supreme Court, County of Erie, Index Number I2001-11247

Client: Richard G. Berger Attorney At Law, Buffalo, New York

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to refined petroleum hydrocarbons who later developed a leukogenic disease. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the

known outcomes in published literature to exposure to refined petroleum hydrocarbons. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Judgement in favor of defendant.

SELECTED AIR MODELING RESEARCH/PROJECTS

Client – Confidential

Dr. Clark performed a comprehensive evaluation of criteria pollutants, air toxins, and particulate matter emissions from a carbon black production facility to determine the impacts on the surrounding communities. The results of the dispersion model will be used to estimate acute and chronic exposure concentrations to multiple contaminants and will be incorporated into a comprehensive risk evaluation.

Client – Confidential

Dr. Clark performed a comprehensive evaluation of air toxins and particulate matter emissions from a railroad tie manufacturing facility to determine the impacts on the surrounding communities. The results of the dispersion model have been used to estimate acute and chronic exposure concentrations to multiple contaminants and have been incorporated into a comprehensive risk evaluation.

Client – Los Angeles Alliance for a New Economy (LAANE), Los Angeles, California

Dr. Clark is advising the LAANE on air quality issues related to current flight operations at the Los Angeles International Airport (LAX) operated by the Los Angeles World Airport (LAWA) Authority. He is working with the LAANE and LAX staff to develop a comprehensive strategy for meeting local community concerns over emissions from flight operations and to engage federal agencies on the issue of local impacts of community airports.

Client – City of Santa Monica, Santa Monica, California

Dr. Clark is advising the City of Santa Monica on air quality issues related to current flight operations at the facility. He is working with the City staff to develop a comprehensive strategy for meeting local community concerns over emissions from flight operations and to engage federal agencies on the issue of local impacts of community airports.

Client: Omnitrans, San Bernardino, California

Dr. Clark managed a public health survey of three communities near transit fueling facilities in San Bernardino and Montclair California in compliance with California Senate Bill 1927. The survey included an epidemiological survey of the effected communities, emission surveys of local businesses, dispersion modeling to determine potential emission concentrations within the communities, and a comprehensive risk assessment of each community. The results of the study were presented to the Governor as mandated by Senate Bill 1927.

Client: Confidential, San Francisco, California

Summarized cancer types associated with exposure to metals and smoking. Researched the specific types of cancers associated with exposure to metals and smoking. Provided causation analysis of the association between cancer types and exposure for use by non-public health professionals.

Client: Confidential, Minneapolis, Minnesota

Prepared human health risk assessment of workers exposed to VOCs from neighboring petroleum storage/transport facility. Reviewed the systems in place for distribution of petroleum hydrocarbons to identify chemicals of concern (COCs), prepared comprehensive toxicological summaries of COCs, and quantified potential risks from carcinogens and non-carcinogens to receptors at or adjacent to site. This evaluation was used in the support of litigation.

Client – United Kingdom Environmental Agency

Dr. Clark is part of team that performed comprehensive evaluation of soil vapor intrusion of VOCs from former landfill adjacent residences for the United Kingdom's Environment

Agency. The evaluation included collection of liquid and soil vapor samples at site, modeling of vapor migration using the Johnson Ettinger Vapor Intrusion model, and calculation of site-specific health based vapor thresholds for chlorinated solvents, aromatic hydrocarbons, and semi-volatile organic compounds. The evaluation also included a detailed evaluation of the use, chemical characteristics, fate and transport, and toxicology of chemicals of concern (COC). The results of the evaluation have been used as a briefing tool for public health professionals.

EMERGING/PERSISTENT CONTAMINANT RESEARCH/PROJECTS

Client: Ameren Services, St. Louis, Missouri

Managed the preparation of a comprehensive human health risk assessment of workers and residents at or near an NPL site in Missouri. The former operations at the Property included the servicing and repair of electrical transformers, which resulted in soils and groundwater beneath the Property and adjacent land becoming impacted with PCB and chlorinated solvent compounds. The results were submitted to U.S. EPA for evaluation and will be used in the final ROD.

Client: City of Santa Clarita, Santa Clarita, California

Dr. Clark is managing the oversight of the characterization, remediation and development activities of a former 1,000 acre munitions manufacturing facility for the City of Santa Clarita. The site is impacted with a number of contaminants including perchlorate, unexploded ordinance, and volatile organic compounds (VOCs). The site is currently under a number of regulatory consent orders, including an Immanent and Substantial Endangerment Order. Dr. Clark is assisting the impacted municipality with the development of remediation strategies, interaction with the responsible parties and stakeholders, as well as interfacing with the regulatory agency responsible for oversight of the site cleanup.

Client: Confidential, Los Angeles, California

Prepared comprehensive evaluation of perchlorate in environment. Dr. Clark evaluated the production, use, chemical characteristics, fate and transport, toxicology, and remediation of perchlorate. Perchlorates form the basis of solid rocket fuels and have recently been detected in water supplies in the United States. The results of this research

were presented to the USEPA, National GroundWater, and ultimately published in a recent book entitled *Perchlorate in the Environment*.

Client – Confidential, Los Angeles, California

Dr. Clark is performing a comprehensive review of the potential for pharmaceuticals and their by-products to impact groundwater and surface water supplies. This evaluation will include a review if available data on the history of pharmaceutical production in the United States; the chemical characteristics of various pharmaceuticals; environmental fate and transport; uptake by xenobiotics; the potential effects of pharmaceuticals on water treatment systems; and the potential threat to public health. The results of the evaluation may be used as a briefing tool for non-public health professionals.

PUBLIC HEALTH/TOXICOLOGY

Client: Brayton Purcell, Novato, California

Dr. Clark performed a toxicological assessment of residents exposed to methyl-tertiary butyl ether (MTBE) from leaking underground storage tanks (LUSTs) adjacent to the subject property. The symptomology of residents and guests of the subject property were evaluated against the known outcomes in published literature to exposure to MTBE. The study found that residents had been exposed to MTBE in their drinking water; that concentrations of MTBE detected at the site were above regulatory guidelines; and, that the symptoms and outcomes expressed by residents and guests were consistent with symptoms and outcomes documented in published literature.

Client: Confidential, San Francisco, California

Identified and analyzed fifty years of epidemiological literature on workplace exposures to heavy metals. This research resulted in a summary of the types of cancer and non-cancer diseases associated with occupational exposure to chromium as well as the mortality and morbidity rates.

Client: Confidential, San Francisco, California

Summarized major public health research in United States. Identified major public health research efforts within United States over last twenty years. Results were used as a briefing tool for non-public health professionals.

Client: Confidential, San Francisco, California

Quantified the potential multi-pathway dose received by humans from a pesticide applied indoors. Part of team that developed exposure model and evaluated exposure concentrations in a comprehensive report on the plausible range of doses received by a specific person. This evaluation was used in the support of litigation.

Client: Covanta Energy, Westwood, California

Evaluated health risk from metals in biosolids applied as soil amendment on agricultural lands. The biosolids were created at a forest waste cogeneration facility using 96% whole tree wood chips and 4 percent green waste. Mass loading calculations were used to estimate Cr(VI) concentrations in agricultural soils based on a maximum loading rate of 40 tons of biomass per acre of agricultural soil. The results of the study were used by the Regulatory agency to determine that the application of biosolids did not constitute a health risk to workers applying the biosolids or to residences near the agricultural lands.

Client – United Kingdom Environmental Agency

Oversaw a comprehensive toxicological evaluation of methyl-*tertiary* butyl ether (M*t*BE) for the United Kingdom's Environment Agency. The evaluation included available data on the production, use, chemical characteristics, fate and transport, toxicology, and remediation of M*t*BE. The results of the evaluation have been used as a briefing tool for public health professionals.

Client – Confidential, Los Angeles, California

Prepared comprehensive evaluation of *tertiary* butyl alcohol (TBA) in municipal drinking water system. TBA is the primary breakdown product of M*t*BE, and is suspected to be the primary cause of M*t*BE toxicity. This evaluation will include available information on the production, use, chemical characteristics, fate and transport in the environment, absorption, distribution, routes of detoxification, metabolites, carcinogenic potential, and remediation of TBA. The results of the evaluation were used as a briefing tool for non-public health professionals.

Client – Confidential, Los Angeles, California

Prepared comprehensive evaluation of methyl *tertiary* butyl ether (MTBE) in municipal drinking water system. MTBE is a chemical added to gasoline to increase the octane

rating and to meet Federally mandated emission criteria. The evaluation included available data on the production, use, chemical characteristics, fate and transport, toxicology, and remediation of MTBE. The results of the evaluation have been were used as a briefing tool for non-public health professionals.

Client – Ministry of Environment, Lands & Parks, British Columbia

Dr. Clark assisted in the development of water quality guidelines for methyl tertiary-butyl ether (MTBE) to protect water uses in British Columbia (BC). The water uses to be considered includes freshwater and marine life, wildlife, industrial, and agricultural (e.g., irrigation and livestock watering) water uses. Guidelines from other jurisdictions for the protection of drinking water, recreation and aesthetics were to be identified.

Client: Confidential, Los Angeles, California

Prepared physiologically based pharmacokinetic (PBPK) assessment of lead risk of receptors at middle school built over former industrial facility. This evaluation is being used to determine cleanup goals and will be basis for regulatory closure of site.

Client: Kaiser Venture Incorporated, Fontana, California

Prepared PBPK assessment of lead risk of receptors at a 1,100-acre former steel mill. This evaluation was used as the basis for granting closure of the site by lead regulatory agency.

RISK ASSESSMENTS/REMEDIAL INVESTIGATIONS

Client: Confidential, Atlanta, Georgia

Researched potential exposure and health risks to community members potentially exposed to creosote, polycyclic aromatic hydrocarbons, pentachlorophenol, and dioxin compounds used at a former wood treatment facility. Prepared a comprehensive toxicological summary of the chemicals of concern, including the chemical characteristics, absorption, distribution, and carcinogenic potential. Prepared risk characterization of the carcinogenic and non-carcinogenic chemicals based on the exposure assessment to quantify the potential risk to members of the surrounding community. This evaluation was used to help settle class-action tort.

Client: Confidential, Escondido, California

Prepared comprehensive Preliminary Endangerment Assessment (PEA) of dense non-aqueous liquid phase hydrocarbon (chlorinated solvents) contamination at a former printed circuit board manufacturing facility. This evaluation was used for litigation support and may be used as the basis for reaching closure of the site with the lead regulatory agency.

