Initial Study/Mitigated Negative Declaration

35th Street and Avenue H Project

APRIL 2024

Prepared for:

CITY OF LANCASTER
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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AB	Assembly Bill
APM	applicant proposed measure
AQMP	Air Quality Management Plan
AVAQMD	Antelope Valley Air Quality Management District
AVTA	Antelope Valley Transit Authority
bgs	below the ground surface
BMP	best management practice
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CHRIS	California Historical Resources Information System
City	City of Lancaster
CNEL	community noise equivalent level
CO	carbon monoxide
County	County of Los Angeles
CRHR	California Register of Historic Resources
dBA	A-weighted decibel
EIR	environmental impact report
EV	electric vehicle
FFSP	Fox Field Industrial Corridor Specific Plan
GHG	greenhouse gas
HBW	home-based work
HMBP	hazardous materials business plan
HVAC	heating, ventilation, and air conditioning
ips	inches per second
LACFD	Los Angeles County Fire Department
LACSD	Los Angeles County Sheriff's Department
LACWD	Los Angeles County Waterworks District
L_{eq}	equivalent noise level over a given period
LHMP	City of Lancaster Local Hazard Mitigation Plan
MDAB	Mojave Desert Air Basin
MEIR	maximally exposed individual resident
MND	mitigated negative declaration
MS4	Municipal Separate Storm Sewer System
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission

Acronym/Abbreviation	Definition
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
NPDES	National Pollution Discharge Elimination System
O_3	ozone
PM_{10}	particulate matter with an aerodynamic diameter equal to or less than 10 microns
$PM_{2.5}$	particulate matter with an aerodynamic diameter equal to or less than 2.5 microns
PRC	California Public Resources Code
RCNM	Roadway Construction Noise Model
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAG	Southern California Association of Governments
SCS	Sustainable Communities Strategy
SLF	Sacred Lands File
SR	State Route
SWPPP	stormwater pollution prevention plan
TCR	tribal cultural resource
UWMP	Urban Water Management Plan
VMT	vehicle-miles traveled

1 Initial Study Checklist

1. **Project Title and File Number:**
Site Plan Review No. 23-002
35th Street and Avenue H Project

2. **Lead agency name and address:**
City of Lancaster
Community Development Department
Planning & Permitting Division
44933 Fern Avenue
Lancaster, California 93534

3. **Contact person and phone number:**
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4. **Project Location:**

The approximately 20.15-acre project site is located in the northwestern part of the City of Lancaster (City), which is within the Antelope Valley region of Los Angeles County (County) (Figure 1, Regional Map; Figure 2, Vicinity Map; Figure 3, Project Site Aerial). The project site is located on the northeast corner of Avenue H and 35th Street West. The project site consists of two parcels: Assessor's Parcel Numbers 3107-026-077 and 3107-026-079.

Regional access to the project site is provided via State Route (SR) 14, to the east of the project site, and SR-138, to the north of the project site. Local access to the project site is provided via Avenue H or 35th Street West.

5. **Applicant name and address:**
Covington Development Partners
3 Corporate Plaza, Suite 230
Newport Beach, California 92660

6. **General plan designation:** Specific Plan

7. **Zoning:** Specific Plan No. 95-02 (Fox Field Industrial Corridor Specific Plan)

8. **Description of project:**

The 35th Street and Avenue H Project (project) would include construction of an industrial warehouse building and associated improvements on 20.15 acres of vacant land within the existing Fox Field

Industrial Corridor Specific Plan (FFSP) (see Figure 4, Site Plan). The net acreage of 18.15 acres shown on Figure 4 represents the total site acreage minus the required right-of-way dedications from the centerlines of the adjacent roadways. The proposed project would provide 395,390 square feet of industrial/warehouse space and include associated improvements, such as loading docks, tractor-trailer stalls, passenger vehicle parking spaces, stormwater detention basins, and landscape area. There would be 10,000 square feet of office space on the ground floor. The building would have a maximum height of 35 feet, measured from the finished floor to the top of the building, and would have a gross floor area ratio of 0.5. The project would include seven detention basins on site—one located on the southeast corner, one located on the northeast corner, and five located along the west portion of the project site—to detain and treat stormwater runoff, as shown in Figure 4.

The project would include off-site improvements along 35th Street West and Avenue H, including frontage landscaping, pedestrian, and street lighting improvements. A variety of trees, shrubs, plants, and ground 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 buildings 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 4. Specific, known improvements are depicted on this figure. Areas in which lateral utility connections may occur or where other roadway and pedestrian improvements may be necessary are also depicted.

Site Access, Circulation, and Parking

Access to the project site would be provided by two driveways: the Avenue H south driveway and the 35th Street West north driveway, both of which would provide full access (trucks and passenger vehicles).

Consistent with Los Angeles County Fire Department access requirements, all project driveways have been designed to allow for minimum turning radius. Signage and striping would be provided to demarcate fire lanes and clear spaces throughout the site. All gated entryways to truck courts (i.e., areas adjacent to the loading docks to allow for truck loading activities and truck maneuvering) would include rapid-access Knox boxes to provide emergency access to gated areas.

Paved passenger vehicle parking areas would be provided within an area south of the building, while tractor-trailer stalls and loading docks would be located east of the building. In total, the project would provide approximately 49 loading dock positions, two grade doors, 72 tractor-trailer stalls, 173 passenger vehicle parking spaces (including 130 standard parking, six accessible parking, two stalls that are electric vehicle [EV] charging accessible, 35 EV charging stalls), and six bicycle parking spaces. Parking areas would include designated areas for EVs, and these spaces would be equipped with automobile EV charging stations with Level 2 or faster chargers.

Off-Site Roadway Improvements

To facilitate adequate on-site circulation and sufficient site access for both passenger vehicles and trucks, as well as to ensure efficient off-site circulation on nearby roadway facilities, the project would include off-site improvements, including street improvements along the frontage of the project on Avenue H and 35th Street West and improvements within 35th Street West (see Figure 4).

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. These utilities are described in detail below.

Domestic Water

Domestic water service would be provided by Los Angeles County Waterworks District 40. Within the immediate vicinity of the project site, existing water lines include water lines within 35th Street West.

Sanitary Sewer

Local sanitary sewer service would be provided by the City of Lancaster Utilities Division for conveyance and treatment by Los Angeles County Sanitation District 14. Within the immediate vicinity of the project site, existing sewer lines include a gravity line starting west of SR-14 within Avenue H (to the south of the project site).

Storm Drainage

A new engineered stormwater drainage system would be constructed on the project site to collect and treat on-site stormwater. Post-development, stormwater flows would be captured on site and treated within a series of aboveground and underground infiltration facilities. At-grade stormwater detention basins would be located on the west side and northeast and northwest corners of the project site. Stormwater flows would be conveyed via sheet flow away from buildings and, where possible, through below-grade, landscaped areas prior to entering the nearest catch basin and subsequently being conveyed to the infiltration and retention facilities. The landscaped areas would act as the first filter for detaining suspended solids in stormwater flows. The detention basins would be planted with native grasses and erosion control vegetation along their side banks. Concrete forebays or riprap would accumulate a majority of the trash and sediment within the stormwater prior to it entering the earthen basins.

The project's new stormwater drainage system would capture and attenuate stormwater consistent with City and County stormwater requirements, including requirements in the Los Angeles County Department of Public Works Hydrology Manual (LADPW 2006). In addition, it would attenuate flows beyond what is required. Specifically, the project's stormwater system has been designed such that it would retain and infiltrate the entire volume generated from a 100-year storm event; no stormwater runoff would be released off site during this event. For additional information, refer to Section 1.10, 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.

Landscaping and Lighting Improvements

Landscaping would compose 133,845 square feet of the project site. Landscaping is proposed for the passenger vehicle parking areas, around the portions of the buildings visible from off-site areas, and for the site's frontages on Avenue H and 35th Street West. Landscaping along the site's frontages would include a mixture of trees, shrubs, accents, and ground cover.

The landscaping materials along the project frontages would incorporate a layering concept to provide different height trees and border or accent shrubs and low ground cover. Plant material was selected for low water and low maintenance. Landscaping was designed to be consistent with the requirements of the FFSP and Sections 8.50 and 17.16.220 of the City's Municipal Code (City of Lancaster 2020).

Project lighting would be consistent with Section 17.12.230 of the City's Municipal Code; exterior lighting would be located and designed to avoid direct glare onto adjacent properties and public rights-of-way (City of Lancaster 2013).

Rooftop Solar

At a minimum, the roof of the project's warehouse building would be designed to provide the structural capacity to accommodate rooftop solar panels. Additionally, each building would be equipped with rooftop solar panels to the extent feasible, with a capacity that matches the maximum allowed for distributed solar connections to the grid. As the capacity for solar connections increase, additional solar panels would be added to the project.

Operational Characteristics

A tenant for the project has not been identified, and the industrial warehouse building is considered speculative. Business operations would be expected to be conducted within the enclosed building, with the exception of the ingressing and 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. It is anticipated that the facilities would be operated 24 hours a day, seven days a week. Cold storage would not be permitted.

The outdoor cargo handling equipment used during loading and unloading of trailers (e.g., yard trucks, hostlers, yard goats, pallet jacks, forklifts) is expected to be non-diesel powered per contemporary industry standards. Within the gated truck court area, up to 70 trailers would be in designated trailer storage stalls. The project's office and mezzanine space would support general office activities related to business operations.

Project Construction and Phasing

The project applicant intends to commence construction on or around June 2024. It is anticipated that construction would take approximately 10 months, ending in May 2025, as shown in Table 1.

Table 1. Anticipated Project Construction Schedule

Construction Phase	Duration	Phase Start Date	Phase End Date
Site Preparation	2 weeks	June 2024	June 2024
Grading	5 weeks	June 2024	July 2024
Building Construction	8 months	July 2024	March 2025
Paving	1 month	April 2025	April 2025
Architectural Coating	1 month	April 2025	May 2025

Site Preparation

The project's site preparation would take about 2 weeks, starting approximately at the beginning of June 2024. The site preparation phase would involve the use of rubber-tired dozers, tractors, loaders, and back hoes.

Grading

Grading of the site would take approximately 5 weeks, starting June 2024 and finishing approximately at the end of July 2024. The grading phase would include the use of excavators, graders, and scrapers and the continued use of rubber-tired dozers, tractors, loaders, and backhoes. Estimated earthwork would include 6,750 cubic yards of cut, 62,660 cubic yards of fill, and 55,910 cubic yards of soil import.

Building Construction

The project's building construction would take approximately 8 months, beginning at the end of July 2024 and finishing at the end of March 2025. The building construction would include the use of cranes, forklifts, generator sets, tractors, loaders, backhoes, and welders.

Paving

Paving the project would take approximately 1 month, starting in April 2025 and ending at the end of April 2025. The paving phase would include pavers, paving equipment, and rollers.

Architectural Coating

The project's architectural coating phase would take approximately 1 month, between April 2025 and May 2025. The architectural coating would involve two air compressors.

Applicant Proposed Measures

The project applicant has committed to a number of applicant proposed measures (APMs) that would be integrated into the project design, as summarized below.

Construction

- Heavy-Duty Off-Road Construction Equipment Requirements/Restrictions
- Provision of Electrical Infrastructure for Construction and Use of Electric Construction Equipment
- Construction Equipment Idling Restrictions
- Construction Haul Truck Requirements
- Dust Control Measures
- Construction Waste Recycling and Management
- Construction Logs

Site Design

- Sustainable Design/LEED Measures
- Solar Power

- Electrical Infrastructure for Electric Equipment and Vehicles
- Electric Vehicle Charging Stations
- Sustainable Energy, Waste, and Water Design Measures
- Design of Ingress/Egress Points
- Measures to Reduce the Urban Heat Island Effect

Operation

- Zero-Emission or Near-Zero-Emission Equipment
- Zero-Emission or Near-Zero-Emission Light-Duty and Medium-Duty Vehicles
- Truck Requirements and Restrictions
- Idling Time Restriction
- Anti-Idling Implementation Measures
- Truck Routing Plan
- Transportation Demand Management Plan
- Yard Sweeping to Reduce Fugitive Dust
- Restriction on Cold and/or Refrigerated Space
- Provision of Information Regarding Programs to Reduce Emissions from Trucks
- Provision of Information Regarding Reducing Emissions from Area and Energy Sources

A detailed description of each APM is provided in Appendix A.

9. Surrounding land uses and setting:

City of Lancaster

The City is composed of approximately 94 square miles in the Antelope Valley region of Los Angeles County, approximately 70 miles north of downtown Los Angeles. The City is located within the western Mojave Desert, which is a region containing desert plains, dry lakebeds, and scattered mountains. The southwestern portion of the City lies at the foothills of the San Gabriel Mountains and Angeles National Forest. The City contains a variety of slope conditions, with the foothill areas containing significant slopes and the majority of the City being primarily level. The central and northern portions of the City lie upon a moderate to gentle slope with elevations ranging from 2,000 feet to 3,000 feet above mean sea level. Generally, the City is an urban community with a broad mix of land uses, including housing, commercial, office, industrial, agriculture, and public-serving uses. The eastern and western portions of the City contain generally rural residential uses. Commercial uses follow Lancaster Boulevard, Valley Central Way, Avenue J, 20th Street West, and the highway corridor. Industrial uses are generally located west and east of SR-14, in the northern portion of the City. Unincorporated Los Angeles County surrounds the City on all sides. Additional surrounding jurisdictions include unincorporated Kern County further to the north and the City of Palmdale to the south.

The Antelope Valley Freeway (SR-14) provides primary regional connectivity between the Antelope Valley and greater Los Angeles area. Various arterials in the City also serve regional functions. Avenue D (SR-138) extends west from SR-14 and connects to the Golden State Freeway (Interstate 5) and extends east from the City of Palmdale, connecting with Interstate 15. Sierra Highway links Lancaster with the community of Rosamond to the north and the City of Palmdale to the south.

Existing Project Site

The project site is comprised of two parcels, Assessor's Parcel Numbers 3107-026-077 and 3107-026-079, totaling approximately 20.15 acres. The project site is currently vacant undeveloped property bound to the south by Avenue H and to the west by 35th Street West.

Ground surface cover consists of shadscale scrub, with cattle saltbush (*Atriplex polycarpa*) and littleleaf horsebrush (*Tetradymia glabrata*) in the shrub strata located throughout the site. The project site also contains a portion of disturbed habitat dominated by ruderal vegetation along the southern border and southwest corner. Figure 5, Existing Conditions, provides representative photographs of the project site.

The site's surface elevation ranges between approximately 2,320 to 2,324 feet above mean sea level. There are no substantial topographical features in the project vicinity.

The project site is located within the FFSP, which became effective in 1996. According to the City's General Plan Land Use Map and Zoning Map, the land use and zoning designations for the project site are Specific Plan (SP) and SP 95-02 (City of Lancaster 1996a). The goals, policies, and development standards within the City's General Plan and FFSP applicable to the proposed project are detailed in the regulatory sections of each resources section.

The FFSP employs a district concept to guide development and shape the character of areas within the Specific Plan Area. The project is located within the SR-14/SR-138 District (Figure 6, Fox Field Industrial Corridor Specific Plan Land Use Districts).

According to the FFSP, the SR-14/SR-138 District is intended to provide enhanced vehicular and truck accessibility for commercial/industrial business uses by taking advantage of its location along the SR-14 corridor with its connection to Interstate 5 and to the General William J Fox Airfield, located approximately 3 miles north of the project site. Per the FFSP, the recommended district land uses build upon the presence of other existing and planned light industrial uses. The purpose of this district is to create employment-generating uses in a business park setting. The kind of industrial uses envisioned in this district include light industrial, light manufacturing, and industrial support uses, mainly conducted in enclosed buildings, with minimal environmental impacts. The project is consistent with these types of uses.

Land uses surrounding the project site primarily consist of vacant land, along with some scattered residential, commercial, light industrial, and utility uses. Specific land uses located in the immediate vicinity of the project site include the following:

- **North:** Vacant land, Avenue G
- **East:** 30th Street West, Antelope Valley Fairgrounds, SR-14
- **South:** Single-family residential home, Copper Square Apartment Complex, Veteran's Home, Kensington Campus, and Avenue H
- **West:** Industrial Warehouse and 35th Street West

In the broader project vicinity, development includes industrial uses, trucking-related uses (i.e., truck parking), Antelope Valley fair and event center, RV park, and residential subdivisions.

Utility infrastructure currently exists along Avenue H to serve the project site. Existing infrastructure in the project vicinity includes water and sanitary sewer transmission mains, electrical transmission and distribution lines, and cable and telephone lines. The project would connect to the existing infrastructure that is present at and adjacent to the project site.

Local connectivity to the project site from the center of the City and surrounding urban communities is provided via Avenue H, 35th Street West, and SR-14, all of which are located in the immediate vicinity of the project site.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):

Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW), Antelope Valley Air Quality Management District (AVAQMD), Los Angeles County Sanitation District 14, Los Angeles County Waterworks District 40, Los Angeles County Fire Department, and Southern California Edison.

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

In accordance with Assembly Bill (AB) 52, consultation letters for the proposed project were sent to three individuals associated with three Native American tribes which have requested to be included. These letters were mailed via certified return receipt mail and included copies of the site plan/grading plan and the cultural resources report that was originally prepared for the project site. Table 2 identifies the tribes, the tribal representative to whom the letter was directed, and the date the letter was received.

Table 2. Native American Tribal Notification

Tribe	Tribal Representative/Title	Date Received
Gabrieleno Band of Mission Indians Kizh Nation	Andrew Salas Chairman	July 5, 2023
Yuhaaviatam of San Manuel Nation	Ryan Nordness/Cultural Resources Analyst	July 5, 2023
Fernandeno Tataviam Band of Mission Indians	Sarah Brunzell, Manager, Cultural Resources Management Division	July 5, 2023

A response was received from two of the tribes: Fernandeno Tataviam Band of Mission Indians and Yuhaaviatam of San Manuel Nation. No concerns associated with specific tribal resources were identified. However, tribal resources are known to occur in the general area/Antelope Valley. As such, mitigation measures were requested that would ensure the proper handling and notification of the tribes in the event that any cultural resources are encountered during construction activities. These measures have been included in Section 1.5, Cultural Resources.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist on the following pages.

☐ Aesthetics
☐ Agriculture and Forestry Resources
☒ Air Quality
☒ Biological Resources
☒ Cultural Resources
☐ Energy
☒ Geology and Soils
☐ Greenhouse Gas Emissions
☐ Hazards and Hazardous Materials
☐ Hydrology and Water Quality
☐ Land Use and Planning
☐ Mineral Resources
☐ Noise
☐ Population and Housing
☐ Public Services
☐ Recreation
☒ Transportation
☒ Tribal Cultural Resources
☐ Utilities and Service Systems
☐ Wildfire
☒ Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Kendall Brekke, Planner

Date

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
    a. Earlier Analysis Used. Identify and state where they are available for review.
    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c. Mitigation Measures. For effects that are "Less Than Significant With Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
    a. the significance criteria or threshold, if any, used to evaluate each question; and
    b. the mitigation measure identified, if any, to reduce the impact to less than significance

1.1 Aesthetics

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
I.	**AESTHETICS** Except as provided in Public Resources Code Section 21099, would the project:				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c)	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

a) Would the project have a substantial adverse effect on a scenic vista?

No Impact. Scenic vistas and other important visual resources are typically associated with natural landforms such as mountains, foothills, ridgelines, and coastlines. The project site is within an area with generally flat terrain near the foothills of the San Gabriel Mountains and Angeles National Forest. Major scenic vistas visible from the project site are the Angeles National Forest and San Gabriel Mountains. The Angeles National Forest is approximately 40 miles southeast and the San Gabriel Mountains are approximately 55 miles southeast of the project site. The City's General Plan 2030 (General Plan) aims to preserve views of the San Gabriel Mountains and stretches of open space along the edge of the Mojave Desert (City of Lancaster 2009). The project site is approximately 18 miles away from the nearest stretches of open space along the Mojave Desert. Based on these distances, as well as the presence of existing intervening natural topographical variations and human-made urban features, the project site is not within the direct viewshed of these scenic vistas. Overall, the project site is well outside the viewshed of any scenic vistas or other important visual resources. Therefore, no impacts associated with scenic vistas would occur.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. Scenic highways and routes are a unique component of the circulation system, as they traverse areas of unusual scenic or aesthetic value. The closest officially designated state scenic highway is SR-2, approximately 50 miles southeast of the project site (Caltrans 2018). However, the City does designate a portion of SR-14 approximately 1.3 miles from the project site as a local scenic roadway. Based on the distance and intervening natural topography and human-made development, the project site is not located within the viewshed of the officially designated state scenic highway or the segment of SR-14 designated as a local scenic roadway. Therefore, no impacts associated with state scenic highways would occur.

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less-than-Significant Impact. Visual character describes the aesthetic setting of a project area. The project is within the FFSP area and is surrounded by similar light industrial/business land uses, including a similar light industrial facility adjacent to the project site to the west. To ensure that both current and future development within the City are designed and constructed to conform to existing visual character and quality of the surrounding built environment, the City's Municipal Code includes design standards related to building size, height, and setbacks, as well as landscaping, signage, and other visual considerations (City of Lancaster 2020). Additionally, the project would be consistent with the FFSP and the City's Municipal Code related to scenic quality.

The project's compliance, as well as the City's review of the project's design, would ensure that the project would not degrade the existing visual character and quality of the area. Therefore, impacts would be less than significant.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less-than-Significant Impact. The project site is currently vacant and does not contain any source of human-made lighting or glare. However, new sources of lighting and glare would be introduced to the site as a result of the project. The project would convert the site into a developed site, with one building for light industrial and general warehouse use, which would introduce new sources of artificial lighting and reflective building materials, including window glass. Proposed lighting would only be located where safety and security necessitate nighttime illumination such as at loading docks, parking areas, and building entrances. Reflective materials such as window glass would be limited in their distribution across the building facades and thus would not contribute to substantial glare for adjacent properties or motorists traveling along 35th Street West or Avenue H.

Additionally, the project would be consistent with the City's Industrial Code Section 17.16.220.A.9; therefore, all light introduced to the project site would be required to be directed downward and shielded to prevent light from adversely affecting adjacent parcels, and no structures or features that create adverse glare effects would be permitted. The project would also include installation of rooftop solar photovoltaic panels, which have the potential to create additional glare effects; however, panels would be positioned flush with the building roof surface and behind roof parapets such that any glare generated by the panels would be largely screened from surrounding viewers. Therefore, because the proposed project would not create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area to unacceptable levels, impacts would be less than significant.

1.2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
II. **AGRICULTURE AND FORESTRY RESOURCES** In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

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

No Impact. The project site currently consists of undeveloped vacant land and is not used for agricultural purposes. The General Plan land use and zoning designations for the project site are SP and SP 95-02. The California Department of Conservation's Farmland Mapping and Monitoring Program identified the site as "Other Land," which the department defines as "land which is not included in any other category with common examples including low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres" (CDOC 2016). The project site does not contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (collectively, "Important Farmland"). The project would not occur within any farmland locations and would not result in the conversion of Prime or Unique Farmland or Farmland of Statewide Importance. In addition, the project site is not on land conflicting with a Williamson Act contract. Therefore, no impacts associated with the conversion of Important Farmland would occur.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. Refer to Section 1.2(a).

c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

No Impact. The project site is zoned as SP 95-02 and is within an undeveloped area. There are no areas zoned for forest land within the vicinity of the project site or in the City. Therefore, no impacts associated with forest land would occur.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. Refer to Section 1.2(c). The proposed project would not involve the conversion of forest land to non-forest use. Therefore, no impact with forest land would occur.

e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. Refer to Sections 1.2(a)–(d).

1.3 Air Quality

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
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?	☐	☐	☒	☐

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less-than-Significant Impact. The AVAQMD administers the Air Quality Management Plan (AQMP), which is a comprehensive document outlining an air pollution control program for attaining all California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). The AQMP is the regional path towards improving air quality and meeting federal standards for air pollutants, and each AQMP incorporates the latest planning assumptions regarding population, vehicle activity, and industrial activity. Currently, the approved AVAQMD AQMP is the AVAQMD Federal 70 ppb Ozone Attainment Plan (Western Mojave Desert Nonattainment Area) (AVAQMD 2023). The AVAQMD AQMP was developed to address the attainment of the 2015 8-hour ozone (O_3) NAAQS (70 parts per billion). The AVAQMD AQMP provides actions, strategies, and steps needed to reduce air pollutant emissions and meet the O_3 standard by 2033.

The purpose of a consistency finding is to determine if a project is inconsistent with the assumptions and objectives of the regional air quality plans, and thus if it would interfere with the region's ability to comply with federal and state air quality standards. 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 AVAQMD rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plans, and is consistent with the growth forecasts in the applicable plans (or is directly included in the applicable plans). 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 plans (AVAQMD 2016).

The AVAQMD primarily uses demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by the Southern California Association of Governments (SCAG) for its Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) (SCAG 2020). This document, currently Connect SoCal 2020, which is based on general plans for cities and counties within the SCAG jurisdiction, is used by AVAQMD to develop the AQMP emissions inventory (AVAQMD 2023).[1] Connect SoCal 2020 and the associated Regional Growth Forecast are generally consistent with the local plans; therefore, the AVAQMD AQMP is generally consistent with local government plans.

The project would be required to comply with all applicable AVAQMD Rules and Regulations, including, but not limited to, Rules 401 (Visibile Emissions), 402 (Nuisance), and 403 (Fugitive Dust). The project site is zoned SP 95-02. Warehouse and distribution facilities, such as the proposed project, are considered generally compatible within the SP 95-02 zone. Therefore, implementation of the project would not generate an increase in growth demographics that would conflict with existing projections within the region. Accordingly, the project is consistent with the SCAG RTP/SCS forecasts used in the AVAQMD AQMP development.

Based on the preceding considerations, the project would conform to local land use plans and would comply with all applicable all AVAQMD rules and regulations. Therefore, impacts relating to the project's potential to conflict with or obstruct implementation of the applicable AQMP would be less than significant.

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?

Less-than-Significant Impact. Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development. AVAQMD 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.

Construction Emissions

Proposed construction activities 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, water trucks, and volatile organic compound off-gassing) and off-site sources (i.e., on-road vendor trucks, haul 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 particulate matter, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated.

Internal combustion engines used by construction equipment, trucks, and worker vehicles would result in emissions of volatile organic compounds, oxides of nitrogen (NO_x), carbon monoxide (CO), sulfur oxides,

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[1] Information necessary to produce the emissions inventory for the Mojave Desert Air Basin is obtained from AVAQMD and other governmental agencies, including the California Air Resources Board, California Department of Transportation, and SCAG. Each of these agencies is responsible for collecting data (e.g., industry growth factors, socioeconomic projections, travel activity levels, emission factors, emission speciation profile, and emissions) and developing methodologies (e.g., model and demographic forecast improvements) required to generate a comprehensive emissions inventory. SCAG incorporates these data into its Travel Demand Model for estimating/projecting VMT and driving speeds.

particulate matter with an aerodynamic diameter equal to or less than 10 microns (PM_{10}), and particulate matter with an aerodynamic diameter equal to or less than 2.5 microns ($PM_{2.5}$). PM_{10} and $PM_{2.5}$ emissions would also be generated by entrained dust, which results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil. The project would be required to comply with AVAQMD Rule 403 to control dust emissions generated during any dust-generating activities. Standard construction practices would be employed to reduce fugitive dust emissions, including watering the active dust areas two times per day, with additional watering depending on weather conditions. The California Emissions Estimator Model (CalEEMod) calculates maximum daily emissions for summer and winter periods. The estimated maximum daily construction emissions without mitigation are summarized in Table 3. Detailed construction model outputs are presented in Appendix B.

Table 3. 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	1.27	21.30	41.56	0.17	9.85	4.22
2024	119.50	6.34	33.40	0.04	2.88	0.81
Winter						
2023	1.50	22.11	40.94	0.17	9.85	3.20
2024	1.45	6.54	27.78	0.04	2.88	0.81
Maximum Daily Emissions	**119.50**	**22.11**	**41.56**	**0.17**	**9.85**	**4.22**
AVAQMD Threshold	*137*	*137*	*548*	*137*	*82*	*65*
Threshold Exceeded?	No	No	No	No	No	No

Source: Appendix B.
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; AVAQMD = Antelope Valley Air Quality Management District.
Includes compliance with AVAQMD Rule 403 for fugitive dust control, as well as Tier 4 Final engines for equipment greater than 75 horsepower (APM-1).

As depicted in Table 3, emissions resulting from the project construction would not exceed any criteria pollutant thresholds established by the AVAQMD. 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.

Operational Emissions

Table 4 presents the maximum daily mobile, area, and energy source emissions associated with operation of the project. The values shown are the maximum summer and winter daily emissions results from CalEEMod. Details of the emission calculations are provided in Appendix B.

Table 4. 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	3.52	22.78	33.74	0.24	5.36	1.39
Area	9.14	0.00	0.00	0.00	0.00	0.00
Energy	0.11	2.05	1.72	0.01	0.16	0.16
Total Daily Summer Emissions	**12.77**	**24.82**	**35.46**	**0.25**	**5.51**	**1.55**
Winter						
Mobile	3.23	24.08	27.31	0.23	5.36	1.39
Area	9.14	0.00	0.00	0.00	0.00	0.00
Energy	0.11	2.05	1.72	0.01	0.16	0.16
Total Daily Winter Emissions	**12.48**	**26.13**	**29.03**	**0.24**	**5.51**	**1.55**
Maximum Daily Emissions	**12.77**	**26.13**	**35.46**	**0.25**	**5.51**	**1.55**
AVAQMD Threshold	*137*	*137*	*548*	*137*	*82*	*65*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: See Appendix B 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; AVAQMD = Antelope Valley Air Quality Management District.
Values may not sum due to rounding. Modeling accounts for implementation of zero emission electric landscaping and cargo handling equipment (APM-16).

As shown in Table 4, the increase in criteria air pollutant emissions associated with project operations would not exceed AVAQMD's significance thresholds. Therefore, long-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.

c) ***Would the project expose sensitive receptors to substantial pollutant concentrations?***

Toxic Air Contaminants

Construction Heath Risk Assessment

Less-than-Significant Impact. As detailed in Appendix B, a construction health risk assessment was performed to evaluate potential cancer and noncancer health risk impacts associated with diesel particulate matter from project construction. Results of the construction health risk assessment for the maximally exposed individual resident (MEIR) are presented in Table 5 and model outputs are presented in Appendix B.

Table 5. Construction Health Risk Assessment Results Unmitigated

Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
Cancer Risk MEIR	Per Million	1.62	10	Less than Significant
Chronic Hazard Index MEIR	Index Value	0.0019	1.0	Less than Significant

Source: Appendix B.

Note: CEQA = California Environmental Quality Act; MEIR = maximally exposed individual resident.
Risk estimates account for Tier 4 Final engines for construction equipment greater than 75 horsepower (APM-1).

As shown in Table 5, project construction activities would result in a maximum individual cancer risk of 1.62 in 1 million for the MEIR, which is less than the significance threshold of 10 in 1 million. Project construction would result in a Chronic Hazard Index of 0.0019, which is below the 1.0 significance threshold. The project's construction toxic air contaminants health risk impacts would be less than significant.

Operational Heath Risk Assessment

Less-than-Significant Impact. As detailed in Appendix B, an operational health risk assessment was performed to evaluate potential cancer and noncancer health risk impacts associated with toxic air contaminants from project operations. Results of the operational health risk assessment for the MEIR are presented in Table 6 and model outputs are presented in Appendix B.

Table 6. Operational Health Risk Assessment Results Unmitigated

Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
Cancer Risk MEIR	Per Million	1.09	10	Less than Significant
Chronic Hazard Index MEIR	Index Value	0.0003	1.0	Less than Significant

Source: Appendix B.
Notes: CEQA = California Environmental Quality Act; MEIR = maximally exposed individual resident.
Modeling accounts for implementation of zero emission electric landscaping and cargo handling equipment (APM-16).

As shown in Table 6, project operational activities would result in a maximum cancer risk of 1.09 in 1 million for the MEIR, which is less than the significance threshold of 10 in 1 million. Project operations would result in a Chronic Hazard Index of 0.0003 for the MEIR, which is below the 1.0 significance threshold. The project's operational toxic air contaminants health risk impacts would be less than significant.

Carbon Monoxide Hotspots

Less-than-Significant Impact. 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 Mojave Desert Air Basin (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 AVAQMD thresholds of significance for local CO emissions are the 1-hour and 8-hour CAAQS of 20 parts per million and 9 parts per million, respectively. By definition, these levels are protective of public health. As noted previously, the MDAB is currently designated attainment for both state and national CO ambient air quality standards.

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. Based on the traffic estimates prepared for the project, the highest average daily trips on a segment of road would be 5,289 daily trips on Avenue H, east of 35th Street West, 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.

Health Effects of Criteria Air Pollutants

Less-than-Significant Impact. Construction and operation of the project would generate criteria air pollutant emissions; however, the project would not exceed the AVAQMD mass-emission thresholds.

The MDAB is designated as nonattainment for O_3 for the NAAQS and CAAQS. Thus, existing O_3 levels in the MDAB are at unhealthy levels during certain periods. Health effects associated with O_3 include respiratory symptoms, worsening of lung disease leading to premature death, and damage to lung tissue (CARB 2019a). Because the project would not involve construction or operational activities that would result in O_3 precursor emissions (volatile organic compounds or NO_x) that would exceed the AVAQMD thresholds, the project is not anticipated to substantially contribute to regional O_3 concentrations and associated health impacts.

In addition to O_3, NO_x emissions contribute to potential exceedances of the NAAQS and CAAQS for nitrogen dioxide (NO_2) (since NO_2 is a constituent of NO_x). Health effects associated with NO_x and NO_2 include lung irritation and enhanced allergic responses (CARB 2019b). As depicted in Tables 5 and 6, project construction and operation would not exceed the AVAQMD thresholds for NO_x. Thus, the project is not expected to exceed the NO_2 standards or contribute to associated health effects.