Client: Confidential, San Francisco, California

Summarized epidemiological evidence for connective tissue and autoimmune diseases for product liability litigation. Identified epidemiological research efforts on the health effects of medical prostheses. This research was used in a meta-analysis of the health effects and as a briefing tool for non-public health professionals.

Client: Confidential, Bogotá, Columbia

Prepared comprehensive evaluation of the potential health risks associated with the redevelopment of a 13.7 hectares plastic manufacturing facility in Bogotá, Colombia The risk assessment was used as the basis for the remedial goals and closure of the site.

Client: Confidential, Los Angeles, California

Prepared comprehensive human health risk assessment of students, staff, and residents potentially exposed to heavy metals (principally cadmium) and VOCs from soil and soil vapor at 12-acre former crude oilfield and municipal landfill. The site is currently used as a middle school housing approximately 3,000 children. The evaluation determined that the site was safe for the current and future uses and was used as the basis for regulatory closure of site.

Client: Confidential, Los Angeles, California

Managed remedial investigation (RI) of heavy metals and volatile organic chemicals (VOCs) for a 15-acre former manufacturing facility. The RI investigation of the site included over 800 different sampling locations and the collection of soil, soil gas, and groundwater samples. The site is currently used as a year round school housing approximately 3,000 children. The Remedial Investigation was performed in a manner

that did not interrupt school activities and met the time restrictions placed on the project by the overseeing regulatory agency. The RI Report identified the off-site source of metals that impacted groundwater beneath the site and the sources of VOCs in soil gas and groundwater. The RI included a numerical model of vapor intrusion into the buildings at the site from the vadose zone to determine exposure concentrations and an air dispersion model of VOCs from the proposed soil vapor treatment system. The Feasibility Study for the Site is currently being drafted and may be used as the basis for granting closure of the site by DTSC.

Client: Confidential, Los Angeles, California

Prepared comprehensive human health risk assessment of students, staff, and residents potentially exposed to heavy metals (principally lead), VOCs, SVOCs, and PCBs from soil, soil vapor, and groundwater at 15-acre former manufacturing facility. The site is currently used as a year round school housing approximately 3,000 children. The evaluation determined that the site was safe for the current and future uses and will be basis for regulatory closure of site.

Client: Confidential, Los Angeles, California

Prepared comprehensive evaluation of VOC vapor intrusion into classrooms of middle school that was former 15-acre industrial facility. Using the Johnson-Ettinger Vapor Intrusion model, the evaluation determined acceptable soil gas concentrations at the site that did not pose health threat to students, staff, and residents. This evaluation is being used to determine cleanup goals and will be basis for regulatory closure of site.

Client –Dominguez Energy, Carson, California

Prepared comprehensive evaluation of the potential health risks associated with the redevelopment of 6-acre portion of a 500-acre oil and natural gas production facility in Carson, California. The risk assessment was used as the basis for closure of the site.

Kaiser Ventures Incorporated, Fontana, California

Prepared health risk assessment of semi-volatile organic chemicals and metals for a fifty-year old wastewater treatment facility used at a 1,100-acre former steel mill. This evaluation was used as the basis for granting closure of the site by lead regulatory agency.

Prepared a comprehensive Preliminary Endangerment Assessment (PEA) of petroleum hydrocarbon and metal contamination of a former freight depot. This evaluation was as the basis for reaching closure of the site with lead regulatory agency.

Kaiser Ventures Incorporated, Fontana, California

Prepared comprehensive health risk assessment of semi-volatile organic chemicals and metals for 23-acre parcel of a 1,100-acre former steel mill. The health risk assessment was used to determine clean up goals and as the basis for granting closure of the site by lead regulatory agency. Air dispersion modeling using ISCST3 was performed to determine downwind exposure point concentrations at sensitive receptors within a 1 kilometer radius of the site. The results of the health risk assessment were presented at a public meeting sponsored by the Department of Toxic Substances Control (DTSC) in the community potentially affected by the site.

Unocal Corporation - Los Angeles, California

Prepared comprehensive assessment of petroleum hydrocarbons and metals for a former petroleum service station located next to sensitive population center (elementary school). The assessment used a probabilistic approach to estimate risks to the community and was used as the basis for granting closure of the site by lead regulatory agency.

Client: Confidential, Los Angeles, California

Managed oversight of remedial investigation most contaminated heavy metal site in California. Lead concentrations in soil excess of 68,000,000 parts per billion (ppb) have been measured at the site. This State Superfund Site was a former hard chrome plating operation that operated for approximately 40-years.

Client: Confidential, San Francisco, California

Coordinator of regional monitoring program to determine background concentrations of metals in air. Acted as liaison with SCAQMD and CARB to perform co-location sampling and comparison of accepted regulatory method with ASTM methodology.

Client: Confidential, San Francisco, California

Analyzed historical air monitoring data for South Coast Air Basin in Southern California and potential health risks related to ambient concentrations of carcinogenic metals and volatile organic compounds. Identified and reviewed the available literature and calculated risks from toxins in South Coast Air Basin.

IT Corporation, North Carolina

Prepared comprehensive evaluation of potential exposure of workers to air-borne VOCs at hazardous waste storage facility under SUPERFUND cleanup decree. Assessment used in developing health based clean-up levels.

Professional Associations

American Public Health Association (APHA)
Association for Environmental Health and Sciences (AEHS)
American Chemical Society (ACS)
California Redevelopment Association (CRA)
International Society of Environmental Forensics (ISEF)
Society of Environmental Toxicology and Chemistry (SETAC)

Publications and Presentations:

Books and Book Chapters

Sullivan, P., **J.J. J. Clark,** F.J. Agardy, and P.E. Rosenfeld. (2007). *Synthetic Toxins In The Food, Water and Air of American Cities*. Elsevier, Inc. Burlington, MA.

Sullivan, P. and **J.J. J. Clark**. 2006. *Choosing Safer Foods, A Guide To Minimizing Synthetic Chemicals In Your Diet*. Elsevier, Inc. Burlington, MA.

Sullivan, P., Agardy, F.J., and **J.J.J. Clark**. 2005. *The Environmental Science of Drinking Water*. Elsevier, Inc. Burlington, MA.

Sullivan, P.J., Agardy, F.J., **Clark, J.J.J.** 2002. *America's Threatened Drinking Water: Hazards and Solutions*. Trafford Publishing, Victoria B.C.

Clark, J.J.J. 2001. "TBA: Chemical Properties, Production & Use, Fate and Transport, Toxicology, Detection in Groundwater, and Regulatory Standards" in *Oxygenates in the Environment.* Art Diaz, Ed.. Oxford University Press: New York.

Clark, J.J.J. 2000. "Toxicology of Perchlorate" in *Perchlorate in the Environment.* Edward Urbansky, Ed. Kluwer/Plenum: New York.

Clark, J.J.J. 1995. Probabilistic Forecasting of Volatile Organic Compound Concentrations At The Soil Surface From Contaminated Groundwater. UMI.

Baker, J.; **Clark, J.J.J.**; Stanford, J.T. 1994. Ex Situ Remediation of Diesel Contaminated Railroad Sand by Soil Washing. Principles and Practices for Diesel Contaminated Soils, Volume III. P.T. Kostecki, E.J. Calabrese, and C.P.L. Barkan, eds. Amherst Scientific Publishers, Amherst, MA. pp 89-96.

Journal and Proceeding Articles

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008) A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equialency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. Organohalogen Compounds, Volume 70 (2008) page 002254.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008) Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. Organohalogen Compounds, Volume 70 (2008) page 000527

Hensley A.R., Scott, A., Rosenfeld P.E., **Clark, J.J.J.** (2007). "Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility." *Environmental Research.* 105:194-199.

Rosenfeld, P.E., **Clark, J. J.,** Hensley, A.R., and Suffet, I.H. 2007. "The Use Of An Odor Wheel Classification For The Evaluation of Human Health Risk Criteria For Compost Facilities" Water Science & Technology. 55(5): 345-357.

Hensley A.R., Scott, A., Rosenfeld P.E., **Clark, J.J.J.** 2006. "Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility." The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006, August 21 – 25, 2006. Radisson SAS Scandinavia Hotel in Oslo Norway.

Rosenfeld, P.E., **Clark, J. J.** and Suffet, I.H. 2005. "The Value Of An Odor Quality Classification Scheme For Compost Facility Evaluations" The U.S. Composting Council's 13th Annual Conference January 23 - 26, 2005, Crowne Plaza Riverwalk, San Antonio, TX.

Rosenfeld, P.E., **Clark, J. J.** and Suffet, I.H. 2004. "The Value Of An Odor Quality Classification Scheme For Urban Odor" WEFTEC 2004. 77th Annual Technical Exhibition & Conference October 2 - 6, 2004, Ernest N. Morial Convention Center, New Orleans, Louisiana.

Clark, J.J.J. 2003. "Manufacturing, Use, Regulation, and Occurrence of a Known Endocrine Disrupting Chemical (EDC), 2,4-Dichlorophnoxyacetic Acid (2,4-D) in California Drinking Water Supplies." National Groundwater Association Southwest Focus Conference: Water Supply and Emerging Contaminants. Minneapolis, MN. March 20, 2003.

Rosenfeld, P. and **J.J.J. Clark**. 2003. "Understanding Historical Use, Chemical Properties, Toxicity, and Regulatory Guidance" National Groundwater Association Southwest Focus Conference: Water Supply and Emerging Contaminants. Phoenix, AZ. February 21, 2003.

Clark, J.J.J., Brown A. 1999. Perchlorate Contamination: Fate in the Environment and Treatment Options. In Situ and On-Site Bioremediation, Fifth International Symposium. San Diego, CA, April, 1999.

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Browne, T., **Clark, J.J.J.** 1998. Treatment Options For Perchlorate In Drinking Water. Proceedings From the Groundwater Resource Association Seventh Annual Meeting, Walnut Creek, CA, October 23, 1998.

Clark, J.J.J., Brown, A., Rodriguez, R. 1998. The Public Health Implications of MtBE and Perchlorate in Water: Risk Management Decisions for Water Purveyors. Proceedings of the National Ground Water Association, Anaheim, CA, June 3-4, 1998.

Clark J.J.J., Brown, A., Ulrey, A. 1997. Impacts of Perchlorate On Drinking Water In The Western United States. U.S. EPA Symposium on Biological and Chemical Reduction of Chlorate and Perchlorate, Cincinnati, OH, December 5, 1997.

Clark, J.J.J.; Corbett, G.E.; Kerger, B.D.; Finley, B.L.; Paustenbach, D.J. 1996. Dermal Uptake of Hexavalent Chromium In Human Volunteers: Measures of Systemic Uptake From Immersion in Water At 22 PPM. Toxicologist. 30(1):14.

Dodge, D.G.; **Clark, J.J.J.**; Kerger, B.D.; Richter, R.O.; Finley, B.L.; Paustenbach, D.J. 1996. Assessment of Airborne Hexavalent Chromium In The Home Following Use of Contaminated Tapwater. Toxicologist. 30(1):117-118.

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Ozone Exposures in Residents of Los Angeles County. American Review of Respiratory Disease. 141(4):A70.

Tierney, D.F. and **J.J.J. Clark.** (1990). Lung Polyamine Content Can Be Increased By Spermidine Infusions Into Hyperoxic Rats. American Review of Respiratory Disease. 139(4):A41.

EXHIBIT B

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Norman Marshall, President
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October 27, 2023

Kevin T. Carmichael
Adams Broadwell Joseph & Cardozo
520 Capitol Mall, Suite 350
Sacramento, CA 95814

Subject: 1M Warehouse Project

Dear Mr. Carmichael,

I have reviewed vehicle miles traveled (VMT), trip generation, and greenhouse gas (GHG) impacts of the proposed 1M Warehouse Project in Apple Valley Draft Environmental Impact Report ("DEIR"). I make the following findings:

1) The DEIR demonstrates that the project will not generate excessive VMT. The County's VMT Screening Tool calculates VMT that is about two times the Town's threshold, and that modeling shows the threshold exceeded by 80%.

2) It is highly unlikely that the project's VMT impacts can be reduced below the Town's thresholds, but it is nevertheless essential that the TDM plan be strengthened with a trip reduction target, monitoring, and enforcement.

3) Project trip generation could be higher than assumed. Given the large uncertainty in the project's trip generation, the applicant should take one of two paths -either a) applying a significantly higher and more conservative trip generation rate, or b) requesting as a condition of approval that trip generation will not exceed the number assumed in the EIR, and this be certified prior to beginning construction.

4) Any trip generation underestimation translates into underestimated GHG and other emissions. In addition, truck trip lengths are critical to estimating emissions and cannot be accurately established at this time. The 40-mile average truck trip length assumed in the DEIR excludes most important truck origins and destinations, including major freight transfer points, food producing areas, food-processing facilities, and population centers. A higher and more conservative value should be used.

The DEIR Demonstrates that the Project Will Generate Excessive VMT

The DEIR demonstrates that the proposed project is in a highly VMT-inefficient location. As shown in DEIR Table 4.12-2 (p. 4.12-13) reproduced below, the County's Screening Tool shows the project Transportation Analysis Zone ("TAZ") as more than double the County average.

Table 4.12-2. Summary of Project Traffic Analysis Zone Vehicle Miles Traveled

Base Year (2022)	VMT
VMT Per Service Population	
Project TAZ	67.6
Jurisdiction	33.3
% Difference (Project TAZ – Jurisdiction)	+102.87%
Threshold	33.3

Source: SBCTA VMT Screening Tool (Appendix J).
Notes: VMT = vehicle miles traveled; TAZ = traffic analysis zone.

After failing the screening by a wide margin, additional modeling was done in the DEIR. This modeling demonstrates that the project would have a significant VMT impact.

The Town's VMT guidelines state:

> A project would result in a significant project-generated VMT impact if either of the following conditions are satisfied:
>
> 1. The baseline project-generated VMT per service population exceeds the Town of Apple Valley General Plan Buildout VMT per service population, or
> 2. The cumulative project-generated VMT per service population exceeds Town of Apple Valley General Plan Buildout VMT per service population
>
> The project's effect on VMT would be considered significant if it resulted in either of the following conditions to be satisfied:
>
> 3. The baseline link-level boundary Town-wide VMT per service population increases under the plus project condition compared to the no project condition, or
> 4. The cumulative link-level boundary Town-wide VMT per service population increases un[1]der the plus project condition compared to the no project condition.

DEIR Table 4.12-3 (p. 4-12-14) reproduced below demonstrates that the project fails condition #1 by 20.8% and condition #2 by 80.4%. The text states that if either condition is met that **the "project would result in a significant project-generated VMT impact."**

[1] Apple Valley Town Council May 11, 2021 Agenda package, p. 100 of 156. https://pub-applevalley.escribemeetings.com/FileStream.ashx?DocumentId=310

Table 4.12-3. Project-Generated Vehicle Miles Traveled

Scenario	Baseline	Cumulative
Service Population	904	904
Total OD VMT	36,250	54,180
OD VMT per Service Population	40.1	59.9
Town Threshold	33.2	33.2
Percent Above Threshold	20.8%	80.4%
Potential Significant?	**Yes**	**Yes**

Source: Appendix J.
Note: OD = origin destination; VMT = vehicle miles traveled.

The DEIR claims that the project the Project's "cumulative effect on VMT would be less than significant" (DEIR, p. 4-12-14) by satisfying conditions #3 and #4. This misrepresents the Town's guidelines which state that there is a significant impact if any of the four conditions (#1 - #4) are met. The guidelines state: "The evaluation of both the project-generated and project effect on VMT are considered to provide a comprehensive review of potential impacts on the environment." No part of the guidelines indicates that satisfying a portion a single element of comprehensive review is sufficient.

Furthermore, the boundary method (#3 and #4) is clearly inadequate as a sole SB 743 VMT metric as it only measures VMT within the Town of Apple Valley.

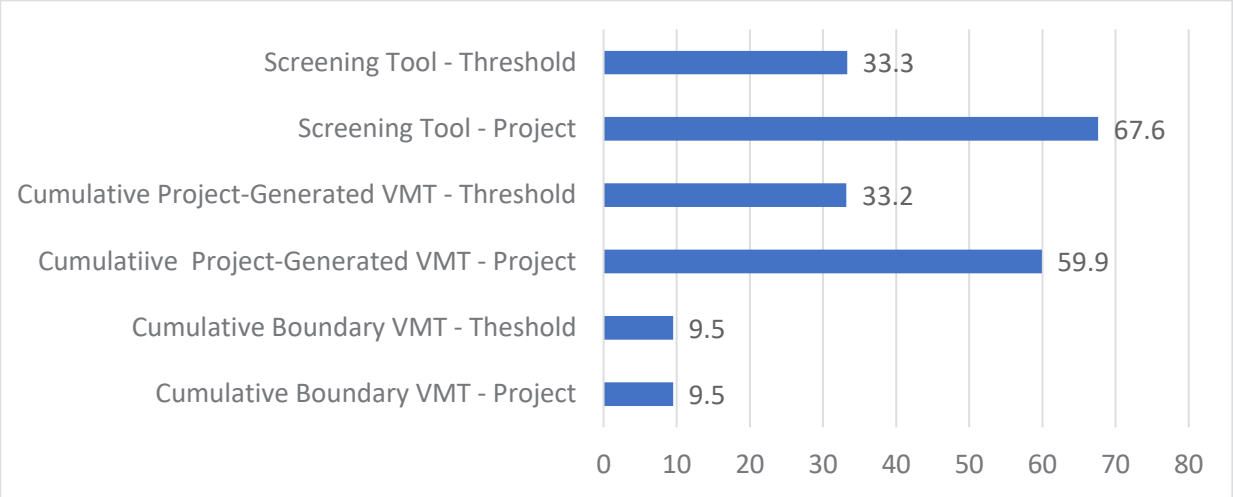
> The boundary method estimates VMT by multiplying vehicle trips on each roadway segment within the boundary by that segment's length. This approach consists of all trips, including those trips that do not begin or end in the designated boundary. Consistent with Town VMT Guidelines, the Town of Apple Valley was used as the boundary for this assessment. (DEIR, Appendix J, p. 431 of 502)

The boundary method is not standard in SB 743 analyses and fails to satisfy the intent of SB 743. The boundary method is not included in San Bernardino County's Transportation Impact Study Guidelines (July 9, 2019)[2] which outline how VMT analyses should be performed with the San Bernardino County Transportation Analysis Model ("SBTAM"), the model used in the DEIR. It has some limited value as an additional VMT check but does not replace the more important VMT criteria that the project fails to meet.

[2] https://www.sbcounty.gov/uploads/DPW/docs/Traffic-Study-Guidelines.pdf

As shown in Figure 1, the boundary method only counts a small proportion of project VMT – about 1/7 of total project VMT in the Screening Tool analysis and about 1/6 of total project VMT in the Cumulative Project-Generated VMT modeling. The reason that the boundary method VMT per service population doesn't change with the project is that it is mostly a measure of the geographical size of the Town, i.e., 9.5 VMT per service population is computed because both existing Apple Valley trips and project trips are truncated at the Town boundary with most of the VMT occurring outside the Town boundaries. SB 743 requires that the VMT outside the Town boundaries be included in the impact analysis.

Figure 1: Summary of VMT Information in DEIR



Additional VMT Mitigation is Required

The DEIR includes transportation demand management under Mitigation Measure MM-AQ-1:

> The Transportation Demand Management Plan shall apply to Project tenants through tenant leases. The TDM plan shall discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking. Examples of trip reduction measures may include, but are not limited to:
>
> - Transit passes
> - Car-sharing programs
> - Telecommuting and alternative work schedules
> - Ride sharing programs (DEIR, p. 1-8)

This DEIR language is generic and mostly not applicable to the proposed project because:

- All demand management is complicated by the 24/7 operation of the project - ". . .this EIR assumes that the facility could be operated 24 hours a day, 7 days a week." (DEIR, p. 3-14)
- Warehouse workers cannot "telecommute."
- Alternative work schedules tailored to individual employees are inconsistent with warehouse jobs.
- Carsharing as a means for regular commuting would be more expensive than ownership.
- There is no acceptable transit service to and from the project site. The DEIR identifies Victor Valley Transit Authority Route 42 as the closest bus route, but the closest stop is 1.4 miles from the project site and only operating with one-hour headways. Therefore "transit passes" are irrelevant to this project.
- Very few of the workers will live close enough for walking or biking to be a viable commute mode, even if there were better pedestrian and bike infrastructure in the project area.