Health effects associated with CO include chest pain in patients with heart disease, headache, light-headedness, and reduced mental alertness (CARB 2019c). CO tends to be a localized impact associated with congested intersections. CO hotspots were discussed previously as a less-than-significant impact. Thus, the project's CO emissions would not contribute to the health effects associated with this pollutant.

The MDAB is designated as nonattainment for PM_{10} under the CAAQS. Particulate matter contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing (EPA 2016). As with O_3 and NO_x, the project would not generate emissions of PM_{10} or $PM_{2.5}$ that would exceed AVAQMD's thresholds. Accordingly, the project's PM_{10} and $PM_{2.5}$ emissions are not expected to cause any increase in related health effects for these pollutants.

In summary, the project would not result in any potentially significant contribution to local or regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants. Impacts would be less than significant.

Valley Fever

Less-than-Significant Impact with Mitigation Incorporated. Valley fever or coccidioidomycosis is primarily a disease of the lungs caused by the spores of the *Coccidioides immitis* fungus. The spores are found in soils, become airborne when the soil is disturbed, and are subsequently inhaled into the lungs. After the fungal spores have settled in the lungs, they change into a multicellular structure called a spherule. Fungal growth in the lungs occurs as the spherule grows and bursts, releasing endospores, which then develop into more spherules.

Valley fever is not contagious, and therefore cannot be passed on from person to person. Most of those who are infected would recover without treatment within 6 months and would have a life-long immunity to the fungal spores. In severe cases, especially in those patients with rapid and extensive primary illness, those who are at risk for dissemination of disease, and those who have disseminated disease, antifungal drug therapy is used.

Valley fever is not highly endemic to the County, with an incident rate of 7.5 cases per 100,000 people (CDPH 2017). While cases are reported countywide, most cases have occurred in northern areas, with the case rate in Antelope Valley approximately nine times higher than that of other areas of the County (Los Angeles County 2017). 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); these counties 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).

However, in order to reduce fugitive dust from the project and minimize adverse air quality impacts, the project would employ dust control measures in accordance with AVAQMD Rules 401 and 403, which limit the amount of fugitive dust generated during construction. These requirements are consistent with California Department of Public Health recommendations, 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). Additionally, Mitigation Measure 1 would require personal protective respiratory equipment to be provided to construction workers and provide information to all construction personnel and visitors about valley fever. Following implementation of Mitigation Measure 1, the risk of exposure to valley fever would be reduced to a less-than-significant level.

In summary, the project would not result in a significant impact regarding valley fever exposure based on its geographic location, compliance with applicable regulatory standards and dust control measures, and implementation of Mitigation Measure 1, 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 with mitigation incorporated.

Mitigation Measure

1. Prior to ground disturbance activities, the project operator shall provide evidence to the Community Development Director that the project operator and/or construction manager has developed a Valley Fever Training Handout, training, and schedule of sessions for education

to be provided to all construction personnel. All evidence of the training session materials, handout(s), and schedule shall be submitted to the Community Development Director within 24 hours of the first training session. Multiple training sessions may be conducted if different work crews will come to the site for different stages of construction; however, all construction personnel shall be provided training prior to beginning work. The evidence submitted to the Community Development Director regarding the Valley Fever Training Handout and session(s) shall include the following:

- A sign-in sheet (to include the printed employee names, signature, and date) for all employees who attended the training session.
- Distribution of a written flier or brochure that includes educational information regarding the health effects of exposure to criteria pollutant emissions and valley fever.
- Training on methods that may help prevent valley fever infection.
- demonstration to employees on how to use personal protective equipment, such as respiratory equipment (masks), to reduce exposure to pollutants and facilitate recognition of symptoms and earlier treatment of valley fever. Where respirators are required, the equipment shall be readily available and shall be provided to employees for use during work. Proof that the demonstration is included in the training shall be submitted to the county. This proof can be via printed training materials/agenda, DVD, digital media files, or photographs.

The project operator also shall consult with the Los Angeles County Public Health to develop a Valley Fever Dust Management Plan that addresses the potential presence of the *Coccidioides* spore and mitigates for the potential for coccidioidomycosis (valley fever). Prior to issuance of permits, the project operator shall submit the plan to the Los Angeles County Public Health for review and comment. The plan shall include a program to evaluate the potential for exposure to valley fever from construction activities and to identify appropriate safety procedures that shall be implemented, as needed, to minimize personnel and public exposure to potential *Coccidioides* spores. Measures in the plan shall include the following:

- Provide HEP-filters for heavy equipment equipped with factory enclosed cabs capable of accepting the filters. Require contractors utilizing applicable heavy equipment to furnish proof of worker training on proper use of applicable heavy equipment cabs, such as turning on air conditioning prior to using the equipment.
- Provide communication methods, such as two-way radios, for use in enclosed cabs.
- Require National Institute for Occupational Safety and Health–approved half-face respirators equipped with minimum N-95 protection factor for use during worker collocation with surface disturbance activities, as required per the hazard assessment process.
- Require employees to be medically evaluated, fit-tested, and properly trained on the use of the respirators, and implement a full respiratory protection program in accordance with the applicable California Occupational Safety and Health Administration (Cal/OSHA) Respiratory Protection Standard (8 CCR 5144).
- Provide separate, clean eating areas with hand-washing facilities.

- Install equipment inspection stations at each construction equipment access/egress point. Examine construction vehicles and equipment for excess soil material and clean them, as necessary, before equipment is moved off site.
- Train workers to recognize the symptoms of valley fever and to promptly report suspected symptoms of work-related valley fever to a supervisor.
- Work with a medical professional to develop a protocol to medically evaluate employees who develop symptoms of valley fever.
- Work with a medical professional, in consultation with the Los Angeles County Public Health, to develop an educational handout for on-site workers and surrounding residents within 3 miles of the project site, and include the following information on valley fever: what are the potential sources/causes, what are the common symptoms, what are the options or remedies available should someone be experiencing these symptoms, and where testing for exposure is available. This handout shall be created by the project operator and reviewed by the project operator and Community Development Director prior to construction permit issuance. No less than 30 days prior to any work commencing, this handout shall be mailed to all existing residences within a specified radius of the project boundaries as determined by the Community Development Director. The radius shall not exceed 3 miles and is dependent upon the location of the project site.
- When possible, position workers upwind or crosswind when digging a trench or performing other soil-disturbing tasks.
- Prohibit smoking at the worksite outside of designated smoking areas; designated smoking areas will be equipped with handwashing facilities.
- Post warnings on site and consider limiting access to visitors, especially those without adequate training and respiratory protection.
- Audit and enforce compliance with relevant Cal/OSHA health and safety standards on the job site.

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. Based on available information, the project is not anticipated to result in other emissions that have not been addressed under Sections 1.3(a) through 1.3(c). As such, this analysis focuses on the potential for the project to generate odors.

The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source, the wind speeds and direction, and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

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 would be controlled through existing requirements and industry best management practices (BMPs) addressing proper storage and application of construction materials.

The project would also be required to comply with AVAQMD 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" (AVAQMD 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.

1.4 Biological Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Dudek conducted a literature review and field visit to determine the existing biological conditions and potential impacts to sensitive biological resources associated with the proposed project, including the project site and a 300-foot buffer (study area). The following analysis is based, in part, on the Biological Resources Technical Report prepared by Dudek in March 2023, included as Appendix C.

Literature Review

The following data sources were reviewed to assist with the assessment of biological resources:

- CDFW California Natural Diversity Database (CDFW 2023a)
- U.S. Fish and Wildlife Service Information for Planning and Consultation (USFWS 2023a)
- California Native Plant Society Inventory of Rare and Endangered Plants (CNPS 2023a)
- U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey (USDA 2023)
- CDFW Biogeographic Information and Observation System (CDFW 2023b)

Prior to conducting the field investigation, the California Natural Diversity Database and California Native Plant Society Inventory were queried based on the U.S. Geological Survey 7.5-minute topographic quadrangle map for Lancaster West, California, where the study area is located, as well as the surrounding eight U.S. Geological Survey 7.5-minute quadrangle maps (i.e., Little Buttes, Rosamond, Rosamond Lake, Del Sur, Lancaster East, Sleepy Valley, Ritter Ridge, and Palmdale). The purpose of this review was to determine whether special-status plant and wildlife species are known to occur in the vicinity of or within the study area.

Other literature reviewed included A Manual of California Vegetation, Online Edition (CNPS 2023b); the California Natural Community List (CDFW 2023c); State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW 2023d); State and Federally Listed Endangered and Threatened Animals of California (CDFW 2023e); and the CDFW California Wildlife Habitat Relationships Life History Accounts and Range Maps (CDFW 2023f). The following available resources were reviewed to assess the potential for jurisdictional waters: aerial photographs (Google Earth 2023), the U.S. Geological Survey Newhall 7.5-minute topographic quadrangle map (USGS 2018), the National Hydrography Dataset and Watershed Boundary Dataset (USGS 2023), and the U.S. Fish and Wildlife Service National Wetland Inventory (USFWS 2023b).

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 Wildlife or U.S. Fish and Wildlife Service?***

Less-than-Significant Impact with Mitigation Incorporated. The project would cause direct and indirect impacts to special-status plants and special-status wildlife.

Eight wildlife species were recorded within the project site during the biological reconnaissance survey; these species are provided in Appendix C, Species Compendium, to Appendix C of this mitigated negative declaration (MND). Seven of the recorded species were birds, and the study area could support nesting birds. No amphibian species were observed, and none are expected to occur due to the lack of aquatic habitat on site. One reptile species, common side-blotched lizard (*Uta stansburiana*), was observed during the survey; western fence lizard (*Sceloporus occidentalis*) is another common reptile species that could occur within the study area. No mammal species were observed during the survey; however, burrows associated with kangaroo rat (*Dipodomys* sp.) were observed and coyote (*Canis latrans*) may use the project site and surrounding area for foraging (Appendix C).

Direct Impacts

Special-Status Plants

Alkali mariposa lily (*Calochortus striatus*) is considered rare, threatened, or endangered in California and elsewhere (CNPS 2023a) and meets the definition of special-status under the California Environmental Quality Act (CEQA). Alkali mariposa lily has suitable habitat throughout the 18.15 acres of shadscale on the project site; however, only 41 individuals were observed scattered throughout the site despite it being an above average rain year (LADPW 2023) that has resulted in above average bloom for most plant species in the project vicinity. As such, the project site is not expected to support a substantial population above the 41 individuals observed. Nevertheless, the species would be directly impacted during vegetation removal and grading and impacts would be significant without mitigation. To reduce impacts to a less-than-significant level, monetary compensation would be required for the loss of 18.15 acres of suitable habitat for the species per Mitigation Measure 2. The monetary compensation would be used to fund the City's acquisition of mitigation land, restoration of habitat, environmental education, or other uses. Implementation of Mitigation Measure 2 would reduce the direct impacts to special-status plants to a level that is less than significant.

Special-Status Wildlife

No special-status wildlife species are expected within the study area. The site occurs within the known range of burrowing owl (*Athene cunicularia*) and there are modern documented occurrences within 5 miles of the project site (CDFW 2023a). The soils on site are marginal for fossorial mammals larger than rodents, and there were no burrows greater than 4 inches in width observed on the project site. However, the burrowing owl is an opportunistic species that can move onto a site once a suitable burrow is established and unoccupied. Therefore, there is low potential for this species to occur within the project site and pre-construction surveys for the species would be warranted. Impacts to burrowing owl would be significant without mitigation. With implementation of Mitigation Measure 3, Pre-Construction Burrowing Owl Survey, and Mitigation Measure 4, Pre-Construction Nesting Bird Survey, the impacts to special-status wildlife would be less than significant.

Indirect Impacts

Special-status plants in the areas adjacent to the project site could be inadvertently impacted should construction workers or vehicles stray out of the project footprint. Invasive plant species could be introduced by the project during construction and installation of the landscaping that could alter the habitat for special-status plants in the project vicinity. Invasive plants could compete with special-status plants for resources (i.e., water) and space. These indirect impacts could be significant without mitigation. To reduce impacts to a less-than-significant level, monetary compensation would be required for the loss of suitable habitat for the species per Mitigation Measure 2. The monetary compensation would be used to fund the City's acquisition of mitigation land, restoration of habitat, environmental education, or other uses. Implementation of Mitigation Measure 2 would reduce the indirect impacts to special-status plants to a level that is less than significant.

Mitigation Measures

2. Spring Sensitive Plan Survey. Prior to the issuance of any construction related permits, the applicant shall retain a biologist to conduct a springtime sensitive plant survey specifically focused on alkali mariposa lilies and Rosamond eriastrum. In the event that a springtime survey cannot be conducted, the biologist shall map all habitat suitable for these special status plant species. The biologist's report shall include the total acreage of each special status species present or the suitable habitat for these species and the applicant shall be required to pay $2,405/acre for these areas. The funds shall be placed into a designated account and utilized for the acquisition of conservation habitat within the Antelope Valley.

3. Pre-Construction Burrowing Owl Survey. Prior to the initiation of construction activities, a qualified biologist shall conduct pre-construction surveys for burrowing owl to determine presence/absence of the species. The survey shall be conducted in accordance with the most current California Department of Fish and Wildlife protocol within 30 days of site disturbance to determine whether the burrowing owl is present at the site. Pre-construction surveys shall include suitable burrowing owl habitat within the project footprint and within 500 feet of the project footprint (or within an appropriate buffer as required in the most recent guidelines and where legal access to conduct the survey exists). If burrowing owls. are not detected during the clearance survey, no additional mitigation is required.

   If burrowing owl is detected, a 160-foot non-disturbance buffer shall be maintained between the project activities and the occupied area. The owl will be monitored daily by the Biological Monitor until it has left the site on its own volition. Construction work may proceed in the after the owl has left the site. Results of the surveys and monitoring shall be provided to the City of Lancaster.

4. Pre-Construction Nesting Bird Survey: Project construction shall be conducted in compliance with the conditions set forth in the Migratory Bird Treaty Act and California Fish and Game Code to protect active bird/raptor nests. To the maximum extent feasible, vegetation removal should occur during the non-breeding season for nesting birds (generally late September to early March) and nesting raptors (generally early July to late January) to avoid impacts to nesting birds and raptors. If the project requires that work be initiated during the breeding season for nesting birds (March 1–September 30) and nesting raptors (February 1–June 30), in order to avoid direct impacts on active nests, a pre-construction survey shall be conducted in the study area by qualified Biologists (approved by the City of Lancaster) for nesting birds and/or raptors within 3 days prior to project activities. If the Biologist does not find any active nests within or immediately adjacent to the impact areas, the vegetation clearing/construction work shall be allowed to proceed.

   If the Biologist finds an active nest within or immediately adjacent to the construction area and determines that the nest may be impacted or breeding activities substantially disrupted, the Biologist shall delineate an appropriate buffer zone around the nest depending on the sensitivity of the species and the nature of the construction activity. To protect any nest site, the following restrictions to construction activities should be required until nests are no longer active, as determined by a qualified Biologist (someone who has more than 3 years of experience of conducting nesting bird surveys and monitoring active nests during construction): (1) clearing limits shall be established within a buffer around any occupied nest and (2) access and surveying shall be restricted within the buffer of any occupied nest, unless otherwise determined by a qualified Biologist. The buffer shall be 100–300 feet for non-raptor nesting birds and 300–500 feet for nesting raptors. Construction can proceed into the buffer when the qualified Biologist has determined that the nest is no longer active.

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 Wildlife or U.S. Fish and Wildlife Service?***

Less-than-Significant Impact with Mitigation Incorporated. The project site does not contain any riparian habitats or other sensitive vegetation communities. In addition, no critical habitat for wildlife has been designated within the project site (USFWS 2023a). Grading of the project site would result in direct impacts to 25 potential jurisdictional non-wetland water features for a total of 3.08 acres of impacts. Although impacts to these features would be significant without mitigation, the project would implement Mitigation Measure 5, which would reduce these impacts to less than significant by providing funds to the City to acquire mitigation land or restore habitat that includes similar features. No aquatic features would be subject to U.S. Army Corps of Engineers jurisdiction due to the lack of connectivity to a Traditionally Navigable Water. Additionally, no streams or lakes were identified on the project site. As such, a Lake or Stream Alteration Agreement with CDFW is not warranted. However, CDFW would have discretion if a permit is needed from the agency. A network of 25 isolated depressions were found to be potentially regulated by the RWQCB as waters of the state and impacts to these features would require a Waste Discharge Requirement permit, as identified in Mitigation Measure 5.

Therefore, impacts associated with riparian habitats and other sensitive natural communities would be less than significant after mitigation has been incorporated.

Mitigation Measure

5. Jurisdictional Resources: The proposed project would impact a series of isolated depressions on site potentially regulated by the Regional Water Quality Control Board Lahontan Region. The project applicant shall be required to secure a Waste Discharge Requirement (WDR) permit prior to initiating construction in the depressions, including compensatory mitigation for direct impacts to the depressions. A copy of the WDR permit shall be provided to the City prior to issuance of a grading permit.

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 project would have direct and temporary indirect impacts that would potentially have a substantial adverse effect on state or federally protected wetlands; however, the project would implement mitigation measures and permits. The direct and temporary indirect impacts are explained in more detail below.

Direct Impacts

Impacts to water features may require the necessary permits from the RWQCB. Therefore, the applicant shall consult with the Lahontan RWQCB to determine if the isolated depressions on the project site are subject to their jurisdiction. Any necessary permits from the RWQCB shall be obtained prior to the issuance of construction related permits (e.g., grading, building) by the City.

Indirect Impacts

Potential temporary indirect impacts could result from construction activities and would include impacts from the generation of fugitive dust and the potential introduction of chemical pollutants (including herbicides). Excessive dust can decrease the vigor and productivity of vegetation through effects on light penetration, photosynthesis, respiration, and transpiration, as well as increased penetration of phytotoxic gaseous pollutants and increased incidence of pests and diseases. Erosion and chemical pollution (fuel, oil, lubricants, paints, release agents, and other construction materials) may affect wetlands/jurisdictional waters. The release of chemical pollutants can reduce the water quality downstream and degrade adjacent habitats. However, during construction, erosion-control measures would be implemented as part of the stormwater pollution prevention plan (SWPPP) for the project. Prior to the start of construction activities, the contractor is required to file a Permit Registration Document with the State Water Resources Control Board in order to obtain coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2009-009-DWQ, NPDES No. CAS000002) or the latest approved general permit. This permit is required for earthwork that results in the disturbance of 1 acre or more of total land area. The required SWPPP will mandate the implementation of BMPs to reduce or eliminate construction-related pollutants in the runoff, including sediment.

Therefore, direct impacts and temporary indirect impacts would be less than significant due to compliance with regulations and mitigation measures incorporated.

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 with Mitigation Incorporated. The project site does not function as a wildlife corridor or habitat linkage and does not occur within any designated wildlife corridors of habitat linkages. Direct or indirect impacts to wildlife corridors and habitat connectivity are not anticipated and would therefore be less than significant.

In addition, the project would comply with the Migratory Bird Treaty Act and California Fish and Game Code Sections 3503, 3503.5, and 3513 to prevent the disturbance of nesting birds during construction activities. This would involve clearing the project site of all vegetation outside the nesting season (from September 1 through January 31) or, if construction would commence within the nesting season (which generally runs from February 1 through August 31), would include conducting a pre-construction nesting bird survey to determine the presence of nesting birds or active nests at a construction site. Any active nests and nesting birds must be protected from disturbance by construction activities through buffers between nest sites and construction activities. The buffer areas may be removed only after the birds have fledged. Compliance with the Migratory Bird Treaty Act would ensure that the implementation of the project would not interfere with the nesting of any native bird species. With the implementation of Mitigation Measure 4, direct and indirect impacts would be less than significant with mitigation incorporated.

e) ***Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?***

No Impact. The proposed project would not conflict with any local policies or ordinances, such as a tree preservation policy, protecting biological resources. The proposed project would be subject to the requirements of Ordinance No. 848, Biological Impact Fee, which requires the payment of $770/acre to offset the cumulative loss of biological resources in the Antelope Valley as a result of development. This fee is required of all projects occurring on previously undeveloped land regardless of the biological resources present and is utilized to enhance biological resources through education programs and the acquisition of property for conservation. Therefore, no impacts would occur.

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?***

No Impact. There are no habitat conservation plans, natural community conservation plans, or other approved local, regional, or state habitat conservation plans applicable to the project site. The West Mojave Coordinated Habitat Conservation Plan only applies to federal land, specifically land owned by the Bureau of Land Management. In conjunction with the federal Coordinated Habitat Conservation Plan, a habitat conservation plan was proposed that would have applied to all private properties within the plan area. However, this habitat conservation plan was never approved by the CDFW nor was it adopted by the local agencies (counties and cities) within the plan area. As such, there is no habitat conservation plan that is applicable to the project site and no impacts would occur.

1.5 Cultural Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
V. **CULTURAL RESOURCES** Would the project:				
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 formal cemeteries?	☐	☒	☐	☐

The following analysis is based, in part, on the Archaeological Resources Assessment prepared by Dudek in March 2023, included as Appendix D.

a) ***Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?***

No Impact. As defined by the CEQA Guidelines (14 CCR 15000 et seq.), a "historical resource" is considered to be a resource that is listed in or eligible for listing in the National Register of Historic Places or California Register of Historical Resources (CRHR), has been identified as significant in a historical resource survey, or is listed on a local register of historical resources. Under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (California Public Resources Code [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]).

As presented in the project-specific Archaeological Resources Assessment for the project (Appendix D), a review of historical aerial photographs indicates that the project site has remained undeveloped within a desert landscape with a road running east to west in the same location of present-day Avenue H, along the southern boundary of the project site. By 1987, a dirt road extending north from present-day Avenue H is visible along the western boundary of the project site, consistent with the present-day layout of the dirt road that divides the project site and the extant Michaels Distribution Center. In 2005, the dirt road shown in the 1987 aerial is shown as graded and widened from Avenue H to the northern extent of the project site's western boundary. The southern terminus of this road, near the southwest corner of the project site, is partially paved. The Michaels Distribution Center to the west of the project site is developed and appears consistent with present-day conditions. The southwest corner of the project site appears to be covered with gravel or other material that is not native soil and appears to be associated with the widening of the dirt road to the east of the project site for the Michaels Distribution Center. This is consistent with present-day site conditions (Appendix D).

An intensive-level archaeological pedestrian survey of the project site was completed on December 15, 2022, by Dudek. The project site is comprised of undeveloped lots within a desert landscape, immediately adjacent to the east of an existing warehouse facility. The survey addressed the two parcels that make up the project site (Assessor's Parcel Numbers 3107-026-077 and 3107-026-079). Careful attention was given to barren ground including at the base of bushes, washes, and any subsurface soils exposed by burrowing animals. Soils observed on site consist of light grey very fine-grained silty sand and yellow brown sandy loams with abundant desert shrubs and multiple dry washes. All soils appear consistent with the U.S. Department of Agriculture's description of Pond-Oban complex and Tray loam, slightly saline (Appendix D). The project site has patchy ground visibility that ranges from fair to excellent (50% to 100%). Ground disturbances include aeolian deposited trash, including plastics and cardboard distributed across the site; various vehicle tracks; and bioturbation activities. Recent rain left alluvial deposits across the project site and evidence of localized flooding. No historic-period or prehistoric archaeological resources were observed as a result of the survey.

Therefore, the project would not cause a substantial adverse change in the significance of a known historical resource pursuant to Section 15064.5. However, the potential for intact cultural deposits (archaeological in nature, as opposed to historic in nature) to exist within native soils (below between 3 and 5 feet below ground surface) to the depths of proposed ground disturbance is unknown. In the event that unanticipated cultural resources are encountered during project implementation, an assessment and evaluation of the resources would be conducted, potentially resulting in the determination that the resource is historical in accordance with the definition outlined in Section 15064.5. As a result, the project has a potential to impact and thus cause a substantial adverse change in the significance of a yet unknown historical resource.

Thus, mitigation is required to address impacts related to the inadvertent discovery of yet unknown historical resources. Mitigation Measure 6 is provided, which requires that all project construction personnel participate in a Workers Environmental Awareness Program training for the proper identification and treatment of inadvertent discoveries. Mitigation Measure 7 requires the retention of an on-call qualified archaeologist to address inadvertent discoveries. Mitigation Measure 8 requires construction work occurring within 100 feet of a cultural resource discovery be immediately halted until the qualified archaeologist, meeting the Secretary of Interior's Professional Qualification Standards for Archaeology, can assess and evaluate the discovery pursuant to CEQA. Additionally, Mitigation Measure 8 requires the inadvertent discovery clause be included on all construction plans. With implementation of Mitigation Measure 6, Mitigation Measure 7, and Mitigation Measure 8, potential impacts to historical resources would be reduced to a level that is less than significant with mitigation incorporated.

Mitigation Measures

6. Workers Environmental Awareness Program Training. All construction personnel and monitors who are not trained archaeologists should be briefed regarding unanticipated discoveries prior to the start of construction activities. A basic presentation should be prepared and presented by a qualified archaeologist to inform all personnel working on the project about the archaeological sensitivity of the area. The purpose of the Workers Environmental Awareness Program 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 contacting of the on-call archaeologist and, if appropriate, tribal representative. Necessity of training attendance should be stated on all construction plans.

7. On-Call and Periodic Archaeological Construction Monitoring. In consideration of the general sensitivity of the project site for cultural resources, a qualified archaeologist should be retained to conduct periodic spot monitoring, as well as on call response in the case of an inadvertent discovery of archaeological resources. A qualified 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. The archaeologist should be responsible for maintaining monitoring logs. Following the completion of construction, the qualified archaeologist should provide an archaeological monitoring report to the lead agency and the South Central Coastal Information Center with the results of the cultural monitoring program.

8. Inadvertent Discovery of Archaeological Resources. In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the project, all construction work occurring within 100 feet of the find should immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, can 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 (CEQA) (14 CCR 15064.5[f]; California Public Resources Code 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 tribal representative may be necessary.

b) ***Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?***

Less-than-Significant Impact with Mitigation Incorporated. A California Historical Resources Information System (CHRIS) database records search, a review of historical maps and aerial photographs, a review of a geotechnical report prepared for the project site, an archaeological pedestrian survey, and an analysis of the sensitivity of the project site to contain archaeological resources were conducted as part of the Archaeological Resources Assessment that was prepared for the project (Appendix D).

A review of the CHRIS records search (completed November 3, 2022) indicated that 17 previous cultural resources studies have been conducted within 1 mile of the project site. These studies were conducted between 1989 and 2014. Of these investigations, one study, LA-07991, overlaps the project site and two studies, LA-02272 and LA09679, are adjacent to west and south, respectively. The entirety (100%) of the project site has been subject to an archaeological investigation; however, this previous investigation did not include an intensive-level archaeological pedestrian survey.

The CHRIS records search also indicated that 11 cultural resources have been previously recorded within 1 mile of the project site, none of which are located within or immediately adjacent to the project site. These resources consist of five historic-period archaeological sites, three prehistoric isolates, and three historic-period archaeological isolates. These resources were formally recorded between 1990 and 2005. The resource closest to the project site is a historic-period archaeological site (P-36-002824), which is approximately 380 meters (1,250 feet) to the north. The remaining resources identified through the CHRIS records search are primarily mapped to the north, with one to the west and one to the southeast of the project site.

In addition to a CHRIS records search, Native American coordination with the Native American Heritage Commission (NAHC) for a Sacred Lands File (SLF) database search was conducted. The SLF records search was requested on May 31, 2023, to determine the presence of any Native American cultural resources within the project site. The NAHC SLF records search results (received June 27, 2023) were negative for known Native American heritage resources within the project site.

An intensive-level archaeological pedestrian survey of the project site was completed on December 15, 2022, by Dudek, using standard archaeological procedures and techniques. The intensive-level survey methods consisted of a pedestrian survey conducted in parallel transects spaced no more than 10 meters apart (approximately 30 feet). 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 were only considered if they were observed to be within discrete deposits or determined to be from a primary depositional location. Ground disturbances such as burrows, cut banks, trails/vehicular tracks, and drainages were also visually inspected for exposed subsurface materials.

No cultural resources were identified as a result of the review of the CHRIS database, SLF results, or pedestrian survey conducted under reliable conditions. Based on geotechnical testing results, soils present within the 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 a review of the historical aerials. Additionally, evidence of natural modification through wind and water erosion and depositional events was observed during the pedestrian survey. Proposed depths of ground disturbance are anticipated to extend between 3 and 5 feet across the project site and to an assumed maximum depth of 20 feet at the northeast and southeast corners of the project site for installation of the detention basins.

Under AB 52, tribal cultural resources (TCRs) must be considered under CEQA and additional Native American consultation requirements are provided for the lead agency. PRC Section 21074 describes a TCR as a site, feature, place, cultural landscape, sacred place, or object that is considered of cultural value to a California Native American tribe. AB 52 formalizes the lead agency–tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the project area, including tribes that may not be federally recognized.

In consideration of this study’s findings relative to the proposed project’s depths of ground disturbance, there is potential to find unknown cultural resources within the project site during project implementation, particularly within subsurface soils. Therefore, Mitigation Measures 6–15 are provided to ensure that any inadvertent discovery of archaeological resources will be treated appropriately and in accordance with the CEQA. Mitigation Measure 9 would require a cultural resource monitoring and inadvertent discovery plan and Mitigation Measure 10 includes an inadvertent discovery clause for human remains to be implemented and included on all construction plans. These measures would ensure that potential project impacts to archaeological resources and human remains would be less than significant with mitigation incorporated.

Mitigation Measures

9. Cultural Resource Monitoring and Inadvertent Discovery Plan. Prior to ground disturbance activities, the applicant and/or subsequent responsible parties should 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 Los Angeles County preferred), to compose a Cultural Resource Monitoring and Inadvertent Discovery Plan. 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 the California Environmental Quality Act throughout the duration of the project. The existence of 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.

10. 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.

11. 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 (experience within Los Angeles County preferred), to compose a Cultural Resource Monitoring and Inadvertent Discovery Plan, in consultation with Consulting Tribes. 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 the California Environmental Quality Act throughout the duration of the project. The existence of and importance of adherence to this plan shall be stated on all project site plans intended for use by those conducting the ground disturbing activities.

12. Tribal Cultural Resources Workers Environmental Awareness Program Training. Prior to ground disturbance activities, Consulting Tribes shall be invited to provide a Tribal Cultural Resources (TCR) Workers Environmental Awareness Program (WEAP) Training and shall be conducted in conjunction with the cultural resources WEAP as outlined in Mitigation Measure

6. The TCR WEAP training shall be provided to all construction personnel to inform on the aspects of TCRs and the procedures for contacting the Tribal entities that have consulted on the project.

13. Tribal Monitoring. Prior to the issuance of the grading permit, the applicant and/or subsequent responsible parties shall secure agreements with the Consulting Tribes to conduct full-time Tribal monitoring during the "initial pass" or initial disturbance of soils that shall include, but is not limited to, demolition, clearing, grubbing, grading, excavating, digging, trenching, plowing, drilling, tunneling, quarrying, leveling, driving posts, auguring, blasting, stripping topsoil or similar activity. "Initial pass" refers to the first disturbance of all soils to the total depth of which they will be disturbed initially. If cultural resources are not encountered after the initial pass, additional Tribal monitoring is not required. However, if cultural resources are encountered during the initial pass, the Tribal Monitor(s) shall observe all remaining ground-disturbing activities, no matter the depth or frequency to which the soil was previously observed, until all ground disturbing activities are complete. Tribal Monitoring services will continue until confirmation is received from the project applicant and/or subsequent responsible parties, in writing, that all scheduled activities pertaining to Tribal Monitoring are complete, be it initial pass or all disturbance, dependent upon inadvertent discovery.

    If the project's scheduled activities requiring Tribal Monitoring are suspended without a confirmed date for the resumption of activities requiring Tribal Monitoring, a confirmed resumption date shall be submitted to the Tribe(s) by the applicant and/or subsequent responsible parties, in writing via email, providing 5 days' notice (if possible).

    If cultural resources are encountered, the Tribal Monitor will have the authority to request that ground-disturbing activities cease within 100 feet of discovery and a qualified archaeologist meeting Secretary of Interior standards retained by the project applicant, as well as the Tribal Monitor shall assess the find. Discoveries shall be treated in according to the Cultural Resource Monitoring and Inadvertent Discovery Plan developed for the project.

14. Inadvertent Discovery of Human Remains. If human remains or funerary objects are encountered during any activities associated with the project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the discoveries shall be treated in accordance with state and local regulations, including California Health and Safety Code Section 7050.5, California Public Resources Code Section 5097.98, and the California Code of Regulations Section 15064.5(e).

15. Disposition of Tribal Cultural Materials and Coordination with Consulting Tribes. The City and/or applicant shall, in good faith, consult and cooperate with the Consulting Tribes on the disposition and treatment of any Tribal Cultural Resource encountered during all ground disturbing activities.

c) *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

Less-than-Significant Impact with Mitigation Incorporated. No cultural resources were identified as a result of a review of the CHRIS database and pedestrian survey conducted under reliable conditions. Based on geotechnical testing results, soils present within the 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 a review of the historical aerials. Additionally, evidence of natural modification through wind and water erosion and depositional events was observed during the pedestrian survey. Proposed depths of ground disturbance are anticipated to extend between 3 and 5 feet across the project site and to an assumed maximum depth of 20 feet at the northeast and southeast corners of the project site for installation of the detention basins. Though unlikely, in consideration of this study's findings relative to the proposed project's depths of ground disturbance, there is potential to find unknown human remains within the project site during project implementation, particularly within subsurface soils. Therefore, Mitigation Measure 14 is provided which includes an inadvertent discovery clause of archaeological resources and human remains to be implemented and included on all construction plans. Compliance with these measures will ensure that potential project impacts to unanticipated discovery of human remains would be less than significant with mitigation incorporated.

1.6 Energy

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Energy Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

a) ***Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?***

Construction

Electricity

Less-than-Significant Impact. Temporary electric power for as-necessary lighting and electronic equipment (such as computers inside temporary construction trailers and heating, ventilation, and air conditioning [HVAC]) would be provided by Southern California Edison. The amount of electricity used during project construction would be minimal because typical demand stems from the use of electronic equipment, in addition to electrically powered hand tools. As the electricity used for construction activities would be temporary and minimal, impacts related to electricity consumption during project construction would be less than significant.