The most realistic options for demand management at this site are ridesharing and vanpooling.

The California Air Pollution Control Officers Association (CAPCOA) provides on quantifying VMT mitigation measures in its publication *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity: Designed for Local Governments, Communities, and Project Developers (Final Draft, December 2021)*.

This Handbook states that up to an 8% VMT reduction is possible with ridesharing. (Handbook, p. 92) The Handbook states that up to 20.4% reduction is possible with vanpooling when the employer covers "… the capital costs of vehicle acquisition and the labor costs of drivers, either through incentives to current employees or the hiring of dedicated drivers." (Handbook, p. 104)

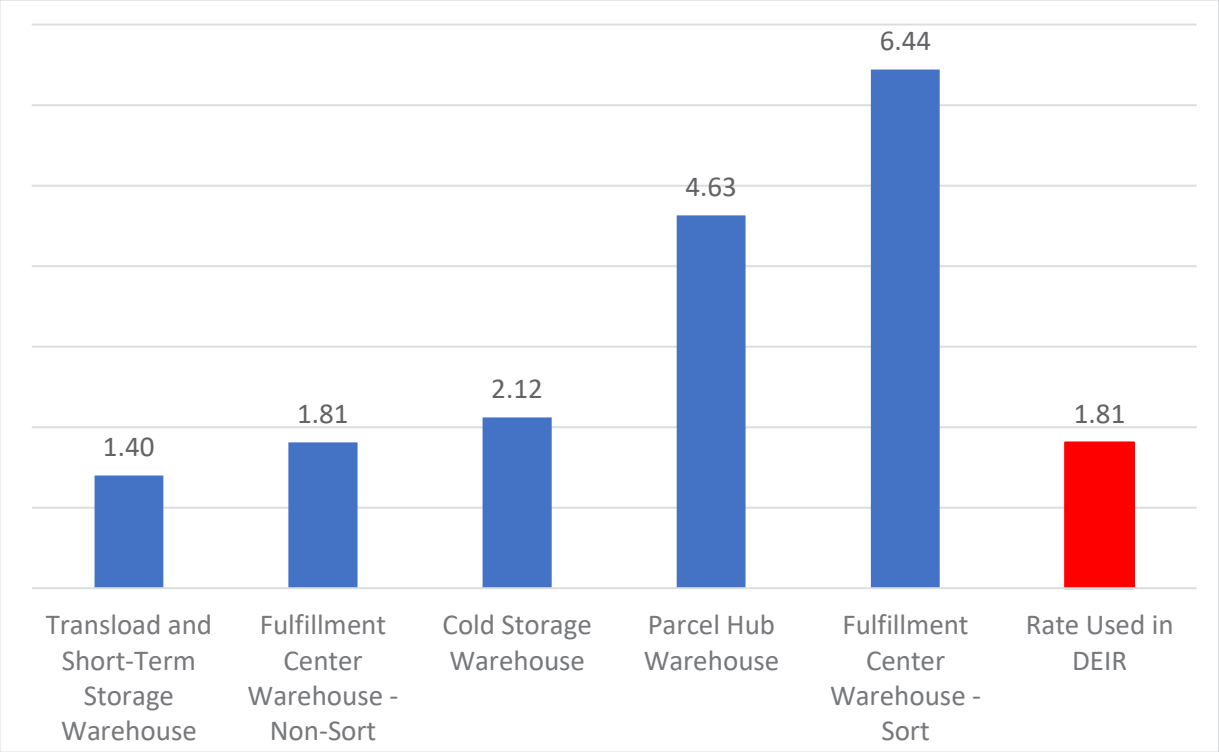
This DEIR language fails to commit the project to any level of mitigation. Even though it is highly unlikely that the project's VMT impacts can be reduced below the Town's thresholds, it is nevertheless essential that the TDM plan be strengthened with a trip reduction target, monitoring, and enforcement.

Trip Generation Could Be Higher than the DEIR Assumes

The project includes 1,080,125 square feet. (DEIR, Appendix J, p. 23) The tenants have not been identified, and the nature of the operations are unknown at this time. The DEIR states that this would produce 1,955 trips per day by applying the Institute of Transportation Engineers (ITE) *Trip Generation Handbook, 11th Edition* (2021) rate for "High Cube Fulfillment Center Warehouse (non-sort)" – 1.81 trips per 1000 square feet per day. (DEIR: Appendix J, p. 23)

The Institute of Transportation Engineers ("ITE") *Trip Generation* manual. *Trip Generation* includes different "high-cube warehouse" categories. As shown in Figure 2, the trip generation rate applied in the DEIR is much lower than rates for some other warehouse categories.

Figure 2: Trip Generation Rates for Different Warehouse Categories (Trips Per 1000 Square Feet per Day)



The Parcel Hub Warehouse trip generation rate is 2.6 times the rate used in the DEIR, which would add 3,046 trips per day over the rate assumed in the DEIR. The Fulfillment Center Warehouse with Sorting rate is 3.6 times the rate used in the DEIR, and would add 5,001 trips per day to the rate assumed in the DEIR.

Given the large uncertainty in the project's trip generation, the applicant should take one of two paths - either a) applying a significantly higher and more conservative trip generation rate, or b) requesting as a condition of approval that trip generation will not exceed the number assumed in the EIR, and this be certified prior to beginning construction.

GHG and Other Emissions are Likely Underestimated

Any trip generation underestimation will translate into underestimated GHG and other emissions.

In addition, trip length assumptions are critical in the GHG and other air emission estimates – particularly truck trip lengths. The DEIR estimates that 17.2% of all trips will be from heavy 4+-axle trips and another 10.3% of trips will be made by smaller commercial trucks. (DEIR, Appendix J, p. 23) These estimates are factored by trip distance to estimate GHG and other emissions using CalEEMod.

The DEIR states:

> For method 2, the truck trip lengths were based on the SCAQMD recommendation of 40 miles and assumed to be 100% of primary trips. (DEIR, p. 4.2-27)

The DEIR misstates that these truck trip distances are "recommended" by SCAQMD. The truck trip lengths are used in calculations of possible mitigation in *Second Draft Staff Report Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program. And Proposed Rule 316 -Fees for Rule 2305*.[3] The reference for these numbers is the 2016 SCAG travel demand model (p. 117) and there is no indication that these numbers are intended for any use beyond this single document. The 40-mile heavy truck trip length also appears in a 2014 slide presentation.[4] In neither case, are these numbers presented as general recommendations for warehouse EIRs.

The Attorney General's September 2022 guidance: *Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act*[5] states:

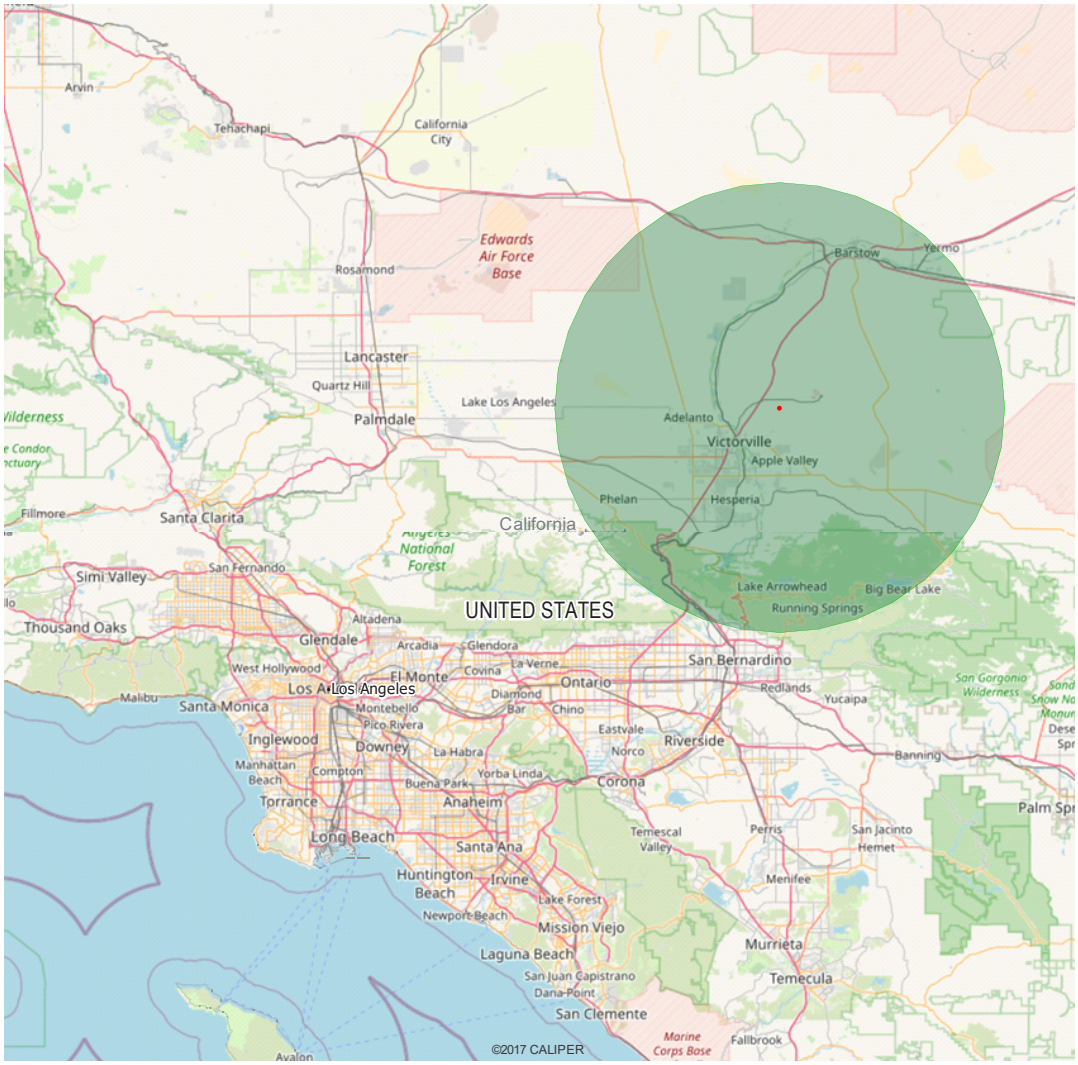
> CEQA requires full public disclosure of a project's anticipated truck trips, which entails calculating truck trip length based on likely truck trip destinations, rather than the distance from the facility to the edge of the air basin, local jurisdiction, or other truncated endpoint. All air pollution associated with the project must be considered, regardless of where those impacts occur. (p. 7)

While it is too early to determine truck trip origins and destinations, it is notable that important major freight origins and destinations are considerably further away than the trip lengths assumed in the DEIR. These include the Ports of Los Angeles and Long Beach that are about 110 miles away. It would be more conservative to assume longer average truck distances in the air quality and GHG analyses.