Natural Gas

Less-than-Significant Impact. Natural gas is not anticipated to be required during construction of the proposed project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed under the subsection “Petroleum.” Any minor amounts of natural gas that may be consumed as a result of construction would be temporary and negligible and would not have an adverse effect on the environment; therefore, impacts would be less than significant.

Petroleum

Less-than-Significant Impact. Off-road equipment used during construction of the project would primarily rely on diesel fuel, as would vendor and haul trucks. In addition, construction workers would travel to and from the project site throughout the duration of construction. It is assumed in this analysis that construction workers would travel in gasoline-powered light-duty vehicles.

The estimated diesel fuel usage from construction equipment, haul trucks, vendor trucks, and on-site water trucks, as well as estimated gasoline fuel usage from worker vehicles, is shown in Table 7.

Table 7. Total Proposed Project Construction Petroleum Demand

Scenario	Off-Road Equipment (diesel)	Haul Trucks (diesel)	Vendor Trucks (diesel)	On-Site Water Trucks (diesel)	Worker Vehicles (gasoline)
	Gallons				
Project Construction	31,331.26	21,376.59	15,588.76	10.77	21,407.35
Total Petroleum Consumed for Project Construction					**89,714.73**

Source: Appendix B.

Construction associated with the development of the project is estimated to consume a total of approximately 89,715 gallons of petroleum. The project would be subject to the California Air Resources Board (CARB) In-Use Off-Road Diesel Vehicle Regulation that applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. The regulation (1) imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles; (2) requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System) and labeled; (3) restricts the adding of older vehicles into fleets starting on January 1, 2014; and (4) requires fleets to reduce their emissions by retiring, replacing, or repowering older engines or installing Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). The fleet must either show that its fleet average index is less than or equal to the calculated fleet average target rate or that the fleet has met the Best Achievable Control Technology requirements.

Overall, while construction activities would consume petroleum-based fuels, consumption of such resources would be temporary and would cease upon the completion of construction. Further, the petroleum consumed related to construction would be typical of construction projects of similar types and sizes and would not necessitate new petroleum resources beyond what are typically consumed in California. Therefore, because petroleum use during project construction would be temporary and minimal and would not be wasteful or inefficient, impacts would be less than significant.

Operation

Electricity

Less-than-Significant Impact. Project operation would require electricity for multiple purposes including, but not limited to, building heating and cooling, lighting, appliances, landscaping equipment, and cargo handling equipment. For the project, 100% of the building electricity (including electric landscaping and cargo handling equipment charging) would be offset by rooftop solar. As such, upon project implementation, electricity demand at the project site would increase by 289,242 kilowatt-hours per year for parking lot lighting. Although electricity consumption would increase at the project site, the project would result in a highly energy efficient building and the additional electricity demand for the proposed project would not be unusual or wasteful as compared to overall local and regional demand for energy resources. For these reasons, electricity consumption of the project would not be considered inefficient or wasteful, and impacts would be less than significant.

Natural Gas

Less-than-Significant Impact. The project is estimated to consume approximately 7,621,615 thousand British thermal units of natural gas per year. The project proposes conventional industrial uses reflecting contemporary energy efficient/energy conserving designs and operational programs. Uses proposed by the project are not inherently energy intensive and the project natural gas demands in total would be comparable to other projects of similar scale and configuration. Additionally, the project is subject to statewide mandatory energy requirements as outlined in Title 24, Part 6, of the California Code of Regulations. Prior to project approval, the applicant would ensure that the project would meet Title 24 requirements applicable at that time, as required by state regulations through their plan review process. Thus, the natural gas consumption of the project would not be considered inefficient or wasteful, and impacts would be less than significant.

Petroleum

Less-than-Significant Impact. During operations, fuel consumption would involve the use of motor vehicles traveling to and from the project site under the project. Fuel demand estimates for the project are provided in Table 8.

Table 8. Operational Petroleum Demand

Scenario	Employee Vehicles (gallons of gasoline)	Trucks (gallons of diesel)
Project Operations	84,965.83	322,331.05
Total Petroleum Consumed for Project Operations		**407,296.88**

Source: Appendix B.

As summarized in Table 8, the project would result in an estimated annual increase in fuel demand of approximately 407,297 gallons of fuel. Fuel would be provided by current and future commercial vendors. Trip generation and VMT associated with the project are consistent with other industrial uses of similar scale and configuration. That is, the project does not propose uses or operations that would inherently result in excessive and wasteful activities or associated excess and wasteful vehicle energy consumption. In addition, as detailed in Attachment D to Appendix B, there would be no net increase in VMT per service population with the project after mitigation and there would be a slight decrease in the total regional VMT with the project after mitigation has been implemented, since the project would fulfill a need for industrial warehouse uses and employment opportunities where they do not currently exist, thus eliminating the need to travel farther distances for such services and employment opportunities. Also, although not accounted for in Table 8, the project would implement measures that would further reduce petroleum demand, such as the incorporation of EV charging spaces and stations. Finally, enhanced fuel economies due to federal and state regulatory actions and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. As supported by the preceding discussions, project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary, and impacts would be less than significant.

Renewable Energy Potential

As part of the project's design process, the applicant considered how the project could potentially increase its reliance on renewable energy sources to meet the project's energy demand. Renewable energy sources that were considered for their potential to power the project, consistent with the California Energy Commission's definition of eligible renewables, include biomass, geothermal, solar, wind, and small hydroelectric facilities.

Given the project's location and the nature of the project, there are considerable site constraints including incompatibility with surrounding land uses for large scale power generation facilities, unknown interconnection feasibility, potential incompatibility with utility provider systems, and no known water or geothermal resources to harness, that would eliminate the potential for biomass, geothermal, wind, and hydroelectric renewable energy to be installed on site.

The project would comply with all applicable Title 24 code provisions, such as the solar ready building mandatory requirements. Beyond that, the project would commit to on-site solar generation sufficient to meet 100% of the project's total operational energy requirements from within the building envelope.

In summary, the project includes the on-site renewable energy source (i.e., solar) that was determined to be feasible for the site and does not include the on-site renewable energy sources that were determined to be infeasible.

Summary

The project would use renewable energy on site as determined to be feasible and would not result in wasteful, inefficient, or unnecessary consumption of energy resources, including electricity, natural gas, or petroleum during project construction or operation. Impacts would be less than significant.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less-than-Significant Impact. The project would be subject to and would comply with, at a minimum, the California Building Energy Efficiency Standards (24 CCR Part 6). Part 6 of Title 24 establishes energy efficiency standards for non-residential buildings constructed in California in order to reduce energy demand and consumption. As such, the project would comply with the California code requirements for energy efficiency. Part 11 of Title 24 sets forth voluntary and mandatory energy measures that are applicable to the project under the California Green Building Standards. The California Green Building Standards institute mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, high-rise residential, state-owned buildings, schools, and hospitals, as well as certain residential and non-residential additions and alterations. Additionally, energy consumed by the project's operation would be less than or comparable to energy consumed by other industrial uses of similar scale and intensity that are constructed and operating in California. On this basis, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This impact would be less than significant.

1.7 Geology and Soils

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact. The Alquist-Priolo Zones Special Studies Act defines active faults as those that have experienced surface displacement or movement during the last 11,000 years. As shown in Section III of the General Plan, the City is traversed by the San Andreas Fault System (City of Lancaster 2009). The Alquist-Priolo Earthquake Fault Zone, as identified in the General Plan Safety Element, is approximately 9.4 miles from the project site (City of Lancaster 2022). The proposed development lies outside of any Alquist-Priolo Special Studies Zone, and damage due to direct fault rupture is considered unlikely (Appendix E, Geotechnical Investigation). Additionally, based on a review of the California Department of Conservation regulatory maps, the project site is not located in a designated Fault Hazard Zone (CDOC 2015). Therefore, no impacts associated with fault rupture would occur.

ii) Strong seismic ground shaking?

Less-than-Significant Impact. Similar to other areas located in the seismically active Southern California region, the City is susceptible to strong ground shaking during an earthquake. However, as previously addressed in Section 1.7(a)(i), the project site is approximately 9.4 miles from the San Andreas Fault Zone, which is capable of producing a Magnitude 6.7 earthquake (City of Lancaster 2022). Pursuant to Title 15, Buildings and Construction, of the City's Municipal Code, the project would incorporate the design recommendations included in the project-specific geotechnical report, included as Appendix E, which will be subject to review and approval by City staff prior to issuance of a grading permit. The project's geotechnical report provides specific design recommendations to ensure the structural integrity of the project in the event that seismic ground shaking is experienced at the project site. These recommendations include performing remedial grading, over-excavating existing soils, and recompacting these soils with structured fill, among other technical design recommendations (Appendix E). Additionally, the project's structures would be designed consistent with the most recent version of the California Building Code, which includes universal standards relating to seismic load requirements. With implementation of the recommendations of the project's geotechnical report, impacts associated with strong seismic ground shaking would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

Less-than-Significant Impact. Liquefaction occurs when partially saturated soil loses its effective stress and enters a liquid state, which can result in the soil's inability to support structures above. Liquefaction can be induced by ground-shaking events and is dependent on soil saturation conditions. According to the project's geotechnical report, liquefaction is not a concern for the project site (Appendix E). Therefore, impacts associated with liquefaction would be less than significant.

iv) Landslides?

No Impact. The project site is relatively flat and is not within an area susceptible to landslides as shown in General Plan Figure 5 (City of Lancaster 2022). Therefore, no impact associated with landslides would occur on the project site.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Short-Term Construction Impacts

Less-than-Significant Impact with Mitigation Incorporated. Temporary exposure of ground surfaces during construction could result in erosion or loss of soil during storm events. Construction projects that involve the disturbance of 1 or more acres of soil, including clearing, grading, and disturbances to the ground such as stockpiling or excavation, are required to obtain coverage under the State Water Resources Control Board General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit). The Construction General Permit requires the development and implementation of a SWPPP (SWRCB 2022a). The project would also be required to adhere to all applicable AVAQMD rules and regulations, including submittal and implementation of a dust control plan and signage per Mitigation Measure 16, including preparation of a SWPPP and installation of BMPs. Implementation of Mitigation Measure 16 would reduce the potential for both stormwater runoff and soil erosion impacts. Therefore, short-term construction impacts associated with soil erosion would be less than significant after mitigation.

Mitigation Measure

16. The applicant shall submit the required Construction Excavation Fee to the Antelope Valley Air Quality Management District (AVAQMD) prior to the issuance of any grading and/or construction permits. This includes compliance with all prerequisites outlined in District Rule 403, Fugitive Dust, including submission and approval of a Dust Control Plan, installation of signage and the completion of a successful on-site compliance inspection by an AVAQMD field inspector. Proof of compliance shall be submitted to the City.

Long-Term Operational Impacts

Less-than-Significant Impact. Following construction of the project, ground surfaces would be covered by the proposed warehouse building or otherwise stabilized with landscaping and paving. The stormwater generated on site, along with any sediments contained within the stormwater, would be directed into an on-site underground infiltration/detention system to be treated on site. Therefore, the potential for substantial soil erosion or the loss of topsoil would be less than significant.

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less-than-Significant Impact. As previously discussed, the project would be designed consistent with the specific design recommendations of the project's geotechnical report (Appendix E). Implementation of these recommendations would address potentially hazardous conditions and ensure structural integrity in the event that seismic-related issues are experienced at the project site. With implementation of the recommendations of the project's geotechnical report, impacts would be less than significant.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less-than-Significant Impact. Expansive soils are characterized by their potential shrink/swell behavior. Shrink/swell is the change in volume (expansion and contraction) that occurs in certain fine-grained clay sediments from the cycle of wetting and drying. Much damage can be caused to building foundations, roads, and other structures by the swelling and shrinking of soils as a result of wetting and drying. The upper soils at the project site are medium (Expansion Index = 0–71) in expansion potential (Appendix E). Compliance with California Building Code requirements would reduce the potential risk to people and structures due to unstable and expansive soils. Therefore, impacts associated with expansive soils would be less than significant.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The proposed project would connect directly to the municipal sanitary sewer system and would not require septic tanks or any other alternative wastewater disposal system. Therefore, no impacts associated with the ability of soils to support septic tanks would occur.

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. Paleontological resources, or fossils, are the remains of once living plants and/or animals and their traces (e.g., burrows and tracks) preserved in Earth's crust and are generally considered to be greater than 5,000 years old or prior to recorded human history per the Society of Vertebrate Paleontology guidelines (SVP 2010). With the exception of fossils found in low-grade metasedimentary rocks, significant paleontological resources are found in sedimentary rock units that are old enough to preserve the remains or traces of plants and animals.

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 the published surficial geologic mapping at a scale of 1:24,000, the project site is underlain by Holocene to Late Pleistocene (less than approximately 12,000 years ago) younger playa deposits (map unit Qyp) (Cohen et al. 2023; Hernandez 2010). As described in the geotechnical report (Appendix E), these deposits are typically stiff to hard sandy clays and medium dense clayey sands with varying amounts of silt that extend down to at least 25 feet below the ground surface (bgs).

Dudek requested a paleontological records search from the Natural History Museum of Los Angeles County, which reported no fossil localities from within the project site; however, they reported several nearby localities from the same sedimentary deposits that range in depth from surface to 21 feet bgs. Fossil locality LACM VP 7884 produced a fossil camel (*Camelops hesternus*) from an unknown Pleistocene formation at the intersection of East 3rd Street and East Avenue H-13 from a depth of 4 feet bgs (NHMLA 2023). LACM VP 7853 yielded rabbit (*Sylvilagus*), camel (Camelidae), antelope squirrel

(*Ammospermophilus*), kangaroo rat (*Dipodymus*), pocket mouse (*Perognathus*), pack rat (*Neotoma*), deer mouse (*Peromyscus*), vole (Microtinae), pocket gopher (*Thomomys*), iguana (*Dipsosaurus*), spiny lizard (*Sceloporus*), side blotched lizard (*Uta*), three types of colubrid snakes (*Trimorphodon, Masticophis, Phyllorhynchus*), night lizard (*Xantusia*), western alligator lizard (*Elgaria*), toothy skinks (*Plestiodon*), whiptail lizard (*Aspidocelis*), spiny lizards (*Phrynosomatidae*), and smelt (*Osmeridae*) from a depth of 3 to 11 feet bgs from an unknown Pleistocene formation at the Lancaster landfill. LACM VP 5942-5950 yielded the following taxa: kingsnake (*Lampropeltis*), unknown lizard (*Lacertilia*), leopard lizard (*Gambelia*), snake (*Ophidia*), gopher snake (*Pituophis*), rabbit (Lagomorpha), rodent (Rodentia), pocket gopher (*Thomomys*), pocket mouse (*Chaetodippus*), kangaroo rat (*Dipodomys*), and birds (Aves), from 0 to 9 feet bgs along Avenue S between Palmdale to Lake Los Angeles (NHMLA 2023). A single camelid (*Hemiauchenia*) specimen was found at LACM VP 7891 from a depth of 21 feet bgs in an unknown Pleistocene formation near the California Aqueduct (NHMLA 2023).

Nearby in Rosamond, California, the Travertine development along SR-14 yielded a mammoth molar and associated dentary fragment, which are housed at the Buena Vista Museum of Natural History in Bakersfield, California. Prehistoric Lake Thompson dates back to the Pleistocene and is thought to have occupied areas east and west of SR-14 in Rosamond, California, and possibly areas to the south in Lancaster, California. These lake deposits have been associated with the recovery of other Pleistocene, or "Ice Age," paleontological resources (Wilkerson et al. 2011).

Holocene to late Pleistocene (less than approximately 12,000 years ago) younger playa deposits and similar deposits have been shown to produce fossil resources with a greater chance at depth, and therefore have a low to high paleontological sensitivity.

Areas of the project site are underlain by Holocene to late Pleistocene sedimentary deposits, as discussed in the 2022 geotechnical report by Southern California Geotechnical (Appendix E) and the paleontological resources records search (Confidential Appendix F). Given the proximity of past fossil discoveries in the surrounding area within shallow Holocene and late Pleistocene alluvial deposits, the project site is highly sensitive for supporting paleontological resources below the depth of fill and weathered Holocene and Pleistocene age deposits. If intact paleontological resources are encountered on site, ground-disturbing activities associated with construction of the proposed project, such as grading during site preparation and trenching for utilities, have the potential to adversely impact a unique paleontological resource or locality. As such, the project site is considered to be potentially sensitive for paleontological resources; without mitigation, the potential damage to paleontological resources during construction associated with the project would be a potentially significant impact. Mitigation Measure 17 would be required to ensure that subsurface construction activity complies with the standard procedures for treatment of unanticipated discovered of paleontological resources; therefore, impacts associated with paleontological resources would be less than significant with mitigation incorporated.

Mitigation Measure

17. Prior to commencement of any grading activity on site, the applicant shall retain a qualified paleontologist per the Society of Vertebrate Paleontology (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 pre-construction meeting attendance and worker environmental awareness training; where monitoring is required within the 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 pre-construction meeting and a qualified paleontological monitor shall be on site during all rough grading. 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.

1.8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS Would the project:				
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?	☐	☐	☒	☐

The significance of the project's greenhouse gas (GHG) emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b) by considering whether the project complies with applicable plans, policies, regulations, and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Therefore, responses to the two Appendix G questions have been combined into one analysis. A quantification of emissions for the project is provided at the end of the analysis for informational purposes only.

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

b) Would the project generate conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Potential to Conflict with State Reduction Targets and CARB's Scoping Plan

Less-than-Significant Impact. The California State Legislature passed the Global Warming Solutions Act of 2006 (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 project, the relevant GHG emissions reduction targets include those established by Senate Bill (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, 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 5 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 it 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 as the sole basis for project-level evaluations, 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 Climate Change 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). The most recent CARB 2022 Scoping Plan for Achieving Carbon Neutrality 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 project.

The 2017 Scoping Plan included measures to promote renewable energy and energy efficiency (including the mandates of SB 350) and increase stringency of the low carbon fuel standard, measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and measures to increase stringency of SB 375 targets. The 2022 Scoping Plan 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 global warming potential; providing communities with sustainable options for walking, biking, and public transit; and displacing 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 (low-carbon fuel standard), and the accelerated efficiency and electrification of the statewide vehicle fleet (Mobile Source Strategy).

Regarding VMT reduction efforts, a Supplemental Vehicle Miles Traveled Analysis (Attachment D to Appendix B) was prepared based on the total VMT per service population (employees) for the Antelope Valley region to evaluate potential VMT impacts at the regional level. As detailed in Attachment D to Appendix B, there would be no net increase in VMT per service population in the Antelope Valley region with the project and there would be a slight decrease in the total regional VMT (including truck trips) with the project, since the project would fulfill a need for industrial warehouse uses and employment opportunities where they do not currently exist, thus eliminating the need to travel farther distances for such services and employment opportunities. As such, the project would support the 2017 and 2022 Scoping Plan Update's goals by resulting in a VMT reduction in the region.

Table 9 highlights measures that have been developed under the 2017 Scoping Plan and presents the project's consistency with the applicable 2017 Scoping Plan measures.

To further improve the efficacy of the Scoping Plan Reduction Measures and reduce project related GHG emissions, APMs have been incorporated in the project design and would be implemented during construction and operation of the project. A detailed description of all project APMs as identified in Table 9 are provided in Appendix A.

Table 9. Project Potential to Conflict with the 2017 Scoping Plan GHG Reduction Measures

Action	Potential to Conflict
Transportation Sector	
Advanced Clean Cars	***No conflict.*** The project's employees and customers would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase.
Low Carbon Fuel Standard	***No conflict.*** Motor vehicles driven by the project's employees and customers would use compliant fuels.
Last-Mile Delivery	***No conflict.*** The location of the project would support this measure by locating distribution closer to the end user. There would be a slight decrease in the total regional VMT with the project, since the project would fulfill a need for industrial warehouse uses and employment opportunities where they do not currently exist, thus eliminating the need to travel farther distances for such services and employment opportunities.
Reduction in VMT	***No Conflict.*** The project would not prevent CARB from implementing this measure. As discussed above, there would be a slight decrease in the total regional VMT with the project (see Attachment D of Appendix B).
Goods Movement Efficiency Measures 1. Port Drayage Trucks 2. Transport Refrigeration Units Cold Storage Prohibition 3. Cargo Handling Equipment, Anti-Idling, Hybrid, Electrification 4. Goods Movement Systemwide Efficiency Improvements 5. Commercial Harbor Craft Maintenance and Design Efficiency 6. Clean Ships 7. Vessel Speed Reduction	***No conflict.*** The project would require zero emission cargo handling equipment (APM-16) and would not include cold storage.
Heavy-Duty Vehicle GHG Emission Reduction ▪ Tractor-Trailer GHG Regulation ▪ Heavy-Duty Greenhouse Gas Standards for New Vehicle and Engines (Phase I)	***No conflict.*** Heavy duty trucks accessing the project site would be subject to this measure.
Medium and Heavy-Duty GHG Phase 2	***No conflict.*** Heavy duty trucks accessing the project site would be subject to this measure.
Electricity and Natural Gas Sector	
Energy Efficiency Measures (Electricity)	***No conflict.*** The project would be constructed in accordance with CALGreen and Title 24 building standards. In addition, the project would install solar to offset 100% of the building electricity demand (APM-10).
Energy Efficiency (Natural Gas)	***No conflict.*** The project would be constructed in

Table 9. Project Potential to Conflict with the 2017 Scoping Plan GHG Reduction Measures

Action	Potential to Conflict
	accordance with CALGreen and Title 24 building standards.
Renewables Portfolio Standard (33% by 2020)	***No conflict.*** The project would procure electricity from Lancaster Choice Energy (LCE), which is in compliance with this measure.
Renewables Portfolio Standard (50% by 2050)	***No conflict.*** The project would procure electricity from LCE, which is on a trajectory to be compliance with this measure.
Water Sector	
Water Use Efficiency	***No conflict.*** The project would be constructed in accordance with CALGreen and Title 24 building standards and would implement a water conservation strategy to reduce indoor and outdoor water by at least 20% (APM-13).
Recycling and Waste Management Sector	
Mandatory Commercial Recycling	***No conflict.*** The project would include recycling and solid waste diversion (APM-13).

Source: CARB 2017.
Notes: GHG = greenhouse gas; CARB = California Air Resources Board; VMT = vehicle miles traveled; CALGreen = California Green Building Standards.

Table 10 highlights the measures from the 2022 Scoping Plan that are relevant to the project.

Table 10. Project Potential to Conflict with 2022 Scoping Plan GHG Reduction Measures

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. The project would not obstruct or interfere with agency efforts to meet the SB 32 reduction goal.
Smart Growth VMT Sector	
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.

LDV ZEVs Sector	
100% of LDV sales are ZEV by 2035	***No conflict.*** As this action pertains to LDV sales within California, 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 Level 2 (or faster) EV chargers (APM-12).
Truck ZEVs Sector	
100% of medium-duty vehicle (MDV)/ heavy-duty vehicle (HDV) sales are ZEV by 2040	***No conflict.*** As this action pertains to MDV and HDV sales within California, the project would not obstruct or interfere with its implementation. Furthermore, the project would support the transition from fossil fuel MDV and HDV to ZEV through its installation of conduit in tractor trailer parking areas to support potential future truck charging stations (APM-11).
Electricity Generation Sector	
Sector GHG target of 38 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) in 2030 and 30 $MMTCO_2e$ in 2035 Retail sales load coverage[1] 20 gigawatts (GW) of offshore wind by 2045 Meet increased demand for electrification without new fossil gas-fired resources	***No conflict.*** As this action pertains to the statewide procurement of renewably generated electricity, the project would not obstruct or interfere with its implementation. The project would support increased usage of renewable electricity through the installation of on-site solar panels sufficient to meet at least 100% of the project's total operational energy requirements from within the building envelope (APM-10).
New Residential and Commercial Buildings Sector	
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 Sector	
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. The project would support the action through the requirement that all cargo handling and landscaping equipment to be zero-emission (APM-16).
Low Carbon Fuels for Transportation Sector	
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 Sector	
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 Sector	
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 = Regional Transportation Plan; SCS = Sustainable Communities Strategy; LDV = light-duty vehicle; ZEV = zero emissions vehicle; EV = electric vehicle; 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 9 and Table 10, the project would not conflict with the applicable strategies and measures in the 2017 Scoping Plan and 2022 Scoping Plan, respectively.

The 2045 carbon neutrality goal required CARB to expand proposed actions in the 2022 Scoping Plan to include those that capture and store carbon in addition to those that reduce only anthropogenic sources of GHG emissions. The 2022 Scoping Plan 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.

Overall, the project would comply will all regulations adopted in furtherance of the Scoping Plan to the extent applicable and required by law. As mentioned above, several Scoping Plan measures would result in reductions of project-related GHG emissions with no action required at the project-level, including those related to energy efficiency, reduced fossil fuel use, and renewable energy production by the utility. In addition, as identified previously, the project would result in a slight reduction in regional employee VMT, as well as requiring on-site solar panels sufficient to meet at least 100% of the project's total operational energy requirements from within the building envelope (including charging the 100% electric landscaping and cargo handling equipment), EV charging stations, a water conservation strategy, and solid waste diversion. As demonstrated above, the project would not conflict with CARB's 2017 or 2022 Scoping Plan updates and with the state's ability to achieve the 2030 and 2045 GHG reduction and carbon neutrality goals. Impacts would be less than significant.

Potential to Conflict with the Southern California Association of Governments 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy

Less-than-Significant Impact. The following strategies are intended to support implementing Connect SoCal 2020 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 potential to conflict with the remaining applicable strategies is presented below.

- **Focus Growth Near Destinations and Mobility Options.** One of the strategies within Connect SoCal 2020 is to expand job opportunities near transit and along center-focused main streets, as well as to promote the redevelopment of underperforming retail development and other outmoded non-residential uses. The project would not conflict with this strategy as the project is located adjacent to Avenue H and about 1 mile from SR-14 and would fulfill a need for industrial warehouse uses and employment opportunities where they do not currently exist, thus eliminating the need to travel farther distances for such services and employment opportunities.

- **Leverage Technology Innovations.** One of the technology innovations identified in Connect SoCal 2020 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. The project would not conflict with SCAG's ability to implement this strategy as it would utilize all-electric cargo handling and landscaping equipment during operation and would include EV charging stations for vehicles.
- **Promote a Green Region.** The third applicable strategy within Connect SoCal 2020 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 would incorporate multiple design features that would reduce GHGs, such as full rooftop solar to offset 100% of building electricity use (including charging the 100% electric cargo handling and landscaping equipment), EV charging stations, a water conservation strategy, and solid waste diversion.

Based on the analysis above, the project would be consistent with Connect SoCal 2020. Impacts would be less than significant.

Potential to Conflict with the City of Lancaster Climate Action Plan

Less-than-Significant Impact. The City's Climate Action Plan (CAP) includes a total of 61 projects across eight sectors that would enhance the community, improve government operations, and ultimately reduce GHG emissions. The eight sectors are transportation, energy, municipal operations, water, waste, built environment, community, and land use (City of Lancaster 2017). The project would be consistent with the following measures identified in the CAP:

- **Transportation**
  - Measure 4.1.2c: Pedestrian Amenities. The project would improve pedestrian facilities along Avenue H.

  Additionally, although not captured in the CAP measures, the project would result in a slight decrease in the total regional VMT, since the project would fulfill a need for industrial warehouse uses and employment opportunities where they do not currently exist, thus eliminating the need to travel farther distances for such services and employment opportunities (Attachment D of Appendix B). In addition, the project would support the transition from fossil fuels to zero emission vehicles through the inclusion of EV charging stations for passenger vehicles (APM-12), as well as installation of conduit to support future heavy-duty truck charging stations (APM-11).
- **Energy**
  - Measure 4.2.1a: Renewable Energy Purchase Plan. All development receives its power from Lancaster Choice Energy unless the entity chooses to opt out. In addition, the project would generate enough renewable solar energy to offset 100% of electricity use from within the building envelope (APM-10).

- **Water**
  - Measure 4.4.2a: Sensor Technology. Water saving irrigation, such as sensor technology, would be installed with landscaping on the project site. The project would include a water conservation strategy to reduce indoor and outdoor water use by at least 20% (APM-13).
- **Waste**
  - Measure 4.5.1b: Recycling Incentives. Bins for trash, recycling, and organics enclosures would be provided on the project site and the project would require at least 50% diversion of solid waste from landfills (APM-13).
- **Community**
  - Measure 4.7.2a. Sustainability Incubator/Local Job Creation. The project would fulfill a need for industrial warehouse uses and employment opportunities where they do not currently exist.
  - Measure 4.7.3a: Xeriscaping. All landscaping within the development would be designed to be water efficient in accordance with the City's Municipal Code. This includes incorporation of the water conservation strategy to reduce indoor and outdoor water use by at least 20% (APM-13).
  - Measure 4.7.4c: Conservation Habitat Acquisition. All development projects, including the proposed project, are required to pay a Biological Impact Fee pursuant to the City's Municipal Code to offset the overall loss of biological resources within Antelope Valley. This fee is utilized to fund the acquisition of habitat, which is placed under a conservation easement.

Based on the preceding considerations, the project would not conflict with applicable measures in the City's CAP. Impacts would be less than significant.

Quantification of Emissions

In accordance with CEQA Guidelines Section 15064.4(c), the project's construction and operational GHG emissions have been quantified for disclosure purposes only. The project's significance has been evaluated based on its potential to conflict with applicable GHG reduction plans.

Construction Emissions

Construction of the project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road vendor trucks, and worker vehicles. GHG emissions generated by project construction are presented in Table 11.

Table 11. Estimated Annual Construction Greenhouse Gas Emissions

Year	CO_2	CH_4	N_2O	R	CO_2e
	Metric Tons				
2023	476.56	0.01	0.04	0.36	490.27
2024	408.82	0.01	0.02	0.42	416.57
Total	**885.38**	**0.02**	**0.07**	**0.78**	**906.84**
Amortized Construction Emissions (Over 30-Years)					*30.23*

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; R = refrigerants; CO_2e = carbon dioxide equivalent.
Totals may not sum due to rounding.
See Appendix B for complete results.

As shown in Table 11, the estimated total GHG emissions during construction would be approximately 907 metric tons of carbon dioxide equivalent. Estimated project-generated construction emissions amortized over 30 years would be approximately 30 metric tons of carbon dioxide equivalent per year.

Operational Emissions

Following the completion of construction activities, the project would generate GHG emissions from mobile sources (vehicle trips), energy sources (natural gas combustion), water supply and wastewater treatment, solid waste generation, and refrigerants. Building electricity, including electricity needed to charge landscaping and cargo handling equipment, would be offset by solar and therefore would not result in GHG emissions. The estimated annual operational project GHG emissions from these sources are shown in Table 12.

Table 12. Estimated Annual Operational Greenhouse Gas Emissions (Metric Tons per Year)

Emission Source	CO_2	CH_4	N_2O	R	CO_2e
Mobile	4,036.55	0.05	0.50	6.35	4,192.69
Area	0.00	0.00	0.00	N/A	0.00
Energy[a]	450.14	0.04	0.00	N/A	451.53
Water/Wastewater[b]	90.97	2.39	0.06	N/A	167.70
Waste[c]	16.58	1.66	0.00	N/A	58.01
Total	**4,594.24**	**4.13**	**0.56**	**6.35**	**4,869.93**
Amortized Construction Emissions					*30.23*
Net Change with Amortized Construction Emissions					**4,900.16**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; R = refrigerants; CO_2e = carbon dioxide equivalent; GHG = greenhouse gas.
See Appendix B for complete results. Totals may not sum due to rounding.

[a] The energy category accounts for 100% building electricity offset from solar (APM-10), including zero emission landscaping and cargo handling equipment (APM-16). As these sources are anticipated to be powered by renewable electricity, they are not included in this inventory.

[b] Accounts for implementation of the water conservation strategy (APM-13).

[c] Accounts for 50% solid waste diversion from landfills (APM-13).

As shown in Table 12, the estimated GHG emissions from operation of the project would be approximately 4,900 metric tons of carbon dioxide equivalent per year, including amortized construction emissions.

Summary

As shown above, the project would not conflict with CARB's 2017 or 2022 Scoping Plan updates or with the state's ability to achieve the 2030 and 2045 GHG reduction and carbon neutrality goals, SCAG's Connect SoCal 2020, or the City's CAP. Therefore, impacts related to the consistency with an appliable GHG reduction plan would be less than significant.

1.9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. **HAZARDS AND HAZARDOUS MATERIALS** Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less-than-Significant Impact. While a specific tenant for the project has not been identified, the proposed use as an industrial warehouse building would likely include business operations that would primarily involve 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. As such, there would likely be routine transport, use, and disposal of hazardous materials, including petroleum products, cleaning supplies, paints, and other products associated with maintenance activities. As a result, the proposed project could result in potentially adverse impacts to people and the environment as a result of hazardous materials being released into the environment.

During construction, the storage and handling of hazardous materials would occur in accordance with standard construction BMPs to minimize the potential for spill or release and ensure that any such spill or release would be controlled on site in accordance with NPDES requirements under the General Construction Permit. Standard construction BMPs include storing all hazardous materials inside buildings or under other cover, vehicle specifications for hazardous material transport and disposal, procedures for safe storage, and training requirements for those handling hazardous materials.

Also, once constructed, operation of the project would likely involve the use of industrial-grade chemicals and commercially available cleaning products, landscaping chemicals and fertilizers, and various other commercially available products during the day-to-day operation of the facilities. While these materials could be stored on the project site, storage would be required to comply with the guidelines established by the manufacturer’s recommendations. Consistent with federal, state, and local requirements, the transport, removal, and disposal of hazardous materials from the project site would be conducted by a permitted and licensed service provider. Any handling, transport, use, or disposal must comply with all applicable federal, state, and local agencies and regulations, including the U.S. Environmental Protection Agency, Department of Toxic Substances Control, California Occupational Safety and Health Administration, Resource Conservation and Recovery Act, and the County of Los Angeles Fire Department, Health Hazardous Materials Division. As a Certified Uniform Program Agency, the Health Hazardous Materials Division administers the following programs within Los Angeles County: the Hazardous Waste Generator Program, the Hazardous Materials Release Response Plans and Inventory Program, the California Accidental Release Prevention Program, the Aboveground Storage Tank Program, and the Underground Storage Tank Program.

Although the future tenants are not known yet, in the event that a future tenant’s operations require them to transport, use, or dispose of quantities of hazardous materials identified by the state, pursuant to the California Health and Safety Code, the owner/operator must complete and submit a hazardous materials business plan (HMBP) to the California Environmental Reporting System. An HMBP is a document containing detailed information on the inventory of hazardous materials at a facility; emergency response plans and procedures in the event of a reportable release or threatened release of a hazardous material; training for all new employees and annual training, including refresher courses, for all employees in safety procedures in the event of a release or threatened release of a hazardous material; and a site map that contains north orientation, loading areas, internal roads, adjacent streets, storm and sewer drains, access and exit points, emergency shutoffs, evacuation staging areas, hazardous material handling and storage areas, and emergency response equipment. The HMBP provides basic information necessary for use by first responders to prevent or mitigate damage to the public health and safety and the environment from a release or threatened release of hazardous materials, and to satisfy federal and state community right-to-know laws.

Compliance with these regulations, policies, and BMPs would ensure that impacts related to the creation of significant hazards to the public through routine transport, use, and disposal of hazardous materials or accident conditions involving the release of hazardous materials would be less than significant.

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less-than-Significant Impact. During construction, hazardous materials such as fuels and lubricants would be transported to and used on site in construction vehicles and equipment. Construction waste is a potential pollutant source of concern if allowed in contact with stormwater runoff untreated. Concrete, paint, and other materials that are also used on construction sites are major contributors to habitat pollution, in the event that such materials exit a construction site. However, the potential for the use of these materials to result in significant hazards to the public or the environment would be low for the reasons described below.

The project contractor and construction crews would be required to comply with all applicable regulations governing the storage, handling, and disposal of hazardous materials and waste. The project would also be required to comply with the NPDES General Construction Permit. Implementation of this permit would require the development of a site-specific SWPPP for construction activities. The SWPPP is required to identify BMPs that protect stormwater runoff and ensure avoidance of substantial degradation of water quality, including measures to control hazardous materials from accidental releases. Typical BMPs that could be incorporated into the SWPPP to minimize the off-site runoff of pollutants would include the following:

- diverting off-site runoff away from the construction site
- dedicated areas for refueling and storage of hazardous materials with secondary containment protections
- using drop inlet protection (filters and sandbags or straw wattles), with sandbag check dams within paved areas
- implementing specifications for construction waste handling and disposal
- on-site storage of spill containment equipment
- training, including for subcontractors, on general site housekeeping and spill response plans

Incorporation of required BMPs would help control the use of hazardous substances during construction and would minimize the potential for such substances to leave the site. As a result, there would be reduced potential for the public and environment to be exposed to hazardous chemicals and materials from construction activities. The implementation of applicable construction BMPs and adherence to applicable hazardous materials and waste regulations would minimize the risk of exposure to a release of hazardous materials to the public and environment to less-than-significant levels.

Upon completion of project construction, routine operation of the project facilities would likely involve use of industrial grade chemicals and commercially available cleaning products, landscaping chemicals and fertilizers, and various other commercially available products. These materials would be used for the day-to-day operation of the facilities and may involve the use of hazardous materials.

As previously discussed in Section 1.9(a), the future tenants are not known yet. In the event that a future tenant's operations require them to transport, use, or dispose of quantities of hazardous materials identified by the state, pursuant to the California Health and Safety Code and in accordance with the Health Hazardous Materials Division's Certified Uniform Program Agency requirements, the owner/operator must complete and submit an HMBP to the California Environmental Reporting System. Completion of an HMBP would ensure that an emergency spill response and containment plan is in place in the event of hazardous spills.

Furthermore, the use, storage, and transport of hazardous materials and wastes would be subject to applicable federal, state, and local health and safety regulations (e.g., Resource Conservation and Recovery Act and the Hazardous Waste Control Act "cradle to grave" requirements). All hazardous materials generated and/or used on the project site would be managed in accordance with all relevant federal, state, and local laws, including the California Hazardous Waste Control Law (California Health and Safety Code Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (22 CCR 4.5). Moreover, compliance with California Occupational Safety and Health Administration workplace and work practices requirements would avoid the exposure of persons and the environment to hazardous materials.

In addition to the regulations and practices described above, the following requirements would apply to storage and handling of hazardous wastes at the project site: (1) hazardous materials are required to be stored in designated areas designed to prevent accidental release in accordance with state law, including the California Hazardous Waste Control Act and the California Health and Safety Code; (2) California Occupational Safety and Health Administration requirements prescribe safe work environments for workers working with materials that present a moderate explosion hazard, high fire or physical hazard, or health hazard; (3) federal and state laws related to the storage of hazardous materials would be complied with to maximize containment and provide for prompt and effective cleanup in case of an accidental release; and (4) hazardous materials inventory and response planning reports would be filed with the City in accordance with Unified Program Permit requirements.

Compliance with applicable regulations involving hazardous materials during operation would ensure that such materials are transported, used, stored, and disposed of in a manner that minimizes the potential for upset and accidental conditions resulting in the release of hazardous materials into the environment. Due to the existing regulations that are required, it is not expected that the project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions; impacts would be less than significant.

In summary, the project would not result in the creation of a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, and impacts would be less than significant.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. The closest school to the project site is Desert View Elementary, which is approximately 1.9 miles southeast of the site. According to Department of Toxic Substances Control records, it appears that in approximately 2004, a middle school (identified as Middle School No. 24) may have been proposed for existing vacant land located approximately 0.87 miles southwest of the site (DTSC 2023). Therefore, the proposed project would not be within 0.25 miles of an existing or proposed school and would comply with all relevant regulations, policies, and BMPs regarding the handling of hazardous materials, as discussed above. Therefore, the project would have no impact regarding exposure of schools to hazards or hazardous materials.

d) ***Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?***

No Impact. Pursuant to Government Code Section 65962.5, the State of California Hazardous Waste and Substances Site List (also known as the "Cortese List") is a planning document used by state and local agencies and developers to comply with CEQA requirements in providing information about the location of hazardous materials sites. According to the Phase I Environmental Site Assessment prepared for the project site (Appendix G), the regulatory database search did not identify any federal or state regulatory listings, including those considered part of the Cortese List and others, that included the project site (Appendix G). No other properties that were identified on the Regulatory Database Report within the ASTM-designated search radii were considered by the preparers of the report to pose a potential risk of adversely affecting the project site based on the regulatory information and distance and/or topographic direction from the site (Appendix G). In a more recent search of the Department of Toxic Substances Control and State Water Resources Control Board databases, there were no changes regarding hazardous materials sites from the Phase I report, which showed that the project site was not listed (DTSC 2023; SWRCB 2023). No impacts would occur.

e) ***For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?***

Less-than-Significant Impact. The project site is approximately 1.75 miles south of the General William J Fox Airfield, which is owned and operated by Los Angeles County. According to the Land Use Compatibility Plan for the airfield, the project site is located within the Area of Influence for the airport, specifically within Compatibility Zone E (LACALUC 2004). Zone E requires airspace review for structures over 100 feet tall; discourages children's schools, hospitals, and nursing homes; prohibits hazards to flight, which include physical (e.g., tall objects), visual, and electronic forms of interference with aircraft operations; and prohibits development that could attract birds. The proposed project would not exceed 47 feet in height, would operate as an industrial warehouse, and would not include surface water features or other bird attractant components. Therefore, project contributions to aviation hazards would be negligible and potential impacts would be less than significant. See Section 1.13, Noise, for further discussion of noise impacts.

f) ***Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?***

Less-than-Significant Impact. Access to the project site would be provided by a new full access driveway on 35th Street West and a new full access driveway on Avenue H. In addition, the project would include widening 35th Street West and doing some improvements along Avenue H. These on-site and adjacent improvements would be designed in accordance with all applicable design standards set forth by the City, as well as applicable California Fire Code requirements for emergency access, which would ensure that the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, the project would have a less-than-significant impact.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less-than-Significant Impact. According to the California Department Forestry and Fire Protection, the project site is not located within or in proximity to a Fire Hazard Severity Zone or a Very High Fire Hazard Severity Zone (CAL FIRE 2022). While the project would increase the likelihood of ignitions and the fuel load on the project site, fire risk at the project site is considered low due to the sparse development and vegetation. Therefore, it is not anticipated that the project would expose people or structures to risk of loss, injury, or death involving wildland fires, and the impact would be less than significant.

1.10 Hydrology and Water Quality

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Construction

Less-than-Significant Impact. Project construction would require earth-disturbing activities, including grading, excavation, and temporary stockpiling of soil prior to backfilling, which could expose disturbed areas to rainfall and stormwater runoff that can adversely affect water quality of receiving waters if not managed appropriately. In addition, accidental/incidental spills of construction-related contaminants (e.g., fuels and oils) could occur during grading and construction, thereby degrading water quality. However, all grading and associated earthwork activities would be completed in compliance with the General Construction Activity NPDES Permit (Order No. 2009-0009-DWQ, as amended by Order No. 2010-0014-DWQ, NDPES No. CAS000002) (i.e., Construction General Permit), which requires the construction contractor to prepare and comply with a SWPPP. The SWPPP would include erosion control measures such as covering exposed soil stockpiles, protecting the perimeter of the construction site with sediment barriers, and protecting storm drain inlets. The SWPPP must also include water quality protection measures with respect to incidental spills of petroleum products and hazardous materials, including secondary containment of fluid containers, storing fluid containers indoors during rain events, placing drip pans under equipment when not in use, and designating specific areas for equipment fueling and maintenance with surrounding spill containment booms. With implementation of erosion and spill control measures stipulated in a project-specific SWPPP, impacts related to water quality and waste discharge requirements associated with project grading and construction would be less than significant.

Operations

Less-than-Significant Impact. Once constructed, the proposed project would introduce a substantial increase in the amount of impervious surfaces and would involve continual passenger vehicle and trucks entering and existing the site, which represent potential sources of polluted runoff that can adversely affect receiving waters. Incidental spills of fuels, oils, and grease from vehicles in the parking lot or loading dock areas could adversely impact surface water quality. The project design would be completed in accordance with the City's drainage control requirements, which were set as part of their designation as a Small Municipal Separate Storm Sewer System (MS4). The Phase II Small MS4 Permit was adopted on February 5, 2013 (State Water Resources Control Board Order 2013-0001-DWQ, as amended by WQ 2015-0133-EXEC, WQ 2016 2016-0069-EXEC, WQ 2018-0001-EXEC, and WQ 2018-0007-EXEC). This permit regulates discharges of stormwater and authorized non-stormwater from MS4s and provides a management strategy for controlling the discharge of pollutants to the maximum extent practicable.

The City has created stormwater management requirements to assist in complying with the requirements of the MS4 Permit. As part of the project design plans, the proposed project would be required to include stormwater drainage control features that are consistent with the City's stormwater requirements and Phase II MS4 Permit requirements. These features would include post-construction drainage control features including low impact development measures that promote on-site infiltration such as bioswales, retention basins, and use of landscaping in drainage control. For the proposed project, there are three retention basins proposed that would be sized in accordance with the City's requirements and allow for on-site infiltration, with the retained runoff required to be infiltrated in less than 7 days. Implementation of these post-construction BMPs would ensure that off-site discharge of stormwater pollutants is minimized and stormwater quality impacts would be reduced to less than significant.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less-than-Significant Impact. Water supply for the proposed project would be provided by Los Angeles County Waterworks District (LACWD) No. 40, Antelope Valley. LACWD provides domestic water for the City and for portions of both the City and County of Los Angeles. LACWD uses both purchased (imported) water and groundwater as its supply sources, although groundwater has historically been the secondary source of potable water supply. The groundwater basin underlying LACWD is the Antelope Valley

Groundwater Basin (No. 6-44), which was adjudicated in December 2015, as the court found the basin to be in overdraft. As part of the 2015 judgment, a Watermaster board was appointed by the court to implement and enforce the judgment. The Watermaster board is empowered to impose a replacement fee on any party that pumps more than its allocated right. As part of the adjudication, the Antelope Valley Regional Water Management Group was formed in 2006 by 11 agencies. They signed a memorandum of understanding and developed the Antelope Valley Integrated Regional Water Management Plan in 2007, which was updated in 2013 and 2019 (LACWD 2019). According to the LACWD 2020 Urban Water Management Plan (UWMP), projected water demands can be met in the normal, single, and multiple dry year scenarios, with no supply shortage anticipated, because the Antelope Valley-East Kern Water Agency can meet the LACWD's demands by pumping groundwater from its banked supplies (LACWD 2021). Therefore, due to the lower demand on groundwater and the adjudication of the basin, which manages the basin sustainably, the potential impact related to decreasing groundwater supplies would be less than significant.

The proposed project would substantially increase the amount of impervious surfaces at the site, which could potentially decrease the areas of the site that currently allow for on-site infiltration. However, as mentioned above, the proposed project would be required to adhere to the City's drainage control requirements and the MS4 Permit. The proposed drainage control features include three retention basins that allow for on-site infiltration of collected stormwater runoff in accordance with the City's requirements and per recommendations of the project-specific Hydrology Study (Appendix H). Therefore, although new impervious surfaces would be introduced at the site, the inclusion of stormwater control features that allow for on-site infiltration would minimize the amount of runoff discharged off site and continue to permit groundwater recharge such that the potential impact would be less than significant.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) Result in substantial erosion or siltation on- or off-site?

Less-than-Significant Impact. Construction and grading activities associated with development of the proposed project would require temporary disturbance of underlying soils through excavation, soil stockpiling, and/or grading activities that disturb existing vegetation and surface soils. These activities could result in exposure of soil to the effects of wind and water erosion, potentially causing entrainment of sediment and contaminants in the runoff if not managed appropriately. However, because the proposed development would disturb more than 1 acre, the project applicant would be required to prepare and implement a SWPPP in accordance with the NPDES General Construction Permit. The SWPPP would be required to include BMPs that would include erosion control measures such as those listed below, which are illustrative of typical construction measures:

- Excavation and grading activities would be limited to the dry season only (April 15 to October 15), to the extent possible. This would reduce the chance of severe erosion from intense rainfall and surface runoff, as well as the potential for soil saturation in swale areas.
- If excavation does occur during the rainy season, stormwater runoff from the construction area can be regulated through a stormwater management/erosion control plan that may include temporary on-site silt traps and/or basins with multiple discharge points to natural drainages and

energy dissipaters. Stockpiles of loose material would generally be covered and runoff diverted away from exposed soil material. Sediment basin/traps would be located and operated to minimize the amount of off-site sediment transport. Any trapped sediment would be removed from the basin or trap and placed at a suitable location on site away from concentrated flows or removed to an approved disposal site.

- Temporary erosion control measures would be provided until perennial revegetation or landscaping is established and can minimize discharge of sediment into receiving waterways.
- After completion of grading, erosion protection would be provided on all exposed soils either by revegetation or placement of impervious surfaces. Revegetation would be facilitated by mulching, hydroseeding, or other methods and initiated as soon as possible after completion of grading and prior to the onset of the rainy season (October 15).
- Permanent revegetation/landscaping would emphasize drought-tolerant perennial ground coverings, shrubs, and trees.
- BMPs selected and implemented for a future project would be in place and operational prior to the onset of major earthwork on the site. The construction phase facilities would be maintained regularly and cleared of accumulated sediment as necessary.

Implementation of the required SWPPP in accordance with the NPDES General Construction Permit would ensure that the potential for erosion or siltation would be reduced to less than significant.

Once constructed, the site would be predominantly covered in impervious surfaces with some vegetated landscaping and, as such, soils would no longer be exposed to the effects of erosion. As a result, the potential impacts related to erosion or siltation during operation would be less than significant.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

Less-than-Significant Impact. As noted above, the project site is currently largely pervious and development of the project would substantially increase the amount of impervious surfaces. Increases in impervious surfaces can lead to increases in the rate and amount of surface runoff, resulting in potential flooding issues on or off site if drainage control measures are not implemented. However, as discussed above, the proposed project would include retention basins as required to adhere to the City's drainage control requirements and the MS4 Permit. The retention basins would be designed in accordance with City requirements and have sufficient capacity so that they can appropriately manage peak storm flows and minimize the potential for flooding on or off site. Therefore, although new impervious surfaces would be introduced at the site, the inclusion of stormwater control consistent with the City's requirements and MS4 Permit requirements would be effective in controlling peak flows such that the potential impacts related to flooding would be considered less than significant.

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less-than-Significant Impact. As described above, while the overall drainage pattern would change with the addition of new impervious surfaces, the project would include drainage control features that are consistent with City requirements. The City requirements were developed to meet MS4 Permit requirements and address water quality and water quantity requirements to ensure that adverse effects would not occur. The implementation of required low impact development drainage features would provide on-site infiltration with the addition of three retention basins that are sized to accommodate the runoff from their corresponding drainage area and ensure that peak stormwater runoff flows do not create adverse effects downstream. Compliance with City drainage control requirements would be effective in reducing post-construction stormwater runoff rates such that runoff water would not exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Impacts would be less than significant.

iv) Impede or redirect flood flows?

Less-than-Significant Impact. According to data compiled by the Federal Emergency Management Agency, the project site is not located within an identified 100-year flood hazard area (FEMA 2023). The project site is located in an area mapped as Zone X-Shaded (06037C0405F), where there is a 0.2% annual chance of flooding (500-year flood zone) or a 1% annual chance with average flood depths of less than 1 foot. As a result, construction and operation of the proposed project would not impede or redirect flood flows and the potential impact would be considered less than significant.

d) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

Less-than-Significant Impact. As described above, the project site is not located within a 100-year flood hazard zone as identified by the Federal Emergency Management Agency (FEMA 2023). The project site is also located well inland from the ocean such that it is not susceptible to tsunami inundation hazards. There are no enclosed or semi-enclosed bodies of water within the vicinity of the project site such that there would be no risk of seiche wave hazards. Project operations would involve industrial warehouse operations, which are typically not associated with bulk storage or handling of hazardous materials. Regardless, the risk of upset or accidental release is discussed in Section 1.9, Hazards and Hazardous Materials, and risks would be minimized with adherence to existing regulatory requirements. Therefore, project construction and operation would not substantively risk release of pollutants due to inundation, and the potential impacts would be considered less than significant.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less-than-Significant Impact. As discussed above, project construction would be required to adhere to NPDES General Construction Permit requirements that include preparation and implementation of a SWPPP and identified BMPs. Implementation of the SWPPP and applicable post-construction BMPs would be consistent with NPDES MS4 requirements in accordance with the Regional Water Quality Control Plan for the Lahontan Region. As a result, the proposed project would not conflict with or obstruct the basin plan and impacts would be less than significant.

The project site is located within the Antelope Valley Groundwater Basin, which is adjudicated and managed by the Watermaster. As a result, the basin does not have a groundwater management plan. Therefore, the proposed project would not conflict with a sustainable groundwater management plan and the potential impact would be less than significant.

1.11 Land Use and Planning

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. LAND USE AND PLANNING Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

a) ***Would the project physically divide an established community?***

No Impact. The physical division of an established community is typically associated with the construction of a linear feature, such as a major highway or railroad tracks, or removal of a means of access, such as a local road or bridge, which would impair mobility within an existing community or between a community and an outlying area. The project site is located within an area of the City that is zoned SP 95-02, which allows industrial uses and thus is not used as a connection between two established communities.

Instead, connectivity in the surrounding project area is facilitated via local roadways and pedestrian facilities. Despite the nearby scattered residential uses, the project would not impede movement between these residences within the project area, within an established community, or from one established community to another. Therefore, no impacts associated with division of an existing community would occur.

b) ***Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?***

No Impact. The City's Zoning Map designates the project site as SP 95-02, which permits industrial uses within the Specific Plan area. According to Section 17.20.590, the primary purpose of the Specific Plan (SP) Zone is to provide appropriate regulations in regard to the City General Plan land use designation to be in accordance with applicable goals, objectives, policies, and specific actions (City of Lancaster 2010a). As such, the project would be consistent with local plans, policies, and regulations governing land use decisions and would not require a General Plan Amendment or a Zone Change.

As discussed in Section 1.3, Air Quality, the project would implement all applicable AVAQMD rules and regulations and would not exceed applicable regional thresholds for criteria air pollutants. As such, the project would be consistent with the Federal Particulate Matter Attainment Plan and Ozone Attainment Plan for the Antelope Valley. As discussed in Section 1.8, Greenhouse Gas Emissions, the project would not conflict with any of the CARB 2017 Scoping Plan. Additionally, the project would not conflict with the GHG reduction goals of the City's General Plan. Therefore, there would be no impacts associated with applicable land use plans, policies, and regulations, and no mitigation is required.

1.12 Mineral Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☒	☐

a) ***Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?***

Less-than-Significant Impact. According to the City's General Plan, the project site is within a study area, meaning there is potential for the existence of mineral resources; however, the significance of the deposit is undetermined (City of Lancaster 2009).

The project site is located in an undeveloped portion of the City and is bound by industrial developments, undeveloped land, and adjacent to a residence. Mineral resource mining is not a compatible use with these land uses. Additionally, the project site is not large enough to effectively extract mineral resources. Considering the existing surrounding land uses and the incompatibility of mineral resource extraction activities in the project area, potential significant mineral resources within the project area are considered unavailable for extraction. Therefore, impacts associated with mineral resources would be less than significant.

b) ***Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?***

Less-than-Significant Impact. Refer to Section 1.12(a).

1.13 Noise

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. NOISE Would the project result in:				
a) 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) 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, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

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 during permitted hours (between sunrise and 8:00 p.m.) and would not occur on Sundays as specified in the City's 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/GHG analyses, 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 13.

Table 13. 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	1
	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 13, 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 a single-family residence to the south and multifamily residences located further to the southeast (approximately 3,600 feet away from the project site). 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 sensitive land uses. For example, construction (in the form of site preparation, grading, and paving work) would take place as near as approximately 125 feet from the residence to the south, but (because of the project's size) construction work would also take place as far as 1,350 feet from the same residential uses. Most construction activities associated with the project would occur at an average distance of approximately 750 feet from the residential land use to the south, 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 and for typical construction activity/receiver distances.

The results of the project site construction noise analysis using the RCNM are summarized in Table 14. As shown, the noise levels from construction are predicted to range from approximately 54 A-weighted decibels (dBA) 8-hour equivalent continuous sound level ($L_{eq\ 8\text{-}hr}$) (during the architectural coating phase) to 72 dBA $L_{eq\ 8\text{-}hr}$ (during the grading phase) at the nearest noise-sensitive receiver (a single-family residence approximately 125 feet from the nearest construction work). Typical construction noise levels would be lower, ranging from approximately 45 to 59 $L_{eq\ 8\text{-}hr}$. Construction noise levels at the other noise-sensitive receivers would be substantially lower because of the greater distance to the project site. These noise levels would generally be less than measured ambient noise levels in the area. Therefore, noise from project site construction would be less than significant.

Although the predicted impact due to construction noise is less than significant, good construction practice (or as required by City regulations, policies, or expectations) would include providing nearby off-site residences advance notice of expected construction periods.

Table 14. On-Site Construction Noise Analysis Summary

Land Use	Off-Site Receptor Location	Distance from Construction Activity to Noise Receptor (feet)	Estimated Construction Noise Levels (dBA $L_{eq\ 8\text{-}hr}$)				
			Site Preparation	Grading	Building Construction	Paving	Architectural Coating
Residential	South of the project	Nearest Construction Activity/ Receiver Distance (125)	72	71	60	66	54
		Typical Construction Activity/ Receiver Distance (750)	57	59	55	53	45
Residential	Southeast of the project	Nearest Construction Activity/ Receiver Distance (3,600)	40	42	36	36	28
		Typical Construction Activity/ Receiver Distance (4,300)	38	40	35	34	26

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 2 of Appendix B, during construction the highest average daily number of one-way worker trips would be 166 (i.e., 83 round trips), occurring during the building construction phase. The highest average daily number of vendor one-way trips would be 65 (33 round trips), also occurring during building construction, and the highest number of average daily haul truck one-way-trips would be four (two round trips), occurring during the grading phase. Project-related trucks would be restricted to the City-authorized truck routes and (like the project site) would for the most part 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 on Avenue H and SR-138. Based upon data provided as part of the project's Local Transportation Assessment Report (Appendix J), Avenue H east of 35th Street West has an average daily traffic volume of 3,233. The incremental increase in local traffic from the project during the peak phase (i.e., building construction) would be approximately 7%. 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 due to the project 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 result in less-than-significant impacts. No 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 transportation analysis (Section 1.17), the project would generate 1,139 daily trips. During the AM peak-hour, implementation of the project would result in a total of 108 passenger vehicles and 33 trucks. During the PM peak-hour, implementation of the project would result in a total of 101 passenger vehicles and 31 trucks. A total of 90% of the passenger vehicle and 85% of the truck trips would access and exit the project site to the east, via Avenue H, where the majority of the vehicle trips would enter and leave the project area from and to SR-138 (Antelope Valley Freeway). Project-related trucks would only utilize local streets 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, Year 2024, and Year 2024 plus Project traffic volumes. Noise levels were modeled at nearby representative noise-sensitive receivers (i.e., the nearest residence to the south of the project site, the residences located to the southeast of the project site, the park further to the east, and residences located east of SR-138/south of Avenue H). The receivers were modeled to be 5 feet above the local ground elevation. The measured and modeled receiver locations are shown in Figure 3 of Appendix I.

The traffic noise modeling results were 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 15. The input and output files for the Traffic Noise Model are provided in Appendix J.

Table 15. Summary of Off-Site Existing and Opening (Year 2024) Traffic Noise Levels (dBA CNEL)

Modeled Receptor	Existing	Existing plus Project	Project Opening Year (2024)	Project Opening Year (2024) plus Project	Maximum Project-Related Noise Level Increase (dB)	Applicable Noise Standard[1]	Applicable Noise Standard Exceeded?
ST1: Single Family Residence South of Project site, south of Avenue H	62	64	63	64	2	65	No
ST2: East of project site, at Fairgrounds Parking Area	61	61	61	61	0	65	No
ST3: South-east of project site, adjacent to Cooper Square housing complex	52	52	52	52	0	65	No
ST 4: East of Project site, southeast of SR-138 and Avenue H interchange	64	64	64	64	0	65	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 City of Lancaster General Plan Noise Element compatibility standards.

As Table 15 shows, with the exception of receiver ST1, the project would increase the traffic noise levels along the nearby arterial roadways by 0 dBA (when rounded to whole numbers). A change of 1 dB or less is not audible in the context of community noise (i.e., outside of a controlled test environment). At modeled receiver ST1, located just south of the project site along Avenue H, the project is estimated to increase local traffic noise by 2 decibels; however, the City noise compatibility standard for residential land use of 65 dBA community noise equivalent level (CNEL) would not be exceeded and the noise increase would not represent a substantial level based upon the Federal Interagency Committee on Noise noise thresholds outlined in Table 4 of Appendix I. 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. However, construction best management practices with respect to noise have been included as Mitigation Measures 18 through 24 below to ensure that impacts remain less than significant.

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 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°F 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 southeast side of the building. Office space would total approximately 10,000 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 four such units would be required for the office area. 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 (Charles M. Salter 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 pass-by (Charles M. Salter 2014). Peak-hour truck volumes were assumed.
- During a nighttime model scenario, the sound power of rooftop HVAC sources from the project building remained unchanged; up to 25% of peak-hour on-site truck traffic would occur during a typical nighttime hour of facility operation.

As shown in Table 16, 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 residential land uses. 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 58 to 60 dBA L_{eq}.

Table 16. Mechanical Equipment and Truck Loading Dock Truck Yard Activity Noise

Modeled Receptor	Daytime (7:00 a.m. to 10:00 p.m.) Noise Level (dBA L_{eq})	Nighttime (10:00 p.m. to 7:00 a.m.) Noise Level (dBA L_{eq})	Resultant CNEL Noise Level (dBA CNEL)	Applicable Noise Standard[1] (dBA CNEL)	Applicable Standard Exceeded?
S–1 Single-Family Residential	39	37.5	44.5	65	No
ST2 Multi-Family Residential	22.9	22.5	29.3	65	No

Source: Appendix I.

Notes: dBA = A-weighted decibel; L_{eq} = equivalent continuous sound level (time-averaged sound level); CNEL = community noise equivalent level

[1] Applicable noise compatibility standard per City of Lancaster General Plan Noise Element Table III-1.

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 (Baltrënas 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) were 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 (10:00 p.m. to 7:00 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 ST1, the single-family residence to the south) would be located approximately 150 or more feet from the nearest parking area. At a distance of 150 feet, parking lot noise levels would be approximately 31 dBA L_{eq}. On a 24-hour CNEL basis (assuming that the nighttime parking lot activity would be approximately 25% of the daytime activity), the resulting noise level would be approximately 34 dBA CNEL, which would be well below the City's residential noise compatibility standard of 65 dBA CNEL.

To summarize, impacts associated with on-site operational noise would be less than significant.

Mitigation Measures

18. Construction operations shall not occur between 8:00 p.m. and 7:00 a.m. on weekdays or Saturday or at any time on Sunday. The hours of any construction-related activities shall be restricted to periods and days permitted by local ordinance.
19. The on-site construction supervisor shall have the responsibility and authority to receive and resolve noise complaints. A clear appeal process to the owner shall be established prior to construction commencement that will allow for resolution of noise problems that cannot be immediately solved by the site supervisor.

20. Electrically powered equipment shall be used instead of pneumatic or internal combustion powered equipment, where feasible.
21. Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far away as practicable from noise-sensitive receptors.
22. The use of noise producing signals, including horns, whistles, alarms, and bells shall be for safety warning purposes only
23. No project-related public address of music system shall be audible at any adjacent receptor.
24. All noise producing construction equipment and vehicles using internal combustion engines shall be equipped with mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features in a good operating condition that meet or exceed original factor specifications. Mobile or fixed “package” equipment (e.g., arc-welders, air compressors) shall be equipped with shrouds and noise control features that are readily available for the type of equipment.

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 the California Department of Transportation (Caltrans) (Caltrans 2020). Information from Caltrans indicates that continuous vibrations with a peak particle velocity of approximately 0.1 inches per second (ips) begin to annoy people. The heavier pieces of construction equipment, such as bulldozers, would have peak particle velocities 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 (residences located to the north) to where construction activity would be occurring on the project site (approximately 125 feet), and with the anticipated construction equipment, the peak particle velocity vibration level would be approximately 0.008 ips. At the closest sensitive receptors, vibration levels would be well below the vibration threshold of potential annoyance of 0.1 ips; therefore, impacts associated with vibration-generated annoyance would be less than significant.

The major concern with regard 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 0.008 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.

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?

Less-than-Significant Impact. The project site is not within the vicinity of a private airstrip. The closest public airport to the project site is General William J. Fox Airport, which is approximately 1.7 miles north of the project site. According to the City's General Plan, the project site is approximately 1.6 miles from the airport's 65 dBA CNEL noise contour. Additionally, the project site is within Zone E of the General William J Fox Airfield Land Use Compatibility Plan. Zone E is designated for 'other airport environs' and does not delineate development limitations for residential or other land uses (LACALUC 2004). Therefore, the project would not expose people residing or working in the project area to excessive noise levels. The project site is within the boundaries of the airport land use plan; therefore, the site and associated operational employees may be subject to noise from overflight. Due to the intermittent nature of airport operations and flight schedules, and that the project would be 1.6 miles from the airport's 65 dBA CNEL noise contour limit, operational employees would not be subject to excessive noise levels. Therefore, less-than-significant impacts associated with airport and aircraft noise would occur.

1.14 Population and Housing

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a) ***Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?***

Less-than-Significant Impact. The 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 proposed warehouse building 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 average a few dozen workers at any given time throughout the workday. These short-term positions are anticipated to be filled primarily by workers who reside in the project vicinity. Therefore, construction of the project would not generate a permanent increase in population within the project area.

According to the SCAG Demographics and Growth Forecast, employment in the City is anticipated to grow from 51,700 employees in 2020 to 59,600 employees in 2040 (SCAG 2022). The applicant has not yet identified a tenant, so it is not known exactly how many jobs would be created. But for purposes of the VMT analysis, it is assumed that the project would generate 134 permanent jobs during project operation. The project-related increase in employment would be minimal in comparison to the anticipated increase in the SCAG Demographics and Growth Forecast.

Additionally, as of September 2022, the California Employment Development Department found that the unemployment rate for the Los Angeles County area, including the City, is at 4.5%, which is above the state average (4.0%). Therefore, the project's temporary and permanent employment requirements could likely be met by the City's existing labor force without the need for people to relocate to the project region. The project would not stimulate population growth or a population concentration above what is assumed in local and regional land use plans. Therefore, impacts associated with population growth would be less than significant.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The project site is currently undeveloped vacant land. Development of the proposed project would not result in displacement of existing households. Therefore, no impact would occur.

1.15 Public Services

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☐	☒

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

Fire protection?

Less-than-Significant Impact. The City contracts with the Los Angeles County Fire Department (LACFD) for fire protection and emergency medical services (City of Lancaster 2009). The closest fire station to the project site is Fire Station No. 130 (44558 40th Street West), approximately 2 miles south of the project site. The City Community Development Department and the LACFD conduct comprehensive reviews of all project proposals to ensure fire standards are reflected on project plans and adhered to prior to the issuance of building permits. Additionally, building inspections are performed to ensure built structures comply with the California Fire Code, PRC Sections 4290–4299, California Government Code Section 51178, and the County of Los Angeles Fire Code and Department Regulations.

In addition, the project would not directly or indirectly induce population growth in the City. Although introduction of the project could potentially result in a marginal, incremental increase in calls for service to the project site in comparison to existing conditions, this increase is expected to be nominal and would not result in the need for new LACFD facilities or personnel. Nonetheless, similar to other development projects in the City, the project applicant would be required to pay a fair share of development impact fees to the LACFD to help offset incremental impacts to fire protection services. Therefore, impacts associated with LACFD facilities and response times would be less than significant.

Police protection?