[3] www.aqmd.gov/docs/default-source/planning/fbmsm-docs/pr-2305_sr_2nd-draft_4-7-21_clean.pdf
[4] https://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/sclc_warehouse-presentation-final.pdf
[5] https://oag.ca.gov/system/files/media/warehouse-best-practices.pdf

Figure 3 shows the area that is within 40 miles of the proposed site, with distances measured "as the crow flies" rather than along roadways. The area that can be reached within 40 miles via roadways is significantly smaller.

Figure 3: 40-Mile Radius Around Project Site



This 40-mile area excludes most important truck origins and destinations, including major freight transfer points, food producing areas, food-processing facilities, and population centers.

Sincerely,

Norman L. Marshall

Norman L. Marshall

NORMAN L. MARSHALL, PRESIDENT

nmarshall@smartmobility.com

EDUCATION:

Master of Science in Engineering Sciences, Dartmouth College, Hanover, NH, 1982
Bachelor of Science in Mathematics, Worcester Polytechnic Institute, Worcester, MA, 1977

PROFESSIONAL EXPERIENCE: (33 Years, 19 at Smart Mobility, Inc.)

Norm Marshall helped found Smart Mobility, Inc. in 2001. Prior to this, he was at RSG for 14 years where he developed a national practice in travel demand modeling. He specializes in analyzing the relationships between the built environment and travel behavior and doing planning that coordinates multi-modal transportation with land use and community needs.

Regional Land Use/Transportation Scenario Planning

Portland Area Comprehensive Transportation System (PACTS) – the Portland Maine Metropolitan Planning Organization. Updating regional travel demand model with new data (including AirSage), adding a truck model, and multiclass assignment including differentiation between cash toll and transponder payments.

Loudoun County Virginia Dynamic Traffic Assignment – Enhanced subarea travel demand model to include Dynamic Traffic Assignment (Cube). Model being used to better understand impacts of roadway expansion on induced travel.

Vermont Agency of Transportation-Enhanced statewide travel demand model to evaluate travel impacts of closures and delays resulting from severe storm events. Model uses innovate Monte Carlo simulations process to account for combinations of failures.

California Air Resources Board – Led team including the University of California in $250k project that reviewed the ability of the new generation of regional activity-based models and land use models to accurately account for greenhouse gas emissions from alternative scenarios including more compact walkable land use and roadway pricing. This work included hands-on testing of the most complex travel demand models in use in the U.S. today.

Climate Plan (California statewide) – Assisted large coalition of groups in reviewing and participating in the target setting process required by Senate Bill 375 and administered by the California Air Resources Board to reduce future greenhouse gas emissions through land use measures and other regional initiatives.

Chittenden County (2060 Land use and Transportation Vision Burlington Vermont region) – led extensive public visioning project as part of MPO's long-range transportation plan update.

Flagstaff Metropolitan Planning Organization – Implemented walk, transit and bike models within regional travel demand model. The bike model includes skimming bike networks including on-road and off-road bicycle facilities with a bike level of service established for each segment.

Chicago Metropolis Plan and Chicago Metropolis Freight Plan (6-county region)— developed alternative transportation scenarios, made enhancements in the regional travel demand model, and used the enhanced model to evaluate alternative scenarios including development of alternative regional transit concepts.

Developed multi-class assignment model and used it to analyze freight alternatives including congestion pricing and other peak shifting strategies.

Municipal Planning

City of Grand Rapids – Michigan Street Corridor – developed peak period subarea model including non-motorized trips based on urban form. Model is being used to develop traffic volumes for several alternatives that are being additional analyzed using the City's Synchro model

City of Omaha - Modified regional travel demand model to properly account for non-motorized trips, transit trips and shorter auto trips that would result from more compact mixed-use development. Scenarios with different roadway, transit, and land use alternatives were modeled.

City of Dublin (Columbus region) – Modified regional travel demand model to properly account for non-motorized trips and shorter auto trips that would result from more compact mixed-use development. The model was applied in analyses for a new downtown to be constructed in the Bridge Street corridor on both sides of an historic village center.

City of Portland, Maine – Implemented model improvements that better account for non-motorized trips and interactions between land use and transportation and applied the enhanced model to two subarea studies.

City of Honolulu – Kaka'ako Transit Oriented Development (TOD) – applied regional travel demand model in estimating impacts of proposed TOD including estimating internal trip capture.

City of Burlington (Vermont) Transportation Plan – Led team that developing Transportation Plan focused on supporting increased population and employment without increases in traffic by focusing investments and policies on transit, walking, biking and Transportation Demand Management.

Transit Planning

Regional Transportation Authority (Chicago) and Chicago Metropolis 2020 – evaluated alternative 2020 and 2030 system-wide transit scenarios including deterioration and enhance/expand under alternative land use and energy pricing assumptions in support of initiatives for increased public funding.

Capital Metropolitan Transportation Authority (Austin, TX) Transit Vision – analyzed the regional effects of implementing the transit vision in concert with an aggressive transit-oriented development plan developed by Calthorpe Associates. Transit vision includes commuter rail and BRT.

Bus Rapid Transit for Northern Virginia HOT Lanes (Breakthrough Technologies, Inc and Environmental Defense.) – analyzed alternative Bus Rapid Transit (BRT) strategies for proposed privately-developing High Occupancy Toll lanes on I-95 and I-495 (Capital Beltway) including different service alternatives (point-to-point services, trunk lines intersecting connecting routes at in-line stations, and hybrid).

Roadway Corridor Planning

I-30 Little Rock Arkansas – Developed enhanced version of regional travel demand model that integrates TransCAD with open source Dynamic Traffic Assignment (DTA) software, and used to model I-30 alternatives. Freeway bottlenecks are modeled much more accurately than in the base TransCAD model.

South Evacuation Lifeline (SELL) – In work for the South Carolina Coastal Conservation League, used Dynamic Travel Assignment (DTA) to estimate evaluation times with different transportation alternatives in coastal South Caroline including a new proposed freeway.

Hudson River Crossing Study (Capital District Transportation Committee and NYSDOT) – Analyzing long term capacity needs for Hudson River bridges which a special focus on the I-90 Patroon Island Bridge where a microsimulation VISSIM model was developed and applied.

PUBLICATIONS AND PRESENTATIONS (partial list)

DTA Love: Co-leader of workshop on Dynamic Traffic Assignment at the June 2019 Transportation Research Board Planning Applications Conference.

Forecasting the Impossible: The Status Quo of Estimating Traffic Flows with Static Traffic Assignment and the Future of Dynamic Traffic Assignment. *Research in Transportation Business and Management* 2018.

Assessing Freeway Expansion Projects with Regional Dynamic Traffic Assignment. Presented at the August 2018 Transportation Research Board Tools of the Trade Conference on Transportation Planning for Small and Medium Sized Communities.

Vermont Statewide Resilience Modeling. With Joseph Segale, James Sullivan and Roy Schiff. Presented at the May 2017 Transportation Research Board Planning Applications Conference.

Assessing Freeway Expansion Projects with Regional Dynamic Traffic Assignment. Presented at the May 2017 Transportation Research Board Planning Applications Conference.

Pre-Destination Choice Walk Mode Choice Modeling. Presented at the May 2017 Transportation Research Board Planning Applications Conference.

A Statistical Model of Regional Traffic Congestion in the United States, presented at the 2016 Annual Meeting of the Transportation Research Board.

MEMBERSHIPS/AFFILIATIONS

Associate Member, Transportation Research Board (TRB)

Member and Co-Leader Project for Transportation Modeling Reform, Congress for the New Urbanism (CNU)

EXHIBIT C

WILSON IHRIG
ACOUSTICS, NOISE & VIBRATION

CALIFORNIA
WASHINGTON
NEW YORK

WI #23-002.31

October 27, 2023

Kevin T. Carmichael
Adams Broadwell Joseph & Cardozo
520 Capitol Mall, Suite 350
Sacramento, CA 95814

SUBJECT: Comments on 1M Warehouse Project Noise Analysis in Apple Valley, CA

Dear Mr. Carmichael,

Per your request, we have reviewed the subject matter document for the *1M Warehouse Project* in Apple Valley, California, based on the Environmental Impact Report (EIR) dated September 2023 and Appendix I: Noise Attachments from Dudek. The proposed project involves the construction and operation of a 1,080,125-square-foot industrial/warehouse building on a 67.3-acre undeveloped site located at the northeast corner of Central Road and Lafayette Street in the Town of Apple Valley, California. The Project is surrounded primarily by open land, with a limited number of noise sensitive residential buildings to east and south, with the closest being about 730 feet from the project.

Wilson Ihrig is an acoustical consulting firm that has practiced exclusively in the field of acoustics since 1966. During our almost 57 years of operation, we have prepared hundreds of noise studies for Environmental Impact Reports and Statements. We have one of the largest technical laboratories in the acoustical consulting industry. We also utilize industry-standard acoustical programs such as Roadway Construction Noise Model (RCNM), SoundPLAN, and CadnaA. In short, we are well qualified to prepare environmental noise studies and review studies prepared by others.

Adverse Effects of Noise[1]

Although the health effects of noise are not taken as seriously in the United States as they are in other countries, they are real and, in many parts of the country, pervasive.

Noise-Induced Hearing Loss. If a person is repeatedly exposed to loud noises, he or she may experience noise-induced hearing impairment or loss. In the United States, both the Occupational Health and Safety Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) promote standards and regulations to protect the hearing of people exposed to high levels of industrial noise.

Speech Interference. Another common problem associated with noise is speech interference. In addition to the obvious issues that may arise from misunderstandings, speech interference also leads

[1] More information on these and other adverse effects of noise may be found in *Guidelines for Community Noise*, eds B Berglund, T Lindvall, and D Schwela, World Health Organization, Geneva, Switzerland, 1999. (https://www.who.int/docstore/peh/noise/Comnoise-1.pdf)

to problems with concentration fatigue, irritation, decreased working capacity, and automatic stress reactions. For complete speech intelligibility, the sound level of the speech should be 15 to 18 dBA higher than the background noise. Typical indoor speech levels are 45 to 50 dBA at 1 meter, so any noise above 30 dBA begins to interfere with speech intelligibility. The common reaction to higher background noise levels is to raise one's voice. If this is required persistently for long periods of time, stress reactions and irritation will likely result.

Sleep Disturbance. Noise can disturb sleep by making it more difficult to fall asleep, by waking someone after they are asleep, or by altering their sleep stage, e.g., reducing the amount of rapid eye movement (REM) sleep. Noise exposure for people who are sleeping has also been linked to increased blood pressure, increased heart rate, increase in body movements, and other physiological effects. Not surprisingly, people whose sleep is disturbed by noise often experience secondary effects such as increased fatigue, depressed mood, and decreased work performance.

Cardiovascular and Physiological Effects. Human's bodily reactions to noise are rooted in the "fight or flight" response that evolved when many noises signaled imminent danger. These include increased blood pressure, elevated heart rate, and vasoconstriction. Prolonged exposure to acute noises can result in permanent effects such as hypertension and heart disease.

Impaired Cognitive Performance. Studies have established that noise exposure impairs people's abilities to perform complex tasks (tasks that require attention to detail or analytical processes) and it makes reading, paying attention, solving problems, and memorizing more difficult. This is why there are standards for classroom background noise levels and why offices and libraries are designed to provide quiet work environments.

Inadequate Ambient Noise Measurements:

The ambient noise measurements were conducted over a brief 10-minute period at each location, likely not during peak-hour traffic at most locations. For example, the measurement at the ST1 location was taken from 3:24 pm to 3:34 pm. This time frame is insufficient to calculate a Ldn/CNEL level, which is essential for assessing cumulative increases. The FTA's 2018 Transit Noise and Vibration Impact Assessment Manual (FTA Manual) - Appendix E recommends a minimum of three one-hour Leq noise measurements, including during peak-hour roadway traffic, midday, and nighttime recordings, to estimate the Ldn/CNEL. The report itself mentions that Leq noise levels are typically averaged over at least 15 minutes for environmental studies (pg 4-10-2).

Furthermore, the noise analysis relies on these short-term measurements without any discussion of how typical these data were for daytime conditions or how they would apply to evening or nighttime conditions. There is no evidence provided that the time selected for noise measurements is representative of the entire day. Environmental noise can vary widely throughout the day (perhaps +/-10 dBA or more for areas with intermittent local traffic) and relying on measurements that represent only 2% of the daytime hours (7 AM to 7 PM) leaves quite a lot for interpretation.

Table 4.10-10 appears to list existing CNEL levels without specifying how these levels were determined or their relationship to the direct Leq measurements in Table 4.10-2. We believe that valid existing Ldn/CNEL cannot be determined from the existing noise measurement data presented in Appendix I. The criteria outlined in Table 4.10-6 rely on existing Ldn/CNEL measurements to define the acceptable increase in the Ldn/CNEL for transportation noise sources. Without a valid existing Ldn/CNEL level, it is unclear which criteria level is applicable.

In the case of *King & Gardiner Farms LLC v County of Kern*, the Court of Appeal ruled that an agency cannot rely solely on compliance with local noise regulations to conclude that there will be no significant noise impacts without considering the effects of noise increases. Therefore, without measuring or calculating the existing Ldn/CNEL level using generally accepted methodology, it is infeasible to assess the increase in the Ldn/CNEL level due to the Project. The EIR should be updated to include appropriate existing noise measurements for the analysis.

Inadequate Evaluation of Operational Noise Increase:

The report fails to evaluate the cumulative increase in Project operational noise over the existing conditions, a requirement under CEQA. Table 4.10-11 solely compares the predicted daytime and nighttime operational Leq noise levels to the Apple Valley Municipal Code, without considering the increase over the existing ambient condition.

For instance, the existing CNEL at Receiver M1 is listed as 29 dBA in Table 4.10-10. As previously discussed, it remains unclear how this existing 24-hour CNEL was determined from a single 10-minute measurement. Nonetheless, when using the predicted operational noise levels from Table 4.10-11 at Receiver M1, which are 35.6 dBA Leq for daytime and 29.8 dBA Leq for nighttime, we calculate an estimated Project CNEL of 38.3 dBA. This indicates an increase of more than 9 dBA CNEL over the existing ambient condition at Receiver M1. This magnitude of increase could be deemed a significant impact, supported by the transportation noise criteria outlined in Table 4.10-6, which categorizes increases of +5 dBA as significant.

Therefore, given the relatively low existing ambient noise levels, we assert that simply comparing the estimated Project noise to the Town of Apple Valley's exterior noise criteria is insufficient in addressing the potential noise impacts during Project operations. We believe that the level of noise increase predicted by the report could qualify as a significant impact that necessities mitigation measures, such as a sound barrier blocking line of sight from operational noise uses to impacted receivers.

Inadequate Evaluation of Construction Noise Increase:

While the report compares the predicted construction noise levels to the Town of Apple Valley's 75 dBA Leq construction noise criteria, it lacks an evaluation of the increase in construction noise over the ambient level, a requirement under CEQA.

For instance, at receiver M1, the existing Leq registers at 39 dBA, while the estimated construction noise during the grading phase measures 61 dBA Leq for nearby construction activity or 57 dBA Leq for typical construction activity. This signifies an increase over the measured ambient conditions of 22 dBA and 18 dBA, respectively. A 20 dB increase is perceptible as a four-fold increase in loudness and carries a substantial risk of adverse community reaction[2]. Typically increases of +5 dBA or more are considered significant, supported by the transportation noise criteria outlined in Table 4.10-6, which categorizes increases of +5 dBA as significant.

Therefore, considering the low existing ambient noise levels, we assert that merely comparing the estimated construction noise to the Town of Apple Valley's construction noise criteria is inadequate for addressing the potential noise impacts during construction. We believe that the level of noise

[2] https://www.nps.gov/subjects/sound/understandingsound.htm

increase predicted by the report could classify as a significant impact that necessitates mitigation measures, such as a temporary sound barrier blocking line of sight from construction noise sources to impacted receivers.

Incorrect Application of Vibration Limits:

The Town of Apple Valley municipal code stipulates a vibration limit of 0.01 inches/second over a 1 to 100 Hz range, **applying at or beyond the private property boundary**[3], as detailed in Section 4.10.2 of the report. However, the impact assessment only computed estimated construction vibration levels at 760 ft, the distance to the nearest sensitive receptor. This represents an incorrect application of the Town of Apple Valley's vibration criteria.

Notably, all the construction equipment modeled has the potential to exceed the Apple Valley municipal code limit of 0.01 inches/second when operating near the site's boundary. The report itself indicates that a bulldozer would produce a vibration level of approximately 0.089 inches/second measured at 25 ft, which would exceed the 0.01 inches/second criteria. However, it should be noted that a vibration level of 0.01 inches/second is the threshold for human perception and is unlikely to result in adverse effects given the lack of sensitive receivers in the surrounding area.

Since the report indicates that "Quantitative thresholds of significance have been established for the purposes of this analysis based on the local polices and regulations described in Section 4.10.2" (pg 4.10-9), we believe that exceeding the Town of Apple Valley's vibration criteria during the Project's construction could qualify as an undisclosed significant impact and should be addressed in the report.

Conclusions

The analysis includes several errors, including insufficient ambient noise measurements, failing to address the substantial increase in noise levels over the existing condition, and incorrect application of vibration criteria. Correcting these would potentially identify several significant impacts which require mitigation.

Very truly yours,

WILSON IHRIG



Luke Watry
Senior Consultant

[3]https://library.municode.com/ca/apple_valley/codes/code_of_ordinances?nodeId=TIT9DECO_CH9.73NOCO_9.73.060PRNOVI

WILSON IHRIG
ACOUSTICS, NOISE & VIBRATION



LUKE WATRY

Senior Consultant

Luke joined Wilson Ihrig in 2016 and is involved in a wide array of projects including building acoustic design, construction monitoring, modal analysis, as well as transit noise and vibration mitigation. He works out of our Seattle office, has been an important team member on several multi-year transit expansion projects, and has experience on the full breadth of project design work from conception to certification. He is well versed in the use of SoundPLAN, ME'scope, ArcGIS, MATLAB, AutoCAD, Envy, Excel, and experimental design concepts.

Education

- B.S. Mechanical Engineering, University of Colorado, Boulder, CO

Project Experience

BNSF Cowlitz River Bridge Replacement Hydroacoustic Monitoring, WA
Provided hydroacoustic monitoring and reporting services for pile driving activities during the construction of a new rail bridge.

BNSF Northern Pacific Depot Vibration Assessment, Sandpoint, ID
Provided hydroacoustic monitoring and reporting services for pile driving activities in the Pend Oreille River during the construction of a new BNSF rail bridge.

CAHSR EIR/EIS: San Francisco to San Jose & San Jose to Merced Segments, CA
Provided noise modeling and mitigation design services for over 120 miles of high-speed rail alignment through densely populated areas of the San Francisco Peninsula, San Jose, Gilroy, and the Central Valley. Noise impact to sensitive wildlife was also analyzed alongside the standard human-centric criteria.

CTA CRCC 7000-Series Vehicle Noise Consulting, Chicago, IL
Certified the noise and vibration specifications of a new range of CRRC 7000-series "L" vehicles. The specifications included ride quality, exterior vibration, interior noise, and exterior noise across a variety of track types.

Fred Hutchinson Cancer Center, Seattle, WA
Documented the existing acoustic conditions prior to a renovation of animal research laboratories. Developed acoustic criteria and control recommendations for the new laboratories and support facilities.

Houston METRO University BRT, Houston, TX
Conducted an environmental noise and vibration assessment for a new 25-mile BRT project. Provided the client with a technical report outlining the assessment and recommended noise and vibration control measures.

North Mercer Island/Enatai Sewer Upgrade, WA
Provided construction vibration monitoring in accordance with county permit requirements. Remote vibration monitors were installed at residential properties adjacent to construction sites.

Metropolitan Atlanta Rapid Transit Authority (MARTA) On-Call Task, Atlanta, GA
Performed a full modal analysis on five bridges owned by MARTA. The results from the field-testing were analyzed and compared against AISC and AASHTO engineering standards.