Less-than-Significant Impact. The City contracts with the Los Angeles County Sheriff's Department (LACSD) to provide police protection to the City, including the project site (City of Lancaster 2009). The LACSD has one patrol station in the City, located at 501 West Lancaster Boulevard, approximately 3 miles southeast of the project site.

The project would not directly or indirectly induce population growth in the City. While introduction of the project would potentially result in an incremental increase in calls to the LACSD for service to the project site in comparison to existing conditions, this increase is expected to be nominal and would not result in the need for new LACSD facilities or personnel. In addition, the project site is already located within LACSD's service area and would not require an expansion of the service area, which could otherwise result in longer response times. Nonetheless, similar to other development projects in the City, the project applicant would be required to pay a fair share of development impact fees to help offset incremental impacts to police protection services. Therefore, impacts associated with LACSD facilities and response times would be less than significant.

Schools?

Less-than-Significant Impact. The project site is located within the Lancaster School District and the Antelope Valley Union High School District. It is not anticipated that people would relocate to the City as a result of the project and an increase in school-age children requiring public education is not expected to occur as a result of project implementation. However, should prospective employees relocate to the City for employment at the proposed facility, all residential and non-residential development projects are subject to SB 50, which requires payment of mandatory impact fees to offset any impact to school services or facilities. The provisions of SB 50 are deemed to provide full and complete mitigation of school facilities impacts, notwithstanding any contrary provisions in CEQA or other state or local laws (Government Code Section 65996). In accordance with SB 50, the project applicant would pay a fair share of impacts fees based on land use and size of the project. These impact fees are required of most residential, commercial, and industrial development projects in the City. Therefore, impacts associated with school facilities would be less than significant.

Parks?

Less-than-Significant Impact. Given the lack of population growth anticipated as a result of the project, neither construction nor operation of the project is likely to generate new residents to the extent that new or expanded park facilities would be required. Therefore, impacts associated with park facilities would be less than significant.

Other public facilities?

No Impact. The project would not directly or indirectly induce substantial population growth in the City. As such, it is unlikely that the project would increase the use of other public facilities such as libraries. Therefore, no impacts associated with libraries and other public facilities would occur.

1.16 Recreation

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. RECREATION				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

a) ***Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?***

No Impact. The project would construct a new warehouse building and associated improvements. The project does not propose any residential uses and would not directly or indirectly result in a substantial and unplanned increase in population growth within the project area that would place an undue burden on existing parks or recreational facilities. As such, the project would not increase the use of existing neighborhood parks, regional parks, or recreational facilities in the City and surrounding area such that substantial deterioration would occur. Therefore, no impacts associated with the use of existing residential facilities would occur.

b) ***Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?***

No Impact. The project would construct a new warehouse building and associated improvements. The project does not propose any recreational facilities. As an industrial use, the project would not require the construction or expansion of recreational facilities. Therefore, no impacts associated with the construction of new or expansion of existing recreational facilities would occur.

1.17 Transportation

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION Would the project:				
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 or access to nearby uses?	☐	☐	☒	☐

This section evaluates the potential transportation related impacts of the project, including the potential for the project to conflict with a program, plan, ordinance, or policy addressing the circulation system; substantially increase hazards; or result in inadequate emergency access. The section also analyzes the potential impacts of the project based on CEQA Guidelines Section 15064.3(b), which focuses on VMT for determining the significance of transportation impacts. The VMT analysis for the proposed project is based on the 35th Street & Avenue H Industrial Project Vehicle Miles Traveled Analysis (included as Appendix K of this MND) and the hazardous conditions analysis is based on the 35th Street & Avenue H Industrial Project Local Transportation Assessment Report (included as Appendix J of this MND).

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 applicable programs, plans, ordinances, or policies addressing the circulation system, as further discussed below. This includes the City of Lancaster General Plan for Physical Mobility (City of Lancaster 2009), the FFSP (City of Lancaster 1996b), and the existing and proposed pedestrian, bicycle, and transit facilities and services in the study area.

City of Lancaster General Plan for Physical Mobility

The City's General Plan provides a long-range comprehensive guide for the physical development of the City's planning area. The General Plan identifies the types of development that will be allowed, the spatial relationships among land uses, and the general pattern of future development. The City's Physical Mobility Plan discusses issues, opportunities, and constraints and identifies goals, objectives, policies, and actions related to streets and highways, parking, alternative transportation modes, commodity movement, and air transportation. The following circulation policies within the General Plan are applicable to the project (City of Lancaster 2009):

Goal 14: A well-balanced transportation and circulation system which provides for the efficient and safe transport of goods and people within and through the City of Lancaster; and which balances concerns for mobility with concerns for safety and the quality of the City's living environment.

Objective 14.1: Maintain a hierarchical system which balances the need for free traffic flow with economic realities, such that streets are designed to handle normal traffic flows with tolerances to allow for potential short-term delays at peak hours.

Policy 14.1.1: Design the City's street system to serve both the existing population and future residents.

Policy 14.1.2: Maintain and improve the operation of the roadway network by adhering to the circulation system improvements of the Transportation Master Plan for the development and operation of the system, while providing the flexibility to allow consideration of innovative design solutions.

Policy 14.1.3: Require that the fair and equitable cost of constructing arterials which connect outlying urban development to the City core be borne by developments which create the need for them.

Policy 14.1.4: Encourage the design of roads and traffic controls to optimize safe traffic flow by minimizing turning movements, curb parking, uncontrolled access, and frequent stops.

Objective 14.2: Promote a roadway system which balances the need to move vehicles while protecting environmental, aesthetic, and quality of life issues.

Policy 14.2.2: Manage the City's roadway network so that it is aesthetically pleasing through the development and maintenance of streetscapes.

Objective 14.3: Achieve a balance between the supply of parking and demand for parking, recognizing the desirability and availability of alternatives to the use of the private automobile.

Policy 14.3.2: Provide safe and convenient parking that has minimal impacts on the natural environment, the community image, and quality of life.

Objective 14.4: Reduce reliance of the use of automobiles and increase the average vehicle occupancy by promoting alternatives to single-occupancy auto use, including ridesharing, non-motorized transportation (bicycle, pedestrian), and the use of public transit.

Policy 14.4.2: Promote the use of alternative modes of transportation through the development of convenient and attractive facilities that support and accommodate the services.

Policy 14.4.3: Encourage bicycling as an alternative to automobile travel for the purpose of reducing vehicle miles traveled (VMT), fuel consumption, traffic congestion, and air pollution by providing appropriate facilities for the bicycle riders.

Policy 14.4.5: Design transportation facilities to encourage walking, provide connectivity, ADA accessibility, and safety by reducing potential auto/pedestrian conflicts.

Objective 14.5: Ensure the ability to safely move commodities within and through the City of Lancaster, including availability of truck routes, pipelines, and other utility corridors, in such a manner as to minimize impacts on adjacent land uses and enhance Lancaster residents' quality of life.

Policy 14.5.1: Provide adequate roadways and a support system to accommodate both automobile and truck traffic.

Fox Field Industrial Corridor Specific Plan

The FFSP establishes zoning and development standards for the area surrounding the General William J. Fox Airfield in northwestern Lancaster. The FFSP aims to encourage appropriate development while protecting the airfield from incompatible land uses. Allowable land uses for this area include office, research and development, commercial, light industrial, manufacturing/distribution, mixed-use business park, commercial recreation (including golf courses), and open space. The following are circulation-related policies of the FFSP that are implemented through development of the plans and provisions of the Specific Plan (City of Lancaster 1996a):

Goal: Circulation

b. Provide for the efficient movements of goods and people into and throughout the project area, establishing adequate access to individual land uses.

c. Establish landscaped corridors into the project on the regional arterials to establish a project theme and identity and enhance the City’s image.

Transit Facilities

The Antelope Valley Transit Authority (AVTA) provides regional and local transit services throughout Antelope Valley, including within the City. Regionally, the City is served by passenger commuter rail service provided by Metrolink. The rail and transit providers are described below.

Antelope Valley Transit Authority

The AVTA provides local bus service for the Cities of Lancaster and Palmdale and the unincorporated communities of Quartz Hill, Lake Los Angeles, Littlerock, Pearblossom, and Sun Village. AVTA operates 15 bus routes in Lancaster, providing bus connections between shopping centers, the Lancaster Post Office, schools and colleges, and residential areas. Route 9 shown in Figure 3.13-1 in Appendix J is the closest bus route to the project site, with bus stops near the intersection of 25th Street West and Avenue H, approximately 1 mile east of the project site. The route operates weekdays between 6:15 a.m. and 8:05 p.m. and on Saturday and Sunday between 8:15 a.m. and 6:19 p.m. (AVTA 2023).

The AVTA also provides commuter bus service from Lancaster to the Los Angeles metropolitan area and San Fernando Valley via bus Routes 785, 786, and 787. The routes originate and end at Owen Memorial Park in Lancaster, approximately 3 miles southeast of the project site.

AVTA also offers paratransit services for persons with special needs on any paved street within Lancaster as long as it is within their service boundaries. The AVTA paratransit services do not travel a fixed route and provide a flexible alternative to the fixed bus routes (AVTA 2023).

Metrolink

Metrolink is a commuter rail system in Southern California that connects Lancaster to the greater Southern California region via the Antelope Valley Line. The Lancaster station is approximately 4.5 miles southeast of the project site on Sierra Highway. Currently Metrolink operates 11 trains to and from Los Angeles, operating between 3:41 a.m. and 11:52 p.m. (Metrolink 2023).

Pedestrian and Bicycle Facilities

The project site is located in a developing area of the City with limited pedestrian facilities in the immediate vicinity. Sidewalks and bike lanes have generally been constructed where new development has occurred. The City's existing and proposed bicycle facilities are presented as Figure 13.3-2 in Appendix J. Within the vicinity of the site, a Class II bike lane (on-street painted bike lane) is currently provided on both sides of Avenue H, between approximately 30th Street West and Division Street, terminating approximately 2 miles east of SR-14.

Impact Analysis

The proposed project would not conflict with the circulation policies within the City's General Plan or the FFSP. The proposed project would not hinder the City's ability to provide a well-balanced transportation and circulation system and would be consistent with the City's Master Plan of Complete Streets, thus maintaining a hierarchical system that serves both the existing population and future residents. The project is located along a designated Regional Arterial and in an area that is designed to accommodate both automobile and truck traffic.

The proposed project would construct frontage improvements along Avenue H and 35th Street West, including landscaping, pedestrian improvements, and bicycle improvements consistent with the City's General Plan. This also meets the City's policy of requiring that the fair and equitable cost of constructing arterials be borne by developments that create the need for them. Access (ingress and egress) to the site would be provided by a new full access driveway on 35th Street West, with stop control, and a new full access driveway on Avenue H, with stop control, thereby minimizing uncontrolled access. The project is proposing to meet the City's landscaping requirements to improve the streetscapes along the project frontage, as well as the City's on-site parking requirements to provide safe and convenient parking without impacting the community.

In addition, by extending the sidewalks and existing bike lane along the project frontage on Avenue H, the project would be consistent with the City's goal of promoting non-motorized transportation (bicycle, pedestrian) and designing transportation facilities to encourage walking. Additionally, as the adjacent areas surrounding the project site continue to become developed, connectivity to other areas of the City will be realized. Finally, AVTA Route 9 shown in Figure 13.3-1 in Appendix J is the closest bus route to the project site, with bus stops near the intersection of 25th Street West and Avenue H, approximately 1 mile east of the project site. The project would not severely delay, impact, or reduce the service level of transit in the area. Therefore, the project would not adversely affect in a manner that conflicts with an applicable program, plan, ordinance, or policy addressing the performance of the circulation system, including public transit, roadway, bicycle or pedestrian facilities. Impacts would be less than significant.

b) ***Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?***

Less-than-Significant Impact with Mitigation Incorporated. CEQA Guidelines Section 15064.3(b) focuses on the newly adopted VMT metric for determining the significance of transportation impacts. This methodology was required to be used statewide beginning July 1, 2020. In accordance with SB 743, the City adopted the Local Transportation Assessment Guidelines (City of Lancaster 2021), which identify VMT-related screening criteria, methodologies, and impact criteria to be used to evaluate a project's potential impact on VMT. As shown in the analysis below, the project's impact due to conflicts or inconsistencies with Section 15064.3(b) would be less than significant with mitigation incorporated.

Vehicle Miles Traveled Screening Criteria

The City's guidelines (City of Lancaster 2021) identify projects that can be screened from conducting a project-specific VMT analysis. A land use project need only to meet one of the screening thresholds identified in Table 17 to result in a less-than-significant impact.

Table 17. City of Lancaster VMT Screening Criteria

Screening Categories	Project Requirements to Meet Screening Criteria
Project Size	A project that generates 110 or fewer daily trips.
Locally Serving Retail	A project that has locally serving retail uses that are 50,000 square feet or less, including specialty retail, shopping center, grocery store, pharmacy, financial services/banks, fitness center or health club, restaurant, and café. If the project contains other land uses, those uses need to be considered under other applicable screening criteria.
Project Located in a Low VMT Area	A residential or office project that is located in a traffic analysis zone that is already 15% below the Antelope Valley Planning Area baseline vehicle miles traveled.
Transit Proximity	A multifamily residential project providing higher density housing or a commercial project in an area already zoned for commercial use that is located within a half mile of the Metrolink station or within a half mile of a bus stop with service frequency of 15 minutes or less during commute periods.
Affordable Housing	A residential project that provides affordable housing units; if part of a larger development, only those units that meet the definition of affordable housing satisfy the screening criteria.
Transportation Facilities	Transportation projects that promote non-auto travel, improve safety, or improve traffic operations at current bottlenecks, such as transit, bicycle and pedestrian facilities, intersection traffic control (e.g., traffic signals or roundabouts), or widening at intersections to provide new turn lanes.

Source: City of Lancaster 2021.

The proposed project does not meet any of the screening criteria listed in Table 17. The project does not generate less than 110 daily trips, is an industrial project that would not be considered a locally serving retail use, and does not include affordable housing. The project is also not located in a low VMT area as identified on the City's VMT maps (see Appendix K) nor is it within 0.5 miles of an existing major transit stop or along a high-quality transit corridor. Therefore, a project-level VMT analysis is required and is presented below.

Thresholds of Significance

The City identifies significance thresholds for determining project impacts on VMT according to the type of project. The proposed project would fall within the Employment (Commercial or Industrial) project type and potential impacts would be based on the following threshold:

- Project exceeds 15% below Antelope Valley Planning Area baseline VMT for home-based work VMT per employee

A less-than-significant impact under existing/baseline conditions would also result in a less-than-significant cumulative impact as long as the project is consistent with the SCAG RTP/SCS.

Vehicle Miles Traveled Impact Analysis

Per City guidelines, proposed project VMT has been calculated using the most current version of the SCAG regional travel demand model and includes an analysis of the baseline year 2020, with and without the project. Based on the project type, the analysis is a measurement of home-based work (HBW) VMT per employee, which reflects all commute trips for places of employment for the Antelope Valley Planning Area. All HBW VMT attracted by the project is divided by the total employment to get the efficiency metric of HBW VMT per employee. The first model run included the existing land uses for the area with no changes and the second model run was conducted with socio-economic data from the proposed project (e.g., population, households, employment).

Table 18 presents the HBW VMT per employee for the baseline and project conditions. As shown in the table, the baseline (no project) HBW VMT is 9.2 VMT per employee and the City's threshold (15% below existing) is 7.8 HBW VMT per employee. The project generated HBW VMT is 13.3 per employee which exceeds the City's threshold. Therefore, the project would result in a potentially significant VMT impact. To reduce the project's potential VMT impact, the HBW VMT per employee would need to be reduced by 737 VMT. This equates to a reduction of 41%.

Table 18. Project VMT Summary

2020	Project	City of Lancaster[1]
Home-based work VMT	1,780	477,689
Employment	134	51.868
Home-based work VMT per employee	13.3	9.2
City's threshold (15% below existing)	7.8	
Potentially significant	**Yes**	
Reduction needed	41%	

Note: VMT = vehicle miles traveled
Source: Appendix K.
[1] Estimated from 2020 No Project model run by Translutions Inc. in Appendix K.

City of Lancaster Vehicle Miles Traveled Impact Fee Mitigation Program

The City Council adopted Resolution No. 23-08 on January 24, 2023, which would allow new residential and nonresidential development to mitigate their project specific VMT impacts by making a “fair share” payment to cover the cost of the identified transportation demand management strategies and VMT-reducing projects within the City. The proposed fee would apply to new residential and nonresidential development in the City that is subject to a VMT analysis under CEQA and is shown to generate VMT over the City’s established threshold of significance (City of Lancaster 2023). The City’s resolution states that a VMT mitigation fee of $150.00 per vehicle mile traveled above the City’s VMT impact threshold shall be paid, as provided in Mitigation Measure 25. Through the payment of fees that fund programs that reduce VMT in the City impacts would be less than significant. Therefore, the proposed project would be able to pay the fee per VMT to reduce the project’s total VMT to a level that is less than significant with mitigation.

Mitigation Measure

25. In accordance with the City of Lancaster’s Vehicle Miles Traveled Impact Fee Mitigation Program, the applicant shall pay $110,500 to reduce vehicle miles traveled impacts prior to the issuance of construction-related permits.

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)?***

Less-than-Significant Impact. The project would be subject to the City’s standard design guidelines to regulate the design of the project through the General Plan and Zoning Ordinance to ensure compatible use. The developer would be responsible for on-site circulation improvements (driveways and internal drive aisles) and frontage improvements along Avenue H and 35th Street West, including landscaping, pedestrian, and bicycle improvements. These on-site and adjacent improvements would be designed in accordance with all applicable design standards set forth by the City, which were established to ensure safe and efficient vehicular circulation. In addition, the City reviews all site plans to ensure that adequate line of sight is provided at all driveways, making sure that no structures or landscaping blocks the views of vehicles entering and exiting a site.

Access (ingress and egress) to the site would be provided from a new full access driveway on 35th Street West at the north end of the site and a new full access driveway on Avenue H on the east end of the site. As part of the Local Transportation Assessment Report prepared for the project (Appendix J), a queuing analysis was prepared for the 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 affecting the internal circulation on the project site. A queuing analysis was also prepared for the intersection of 35th Street West and Avenue H given its proximity to the project driveways and the number of project-added trips passing through the intersection. A queuing analysis was also performed for the southbound and northbound SR-14 ramps at Avenue H 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 SR-14 mainline. The queuing analysis was prepared for the Caltrans freeway ramps as part of the Caltrans safety analysis and to evaluate the intersections from a safety perspective. Based on the analyses, the proposed project would not result in unacceptable queueing conditions into or out of the project site. Furthermore, none of the calculated 95th percentile (design) queues exceed the storage capacities of either freeway ramp. Both intersections would have queues that do not spill onto the SR-14 mainline and would not cause additional safety issues. As such, no sharp curves, dangerous intersections, or incompatible uses would be introduced by the project. Therefore, impacts associated with hazardous design features or incompatible land uses would be less than significant.

d) Would the project result in inadequate emergency access or access to nearby uses?

Less-than-Significant Impact. As discussed in Section 1.17(c), 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. Consistent with LACFD access requirements, all project driveways have been designed to allow for minimum turning radii. Signage and striping would be provided to demarcate fire lanes and clear spaces throughout the site. All gated entryways to truck courts would include rapid-access Knox boxes to provide emergency access to gated areas. Therefore, impacts associated with inadequate emergency access or access to nearby uses would be less than significant.

1.18 Tribal Cultural Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. 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), or	☐	☐	☐	☒
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 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

The evaluation of potential impacts to TCRs is based on the findings resulting from tribal consultation conducted by the City, as the lead agency, as well as the findings of the Archaeological Resources Assessment conducted by Dudek in 2023 (Appendix D). Background research conducted to inform this analysis and provide data upon request to interested Native American representatives included an NAHC SLF search, ethnographic research, archival research, and CHRIS database records search, all of which are briefly discussed in this section.

Assembly Bill 52

AB 52 of 2014 amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 established that TCRs must be considered under CEQA and also provided additional Native American consultation requirements for the lead agency. PRC Section 21074 describes a TCR as a site, feature, place, cultural landscape, sacred place, or object that is considered of cultural value to a California Native American tribe. A TCR is either:

- On the CRHR or a local historic register
- Eligible for the CRHR or a local historic register
- 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 PRC Section 5024.1

AB 52 formalizes the lead agency–tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the project area, including tribes that may not be federally recognized. Lead agencies are required to begin consultation prior to the release of a negative declaration, MND, or EIR by contacting those tribal groups who have previously provided formal written request for notification of projects under the agency's jurisdiction.

Section 1(a)(9) of AB 52 establishes that "a substantial adverse change to a tribal cultural resource has a significant effect on the environment." Effects on TCRs should be considered under CEQA. Section 6 of AB-52 adds Section 21080.3.2 to the PRC, which states that parties may propose mitigation measures "capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource." Further, if a California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to TCRs, the consultation shall include those topics (PRC Section 21080.3.2[a]). Finally, the environmental document, for which the tribal consultation is focused, and the mitigation monitoring and reporting program (where applicable), developed in consideration of information provided by tribes during the formal consultation process, shall include any mitigation measures that are adopted (PRC Section 21082.3[a]).

Assembly Bill 52 Consultation

The project is subject to compliance with AB 52 (PRC Section 21074), which requires consideration of impacts to 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 proposed project. All NAHC-listed California Native American tribal representatives that have requested project notification pursuant to AB 52 were sent letters by the City on July 3, 2023, via U.S. Postal Service certified mailing. The notification letters contained a project description, outline of AB 52 timing, an invitation to consult, a project site plan, and contact information for the appropriate lead agency representative. The City received two responses to the AB 52 notification letters, from the Fernandeño Tataviam Band of Mission Indians and Yuhaaviatam of San Manuel Nation. Consultation with both tribal entities is ongoing. Table 19 summarizes the results of the AB 52 process for the project.

Table 19. Assembly Bill 52 Native American Tribal Outreach Results

Native American Tribal Representatives	Response Received
Andrew Salas, Chairman Gabrieleno Band of Mission Indians Kizh Nation	AB 52 notification letter sent via certified mailing on July 3, 2023. As no response was received during the 30-day window, it is assumed that consultation was declined.
Sarah Brunzell, Manager Cultural Resources Management Division Fernandeño Tataviam Band of Mission Indians (FTBMI)	**July 5, 2023:** FTBMI representative, Sarah Brunzell, responded to the City via email acknowledging receipt of the notification letter. **September 6, 2023:** Consultation meeting between the FTBMI and City occurred. **September 7, 2023**: Ms. Brunzell followed up with the City after the consultation meeting and provided the tribe's recommended mitigation measures. Consultation has not yet concluded.

Table 19. Assembly Bill 52 Native American Tribal Outreach Results

Native American Tribal Representatives	Response Received
Ryan Nordness, Cultural Resource Analyst Yuhaaviatam of San Manuel Nation (YSMN; *formerly known as the San Manuel Band of Mission Indians*)	**July 12, 2023**: YSMN representative, Ryan Nordness, responded to the City via email acknowledging receipt of the notification letter. Mr. Nordness stated that the project exists within the YSMN territory; however, the tribe has no concerns regarding implementation of the proposed project impacting known TCRs. The tribe, through Mr. Nordness, provided recommended mitigation measures and requested they be made part of the project/permit/plan conditions. Consultation has not yet concluded.

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, 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)?***

No Impact. As discussed in Section 1.5, no previously recorded archaeological resources of Native American origin or TCRs listed in the CRHR or a local register were identified within the project site as a result of the South Central Coastal Information Center records, SLF search completed by the NAHC, information provided by consulting tribes. Additionally, an intensive-level archaeological survey of the project site was completed on December 15, 2022, by Dudek. No historic-period or prehistoric archaeological resources of Native American origin were observed as a result of the survey. Therefore, the project is not anticipated to adversely affect known TCRs that are listed or eligible for listing in the state or local register of historical resources as defined in PRC Section 5020.1(k). Impacts would be less than significant.

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 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 proposed project is subject to compliance with AB 52 (PRC Section 21074), which requires consideration of impacts to TCRs as part of the CEQA process and requires lead agencies to provide notification of proposed projects to California Native American tribal representatives that have requested such notifications.

The City sent notification letters pursuant to AB 52 on July 3, 2023. The City received two responses to the AB 52 notification letters, from the Yuhaaviatam of San Manuel Nation Cultural Resources Department (formerly the San Manuel Band of Mission Indians) and the Fernandeno Tatavium Band of Mission Indians. The Yuhaaviatam of San Manuel Nation communicated that there are no concerns regarding implementation of the proposed project impacting known TCRs and recommended specific mitigation measures be made part of the project/permit/plan conditions. The Fernandeno Tatavium Band of Mission Indians also provided mitigation measures they recommended to be included based on their determination that the project has the potential for an inadvertent discovery of TCRs. Consultation with both tribal entities is ongoing.

At this time, no TCRs have been identified by California Native American tribes as part of the City's AB 52 notification and consultation processes that would warrant discretionary designation of a resource as a TCR. Therefore, the City determined that no substantial evidence has been presented that would demonstrate a significant TCR (pursuant to criteria set forth in PRC Section 5024.1[c]) exists within the project site. Notwithstanding, Mitigation Measures 6 through 13 (see Section 1.5) are required to help ensure the proper treatment of TCRs that may be inadvertently encountered during ground-disturbing activities. With incorporation of Mitigation Measures 6 through 13, potential impacts associated with TCRs would be less than significant with mitigation incorporated.

For purposes of proper implementation of these mitigation measures, the term "Consulting Tribes" is defined pursuant to PRC 21080.3.1 as California Native American tribes that are traditionally and culturally affiliated with the geographic area of the project site that may have expertise concerning their tribal cultural resources and have requested and participated in formal AB 52 consultation for the project. The tribes that fulfill this definition for this project include the Yuhaaviatam of San Manuel Nation and the Fernandeno Tatavium Band of Mission Indians.

Any and all archaeological/cultural documents created as a part of the project shall be supplied to the applicant and lead agency for dissemination to the Consulting Tribes. However, access to confidential records from CHRIS (e.g., isolate records, site records, survey reports, testing reports) are restricted from disclosure under federal and state laws; thus, researchers must meet access requirements to obtain these data. Access to confidential CHRIS data shall follow the CHRIS THPO-Tribal Access Policy (OHP 2019) or shall be granted to staff that meet the CHRIS authorized user's requirements (OHP 2024). Data security/confidentiality of all CHRIS data provided/acquired shall follow the requirements as outlined in the THPO-Tribal Access Policy (OHP 2019). Notwithstanding, non-confidential CHRIS data can be provided for planning purposes and includes a checklist (Summary Records Search) or narrative letter (Extended Records Search) stating whether there are known resources in the study area and offering a recommendation as to sensitivity for recorded and unrecorded cultural resources (OHP 2024). Access to CHRIS information is subject to review and approval of the appropriate information center in consultation with the State Historic Preservation Officer.

1.19 Utilities and Service Systems

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

a) ***Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?***

Less-than-Significant Impact. The proposed project would involve the construction of a warehouse building, as well as paved parking areas and landscape areas. The project site currently consists of undeveloped vacant land. Therefore, the proposed project would require new utility connections for water, wastewater, stormwater drainage, electrical, natural gas, and telecommunication facilities; however, existing utility lines are located within the immediate vicinity of the project including existing City rights-of-way adjacent to the project site. The wastewater flow originating from the proposed project will discharge directly to the Avenue H West Trunk Sewer. The wastewater generated by the proposed project would be treated at the Lancaster Water Reclamation Plant, which has a capacity of 18 million gallons per day and currently treats an average recycled flow of 13.9 million gallons per day.

Additionally, the project would constitute a nominal increase in utility usage, which has already been accounted for in growth projections for the City and by each utility provider. No modifications to utility infrastructure would be necessary outside of the immediate project area. As such, impacts associated with the construction or expansion of utility line connections would be less than significant.

b) ***Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?***

Less-than-Significant Impact. Domestic water would be provided to the project site by LACWD District 40; however, the project would need to be annexed into District 40 boundaries. Additionally, the project applicant would be required to secure permanent water supply entitlements sufficient to meet the project's annual water demand as determined by the district. LACWD provides domestic water for portions of both the City and the County of Los Angeles. The primary water sources for LACWD are local groundwater and the State Water Project (City of Lancaster 2009).

The LACWD's 2020 UWMP for Los Angeles County Waterworks District No. 40 Antelope Valley is used to develop water supply assessments and other key water supply reliability documents in support of providing water service to existing customers and future development in accordance with adopted general plans and established spheres of influence. An annual population growth rate of 1% was used for developing the projections in the UWMP (LACWD 2021). This growth rate is based on Demographics & Growth Forecast Technical Report to the SCAG 2020 RTP/SCS (Connect SoCal) (SCAG 2020); specifically, Table 14 for Cities of Lancaster and Palmdale. This is consistent with the Antelope Valley Integrated Regional Water Management Plan (LACWD 2019). Therefore, in general, if a project is consistent with the general plan land use designation that was assumed in the UWMP, then the findings in the UWMP would apply. In this case, the proposed project is consistent with the City's General Plan land use designation (Specific Plan) for the site and would not require any type of General Plan amendment or zone change. As such, the density/intensity assumed for the project site in the UWMP would be maintained following implementation of the project, and the project would not adversely affect the LACWD's ability to continue to supply water during normal and drought conditions. Therefore, impacts associated with water supplies and facilities would be less than significant.

c) ***Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?***

Less-than-Significant Impact. Lancaster's sewer system is maintained by the Lancaster Water Reclamation Plant, which processes an average sewage flow of approximately 16 to 18 million gallons per day (City of Lancaster 2009). The expected average wastewater flow from the project is 9,885 gallons per day. The Lancaster Water Reclamation Plant would provide service to the project; however, the project site would need to be annexed into Los Angeles County Sanitation District No. 14 boundaries prior to receiving sewer service to the site. This would not require the expansion of the existing facilities or construction of new facilities because the nature of the project as an industrial warehouse distribution facility would not increase population growth or otherwise generate substantial volumes of wastewater. Therefore, impacts would be less than significant.

d) Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less-than-Significant Impact. Solid waste generated in the City is collected and transported by the City's contract waste hauler (City of Lancaster 2009). The City has two landfill sites, the Lancaster Landfill and Antelope Valley Landfill; however, regional landfills in Los Angeles County will also accept solid waste from the City (City of Lancaster 2009). The California Department of Resources Recycling and Recovery publishes solid waste generation rates based on land use types. According to the California Department of Resources Recycling and Recovery, manufacturing/warehouse uses generate 1.42 pounds per 100 square feet per day (CalRecycle 1995, 2019). Based on these generation rates, construction of the proposed 395,390-square-foot warehouse building could generate solid waste at a rate of approximately 2.55 tons of solid waste per day.[2]

The Lancaster Landfill currently has a daily permitted throughput of 5,100 tons per day and a remaining capacity of 14,514,648 cubic yards (CalRecycle 2019). As a result, solid waste generated by the proposed project would represent a nominal percentage of the collective maximum daily throughput permitted for this landfill. Therefore, impacts associated with permitted landfill capacity would be less than significant.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less-than-Significant Impact. All collection, transportation, and disposal of solid waste generated by the project would comply with all applicable federal, state, and local statutes and regulations. The City contracts private haulers for the residential and commercial refuse collection program, which is designed to efficiently collect trash, recyclables, and green waste and to assist the City in meeting mandated diversion goals established by the State of California.

Waste from construction activities, including demolition and construction, would comply with the City's requirement to submit and obtain an approved construction waste diversion plan to help divert construction and demolition waste from landfills, as outlined in Section 13.17.010 of the City's Municipal Code. The project would also comply with mandates of the California Department of Resources Recycling and Recovery. The City diversion requirement, as outlined in Section 13.17.020 of the City's Municipal Code, is 50%, which means that projects that involve construction and demolition (such as the proposed project) are required to divert 50% of the construction and demolition waste tonnage at a project site from landfills.

As required by existing regulations, any hazardous materials collected on the project site during demolition, construction, or operational activities would be transported and disposed of by a permitted and licensed hazardous materials service provider at a facility permitted to accept such hazardous materials. Therefore, impacts associated with permitted landfill capacity and solid waste statutes and regulations would be less than significant.

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[2] This estimate does not account for diversion of recyclables from the solid waste stream and, thus, should be considered a conservative projection.

1.20 Wildfire

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. WILDFIRE If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Less-than-Significant Impact. The City has several documents that address emergency response and evacuation within the City including the City of Lancaster Local Hazard Mitigation Plan (LHMP) (City of Lancaster 2019), Emergency Operations Plan (City of Lancaster 2010b), and General Plan Safety Element. The project site is currently composed of vacant and developed land and is located in an undeveloped portion of the City.

The LHMP identifies potential transportation impacts resulting from wildfire hazards. The LHMP identified SR-14 and the Sierra Highway as being closed during wildfire activity within the area. The LHMP identifies several multihazard mitigation strategies to reduce the risk of hazards within the City such as planning alternative evacuation routes and coordinating within the planning department on review of development proposals. The project would be reviewed by the LACFD to ensure that it would not interfere with planned evacuation routes and would be consistent with recovery plans.

The Emergency Operations Plan addresses emergency response within the City at the different stages of an emergency (preparedness, response, recovery, and mitigation). The response phase includes evacuation efforts and emergency response to threats. The mitigation phase includes efforts to break the cycle of disaster such as disaster planning. Efforts from the other emergency response stages would not be impacted by project implementation. The proposed project would introduce approximately

134 employees and 1,518 average daily trips to the project site and surrounding area, increasing the number of evacuees and potential patients that may need emergency care. As described in Section 1.15, Public Services, with payment of impact fees, impacts associated with fire protection services would be less than significant. Additionally, project access and circulation features would be designed in compliance with LACFD access requirements and to allow for minimum turning radii. Further, signage and striping would be provided to demarcate fire lanes and clear spaces throughout the site and all gated entryways to truck courts would include rapid-access Knox boxes to provide emergency access to gated areas. The City's General Plan Safety Element outlines major north–south evacuation routes within the City as SR-14, Sierra Highway, 90th Street West, 20th Street West, 10th Street West, Division Street, Challenger Way, 50th Street East, and 90th Street East and east–west routes as Avenue D, SR-138, Avenue J, Avenue H, Avenue I, Avenue K, and Avenue L (City of Lancaster 2022). In the case of an emergency at the project site, Avenue H can be used as an evacuation route. As described in Appendix J, Avenue H would continue to operate at level of service D with or without the proposed project. Therefore, project implementation would not impact evacuations routes within the City.