Microsoft Building 87 Redmond Link Extension Noise and Vibration, Redmond, WA
Analyzed the potential for ground borne noise and vibration disruption due to Redmond Link Extension. The building contains multiple anechoic chambers, including the "quietest room on earth," as well as sensitive prototype manufacturing facilities.

Microsoft Building 87 Redmond Link Extension Ballast Mat Installation, Redmond, WA
Provided daily construction quality inspections during the installation of a high-performance ballast mat system. Quality issues identified during construction were resolved with the contractor and the completed installation was approved by the ballast mat manufacturer and Sound Transit.

MicroSurgical Technology, Redmond, WA
Conducted a noise survey in a surgical instrument production facility. Developed a report assessing the workers daily noise exposure and provided noise control recommendations.

Mount Bay Apartments, Tacoma, WA
Provided noise and vibration mitigation services for the design of a mid-rise apartment building located adjacent to a busy rail corridor. Specific recommendations for wall construction and windows were provided to the client.

Nisqually Tribe / Joint Base Lewis-McChord Test Noise Monitoring Review, Olympia, WA
Recorded and analyzed rocket artillery being tested at Joint Base Lewis-McChord, adjacent to the Nisqually Indian Community.

Safeway #2870 Claremont / College Avenue Construction, Oakland, CA
Drafted reports and addressed noise exceedances during demolition and reconstruction of a Safeway and shopping complex.

San Francisco Department of Public Works On-Call Tasks, San Francisco, CA
Implemented construction noise and vibration monitoring for various pipe improvement projects. Long-term monitors were positioned based on predicted work scheduling; short-term attended monitoring was conducted during high-risk activities such as pile driving.

SLAC National Accelerator Laboratory, San Mateo, CA
Generated a site-specific vibration propagation model and analyzed the potential for vibration impacts to ongoing scientific experiments during the construction of a new building on the SLAC campus. Testing included measuring transfer mobilities, determining the vibration response of particle beamline equipment, and vibration generated by construction equipment.

Sound Transit Auburn Parking Garage, Auburn, WA
Measured existing long-term vibration levels inside a medical facility adjacent to the site of a future Sound Transit parking garage. The medical facility contains sensitive equipment including a Varian linear accelerator.

Sound Transit Redmond Link Extension, Redmond, WA
Produced vibration prediction models and mitigation design for future light rail track extending through the Microsoft campus and into Downtown Redmond.

Sound Transit Northgate Link Extension, Seattle, WA
Monitored construction vibration and ground-borne noise created by a tunnel boring machine drilling under the University of Washington and surrounding neighborhoods.

Sound Transit Northgate Link Extension Performance Certification, Seattle, WA
Certified the performance of a 5 Hz floating slab constructed in the tunnels underneath the University of Washington (UW) as a part of Sound Transit's Northgate Link Extension. Tests were conducted before, during, and after the floating slab construction. One test included measuring vibration levels simultaneously at 16 locations spread across UW and the transit tunnels below.

Sound Transit Rolling Noise Investigation, Seattle, WA
Assisted in developing a computational model of light rail noise. Wheel roughness, rail roughness, and track decay rates were measured for use as model inputs. Wayside noise measurements were used to validate the noise model.

Sound Transit Tacoma Link Expansion, Tacoma, WA
Provided vibration modeling and mitigation design services for a 2.4-mile expansion of streetcar service. Building vibration response testing was conducted at various residences, medical centers, and community buildings to improve modeling accuracy.

Sound Transit, Siemens Mobility LRV Testing, Seattle, WA
Certified the noise and vibration specifications of a new range of Siemens LRVs. In addition to certifying ride quality, interior noise, and exterior noise specifications, force density levels of the new vehicles were measured and compared to the existing Kinkisharyo fleet.

State Route 520 Interchange Hydroacoustics, Seattle, WA
Provided hydroacoustic monitoring and reporting services for pile driving activities in Lake Washington during the construction of SR520.

Valley Metro, Siemens Mobility LRV Testing, Phoenix, AZ
Certified the noise and vibration specifications of a new range of LRVs. The specifications included ride quality, exterior vibration, interior noise, and exterior noise.

Comment Letter J

Header with Tribal Seal

TWENTY-NINE PALMS BAND OF MISSION INDIANS

46-200 Harrison Place. Coachella, CA. 92236. Ph. 760.863.2444. Fax: 760.863.2449

December 1, 2023

Town of Apple Valley
14955 Dale Evans Parkway
Apple Valley, CA 92307

RE: Notice of Availability of a Draft Environmental Impact Report for 1M Warehouse Project

Dear Planning Department,

This letter is in regards to an informal consultation and in compliance with CEQA CUP and Notice of Availability of a Draft Environmental Impact Report for 1M Warehouse Project.

After reviewing the proposed project, the Twenty-Nine Palms Band of Mission Indians has determined: The project is outside of the known Chemehuevi Traditional Use Area. The other tribes who do have cultural affiliation with the project area should be contacted.

J-1

If you have any questions, please do not hesitate to contact the Tribal Historic Preservation Office at (760) 775-3259 or by email at Christopher.Nicosia@29palmsbomi-nsn.gov.

Sincerely,

Christopher Nicosia
Cultural Resources Manager, Twenty-Nine Palms Band of Mission Indians

Comment Letter K

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Of Counsel
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DANIEL L. CARDOZO

May 16, 2024

VIA EMAIL

Daniel Alcayaga
Planning Division
Town of Apple Valley
14955 Dale Evans Parkway
Apple Valley, CA 92307
Email: dalcayaga@applevalley.org

RE: Notice of Settlement - 1M Warehouse Project (SCH No. 2023020285)

Dear Mr. Alcayaga:

This firm represents Californians Allied for a Responsible Economy ("CARE CA") with regard to the above-referenced 1M Warehouse Project (SCH No. 2023020285) ("Project"). On October 30, 2023, CARE CA submitted comments to the Town stating objections and concerns regarding the Draft Environmental Impact Report ("DEIR") prepared for the Project.

We are pleased to report that, as a result of direct discussions with the Applicant, the Applicant has agreed to additional measures beyond the measures currently proposed in the DEIR to address the potential air quality, public health and greenhouse gas emissions impacts identified in CARE CA's comments. CARE CA requests that the Town incorporate the Additional Measures as mitigation in the Final EIR for the Project. These include the following:

K-1

A. Air Quality, Public Health and Transportation

1.1 Emissions

1.1.1 Diesel off-road construction equipment shall meet USEPA Tier 4 Final off-road emissions standards for equipment rated at 25 horsepower or greater wherever and whenever available. In the

K-2

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event that Tier 4 Final construction equipment is not available, Applicant may utilize Tier 4 Interim or Tier 3 construction equipment outfitted with Best Available Control Technology ("BACT") devices, including but not limited to a CARB certified Level 3 Diesel Particulate Filters ("DPF").

K-2 Cont.

1.1.2 Applicant shall install at minimum two Level 3 electric chargers at the Project site in a place convenient for heavy-duty truck access prior to beginning Project operation.

K-3

1.2 Valley Fever

1.2.1 Injury Prevention Program shall include measures to prevent exposure to Valley Fever spores and the worker awareness training described in Labor Code Section 6709(c) and (d).

1.2.2 Applicant shall (a) provide National Institute for Occupational Safety and Health (NIOSH)-approved respirators for workers with a history of Valley Fever; and (b) provide half-face respirators equipped with a minimum N-95 protection factor for workers engaged in or working near soil disturbance activities.

1.2.3 Applicant shall prevent transport of cocci outside the Project area during Project construction by (a) thoroughly cleaning vehicles and equipment before they are moved off-site to other work locations; (b) provide workers with coveralls, lockers or other daily changing facilities to keep work and street clothing and shoes separate; and (d) post warnings of potential Valley Fever exposure onsite and consider limiting access to visitors, especially those without adequate training and respiratory protection.

1.2.4 Applicant shall provide prompt access to medical care to construction workers who have symptoms of Valley Fever.

K-4

1.3 Transportation

1.3.1 The Transportation Demand Management Plan shall include a commute trip reduction program which provides either (a) on-site ridesharing and vanpooling, or (b) financial incentives to workers for use of alternate transportation.

K-5

With the adoption of these measures, CARE CA's objections to the Project and the DEIR are fully resolved, and we respectfully request that the Town approve the Project.

Please let me know if you have any questions.

Sincerely,

Kevin Carmichael

KTC:ljl

6756-010j

Appendix B
Trip Lenth Calculations

1M Warehouse Project

Truck Triplength Estimate

537 37.4%

Source: EMFAC2021 (v1.0.2) Emission Rates
Region Type: Sub-Area
Region: San Bernardino (MD)
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated based on total VMT.

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	Trips
San Bernardino (MD)	2025	HHDT	Aggregate	Aggregate	Diesel	13290.67817	848181030.4	86827430.35
San Bernardino (MD)	2025	LHDT1	Aggregate	Aggregate	Diesel	10857.0041	131101108.6	44657557.29
San Bernardino (MD)	2025	LHDT2	Aggregate	Aggregate	Diesel	4701.002143	58358160.19	19336390.64
San Bernardino (MD)	2025	MHDT	Aggregate	Aggregate	Diesel	2781.840623	50399394	11561173.23
Average							79952887.6	25185040.39

	Percent of Trucks	Number of Trucks		VMT	Trips	VMT/trip
2-Axle Trucks	16.8%	90	LHDT1, LHDT2	189,459,269	63,993,948	2.960581038
3-Axle Trucks	20.7%	111	MHDT	50,399,394	11,561,173	4.359366737
4+-Axle Trucks	62.6%	336	HHDT	848,181,030	86,827,430	9.768583809
			Weighted Average (All Trucks)	**572876151.1**	**67442760.04**	**8.494257215**

	VMT	Trips
LHDT1, LHDT2, MHDT summed	239,858,663	75,555,121

Assume all HHDT trip to port and use project specific trip distance
Assume all 2-4 Axle Trucks make local deliveries within County and use EMFAC average VMT/trip.

	Percent of Trucks	Number of Trucks				VMT	Trips	VMT/trip	
2-Axle Trucks	16.8%	90	LHDT1, LHDT2			189,459,269	63,993,948	4.36	Bumped up to MHDT length
3-Axle Trucks	20.7%	111	MHDT			50,399,394	11,561,173	4.36	
4+-Axle Trucks (50%)	31.3%	168	HHDT					108	50% HHDT from Port of Long Beach
4+-Axle Trucks (50%)	31.3%	168	HHDT					9.77	50% Depart Warehouse and Based on EMFAC Regional HHDT Trip Distance
			Weighted Average (All Trucks)					**38.48**	

Best | 3 hr 19 | 16 hr | 2 days | 11 hr

Port of Long Beach, Long Beach, CA 908

34.5956374, -117.1880053

Add destination

Leave now | Options

Send directions to your phone

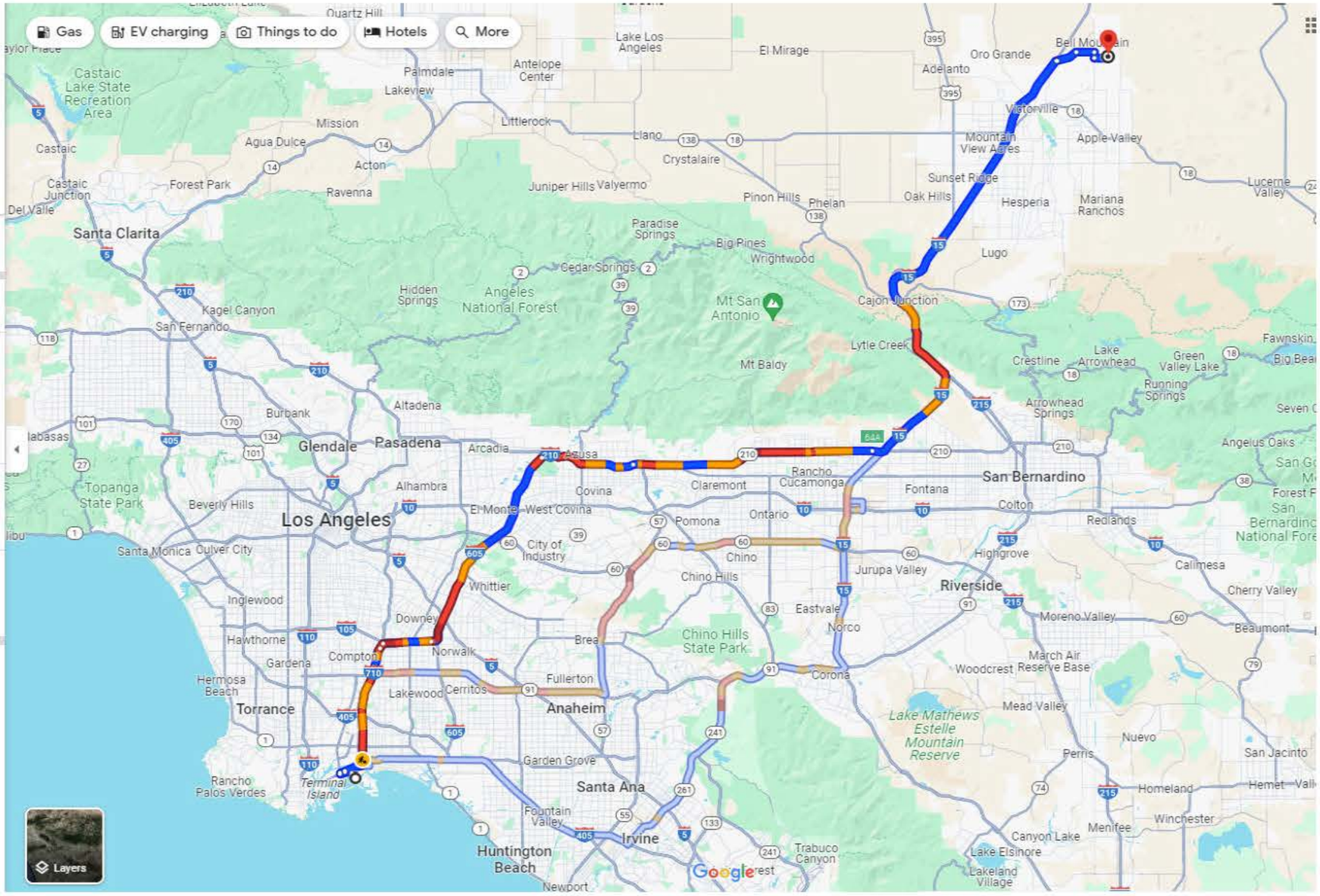
via I-15 N — 3 hr 19 min
Best route now due to traffic conditions — 108 miles
Details

via I-405 S and I-15 N — 3 hr 13 min
Heavy traffic, as usual — 120 miles

via CA-91 E and I-15 N — 3 hr 21 min
Heavy traffic, as usual — 112 miles

Explore 34.5956374, -117.1880053

Restaurants | Hotels | Gas stations | Parking Lots | More



Appendix C

Mojave Desert Tortoise Data Sheet

Date of survey: 8/25/2023 (day, month, year) Survey biologist(s): Eilleen Salas (name, email, and phone number)

Site description: Off-site Improvement Area located southeast of the intersection of Lafayette Street and Central Road (project name and size; general location)

County: San Bernardino County Quad: Apple Valley Location: 34.591776°N 117.171485°W (UTM coordinates, lat-long, and/or TRS; map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: 9 acres Transect #: 13 Transect length: 1,005 ft

GPS Start-point: 34.590578, -117.171001 (easting, northing, elevation in meters) Start time: 10:20am am/pm

GPS End-point: 34.593209, -117.172101 (easting, northing, elevation in meters) End time: 11:50am am/pm

Start Temp: 28 ºC End Temp: 31 ºC

Live Tortoises

Detection number	GPS location Easting	GPS location Northing	Time	Tortoise location (*in burrow*: all of tortoise beneath plane of burrow opening, or *not in burrow*)	Approx MCL ≥180 mm? (*Yes, No or Unknown*)	Existing tag # and color, if present
1						
2						
3						
4						
5						
6						
7						
8						

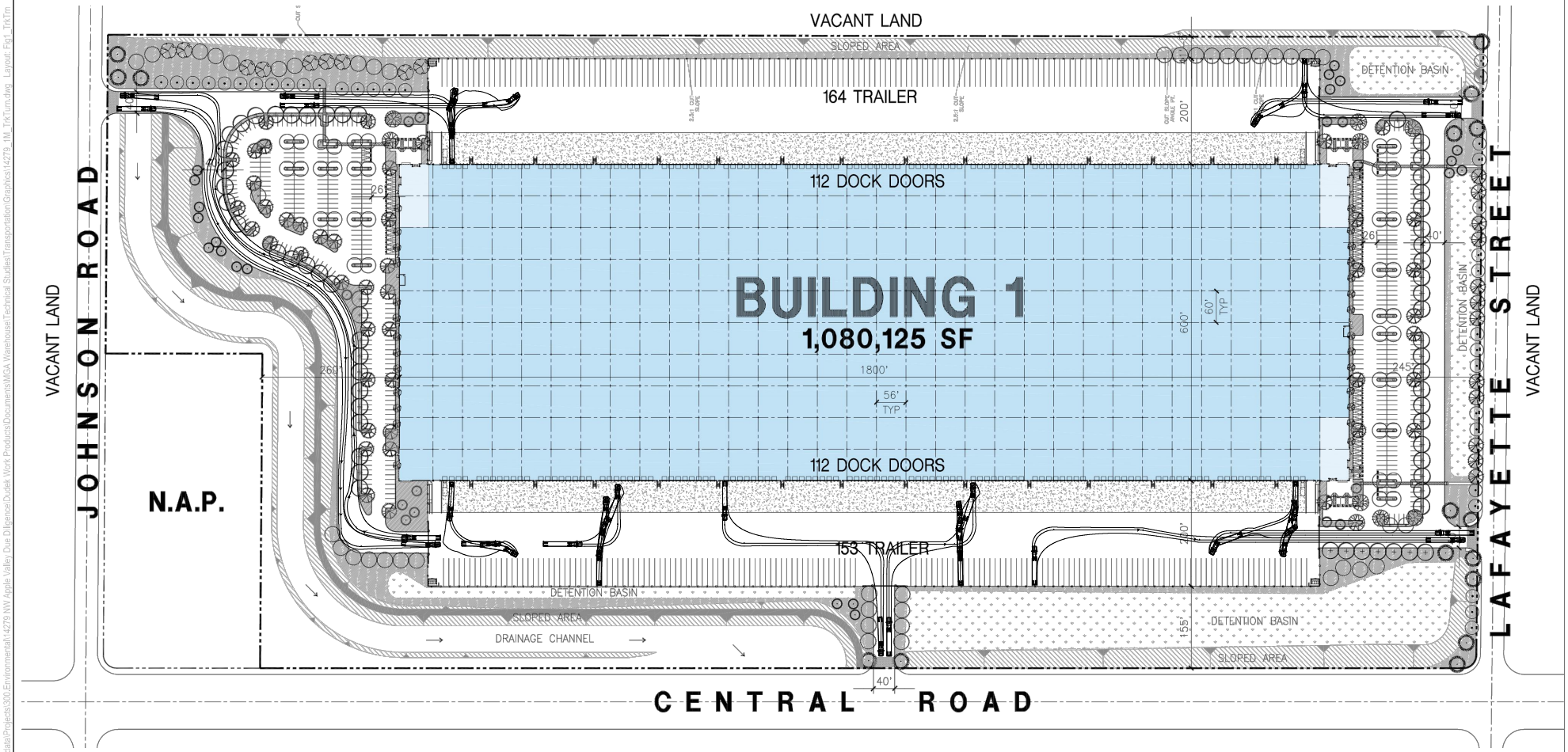
Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting	GPS location Northing	Type of sign (*burrows, scats, carcass, etc*)	Description and comments
1				
2				
3				
4				
5				
6				
7				
8				

No live tortoise or tortoise sign were observed during the survey.

The survey area consisted of the1M Warehouse offsite survey area located southeast of the intersection of Lafayette Street and Central Road. The entire offsite area was surveyed on foot using 10m transects.

Appendix D
Truck Turning Exhibit



SOURCE: Bing Maps; hparchs 2022

FIGURE 1

Truck Turning Templates

1M Warehouse Project

DUDEK

NOT TO SCALE

Apr 03, 2024 - 4:21pm amerrux \\dudek.int\data\Projects\300 Environmental\14279 NW Apple Valley Due Diligence\Dudek Work Products\Documents\MGA Warehouse\Technical Studies\Transportation\Graphics\14279_1M_TrkTurn.dwg Layout: Fig1_TrkTrn