In conclusion, the project would not impair the City's LHMP, Emergency Operations Plan, or General Plan Safety Element. With compliance with fire code standards and payment of impact fees, impacts would be less than significant.

b) Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less-than-Significant Impact. The project site is relatively flat, partially disturbed, and contains existing vegetation that includes ground surface cover consisting of shadscale scrub, with cattle saltbush and littleleaf horsebrush in the shrub strata located throughout the site. The project site is not located within or in proximity to a Fire Hazard Severity Zone or a Very High Fire Hazard Severity Zone according to the Fire Hazard Severity Zones in State Responsibility Area map by the California Department Forestry and Fire Protection (CAL FIRE 2022). While the project would increase the likelihood of ignitions and the fuel load on the project site, fire risk at the project site is considered low. In addition, the project site is currently undeveloped and located within an undeveloped portion of the City. Therefore, it is not anticipated that the project would exacerbate wildfire risks or expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Thus, the project would not expose people or structures to significant risk involving wildfires, exacerbate wildfire risks, or otherwise result in wildfire-related impacts. Therefore, impacts associated with wildfire would be less than significant.

c) Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Less-than-Significant Impact. The project would construct surface parking lots and infrastructure for the proposed development and improve an off-site segment of 35th Street West immediately west of the project site. It is not anticipated that installation or maintenance of this associated infrastructure would exacerbate fire risk, as the driveways would be surrounded by undeveloped land. Further, the project site is in a predominately undeveloped area and would connect to existing utilities. Given that the project would connect to existing utilities and would not require installation or maintenance of other associated infrastructure that would exacerbate fire risk and there is a low risk of wildfire at the project site, impacts related to exacerbated fire risk due to installation or maintenance of infrastructure would be less than significant.

d) Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. As discussed in Section 1.7, Geology and Soils, the project is located in a relatively flat area where risk of landslides is considered low. As discussed in Section 1.10, Hydrology and Water Quality, the project would introduce new impervious services to the project site, resulting in drainage changes; however, with the incorporation of the proposed drainage control features, including proposed retention basins as shown on Figure 4, impacts related to drainage changes would be less than significant.

Further, as described above, wildfire risk at the project site is considered to be low. Thus, the project would not expose people or structures to significant risk involving wildland fires due to post-fire instability and no impact would occur.

1.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

a) ***Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?***

Less-than-Significant Impact with Mitigation Incorporated. Implementation of the project would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. However, as analyzed in Section 1.4, Biological Resources, direct impacts to one special-status plant species, alkali mariposa lily, would occur. To reduce impacts to a less-than-significant level, Mitigation Measure 2 (sensitive plants) would be implemented.

There is a low potential for burrowing owl to occur within the project site; therefore, implementation of Mitigation Measure 3, Pre-construction Burrowing Owl Survey, and Mitigation Measure 4, Pre-Construction Nesting Bird Survey, would reduce impacts to a level that is less than significant.

Direct impacts to 25 potentially jurisdictional non-wetland water features would occur due to grading within the project footprint, for a total of 3.08 acres of impacts. Implementation of Mitigation Measure 5 would reduce these impacts to less than significant by procuring a Waste Discharge Requirements permit from the RWQCB. The permit from the RWQCB shall be obtained prior to the issuance of construction related permits (e.g., grading, building, etc.) by the City.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Less-than-Significant Impact with Mitigation Incorporated. Cumulative impacts are defined as two or more individual project effects that, when considered together, combine to result in a significant impact. Implementation of mitigation identified in this MND would reduce all potentially significant impacts to a less-than-significant level. Other cumulative projects in the area would be required to identify site-specific impacts and mitigation measures and would be required to adhere to applicable regulations. These other projects are also required to be in accordance with the City's zoning code and General Plan. Considering the nature and scale of the project, when considered in combination with other cumulative projects, cumulatively considerable impacts would be less than significant. Table 20 includes cumulative projects within 1 mile of the project site.

Table 20. Cumulative Projects List

Case No.	Location	APNs	Description	Status
SPR 23-012	30th St W and Ave F8	3114-010-011	Industrial short-term storage warehouse building	Under Review
TTM23-005	40th St W and Ave H8	3107-012-096	Subdivide 8 parcels into 155 single-family residential lots	Under Review
SPR23-003	William J Barnes Ave, 47th St W, and Runway Dr	3105-001-042	581,000 sf of Distribution/Warehouses	Approved
SPR23-004	W Avenue G	3105-001-011	648,000 sf distribution facility	Approved
SPR21-015/SPR24-001	W Avenue G and Antelope Valley Freeway	3114-011-031	630,000 sf warehouse/distribution facility	Approved
SPR22-006	W Avenue G	3114-012-020	Stone material production/storage	Approved
SPR17-003	W Avenue H-8 and 50th St W	3269-011-007	Electric school bus manufacturing facility	Approved

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less-than-Significant Impact. Implementation of the project would not involve environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly. Adherence to all applicable regulatory codes, ordinances, standards, and guidelines previously identified throughout this MND, in addition to project-specific mitigation measures identified herein, would ensure that construction of the project would not result in any substantial adverse impacts on humans. Therefore, impacts would be less than significant.

2 References

24 CCR Part 6. Guidelines for Implementation of the California Environmental Quality Act, as amended. https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards

AB 32. AB 32 Global Warming Solutions act of 2006. Assessed May 2023. https://ww2.arb.ca.gov/resources/fact-sheets/ab-32-global-warming-solutions-act-2006

AVAQMD (Antelope Valley Air Quality Management District). 1976. *Rule 402: Nuisance.* April 1976. https://avaqmd.ca.gov/files/597409879/AV402+1976+07+Apr+reformatted.pdf.

AVAQMD. 2016. *Antelope Valley AQMD California Environmental Quality Act (CEQA) and Federal Conformity Guidelines*. AVAQMD Planning, Rule Making and Grants Section, Air Monitoring Section. Accessed May 2023. https://avaqmd.ca.gov/files/e5b34d385/AV%20CEQA%20Guides%202016.pdf.

AVAQMD. 2023. *AVAQMD Federal 70 ppb Ozone Attainment Plan (Western Mojave Desert Nonattainment Area).* Accessed May 2023. https://avaqmd.ca.gov/files/1e287138b/70+ppb+Ozone+Plan+Final+Draft+AV+01.04.2023.pdf

AVTA (Antelope Valley Transit Authority). 2023. System Map (avta.com)

Baltrënas, P., D. Kazlauskas, and E. Petraitis. 2004. Testing on noise level prevailing at motor vehicle parking lots and numeral simulation of its dispersion, Journal of Environmental Engineering and Landscape Management, 12:2, 63-70

CAL FIRE. 2022. Los Angeles County State Responsibility Area Fire Hazard Severity Zones. November 21, 2022. Accessed May 2023. https://osfm.fire.ca.gov/media/cuxnqmcw/fhsz_county_sra_11x17_2022_losangeles_ada.pdf.

CalRecycle. 1995 and 2019. “Estimated Solid Waste Generation Rates”. Accessed February 2023. https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates

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.

Caltrans. 2018. California State Scenic Highway System Map. Assessed January 2023. https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa.

Caltrans. 2020. Transportation and Construction Vibration Guidance Manual. Division of Environmental Analysis, Environmental Engineering, Hazardous Waste, Air, Noise, Paleontology Office. April 2020.

CARB. 2017. *The 2017 Climate Change Scoping Plan Update*. January 20. Accessed May 2023. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

CARB. 2019a. “Ozone & Health.” Accessed May 2023. https://ww2.arb.ca.gov/resources/ozone-and-health.

CARB. 2019b. “Nitrogen Dioxide & Health.” Accessed May 2023. https://ww2.arb.ca.gov/resources/nitrogen-dioxide-and-health.

CARB. 2019c. “Carbon Monoxide & Health.” Accessed May 2023. https://ww2.arb.ca.gov/resources/carbon-monoxide-and-health.

CARB. 2022. *2022 Scoping Plan for Achieving Carbon Neutrality.* November 2022. Accessed May 2023. https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf.

CDFW. 2023a. California Natural Diversity Database (CNDDB). RareFind 5.0 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed January 2023. https://nrmsecure.dfg.ca.gov/cnddb/Default.aspx.

CDFW. 2023b. Biogeographic Information and Observation System (BIOS); online viewer. Accessed January 2023. https://wildlife.ca.gov/Data/BIOS.

CDFW. 2023c. California Natural Community list. Sacramento, California: CDFW. Accessed January 2023. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline.

CDFW. 2023d. State and Federally Listed Endangered, Threatened, and Rare Plants of California. Accessed January 2023. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390&inline.

CDFW. 2023e. State and Federally Listed Endangered and Threatened Animals of California. Accessed January 2023. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109405&inline.

CDFW. 2023f. CWHR Life History Accounts and Range Maps. Accessed January 2023. https://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

CDOC (California Department of Conservation). 2015. DOC Maps: Geologic Hazards. https://maps.conservation.ca.gov/geologichazards/.

CDOC. 2016. California Department Important Farmland Finder. Accessed May 2023. https://maps.conservation.ca.gov/DLRP/CIFF/.

CDPH (California Department of Public Health). 2013. Preventing Work-Related Coccidioidomycosis (Valley Fever). June 2013. Accessed May 2023. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/OHB/HESIS/CDPH%20Document%20Library/CocciFact.pdf.

CDPH. 2017. Epidemiologic Summary of Coccidioidomycosis in California, 2016. June 2017. Accessed May 2023. https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciEpiSummary2016.pdf.

CGS (California Geological Survey). 2002. California Geomorphic Provinces: Note 36. 4 pp. Available; https://koordinates.com/layer/97118-california-geomorphic-provinces/.

Charles M. Salter. 2014. Midpoint at 237 Loading Dock Noise Study. March 27, 2014.

City of Lancaster. 1996a. Fox Field Specific Plan. Assessed January 2023. https://www.cityoflancasterca.org/our-city/departments-services/development-services/planning/master-specific-plans/fox-field-specific-plan

City of Lancaster. 1996b. *Fox Field Industrial Corridor Specific Plan*. May 1996. Accessed May 2023. https://www.cityoflancasterca.org/home/showpublisheddocument/7638/637958143709930000

City of Lancaster. 2009. Lancaster General Plan 2030. https://www.cityoflancasterca.org/home/showpublisheddocument/9323/635775792210230000

City of Lancaster. 2010a. Permitted Uses 17.20.610. Assessed January 2023. https://library.municode.com/ca/lancaster/codes/code_of_ordinances?nodeId=TIT17ZO_CH17.20PUOPSPSPPUZO_ARTVIISPPLSPZO_17.20.610PEUS

City of Lancaster. 2010b. Emergency Operations Plan. Accessed May 2023. https://www.cityoflancasterca.org/home/showdocument?id=13457

City of Lancaster. 2013. *Lighting 17.16.220.A.9*. Assessed January 2023. https://library.municode.com/ca/lancaster/codes_of_ordinances?nodeId=TIT17ZO_CH17.16INZO_ARTIIINIZO_17.16.220DEPEST

City of Lancaster. 2017. *City of Lancaster Climate Action Plan*. Accessed May 2023.

City of Lancaster. 2019. Local Hazard Mitigation Plan. Accessed May 2023. https://www.cityoflancasterca.org/home/showpublisheddocument/41913

City of Lancaster. 2020. *Industrial Zone Code 17.16.220.* Assessed January 2023. *https*://library.municode.com/ca/lancaster/codes/code_of_ordinances?nodeId=TIT17ZO_CH17.16INZO_ARTIIINIZO_17.16.100HERE

City of Lancaster. 2021. Department of Development Services Local Transportation Assessment Guidelines. January.

City of Lancaster. 2022. Lancaster General Plan Safety Element. Assessed January 2023. https://www.cityoflancasterca.org/home/showpublisheddocument/43880/638034286649470000.

City of Lancaster. 2023. Resolution No. 23-08: Vehicle Miles Traveled Impact Fee Mitigation Program. January.

CNPS (California Native Plant Society). 2023a. Inventory of Rare and Endangered Plants (online edition, v8-03). Accessed January 2023. www.rareplants.cnps.org.

CNPS. 2023b. A Manual of California Vegetation, Online Edition. Accessed January 2023. https://www.cnps.org/vegetation.

Cohen, K.M., S.C. Finney, P.L. Gibbard, and J.-X. Fan. 2023. "The ICS International Chronostratigraphic Chart." Episodes 36: 199–-204. 2013; Updated. http://www.stratigraphy.org/ICSchart/ChronostratChart2023-04.pdf.

County of Los Angeles. 2017. "Increased Coccidioidomycosis ("Valley Fever") in Los Angeles County". Rx for Prevention, July-August 2017. Accessed May 2023. http://rx.ph.lacounty.gov/RxCocci0717

DTSC (Department of Toxic Substances Control). 2023. EnviroStor [online database]. Accessed May 19, 2023. https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=3679+W+Avenue+H%2C+Lancaster+CA

EPA (U.S. Environmental Protection Agency). 2016. "Health and Environmental Effects of Particulate Matter (PM)." Accessed May 2023. https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm.

FEMA (Federal Emergency Management Agency). 2023. FEMA Flood Map Service Center, Accessed May 18, 2023. https://msc.fema.gov/arcgis/rest/directories/arcgisjobs/nfhl_print/mscprintb_gpserver/jf27e4cb925b14ca480f30ef480ec7f87/scratch/FIRMETTE_1ed5f19f-b06d-4771-8351-1e9c5165b973.pdf

FHWA (Federal Highway Administration). 2004. FHWA Traffic Noise Model, Version 2.5. Office of Environment and Planning. February 2004.

FHWA. 2008. Roadway Construction Noise Model (RCNM), Software Version 1.1. Washington, DC: U.S. Department of Transportation, Research and Innovative Technology Administration, John A. Volpe National Transportation Systems Center, Environmental Measurement and Modeling Division.

FTA (Federal Transit Administration). 2018. Transit Noise and Vibration Impact Assessment Manual. September 2018.

Google Earth. 2023. Google Earth, desktop application; centered on the project site. Accessed January 2023. https://www.google.com/earth/.

Hernandez, J.L. 2010. Geologic map of the Lancaster West 7.5' quadrangle, Los Angeles County, California: A digital database, California Geological Survey, Preliminary Geologic Maps PGM-10-03, 1:24,000.

Johnson Controls. 2015. York Technical Guide. R-410A ZE/ZF/ZR/XN/XP SERIES, 3 6 TON 60 Hertz. 251933-YTG-Y-0715.

LACALUC (Los Angeles County Airport Land Use Commission), 2004. General William J. Fox Airfield Land Use Compatibility Plan, December 1, 2004.

LACWD (Los Angeles County Waterworks Districts). 2019. Antelope Valley Integrated Regional Water Management Plan. Final 2019 Update. Accessed May 2023. https://pw.lacounty.gov/wwd/avirwmp/docs/finalplan/2019%20Final%20AV%20IRWMP.pdf

LACWD. 2021. 2020 Urban Water Management Plan for Los Angeles County Waterworks District No. 40 Antelope Valley. Los Angeles County Public Works, Waterworks Division. October 2021. Accessed May 2023. https://dpw.lacounty.gov/wwd/web/Documents/D40_AV2020_UWMP%20FINAL.pdf

LADPW (Los Angeles County Department of Public Works). 2006. Hydrology Manual. Assessed January 2023. https://dpw.lacounty.gov/wrd/publication/engineering/2006_Hydrology_Manual/2006%20Hydrology%20Manual-Divided.pdf

LADPW. 2023. Near Real-Time Precipitation Map; Quartz Hill rain-gauge. Accessed May 2023. http://ladpw.org/wrd/precip/.

Laylander, D. 2000. Early Ethnography of the Californias, 1533-1825. Salinas, California: Coyote Press Archives of California Prehistory.

Lightfoot, K.G. 2005. *Indians, missionaries, and merchants: the legacy of colonial encounters on the California frontiers.* Berkeley, California: University of California Press.

Metrolink. 2023. “Schedules.” https://metrolinktrains.com/schedules/.

NETR 2023

NHMLA (Natural History Museum of Los Angeles County). 2023. Paleontological resources for the Lancaster 18 Industrial Project (PN:14731). January 29, 2023.

OHP. 2019. CHRIS THPO Tribal Access Policy. FINAL approved at August 1, 2019 SHRC meeting. August 1, 2019. Accessed at https://www.parks.ca.gov/pages/1068/files/CHRIS_THPOTribeAccessPolicy_FINAL.pdf.

OHP. 2024. Accessing the CHRIS Inventory. Accessed January 2024. Accessing the CHRIS Inventory (ca.gov)

SCAG (Southern California Association of Governments). 2020. *The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments, Connect SoCal*. Adopted September 3, 2020.

SCAG. 2022. 2016-2040 Final Growth Forecast by Jurisdiction 2022. Assessed January 2023. https://scag.ca.gov/sites/main/files/file-attachments/2016_2040rtpscs_finalgrowthforecastbyjurisdiction.pdf?1605576071

SVP (Society of Vertebrate Paleontology). 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. 11 p. Available at: https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines-1.pdf.

SWRCB (State Water Resources Control Board). 2023. Geotracker Database review, Accessed May 19, 2023, https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=3679+W+Avenue+H%2C+Lancaster+CA

USDA (U.S. Department of Agriculture). 2023. Web Soil Survey. USDA, Natural Resources Conservation Service. Accessed January 2023. http://websoilsurvey.nrcs.usda.gov.

USFWS (U.S. Fish and Wildlife Service). 2023a. Environmental Conservation Online System Information, Planning, and Conservation System (IPaC). Accessed January 2023. https://ecos.fws.gov/ipac/.

USFWS. 2023b. National Wetlands Inventory. Accessed January 2023. https://www.fws.gov/wetlands/.

USGS (U.S. Geological Survey). 2000. Operational Guidelines (version 1.0) for Geological Fieldwork in Areas 1 Endemic for Coccidioidomycosis (Valley Fever). USGS Open-File Report 00-348, Version 1.0. Accessed October 20, 2021. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.486.1526&rep=rep1&type=pdf.

USGS. 2018. Lancaster West, California Quadrangle [map]. 1:24,000. 7.5-minute Series. Washington D.C.

USGS. 2023. Watershed Boundary Dataset. https://www.usgs.gov/national-hydrography/watershed-boundary-dataset#:~:text=The%20Watershed%20Boundary%20Dataset%20is,High%20Resolution%20(NHDPlus%20HR).

Wilkerson, G.T. T. Elam, and R. Turner. 2011. Lake Thompson Pleistocene Mammalian Fossil Assemblage, Rosamond. In, R.E. Reynolds (ed.) 2011, The 2011 Desert Symposium Field Guide and Proceedings, California State University Desert Studies Consortium, p. 88-90.

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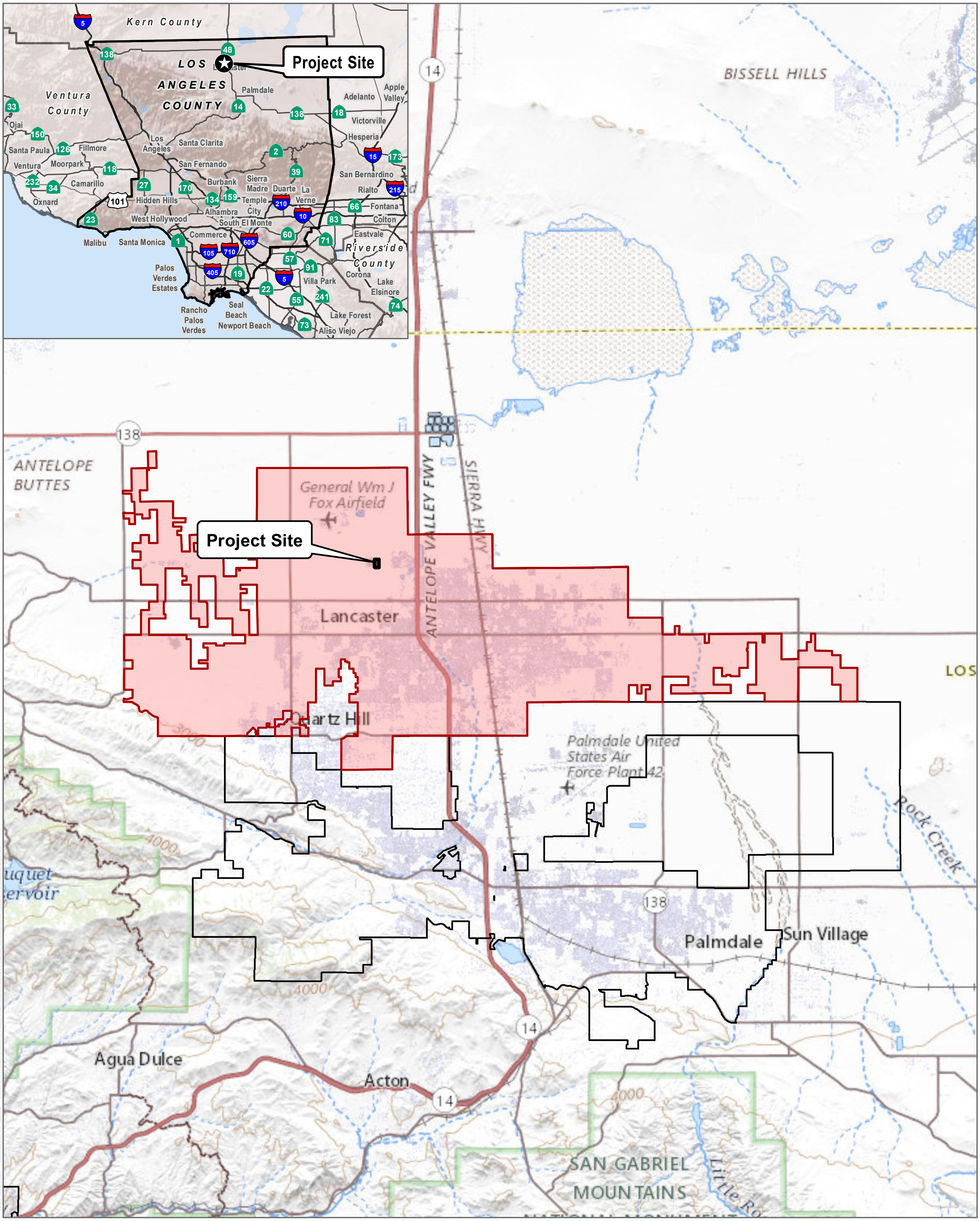

SOURCE: USGS US Topo Map 2020

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FIGURE 1

Regional Map

35th Street & Avenue H Project

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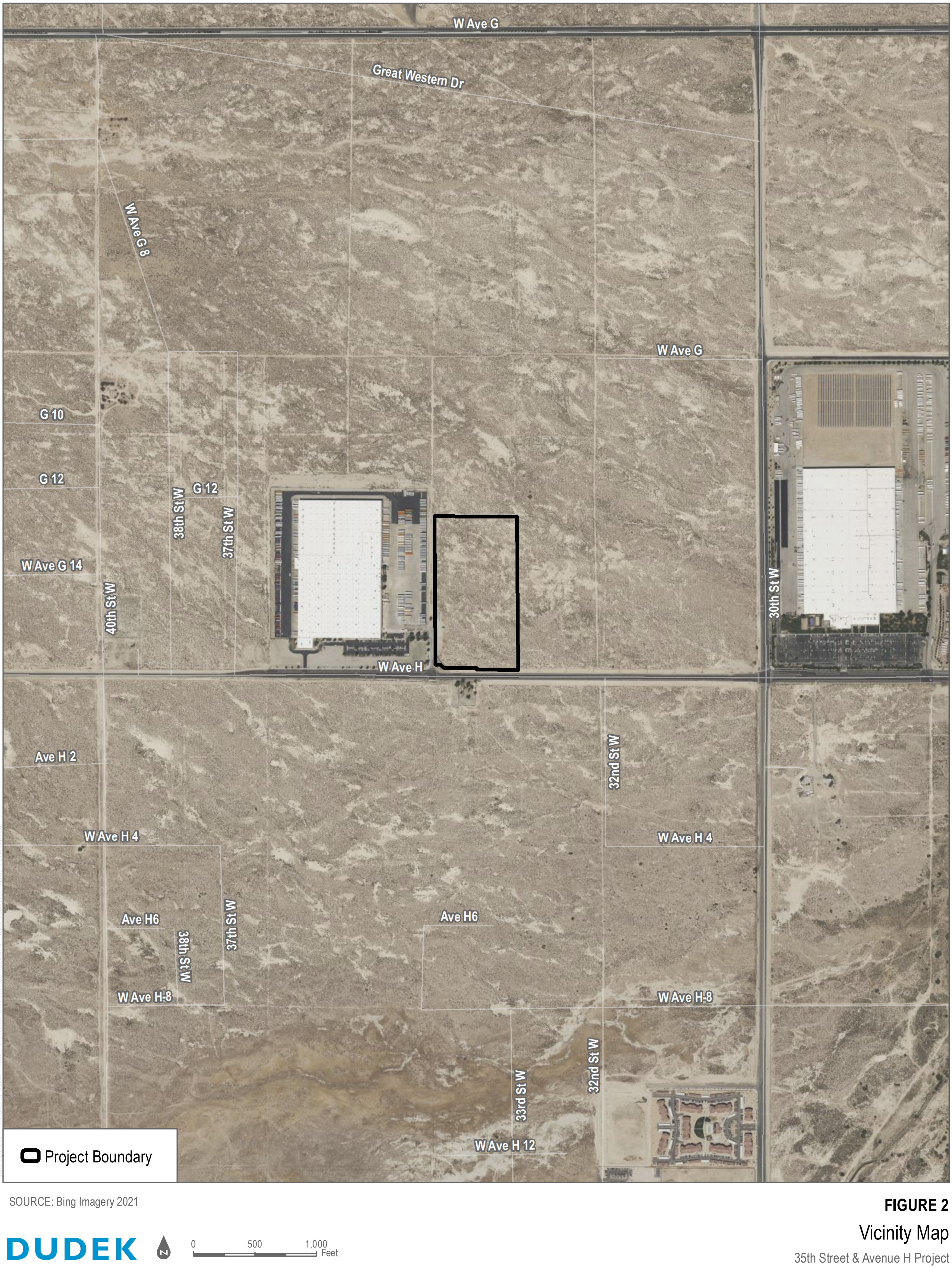

SOURCE: Bing Imagery 2021

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FIGURE 2

Vicinity Map

35th Street & Avenue H Project

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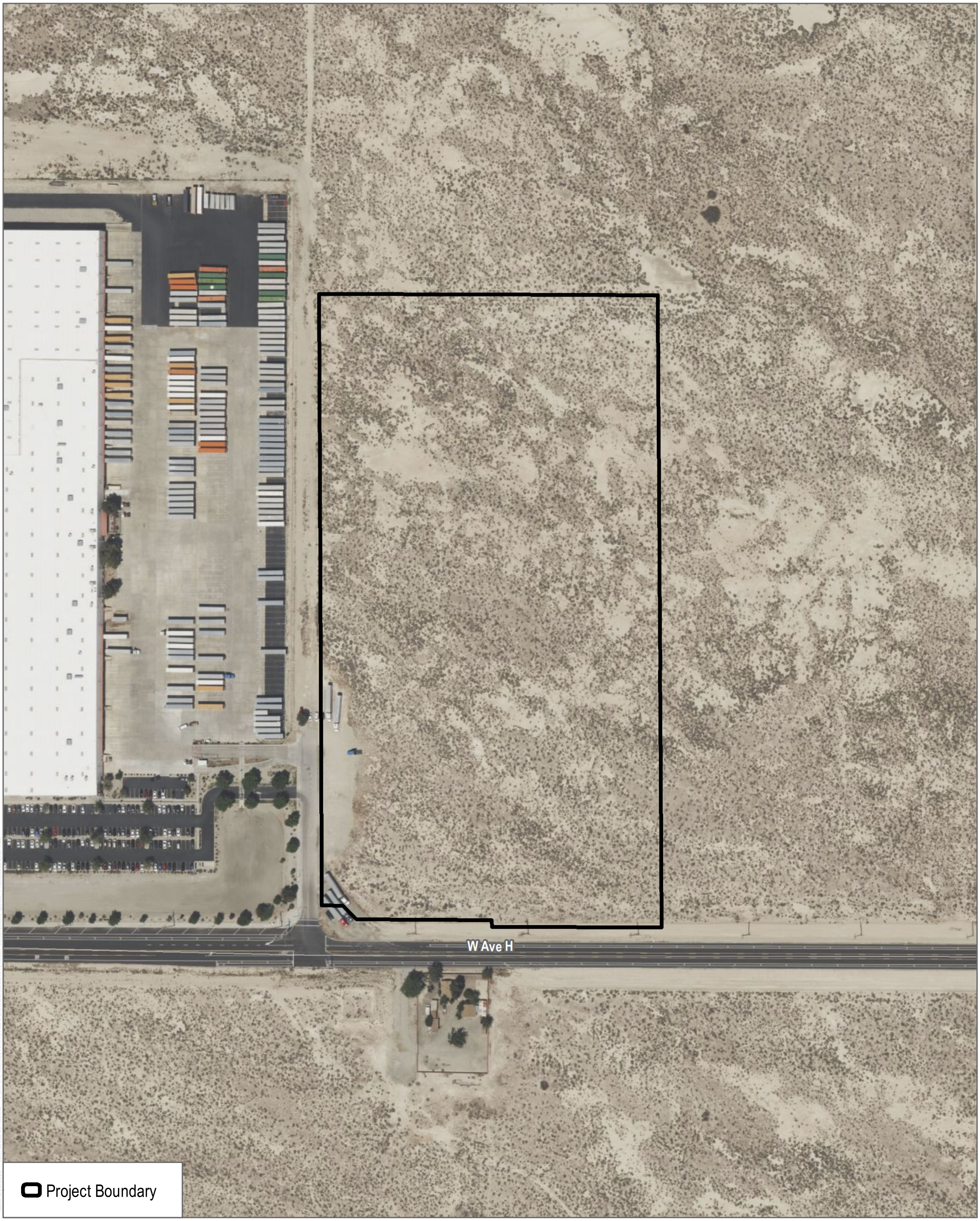

SOURCE: Bing Imagery 2021

FIGURE 3

Project Site Aerial

35th Street & Avenue H Project

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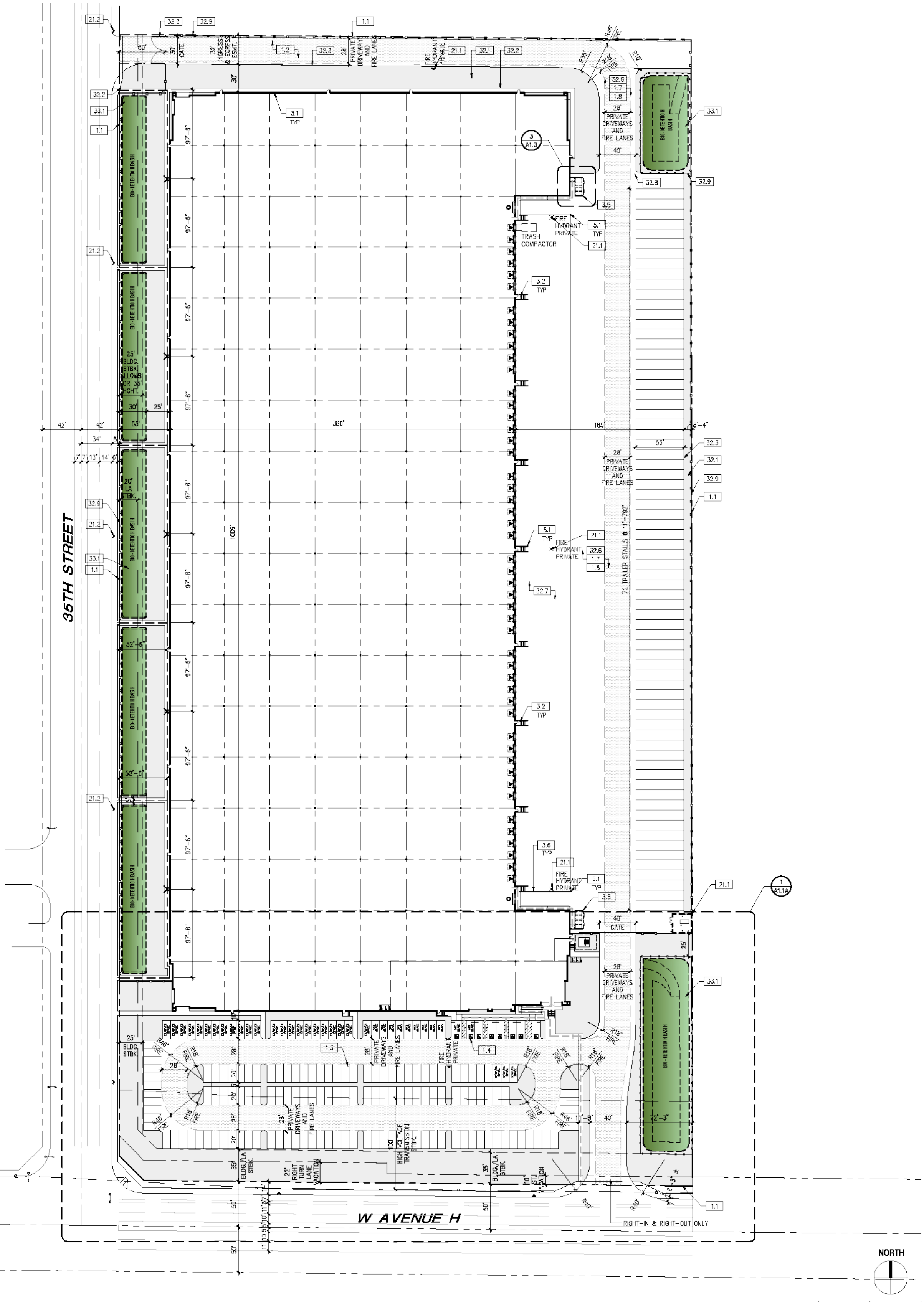

SOURCE: GAA Architects 2022

FIGURE 4

Site Plan

35th Street & Avenue H Project

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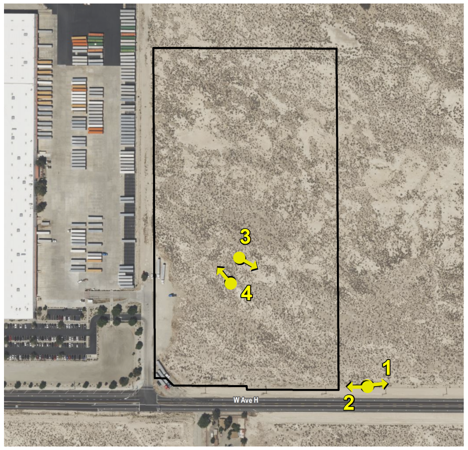

Photo Key

Photo 1: View of project site looking east.

Photo 2: View of the project site looking west.

Photo 3: View of the project site looking southeast.

Photo 4: View of the project site looking northwest.

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FIGURE 5

Existing Conditions

35th Street & Avenue H Project

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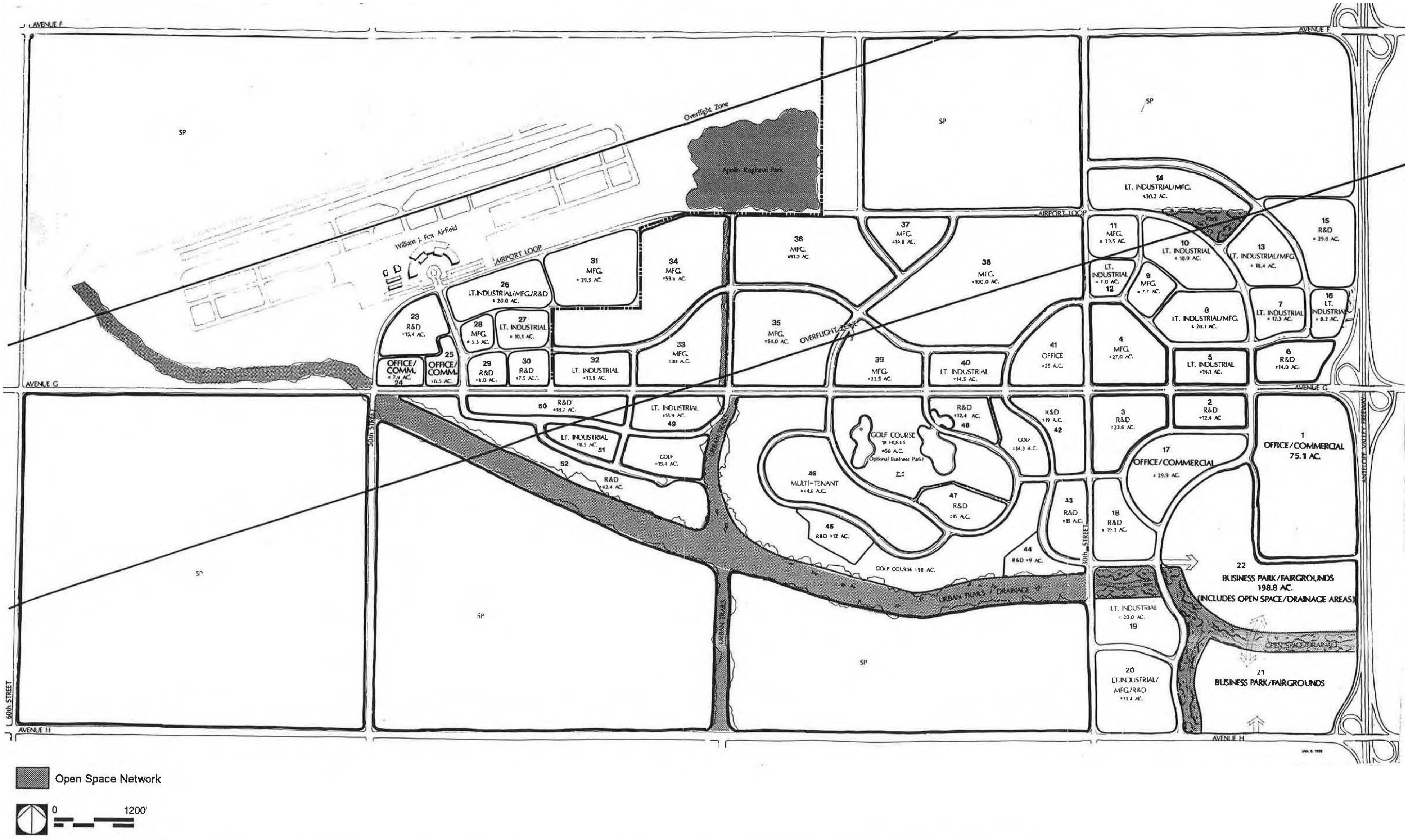

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SOURCE: Robert Bein, William Frost and Associates (Accessed 2023)

FIGURE 6

Fox Field Industrial Corridor Specific Plan Land Use Districts

35th Street & Avenue H Project

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Appendix A

Applicant Proposed Measures

Applicant Proposed Measures

Summary

Construction

- Heavy-Duty Off-Road Construction Equipment Requirements/Restrictions
- Provision of Electrical Infrastructure for Construction and Use of Electric Construction Equipment
- Construction Equipment Idling Restrictions
- Construction Haul Truck Requirements
- Dust Control Measures
- Construction Waste Recycling and Management
- Construction Logs

Site Design

- Sustainable Design/LEED Measures
- Solar Power
- Electrical Infrastructure for Electric Equipment and Vehicles
- Electric Vehicle Charging Stations
- Sustainable Energy, Waste, and Water Design Measures
- Design of Ingress/Egress Points
- Measures to Reduce the Urban Heat Island Effect

Operation

- Zero-Emission or Near-Zero-Emission Equipment
- Zero-Emission or Near-Zero-Emission Light-Duty and Medium-Duty Vehicles
- Truck Requirements and Restrictions
- Idling Time Restriction
- Anti-Idling Implementation Measures
- Truck Routing Plan
- Transportation Demand Management Plan
- Yard Sweeping to Reduce Fugitive Dust
- Restriction on Cold and/or Refrigerated Space
- Provision of Information Regarding Programs to Reduce Emissions from Trucks
- Provision of Information Regarding Reducing Emissions from Area and Energy Sources

Construction

APM-1: **Heavy-Duty Off-Road Construction Equipment Requirements/Restrictions.** During Project construction, all internal combustion engines/construction equipment greater than 75 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 City of Lancaster 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 City of Lancaster, the Project Applicant or successor in interest shall be required to demonstrate that at least two construction fleet owners/operators in the air basin were contacted and that those owners/operators confirmed Tier 4 Interim or Final, or better equipment could not be located within the air basin.

APM-2: **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 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.

APM-3: **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.

APM-4: **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 (NOx) standard.

APM-5: **Dust Control Measures.** In compliance with all applicable Rules and Regulations of the Antelope Valley Air Quality Management District (AVAQMD), 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 AVAQMD 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

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[1] For example, if a Tier 4 Final piece of equipment is not reasonably available at the time of construction and a lower tier equipment is used instead (e.g., Tier 4 interim), another piece of equipment could be upgraded from a Tier 4 Final to a higher tier (i.e., Tier 5) 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 Final standards.

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 the Project site 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.

APM-6: **Construction Waste Recycling and Management.** Consistent with Section 5.408.1 of the California Green Building Standards Code Part 11, a minimum of 65 percent of the nonhazardous construction and demolition waste shall be recycled and/or salvage for reuse.

APM-7: **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).

APM-8: **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 City of Lancaster, AVAQMD, or California Air Resources Board) conduct an inspection at the Project site.

Site Design

APM-9: **Sustainable Design/LEED Measures.** The Project shall be designed so that it is able to achieve Leadership in Energy and Environmental Design (LEED) certification and meet or exceed California Green Building Standards (CALGreen) Tier 2 standards in effect at the time of building permit application. Documentation shall be provided to the City of Lancaster demonstrating that the Project meets this requirement prior to the issuance of building permits.

APM-10: **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 100% of the Project's total operational base energy requirements from within the Project's building envelope. The City of Lancaster 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 successor in interest shall demonstrate how all available space has been maximized (e.g., roof, parking areas) for solar energy system use. Areas which 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 City of Lancaster 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.

APM-11: **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.

APM-12: **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.

APM-13: **Sustainable Energy, Waste, and Water Design Measures.** The Project Applicant or successor in interest shall implement the following measures:

- All heating, cooling, lighting, and appliance fixtures shall be Energy Star-rated
- 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
- Divert a minimum of 50% waste from landfills. Pursuant to this program, Project Applicant or successor in interest will provide storage areas for recyclables and green waste, as well as food waste storage if a pick-up service is available and evaluate the potential for onsite composting
- Buildings shall include high efficiency particulate air (HEPA) filtration systems within in all warehouse facilities
- Develop a Water Conservation Strategy and demonstrate a minimum 20% reduction in indoor and outdoor water usage when compared to baseline water demand (total expected water demand without implementation of the Water Conservation Strategy). Measures shall include, but not be limited to:
    - The Project's landscape plan shall emphasize drought-tolerant plants and use water-efficient irrigation techniques
    - All fixtures installed in restrooms and employee break areas would be U.S. Environmental Protection Agency WaterSense Certified or equivalent
    - Restrict the use of water for cleaning outdoor surfaces and prohibit systems that apply water to non-vegetated surfaces
    - Implement water-sensitive urban design practices in new construction
    - Install rainwater collection systems where feasible

APM-14: **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.

APM-15: **Measures to Reduce the Urban Heat Island Effect.** The following measures shall be implemented to reduce the urban heat island effect:

- Impervious ground surface areas surrounding the Project's buildings shall be concrete (as opposed to asphalt) to reduce the urban heat island effect.
- Surface treatments that lessen impervious surface-related radiative forcing (such as PURETi Coat or Plus Ti) shall be applied to impervious ground surfaces.
- 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).

Operation

APM-16: **Zero-Emission.** 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 equipment. This requirement shall apply to indoor and outdoor equipment such as forklifts, handheld landscaping equipment, yard trucks, office appliances, etc. Each building shall include the necessary charging stations or other necessary infrastructure for cargo handling equipment. The building manager or their designee shall be responsible for enforcing these requirements.

APM-17: **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.

APM-18: **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 three (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.

APM-19: **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 three-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 City of Lancaster 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, one-day Course #512).

APM-20: **Truck Routing Plan.** The Project Applicant or successor in interest shall establish and submit for approval to the City of Lancaster 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 City of Lancaster. The tenant/operator of the Project shall be responsible for enforcement of the Truck Routing Plan. A revised plan shall be submitted to the City of Lancaster prior to a business license being issued by the City of Lancaster 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 City of Lancaster 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.

APM-21: **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 City of Lancaster. 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

APM-22: **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.

APM-23: **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.

APM-24: **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 City of Lancaster 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 partner with the U.S. EPA to measure, benchmark, and improve logistics operations and reduce air pollutant emissions from the transport of cargo.

APM-25: **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 City of Lancaster 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

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Appendix B

Air Quality, Greenhouse Gas Emissions, and Energy Technical Memorandum

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TECHNICAL MEMORANDUM

To:	Michael Di Sano, West Avenue H 18 LLC
From:	Matthew Morales, Senior Air Quality Specialist, Dudek
Subject:	35th Street and W Avenue H Warehouse Project - Air Quality, Greenhouse Gas Emissions, and Energy Technical Memorandum
Date:	June 9, 2023
cc:	Jennifer Sucha, Dudek
Attachment(s):	Attachment A – Applicant Proposed Measures Attachment B – CalEEMod Emissions Outputs and Energy Estimates Attachment C – AERMOD and HARP2 Outputs Attachment D – Supplemental VMT Analysis

1 Introduction and Purpose

The purpose of this memorandum is to estimate criteria air pollutant, greenhouse gas (GHG) emissions, and energy demand from the 35th Street and W Avenue H Warehouse Project (project), in the City of Lancaster (City), California, and evaluate potential impacts resulting from project implementation under the California Environmental Quality Act (CEQA).

The contents and organization of this memorandum are as follows: (2) project description; (3) air quality assessment, including an overview of criteria air pollutants and toxic air contaminants (TACs), thresholds of significance, and impact analysis; (4) GHG emissions assessment, including an overview of GHGs, thresholds of significance, and impact analysis; (5) energy assessment, including thresholds of significance and impact analysis; (6) conclusions; and (7) references cited.

2 Project Description

The project would include construction of an industrial warehouse building and associated improvements on 20.15 acres of vacant land. The proposed Project would provide 395,390 square feet of industrial/warehouse space and include associated improvements, such as loading docks, tractor-trailer stalls, passenger vehicle parking spaces, stormwater detention basins, and landscape area. Office space within the building would be ground floor providing 10,000 square-feet of office space. The building would have a maximum height of 35 feet, measured from the finished floor to the top of the building and would have a gross floor area ratio of 50.0%. The project would include three biodetention basins on site: one located on the southeast corner, one located on the northeast corner, and one located along the west portion of the project site to detain and treat stormwater runoff.

The project would include off-site improvements along 35th Street and W Avenue H, 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 buildings and throughout the project site.

As part of the project design, a suite of applicant proposed measures (APMs) that pertain to air quality, GHGs, and/or energy will be implemented, as detailed in Attachment A.

The project site is located within the Mojave Desert Air Basin (MDAB), which includes the desert portions of Los Angeles, Kern, San Bernardino, and Riverside Counties. The project is within the jurisdictional boundaries of Antelope Valley Air Quality Management District (AVAQMD).

3 Air Quality Assessment

3.1 Background

3.1.1 Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. Criteria air pollutants that are evaluated include volatile organic compounds (VOCs; also referred to as reactive organic gases [ROG]), oxides of nitrogen (NO_x), carbon monoxide (CO), sulfur oxides (SO_x), particulate matter with an aerodynamic diameter less than or equal to 10 microns in size (coarse particulate matter, or PM_{10}), and particulate matter with an aerodynamic diameter less than or equal to 2.5 microns in size (fine particulate matter, or $PM_{2.5}$). VOCs and NO_x are important because they are precursors to ozone (O_3).

Regarding National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) attainment status,[1] the project site is within the desert portion of Los Angeles County, which is currently designated as nonattainment for the CAAQS and NAAQS for O_3, as well as nonattainment for the CAAQS for PM_{10}. The area is designated as attainment or unclassified for all other criteria air pollutants.

3.1.2 Non-Criteria Air Pollutants

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

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[1] An area is designated as in attainment when it is in compliance with the NAAQS and/or the CAAQS. These standards are set by the Environmental Protection Agency (EPA) and California Air Resources Board (CARB), respectively, for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. Attainment = meets the standards; attainment/maintenance = achieve the standards after a nonattainment designation; nonattainment = does not meet the standards; unclassified = expected to be meet the standard despite a lack of monitoring data.

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.

In August 1998, CARB classified "particulate emissions from diesel-fueled engines" (i.e., diesel particulate matter, or DPM) (17 CCR 93000) as a TAC. 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). 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. 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 $PM_{2.5}$. 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. DPM contributes to 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. Those most vulnerable to noncancer health effects are children, whose lungs are still developing, and the elderly, who often have chronic health problems.

3.1.3 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.

3.2 Thresholds of Significance

The significance criteria used to evaluate project impacts to air quality are based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.), as follows:

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

Appendix G of the CEQA Guidelines indicates that, where available, the significance criteria established by the applicable air quality management district or pollution control district may be relied upon to determine whether the project would have a significant impact on air quality. The AVAQMD *CEQA Air and Federal Conformity Guidelines* sets forth quantitative emission significance thresholds for criteria air pollutants below which a project would not have a significant impact on ambient air quality (AVAQMD 2016). Project-related air quality emissions estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 1 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. AVAQMD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions.

Table 1. Antelope Valley 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: AVAQMD 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 AVAQMD 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 South Coast Air Quality Management District (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.

3.3 Approach and Methodology

The California Emissions Estimator Model (CalEEMod) Version 2022.1 was used to estimate emissions from the construction and operational phases of the project. CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant and GHG emissions associated with construction activities and operation of a variety of land use projects, such as residential, commercial, and industrial facilities.

3.3.1 Construction

Criteria air pollutant emissions associated with construction of the project were estimated using CalEEMod for the following emission sources: operation of off-road construction equipment, fugitive dust, VOC off-gassing from paving and architectural coatings, on-road hauling, vendor (material delivery) trucks, and worker vehicles. CalEEMod input parameters were based on information provided by the applicant, or on default assumptions if project-specific data was not available. For the purpose of estimating project emissions, construction was modeled beginning in September 2023 and concluding in towards the end of August 2024.[2] The analysis contained herein is based on the following schedule assumptions (duration of phases is approximate):

- Site preparation: September 2023

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[2] The analysis assumes a construction start date of September 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.

- Grading: September 2023 – October 2023
- Building construction: October 2023 – June 2024
- Paving: July 2024
- Architectural coating: July 2024 – August 2024

It was assumed that approximately 55,910 cubic yards of soil would be imported. Notably, the project would be required to comply with AVAQMD Rule 403 to control dust emissions generated during any dust-generating activities. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active dust areas two times per day, with additional watering depending on weather conditions. The CalEEMod default assumptions were used for estimating fugitive dust emissions from grading on site. On-site trucks were assumed to account for watering. Also, as noted in Section 2, Project Description, all off-road equipment greater than 75 horsepower would have Tier 4 Final engines (APM-1). The mix of construction equipment, estimated hours of equipment operation per day, and on-road vehicles used for the air emissions modeling of the project are shown in Table 2. Additional details regarding construction assumptions are provided in the modeling output, Attachment B.

Table 2. Construction Scenario Assumptions

	Average Daily One-Way Vehicle Trips				Equipment		
Construction Phase	Worker Trips	Vendor Truck Trips	Haul Truck Trips	On-Site Truck Trips	Equipment Type	Quantity	Daily Usage Hours
Site Preparation	18	0	0	2	Rubber Tired Dozers	3	8
					Tractors/ Loaders/ Backhoes	4	8
Grading	20	0	234	2	Excavators	2	8
					Graders	1	8
					Rubber Tired Dozers	1	8
					Tractors/ Loaders/ Backhoes	2	8
					Scrapers	2	8
Building Construction	166	66	0	0	Cranes	1	7
					Forklifts	3	8
					Generator Sets	1	8
					Tractors/ Loaders/ Backhoes	3	7
					Welders	1	8
Paving	16	0	0	0	Pavers	2	8
					Paving Equipment	2	8
					Rollers	2	8
Architectural Coating	34	0	0	0	Air Compressors	1	6

Source: Attachment B.

3.3.2 Operations

Project-generated operational criteria air pollutant emissions were estimated for mobile, area, and energy sources using CalEEMod. Operational year 2024 was assumed.

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 AVAQMD Rule 1113, Architectural Coatings, 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. CalEEMod default values were assumed, including the surface area to be painted, the VOC content of architectural coatings, 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. Per APM-16, all landscaping equipment would be zero emission (such as electrically powered) and would not generate criteria air pollutants.

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 transportation analysis, were 1,139 primary trips per day total, of which 867 trips would be passenger vehicles and 272 trips would be trucks, both of which were assumed 7 days per week. The default CalEEMod passenger vehicle trip lengths were assumed and the truck trip lengths were based on a weighted average per SCAQMD Rule 2305 (Warehouse Indirect Source Rule) of 15.3 miles for 2-axle, 14.2 miles for 3-axle trucks, and 40 miles for 4+-axle trucks (SCAQMD 2021). For passenger vehicles, the default fleet mix was adjusted to reflect passenger only type vehicles composed of light-duty auto, light-duty trucks, and medium-duty vehicles. The 4+-axle trucks were assumed to be heavy-duty trucks, 3-axle trucks were assumed to be medium-heavy-duty trucks, and 2-axle trucks were assumed to be light-heavy-duty trucks. Weighted fleet mixes were developed for use in CalEEMod to represent the passenger vehicle trips and the truck trips. Default CalEEMod emission factors for the vehicles were used, which are based on EMFAC2021.

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 GHG 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. Notably, the project would include zero emission cargo handling equipment (APM-16) and would offset 100% building electricity by solar PV (APM-10).

3.3.3 Health Risk Assessments

A health risk assessment (HRA) was performed to evaluate potential health risk associated with construction and operation of the project. The following discussion summarizes the dispersion modeling and HRA methodology; supporting HRA documentation, including detailed assumptions, is presented in Attachment C.

For risk assessment purposes, PM_{10} in diesel exhaust is considered diesel particulate matter (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).

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. The HRA followed the Office of Environmental Health Hazard Assessment (OEHHA) 2015 guidelines (OEHHA 2015) 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 as representative of the project site and project activities. Principal parameters of this modeling are presented in Table 3.

Table 3. American Meteorological Society/Environmental Protection Agency Regulatory Model Principal Parameters

Parameter	Details
Meteorological Data	AERMOD-specific meteorological data for the General William J. Fox Airfield Airport monitoring station (KWJF) was used for the dispersion modeling.

Table 3. American Meteorological Society/Environmental Protection Agency Regulatory Model Principal Parameters

Parameter	Details
Urban versus Rural Option	Urban areas typically have more surface roughness as well as structures and low-albedo surfaces that absorb more sunlight—and thus more heat—relative to rural areas. Based on the project's location, the rural dispersion option was selected.
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 modeling parameters were based on the best information available at the time of analysis, for both construction and operational sources. Construction: ▪ Off-road equipment and on-site 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. Operations: ▪ Diesel truck travel was modeled as a line of adjacent volume and split between 15% westbound and 85% eastbound, 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 the loading docks, with a release height of 3.4 meters, a plume height of 6.8 meters, and plume width of 3.7 meters.
Receptors	Discrete receptors were included in all directions of the project site and along the truck routes within the modeling domain.

Notes: AERMOD = American Meteorological Society/Environmental Protection Agency Regulatory Model.
See Attachment C.

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. There is no reference exposure level for acute health impacts from DPM, and, thus, acute risk was not evaluated. Notably, the maximally exposed individual resident (MEIR) during project construction and operations would be the home directly across from the project site, along Avenue H.

3.4 Impact Analysis

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

The AVAQMD administers the Air Quality Management Plan (AQMP), which is a comprehensive document outlining an air pollution control program for attaining all CAAQS and NAAQS. The AQMP is the regional path towards improving air quality and meeting federal standards for air pollutants, and each AQMP incorporates the latest planning assumptions regarding population, vehicle activity, and industrial activity. Currently, the most recent approved AVAQMD AQMP is the *AVAQMD Federal 70 ppb Ozone Attainment Plan (Western Mojave Desert Nonattainment Area)* (AVAQMD 2023). The AVAQMD AQMP was developed to address the attainment of the 2015 national 8-hour ozone (O_3) ambient air quality standard (70 parts per billion). The AVAQMD AQMP provides actions, strategies, and steps needed to reduce air pollutant emissions and meet the O_3 standard by 2033.

The purpose of a consistency finding is to determine if a project is inconsistent with the assumptions and objectives of the regional air quality plans, and thus if it would interfere with the region's ability to comply with federal and state air quality standards. 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 AVAQMD 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 (AVAQMD 2016).

The AVAQMD primarily uses demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by the Southern California Association of Governments (SCAG) for its Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (SCAG 2020). This document, currently the Connect SoCal 2020, is based on general plans for cities and counties within the SCAG jurisdiction, is used by AVAQMD to develop the AQMP emissions inventory (AVAQMD 2023).[3] Connect SoCal 2020 and the associated Regional Growth Forecast are generally consistent with the local plans; therefore, the AVAQMD AQMP is generally consistent with local government plans.

The project would be required to comply with all applicable AVAQMD Rules and Regulations, including, but not limited to Rules 401 (Visibile Emissions), 402 (Nuisance), and 403 (Fugitive Dust). The project site is designated and zoned Specific Plan (SP) per the *Fox Field Industrial Corridor Specific Plan* (City of Lancaster 1996). Warehouse and distribution facilities, such as the proposed project, are considered generally compatible within the SP zone. Therefore, implementation of the project would not generate an increase in growth demographics that would conflict with existing projections within the region. Accordingly, the project is consistent with the SCAG RTP/SCS forecasts used in the AVAQMD AQMP development.

Based on the preceding considerations, the project would conform to local land use plans and would comply with all applicable all AVAQMD Rules and Regulations. Therefore, impacts relating to the project's potential to conflict with or obstruct implementation of the applicable AQMP would be less than significant.

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[3] Information necessary to produce the emissions inventory for the MDAB is obtained from AVAQMD and other governmental agencies, including the CARB, California Department of Transportation (Caltrans), and SCAG. Each of these agencies is responsible for collecting data (e.g., industry growth factors, socioeconomic projections, travel activity levels, emission factors, emission speciation profile, and emissions) and developing methodologies (e.g., model and demographic forecast improvements) required to generate a comprehensive emissions inventory. SCAG incorporates these data into its Travel Demand Model for estimating/projecting vehicle miles traveled and driving speeds.

3.4.2 Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and AVAQMD 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.

Construction Emissions

Proposed construction activities 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, water trucks, and VOC off-gassing) and off-site sources (i.e., on-road vendor trucks, haul 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 particulate matter, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated.

Internal combustion engines used by construction equipment, trucks, and worker vehicles would result in emissions of VOCs, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. PM_{10} and $PM_{2.5}$ emissions would also be generated by entrained dust, which results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil. The project would be required to comply with AVAQMD Rule 403 to control dust emissions generated during any dust-generating activities. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active dust areas two times per day, with additional watering depending on weather conditions. CalEEMod calculates maximum daily emissions for summer and winter periods. The estimated maximum daily construction emissions without mitigation are summarized in Table 4. Detailed construction model outputs are presented in Appendix A.

Table 4. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions - Unmitigated

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Year	Pounds Per Day					
Summer						
2023	1.27	21.30	41.56	0.17	9.85	4.22
2024	119.50	6.34	33.40	0.04	2.88	0.81
Winter						
2023	1.50	22.11	40.94	0.17	9.85	3.20
2024	1.45	6.54	27.78	0.04	2.88	0.81
Maximum Daily Emissions	**119.50**	**22.11**	**41.56**	**0.17**	**9.85**	**4.22**
AVAQMD Threshold	*137*	*137*	*548*	*137*	*82*	*65*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Appendix A.

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; AVAQMD = Antelope Valley Air Quality Management District.
Includes compliance with AVAQMD Rule 403 for fugitive dust control, as well as Tier 4 Final engines for equipment greater than 75 horsepower (APM-1).

As depicted in Table 4, emissions resulting from the project construction would not exceed any criteria pollutant thresholds established by the AVAQMD. 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.

Operational Emissions

Table 5 presents the maximum daily mobile, area, and energy source emissions associated with operation of the project. The values shown are the maximum summer and winter daily emissions results from CalEEMod. Details of the emission calculations are provided in Attachment B.

Table 5. 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	3.52	22.78	33.74	0.24	5.36	1.39
Area	9.14	0.00	0.00	0.00	0.00	0.00
Energy	0.11	2.05	1.72	0.01	0.16	0.16
Total Daily Summer Emissions	**12.77**	**24.82**	**35.46**	**0.25**	**5.51**	**1.55**
Winter						
Mobile	3.23	24.08	27.31	0.23	5.36	1.39
Area	9.14	0.00	0.00	0.00	0.00	0.00
Energy	0.11	2.05	1.72	0.01	0.16	0.16
Total Daily Winter Emissions	**12.48**	**26.13**	**29.03**	**0.24**	**5.51**	**1.55**
Maximum Daily Emissions	**12.77**	**26.13**	**35.46**	**0.25**	**5.51**	**1.55**
AVAQMD Threshold	*137*	*137*	*548*	*137*	*82*	*65*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: See Attachment B 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; AVAQMD = Antelope Valley Air Quality Management District.
Values may not sum due to rounding. Modeling accounts for implementation of zero emission electric landscaping and cargo handling equipment (APM-16).

As shown in Table 5, the increase in criteria air pollutant emissions associated with project operations would not exceed AVAQMD's significance thresholds. Therefore, long-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.

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

Toxic Air Contaminants

Construction Heath Risk Assessment

As detailed in Section 3.3.3, a construction HRA was performed to evaluate potential cancer and noncancer health risk impacts associated with DPM from project construction. Results of the construction HRA are presented in Table 6 at the MEIR and model outputs are presented in Attachment C.

Table 6. Construction Health Risk Assessment Results - Unmitigated

Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
Cancer Risk – MEIR	Per Million	1.62	10	Less than Significant
Chronic Hazard Index – MEIR	Index Value	0.0019	1.0	Less than Significant

Source: Attachment C.
Note: CEQA = California Environmental Quality Act; MEIR = Maximally Exposed Individual Resident.
Risk estimates account for Tier 4 Final engines for construction equipment greater than 75 horsepower (APM-1).

As shown in Table 6, project construction activities would result in a Maximum Individual Cancer Risk of 1.62 in 1 million at the MEIR, which is less than the significance threshold of 10 in 1 million. Project construction would result in a Chronic Hazard Index of 0.0019, which is below the 1.0 significance threshold. The project construction TAC health risk impacts would be less than significant.

Operational Heath Risk Assessment

As detailed in Section 3.3.3, an operational HRA was performed to evaluate potential cancer and noncancer health risk impacts associated with TACs from project operations. Results of the operational HRA are presented in Table 7 at the MEIR and model outputs are presented in Attachment C.

Table 7. Operational Health Risk Assessment Results - Unmitigated

Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
Cancer Risk – MEIR	Per Million	1.09	10	Less than Significant
Chronic Hazard Index – MEIR	Index Value	0.0003	1.0	Less than Significant

Source: Attachment C.
Notes: CEQA = California Environmental Quality Act; MEIR = Maximally Exposed Individual Resident.
Modeling accounts for implementation of zero emission electric landscaping and cargo handling equipment (APM-16).

As shown in Table 7, project operational activities would result in a maximum cancer risk of 1.09 in 1 million at the MEIR, which is less than the significance threshold of 10 in 1 million. Project operations would result in a Chronic Hazard Index of 0.0003 at the MEIR, which is below the 1.0 significance threshold. The project operational TAC health risk impacts would be less than significant.

CO Hotspots

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 AVAQMD 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.

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. Based on the traffic estimates prepared for the project, highest average daily trips on a segment of road would be 5,289 daily trips on West Avenue H, east of 35th West, 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.

Health Effects of Criteria Air Pollutants

Construction and operation of the project would generate criteria air pollutant emissions; however, the project would not exceed the AVAQMD mass-emission thresholds.

The MDAB is designated as nonattainment for O_3 for the NAAQS and CAAQS. Thus, existing O_3 levels in the MDAB are at unhealthy levels during certain periods. Health effects associated with O_3 include respiratory symptoms, worsening of lung disease leading to premature death, and damage to lung tissue (CARB 2019a). Because the project would not involve construction or operational activities that would result in O_3 precursor emissions (VOC or NO_x) that would exceed the AVAQMD thresholds, the project is not anticipated to substantially contribute to regional O_3 concentrations and associated health impacts.

In addition to O_3, NO_x emissions contribute to potential exceedances of the NAAQS and CAAQS for NO_2 (since NO_2 is a constituent of NO_x). Health effects associated with NO_x and NO_2 include lung irritation and enhanced allergic responses (CARB 2019b) As depicted in Tables 3.3-3 and 3.3-4, project construction and operation would not exceed the AVAQMD thresholds for NO_x. Thus, the project is not expected to exceed the NO_2 standards or contribute to associated health effects.

Health effects associated with CO include chest pain in patients with heart disease, headache, light-headedness, and reduced mental alertness (CARB 2019c). CO tends to be a localized impact associated with congested intersections. CO hotspots were discussed previously as a less than significant impact. Thus, the project's CO emissions would not contribute to the health effects associated with this pollutant.

The MDAB is designated as nonattainment for PM_{10} under the CAAQS. Particulate matter contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing (EPA 2016). As with O_3 and NO_x, the project would not generate emissions of PM_{10} or $PM_{2.5}$ that would exceed AVAQMD's thresholds. Accordingly, the project's PM_{10} and $PM_{2.5}$ emissions are not expected to cause any increase in related health effects for these pollutants.

In summary, the project would not result in any potentially significant contribution to local or regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants. Impacts would be less than significant.

Valley Fever

Valley Fever is not highly endemic to Los Angeles County with an incident rate of 7.5 cases per 100,000 people (CDPH 2017). While cases are reported countywide, most cases have occurred in northern areas, with an approximate 9-fold higher rate of cases in Antelope Valley than in other areas of the county (Los Angeles County 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).

In order to reduce fugitive dust from the project and minimize adverse air quality impacts, the project would employ dust control measures in accordance with the AVAQMD Rules 401 and 403, which 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).

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.

3.4.4 Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Based on available information, the project is not anticipated to result in other emissions that have not been addressed under Section 3.4.1 through 3.4.3, above. As such, this analysis focuses on the potential for the project to generate odors.

The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

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 AVAQMD 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" (AVAQMD 2002). Based on the preceding, the potential for the project to create objectionable odors affecting a substantial number of people would be less than significant.

4 Greenhouse Gas Emissions Assessment

4.1 Background

4.1.1 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 (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 the 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 2017).

The greenhouse effect is the trapping and buildup 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. However, recent climate changes, in particular the warming observed over the past century, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of warming since the mid-twentieth century and are the most significant driver of observed climate change (IPCC 2013; EPA 2017). 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.

Globally, climate change has the potential to impact numerous environmental resources though uncertain impacts related to future air temperatures and precipitation patterns. Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. Climate change is already affecting California: average temperatures have increased, leading to more extreme hot days and fewer cold nights; shifts in the water cycle have been observed, with less winter precipitation falling as snow, and both snowmelt and rainwater running off earlier in the year; sea levels have risen; and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (CAT 2010).

4.1.2 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).[4] 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.

4.1.3 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

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[4] Climate forcing substances include GHGs and other substances such as black carbon and aerosols.

atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2017). 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 of CO_2 equivalent (MT CO_2e). The current version of CalEEMod 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).

4.2 Thresholds of Significance

The significance criteria used to evaluate the project impacts to GHGs 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 GHG 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 GHGs.

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project, such as the proposed project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project's contribution to global climate change. In addition, while GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008), GHG emissions impacts must also be evaluated on a project-level under CEQA.

With respect to GHG emissions, the CEQA Guidelines Section 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's GHG emissions or rely on a "qualitative analysis or performance-based standards" (14 CCR 15064.4[a]). A lead agency may use a "model or methodology" to estimate greenhouse gas emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change" (14 CCR 15064.4[c]). The CEQA Guidelines provide that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment (14 CCR 15064.4[b]):

The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.

1. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
2. 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.

In addition, the CEQA Guidelines specify that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7[c]).

The extent to which a project increases or decreases GHG emissions in the existing environmental setting should be estimated in accordance with Section 15064.4, Determining the Significance of Impacts from Greenhouse Gas Emissions, of the State CEQA Guidelines. The State CEQA Guidelines indicate that when calculating GHG emissions resulting from a project, lead agencies shall make a good-faith effort based on scientific and factual data (Section 15064.4 (a)), and lead agencies have discretion to select the model or methodology deemed most appropriate for enabling decision makers to intelligently assess the project's incremental contribution to climate change (Section 15064.4 (c)).

The State CEQA Guidelines do not indicate an amount of GHG emissions that constitutes a significant impact on the environment. Instead, they authorize the lead agency to consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence (State CEQA Guidelines Sections 15064.4(a) and 15064.7(c)).

Governor's Office of Planning and Research Guidance

The Governor's Office of Planning and Research (OPR) technical advisory titled, CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review, states that "public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact" (OPR 2018). Furthermore, the advisory document indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice" (OPR 2008).

Approach to Determining Significance

Although the AVAQMD has adopted a numerical threshold of significance for GHG emissions within the region, per its discretion, the City has decided to evaluate the project's impacts related to GHG emissions relies on compliance with applicable plans, policies, or regulations adopted for the purposed of reducing the emissions of GHGs. The compliance evaluation is the sole basis for determining the significance of the project's GHG-related impacts on the environment.

Nevertheless, and in accordance with Section 15064.4 of the State CEQA Guidelines, GHG emissions resulting from construction and operation of the project were quantitatively estimated. The GHG emissions associated with implementation of the project were estimated using industry standard and accepted software tools, techniques, and emissions factors, as described below for construction and operation under Section 4.3. Estimation of emissions is for informational purposes only, for comparison with existing environmental conditions. The significance of the project's GHG impacts is based on the project's compliance with local and statewide GHG reduction regulations and requirements. At the state level, guidance on reduction strategies for GHG emissions has been provided through the CARB Scoping Plans and at the local level, through the SCAG RTP/SCS and the City's General Plan and Climate Action Plan (CAP).

Statewide, the Scoping Plan (approved by CARB in 2008 and updated in 2014, 2017, and 2022) provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. The Scoping Plan is not directly applicable to specific projects, nor is it intended to be used for project-level evaluations.[5] Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low Carbon Fuel Standard [LCFS]), among others.

CARB's 2017 Scoping Plan specifically emphasizes the importance of reducing VMT of on-road vehicles to lower mobile-source GHG emissions to achieve statewide reduction targets. The 2017 Scoping Plan recommends a 15% reduction in total light-duty VMT from the business-as-usual scenario in 2050 in alignment with the Mobile Source Strategy (CARB 2017). CARB assessed the relationship of VMT reductions to state climate goals and found that certain land use development projects that have total VMT per capita of 14.3% lower than existing conditions, and light-duty VMT per capita of 16.8% lower than existing conditions could be considered consistent with transportation assumptions assumed for the 2017 Scoping Plan and with the state's long-term (i.e., 2050) GHG reduction goals (CARB 2017). Per Section 15064.3 of the revised (2022) CEQA Guidelines, VMT is the most appropriate measure of transportation impacts, and is defined as the amount and distance of automobile traffic attributable to a project. This methodology is consistent with the guidance provided in OPR's Technical Advisory on Evaluating Transportation Impacts in CEQA, which assists with making significance determinations for transportation impacts in accordance with Senate Bill (SB) 743. CARB adopted the *2022 Scoping Plan Update* in December 2022 to discuss progress toward reaching the 2030 target and to address how the state will achieve carbon neutrality by 2045, as required by AB 1279. In the 2022 Scoping Plan, CARB builds on and accelerates programs already in place to reduce anthropogenic sources of GHG emissions and introduces new strategies to capture and store carbon. *Appendix D: Local Actions* of the 2022 Scoping Plan Update outlines local actions that residential and mixed-use projects can implement to address their largest sources of emissions including transportation electrification, VMT reduction, and building decarbonization. CARB identifies these three sources as "Priority Areas" given that they represent those with the highest GHG reduction potential and GHG reduction opportunities for which local governments and agencies have the most authority (CARB 2022).

Importantly, the 2022 Scoping Plan Update emphasizes that there is no realistic path to reaching the 2045 goal of carbon neutrality without removing and sequestering carbon from the atmosphere. So, in addition to programs that aim to reduce GHG emissions, the 2022 Scoping Plan Update proposes strategies to capture and store carbon, highlighting the importance of nature-based solutions through preservation and climate smart management of the state's natural and working lands (NWLs). Modeling conducted for the 2022 Scoping Plan Update shows that California's NWLs are projected to be a net source of emissions (i.e., releasing more CO_2 emissions than they store) through 2045, which is historically due to human activities, such as land use change, and natural disturbances, such as wildfire. Therefore, the ability of the state's NWLs to act as a net sink (i.e., sequester and store more

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[5] The Final Statement of Reasons for the amendments to the State 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 2009).

atmospheric CO_2 than they release) to help support the state's carbon neutrality goals is dependent on climate smart land management.

At the regional level, the SCAG 2020–2045 RTP/SCS (Connect SoCal 2020) is a growth management strategy that targets per capita GHG reduction from passenger vehicles and light trucks in the Southern California Region pursuant to Senate Bill (SB) 375 (SCAG 2020). In addition to demonstrating the region's ability to attain the GHG emission-reduction targets set forth by CARB, Connect SoCal 2020 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 Connect SoCal 2020 would result in more complete communities with various transportation and housing choices while reducing automobile use.

At the local level, the City's General Plan identifies one policy and one specific action with respect to GHG emissions and climate change.

- Policy 3.3.3: Minimize air pollutant emissions generated by new and existing development.
- Specific Action 3.3.3(c): Consider the development of an action plan to address the requirements of the Global Warming Solutions Act of 2006 (AB 32) regarding the reduction of GHG emissions.

The City adopted their Final CAP in March 2017, which satisfies this action. Additionally, the measures identified in the CAP meet many of the other policies and goals in the General Plan with respect to the natural environment, transportation, and energy consumption. A GHG emissions inventory for the City was developed which consisted of both community-wide emissions and emissions from government operations for future years based on demographic growth. Forecasts for both community and government operations were prepared for 2020, 2030, 2040, and 2050. Under all scenarios assessed, the City meets the 2020 target and makes substantial progress towards achieving the post-2020 reductions. A total of 61 measures across eight sectors were identified in the CAP, which include: (1) traffic; (2) energy; (3) municipal operations; (4) water; (5) waste; (6) built environment; (7) community; (8) and land use. The City departments will select CAP measures that strategically advance departmental, municipal, and community goals and meet the City's GHG reduction targets. Each measure described in the CAP identifies a set of actions that need to be completed for the measure to be implemented, a responsible party and a set of progress indicators (City of Lancaster 2017). However, as the CAP is not a qualified plan post-2020 (i.e., it does not show consistency with future statewide goals established in AB 1279), and the project is expected to be built out in 2024, so the CAP cannot be used to tier from for CEQA streamlining.

Overall, if the project does not conflict with the regulations and actions outlined in the applicable state plans (i.e., 2022 Scoping Plan) and local plans (i.e., SCAG RTP/SCS and City's CAP), the project could appropriately rely on their use as showing compliance with performance-based standards adopted to fulfill the statewide goal for reducing GHG emissions. The project's compliance with regulatory programs adopted by CARB, and other state and local agencies is therefore used to evaluate the significance of the project's GHG emissions.

4.3 Approach and Methodology

4.3.1 Construction

CalEEMod was used to estimate potential project-generated GHG emissions during 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 3.3.1 are also applicable for the estimation of construction-related GHG emissions. See Section 3.3.1 for a discussion of construction emissions calculation methodology and assumptions used in the GHG emissions analysis.

4.3.2 Operations

Mobile Sources

All details for criteria air pollutants discussed in Section 3.3.2 are also applicable for the estimation of operational mobile source GHG emissions. 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 U.S. Environmental Protection Agency (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 for motor vehicles to the extent it was captured in CalEEMod.

Area Sources

CalEEMod was used to estimate GHG emissions from the project's area sources, which typically include operation of gasoline-powered landscape maintenance equipment. However, all landscaping equipment will be zero emission (APM-16), such as electrically powered, and 100% of building electricity (including electricity to charge equipment) will be offset by solar power (APM-10). Therefore, no GHGs are anticipated from area sources.

Energy Sources

The project will install sufficient solar to offset 100% of building electricity use (APM-10), which was accounted for in the GHG analysis. Default natural gas usage was assumed for the project.

Water and Wastewater

Supply, conveyance, treatment, and distribution of water for the project require the use of electricity, which would result in associated indirect GHG emissions. Similarly, wastewater generated by the project requires the use of electricity for conveyance and treatment, and GHG emissions will be generated during wastewater treatment. Water consumption estimates for both indoor and outdoor water use and associated electricity consumption from water use and wastewater generation were estimated using CalEEMod default values. The electricity use for water supply, treatment, distribution, and wastewater treatment are based on the electricity intensity factors from CalEEMod for Los Angeles County and the indoor and outdoor water use default values in CalEEMod. For the project, a water conservation strategy will be implemented that would reduce indoor and outdoor water use by 20% (APM-13), which was incorporated into the analysis.

Solid Waste

The project would generate solid waste, and therefore, result in CO_2e emissions associated with landfill off-gassing. CalEEMod default values for solid waste generation were used to estimate GHG emissions associated with solid waste for the project. Project compliance with the 50% diversion rate consistent with the solid waste diversion requirements of AB 939 has been included in the GHG assessment (APM-13).

Refrigerants

Refrigerants are substances used in equipment for air conditioning (A/C) and refrigeration. Most of the refrigerants used today are hydrofluorocarbons or blends thereof, which can have high GWP values. All equipment that uses refrigerants has a charge size (i.e., quantity of refrigerant the equipment contains), and an operational refrigerant leak rate, and each refrigerant has a GWP that is specific to that refrigerant. CalEEMod default values were applied, which quantify refrigerant emissions from leaks during regular operation and routine servicing over the equipment lifetime, and then derives average annual emissions from the lifetime estimate (CAPCOA 2022). As no cold storage is proposed for the project, refrigerants were not included for the building operations.

Off-Road Equipment

The project will operate zero emission cargo handling equipment (APM-16). However, since 100% of building electricity (including electricity to charge equipment) will be offset by solar power (APM-10), no GHGs are anticipated these operational off-road equipment sources.

4.4 Impact Analysis

As discussed in the Section 4.2, the significance of the project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b) by considering whether the project complies with applicable plans, policies, regulations, and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Therefore, responses to the two Appendix G questions have been combined into one analysis. A quantification of emissions for the project is provided at the end of the analysis for informational purposes only.

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

4.4.2 Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Potential to Conflict with State Reduction Targets and CARB's Scoping Plan

The California State Legislature passed the Global Warming Solutions Act of 2006 (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 project, the relevant GHG emissions reduction targets include those established by 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, 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. As discussed in Section 4.2, 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 as the sole basis for project-level evaluations, 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 Climate Change 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 for Achieving Carbon Neutrality 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 project.

The 2017 Scoping Plan included measures to promote renewable energy and energy efficiency (including the mandates of SB 350), increase stringency of the 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 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).

Regarding VMT reduction efforts, a *Supplemental Vehicle Miles Traveled Analysis* (Attachment D) was prepared based on the Total VMT per Service Population (employees) for the Antelope Valley Region to evaluate potential VMT impacts at the regional level. As detailed in Attachment D, there would be no net increase in VMT per Service Population with the project and there would be a slight decrease in the total regional VMT (including truck trips) with the project, since the project would fulfill a need for industrial warehouse uses and employment opportunities where one does not currently exist, thus eliminating the need to travel farther distances for such services and employment opportunities. As such, the project would support the 2017 and 2022 Scoping Plan Update's goals by resulting in a VMT reduction in the region.

Table 8 highlights measures that have been developed under the 2017 Scoping Plan and presents the project's consistency with the applicable 2017 Scoping Plan measures.

Table 8. Project Potential to Conflict with the 2017 Scoping Plan GHG Reduction Measures

Action	Potential to Conflict
Transportation Sector	
Advanced Clean Cars	*No conflict.* The project's employees and customers would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase.
Low Carbon Fuel Standard	*No conflict.* Motor vehicles driven by the project's employees and customers would use compliant fuels.
Last-Mile Delivery	*No conflict.* The location of the project would support this measure with locating distribution closer to the end user. There would be a slight decrease in the total regional VMT with the project, since the project would fulfill a need for industrial warehouse uses and employment opportunities where one does not currently exist, thus eliminating the need to travel farther distances for such services and employment opportunities.
Reduction in VMT	*No Conflict.* The project would not prevent CARB from implementing this measure. As discussed above, there would be a slight decrease in the total regional VMT with the project.
Goods Movement Efficiency Measures 1. Port Drayage Trucks 2. Transport Refrigeration Units Cold Storage Prohibition 3. Cargo Handling Equipment, Anti-Idling, Hybrid, Electrification	*No conflict.* The project would require zero emission cargo handling equipment (APM-16) and would not include cold storage.

Table 8. Project Potential to Conflict with the 2017 Scoping Plan GHG Reduction Measures

Action	Potential to Conflict
4. Goods Movement Systemwide Efficiency Improvements 5. Commercial Harbor Craft Maintenance and Design Efficiency 6. Clean Ships 7. Vessel Speed Reduction	
Heavy-Duty Vehicle GHG Emission Reduction ▪ Tractor-Trailer GHG Regulation ▪ Heavy-Duty Greenhouse Gas Standards for New Vehicle and Engines (Phase I)	*No conflict.* Heavy duty trucks accessing the project site would be subject to this measure.
Medium and Heavy-Duty GHG Phase 2	*No conflict.* Heavy duty trucks accessing the project site would be subject to this measure.
Electricity and Natural Gas Sector	
Energy Efficiency Measures (Electricity)	*No conflict.* The project would be constructed in accordance with CALGreen and Title 24 building standards. In addition, the project would install solar to offset 100% of the building electricity demand (APM-10).
Energy Efficiency (Natural Gas)	*No conflict.* The project would be constructed in accordance with CALGreen and Title 24 building standards.
Renewables Portfolio Standard (33% by 2020)	*No conflict.* The project would procure electricity from Southern California Edison (SCE), which is in compliance with this measure.
Renewables Portfolio Standard (50% by 2050)	*No conflict.* The project would procure electricity from SCE, which is on trajectory to be compliance with this measure.
Water Sector	
Water Use Efficiency	*No conflict.* The project would be constructed in accordance with CALGreen and Title 24 building standards and would implement a water conservation strategy to reduce indoor and outdoor water by at least 20% (APM-13).
Recycling and Waste Management Sector	
Mandatory Commercial Recycling	*No conflict.* The project would include recycling and solid waste diversion (APM-13).

Source: CARB 2014, 2017.
Notes: GHG = greenhouse gas; CARB = California Air Resources Board; VMT = vehicle miles traveled; SB = Senate Bill; N/A = not applicable.

Table 9 highlights the measures from the 2022 Scoping Plan that are relevant to the project.

Table 9. Project Potential to Conflict with 2022 Scoping Plan GHG Reduction Measures

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. The project would not obstruct or interfere with agency efforts to meet the SB 32 reduction goal.
Smart Growth / VMT Sector	
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) Sector	
100% of LDV sales are ZEV by 2035	*No conflict.* As this action pertains to LDV sales within California, 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 Level 2 (or faster) EV chargers (APM-12).
Truck ZEVs Sector	
100% of medium-duty vehicle (MDV)/ heavy-duty vehicle (HDV) sales are ZEV by 2040	*No conflict.* As this action pertains to MDV and HDV sales within California, the project would not obstruct or interfere with its implementation. Furthermore, the project would support the transition from fossil fuel MDV and HDV to ZEV through its installation of conduit in tractor trailer parking areas to support potential future truck charging stations (APM-11).
Electricity Generation Sector	
Sector GHG target of 38 million metric tons of carbon dioxide equivalent (MMTCO$_2$e) in 2030 and 30 MMTCO$_2$e in 2035 Retail sales load coverage[1] 20 gigawatts (GW) of offshore wind by 2045 Meet increased demand for electrification without new fossil gas-fired resources	*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 would support increased usage of renewable electricity through the installation of on-site solar panels sufficient to meet at least 100% of the project's total operational energy requirements from within the building envelope (APM-10).

Table 9. Project Potential to Conflict with 2022 Scoping Plan GHG Reduction Measures

Action	Potential to Conflict
New Residential and Commercial Buildings Sector	
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 Sector	
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 to be zero-emission (APM-16).
Low Carbon Fuels for Transportation Sector	
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 Sector	
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 Sector	
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:
[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 8 and Table 9, the project would not conflict with the applicable strategies and measures in the 2017 Scoping Plan and 2022 Scoping Plan, respectively.

The 2045 carbon neutrality goal required CARB to expand proposed actions in the 2022 Scoping Plan to include those that capture and store carbon in addition to those that reduce only anthropogenic sources of GHG emissions. However, the 2022 Scoping Plan 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.

Overall, the project would comply will all regulations adopted in furtherance of the Scoping Plan to the extent applicable and required by law. As mentioned above, several Scoping Plan measures would result in reductions of project-related GHG emissions with no action required at the project-level, including those related to energy efficiency, reduced fossil fuel use, and renewable energy production by the utility. In addition, as identified previously, the project would result in a slight reduction in regional employee VMT, as well as require on-site solar panels sufficient to meet at least 100% of the project's total operational energy requirements from within the building envelope (including charging the 100% electric landscaping and cargo handling equipment), EV charging stations, a water conservation strategy, and solid waste diversion. As demonstrated above, the project would not conflict with CARB's 2017 or 2022 Scoping Plan updates and with the state's ability to achieve the 2030 and 2045 GHG reduction and carbon neutrality goals.

Potential to Conflict with the Southern California Association of Governments 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy

The following strategies are intended to be supportive of implementing Connect SoCal 2020 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 potential to conflict with the remaining applicable strategies is presented below.

- **Focus Growth Near Destinations and Mobility Options.** One of the strategies within Connect SoCal 2020 is to, among other aspects, expand job opportunities near transit and along center-focused main streets, as well as the promote the redevelopment of underperforming retail development and other outmoded non-residential uses. The project would not conflict with this strategy of the Connect SoCal 2020 as the project is located adjacent to W Avenue H and about 1-mile of State Route 14 and would fulfill a need for industrial warehouse uses and employment opportunities where one does not currently exist, thus eliminating the need to travel farther distances for such services and employment opportunities.
- **Leverage Technology Innovations.** One of the technology innovations identified in Connect SoCal 2020 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. The project would not conflict with SCAG's ability to implement this strategy and would utilize all-electric cargo handling and landscaping equipment during operation and would include EV charging stations for vehicles.
- **Promote a Green Region.** The third applicable strategy within Connect SoCal 2020, 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. As noted in Section 2, Project Description, the project would incorporate multiple design features that would reduce GHGs, such as full rooftop solar to offset 100% of building electricity use (including charging the 100% electric cargo handling and landscaping equipment), EV charging stations, a water conservation strategy, and solid waste diversion.

Based on the analysis above, the project would be consistent with Connect SoCal 2020.

Potential to Conflict with the City of Lancaster Climate Action Plan

The City's CAP includes a total of 61 projects across eight sectors were identified that would enhance the community, improve government operations, and ultimately reduce GHG emissions: transportation, energy, municipal operations, water, waste, built environment, community, and land use (City of Lancaster 2017). The project would be consistent with the following measures identified in the CAP:

- **Transportation**
  - Measure 4.1.2c: Pedestrian Amenities. The project would improve pedestrian facilities along W Avenue H.

  Additionally, although not captured in the CAP measures, the project would result in a slight decrease in the total regional VMT with the project, since the project would fulfill a need for industrial warehouse uses and employment opportunities where one does not currently exist, thus eliminating the need to travel farther distances for such services and employment opportunities. In addition, the project would support the transition from fossil fuels to ZEVs through the inclusion of EV charging stations for passenger vehicles (APM-12), as well as installation of conduit to support future heavy-duty truck charging stations (APM-11).
- **Energy**
  - Measure 4.2.1a: Renewable Energy Purchase Plan. All development receives its power from Lancaster Choice Energy unless the entity chooses to opt out. In addition, the project would generate enough renewable solar energy to offset 100% of electricity use from within the building envelope (APM-10).
- **Water**
  - Measure 4.4.2a: Sensor Technology. Water saving irrigation, such as sensor technology, will be installed with landscaping on the project site. The project includes a water conservation strategy to reduce indoor and outdoor water use by at least 20% (APM-13).
- **Waste**
  - Measure 4.5.1b: Recycling Incentives – Bins for trash, recycling, and organics enclosures will be provided on the project site and the project will require at least 50% diversion of solid waste from landfills (APM-13).
- **Community**
  - Measure 4.7.2a. Sustainability Incubator/ Local Job Creation. The project would fulfill a need for industrial warehouse uses and employment opportunities where one does not currently exist.
  - Measure 4.7.3a: Xeriscaping. All landscaping within the development would be designed to be water efficient in accordance with the City's Municipal Code. This includes incorporation of the water conservation strategy to reduce indoor and outdoor water use by at least 20% (APM-13).
  - Measure 4.7.4c: Conservation Habitat Acquisition. All development projects, including the proposed project, are required to pay a Biological Impact Fee pursuant to the City's Municipal Code to offset the overall loss of biological resources within the Antelope Valley. This fee is utilized to fund the acquisition of habitat which is placed under a conservation easement.

- **Land Use**
  - Measure 4.8.1c. Commercial Better Building Program. The project would not conflict with the City's development of this program and would incorporate multiple design measures that would exemplify the development of an energy efficient building, such as the provision of rooftop solar to offset 100% of the electricity demand from within the building envelope.

Based on the preceding considerations, the project would not conflict with applicable measures in the City's CAP.

Quantification of Emissions

In accordance with CEQA Guidelines Section 15064.4(c), the project's construction and operational GHG emissions have been quantified for disclosure purposes only. The project's significance has been evaluated based on its potential to conflict with applicable GHG reduction plans.

Construction Emissions

Construction of the project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road vendor trucks, and worker vehicles. GHG emissions generated by project construction are presented below in Table 10.

Table 10. Estimated Annual Construction Greenhouse Gas Emissions

Year	CO_2	CH_4	N_2O	R	CO_2e
	Metric Tons				
2023	476.56	0.01	0.04	0.36	490.27
2024	408.82	0.01	0.02	0.42	416.57
Total	**885.38**	**0.02**	**0.07**	**0.78**	**906.84**
Amortized Construction Emissions (Over 30-Years)					*30.23*

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; R = refrigerants; CO_2e = carbon dioxide equivalent.
Totals may not sum due to rounding.
See Attachment B for complete results.

As shown in Table 10, the estimated total GHG emissions during construction would be approximately 907 MT CO_2e. Estimated project-generated construction emissions amortized over 30 years would be approximately 30 MT CO_2e per year.

Operational Emissions

Following the completion of construction activities, the project would generate GHG emissions from mobile sources (vehicle trips), energy sources (natural gas combustion), water supply and wastewater treatment, solid waste generation, and refrigerants. Building electricity, including electricity needed to charge landscaping and cargo handling equipment, would be offset by solar and therefore would not result in GHG emissions. The estimated annual operational project GHG emissions from these sources are shown in Table 11.

Table 11. Estimated Annual Operational Greenhouse Gas Emissions

Emission Source	CO_2	CH_4	N_2O	R	CO_2e
	metric tons per year				
Project					
Mobile	4,036.55	0.05	0.50	6.35	4,192.69
Area	0.00	0.00	0.00	--	0.00
Energy[a]	450.14	0.04	0.00	--	451.53
Water/ Wastewater[b]	90.97	2.39	0.06	--	167.70
Waste[c]	16.58	1.66	0.00	--	58.01
Total	**4,594.24**	**4.13**	**0.56**	**6.35**	**4,869.93**
Amortized Construction Emissions					*30.23*
Net Change with Amortized Construction Emissions					**4,900.16**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; R=refrigerants; CO_2e = carbon dioxide equivalent; GHG = greenhouse gas. See Attachment B for complete results. Totals may not sum due to rounding.

[a] The energy category accounts for 100% building electricity offset from solar (APM-10), including zero emission landscaping and cargo handling equipment (APM-16). As these sources are anticipated to be powered by renewable electricity, they are not included in this inventory.

[b] Accounts for implementation of the water conservation strategy (APM-13).

[c] Accounts for 50% solid waste diversion from landfills (APM-13).

As shown in Table 11, the estimated GHG emissions from operation of the project would be approximately 4,900 MT CO_2e per year, including amortized construction emissions.

Summary

As shown above, the project would not conflict with CARB's 2017 or 2022 Scoping Plan updates and with the state's ability to achieve the 2030 and 2045 GHG reduction and carbon neutrality goals, SCAG's Connect SoCal 2020, or the City's CAP. Therefore, impacts related to the consistency with an appliable GHG reduction plan are considered to be less than significant.

5 Energy Assessment

5.1 Background

5.1.1 Electricity

The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into electrical energy. The delivery of electricity involves a number of system components, including power generation facilities, transmission and distribution lines, substations and transformers that lower transmission line power (voltage) to a level appropriate for on-site distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Production of electricity and its conveyance through the power grid occur in response to market demand.

Energy capacity, or electrical power, is generally measured in watts while energy use is measured in watt-hours (Wh). For example, if a light bulb has a capacity rating of 100 watts, the energy required to keep the bulb on for 1 hour would be 100 Wh. If 10 100-watt bulbs were on for 1 hour, the energy required would be 1,000 Wh or 1 kilowatt-hour (kWh). On a utility scale, a generator's capacity is typically rated in megawatts, which is 1 million watts, while energy usage is measured in megawatt-hours (1 million watt-hours) or gigawatt-hours (1 billion watt-hours).

Southern California Edison (SCE) provides electricity to the project site. SCE, a subsidiary of Edison International, serves approximately 180 cities in 11 counties across central and Southern California. SCE reported an annual electrical consumption of approximately 81,129 million kWh in 2021 (CEC 2023a).

5.1.2 Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs, mainly located outside the State, and delivered through high-pressure transmission pipelines. The natural gas transportation system is a nationwide network, and therefore, resource availability is typically not an issue. Natural gas provides almost one-third of the state's total energy requirements and is used in electricity generation, space heating, cooking, water heating, industrial processes, and as a transportation fuel. Natural gas is measured in terms of cubic feet.

The Southern California Gas Company (SoCalGas) provides the City with natural gas service. SoCalGas' service territory encompasses approximately 20,000 square miles and more than 500 communities. In 2021, SoCalGas reported an annual natural gas demand of 5,101 million therms (CEC 2023b).

5.1.3 Petroleum

According to the U.S. Energy Information Administration (EIA), California used approximately 524 million barrels of petroleum in 2020, with the majority (433 million barrels) used for the transportation sector, which was a substantial reduction from 2019 (659 million barrels of petroleum) due to the COVID-19 pandemic (EIA 2023). According to the EIA, it may take years for the U.S. to return to 2019 levels of energy consumption following the impact of COVID-19 on the U.S. economy and global energy sector (EIA 2021). There are 42 U.S. gallons in a barrel, so in 2020, California used a total annual of approximately 22 billion gallons of petroleum. Petroleum usage in California includes petroleum products such as motor gasoline, distillate fuel, liquefied petroleum gases, and jet fuel. At the federal and state levels, various policies, rules, and regulations have been enacted to improve vehicle fuel efficiency, promote the development and use of alternative fuels, reduce transportation-source air pollutants and GHG emissions, and reduce VMT. Market forces have driven the price of petroleum products steadily upward over time, and technological advances have made use of other energy resources or alternative transportation modes increasingly feasible. According to CARB's Emission Factor (EMFAC) Web Database, Los Angeles County (Mojave Desert portion) on-road transportation sources are projected to consume about 116 million gallons of petroleum in 2024 (CARB 2021), which is analyzed as the first year of project operations herein.

5.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would have a significant effect on the environment with respect to energy if the project would:

A. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation.
B. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The above listed Appendix G energy thresholds are applied herein.

5.3 Approach and Methodology

5.3.1 Construction

Electricity

Electricity used on a limited basis to power lighting, electronic equipment, and construction activities necessitating electrical power, as well as electricity usage associated with the supply and conveyance of water used for dust control during construction, is assumed to be minimal and is not estimated herein.

Natural Gas

Construction activities typically do not involve the consumption of natural gas, and any use is anticipated to be negligible and is not estimated herein.

Petroleum

Construction of the project would consume energy resources as a result of the use of heavy-duty construction equipment, on-road delivery and haul trucks, and workers commuting to and from the project site. Petroleum emissions associated with the use of construction equipment and vehicles, which were used to calculate gallons of petroleum consumed, were calculated using CalEEMod and are provided in Attachment B. Fuel consumption from construction equipment was estimated by converting the total CO_2 emissions from each construction phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. The conversion factor for gasoline is 8.78 kilograms per MT CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per MT CO_2 per gallon (The Climate Registry 2021).

5.3.2 Operations

Electricity

As 100% of building energy would be offset by rooftop solar (APM-10), only electricity needed for parking lot lighting is estimated.

Natural Gas

Natural gas consumption during operation would be required for various purposes, including, but not limited to, building heating and cooling. Default natural gas generation rates in CalEEMod for the proposed land use and climate zone were used.

Petroleum

Petroleum would be consumed by project-generated vehicle trips. Such consumption is a function of total VMT and estimated vehicle fuel economies for the vehicles accessing the project site. Similar to construction worker and vendor trips, fuel consumption was estimated by converting the total CO_2 emissions from project worker and truck trips to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel, respectively.

5.4 Impact Analysis

5.4.1 Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

Construction

Electricity

Temporary electric power for as-necessary lighting and electronic equipment (such as computers inside temporary construction trailers and HVAC) would be provided by SCE. The amount of electricity used during project construction would be minimal because typical demand stems from the use of electronic equipment, in addition to electrically powered hand tools. As the electricity used for construction activities would be temporary and minimal, impacts related to electricity consumption during project construction are determined to be less than significant.

Natural Gas

Natural gas is not anticipated to be required during construction of the proposed project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed under the subsection “Petroleum". Any minor amounts of natural gas that may be consumed as a result of construction would be temporary and negligible and would not have an adverse effect on the environment; therefore, impacts are determined to be less than significant.

Petroleum

Offroad equipment used during construction of the project would primarily rely on diesel fuel, as would vendor and haul trucks. In addition, construction workers would travel to and from the project site throughout the duration of construction. It is assumed in this analysis that construction workers would travel in gasoline-powered light-duty vehicles.

The estimated diesel fuel usage from construction equipment, haul trucks, vendor trucks, on-site water trucks, as well as estimated gasoline fuel usage from worker vehicles, is shown in Table 12.

Table 12. Total Proposed Project Construction Petroleum Demand

Scenario	Off-Road Equipment (diesel)	Haul Trucks (diesel)	Vendor Trucks (diesel)	On-Site Water Trucks (diesel)	Worker Vehicles (gasoline)
	Gallons				
Project Construction	31,331.26	21,376.59	15,588.76	10.77	21,407.35
Total Petroleum Consumed for Project Construction					**89,714.73**

Source: Attachment B.

In summary, construction associated with the development of the project is estimated to consume a total of approximately 89,715 gallons of petroleum. Notably, the project would be subject to CARB's In-Use Off-Road Diesel Vehicle Regulation that applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. The regulation (1) imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles; (2) requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System) and labeled; (3) restricts the adding of older vehicles into fleets starting on January 1, 2014; and (4) requires fleets to reduce their emissions by retiring, replacing, or repowering older engines or installing Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). The fleet must either show that its fleet average index was less than or equal to the calculated fleet average target rate, or that the fleet has met the Best Achievable Control Technology requirements.

Overall, while construction activities would consume petroleum-based fuels, consumption of such resources would be temporary and would cease upon the completion of construction. Further, the petroleum consumed related to construction would be typical of construction projects of similar types and sizes and would not necessitate new petroleum resources beyond what are typically consumed in California. Therefore, because petroleum use during project construction would be temporary and minimal and would not be wasteful or inefficient, impacts are determined to be less than significant.

Operation

Electricity

Project operation would require electricity for multiple purposes including, but not limited to, building heating and cooling, lighting, appliances, landscaping equipment, and cargo handling equipment. For the project, 100% of the building electricity (including electric landscaping and cargo handling equipment charging) would be offset by rooftop solar. As such, upon project implementation, electricity demand at the project site would increase by 289,242 kWh per year for parking lot lighting. Although electricity consumption would increase at the project site, the project would result in a highly energy efficient building and the additional electricity demand for the proposed project would not be unusual or wasteful as compared to overall local and regional demand for energy resources. For these reasons, electricity consumption of the project would not be considered inefficient or wasteful, and impacts would be less than significant.

Natural Gas

The project is estimated to consume approximately 7,621,615 thousand British thermal units (kBTU) per year. The project proposes conventional industrial uses reflecting contemporary energy efficient/energy conserving designs and operational programs. Uses proposed by the project are not inherently energy intensive, and the project natural gas demands in total would be comparable to other projects of similar scale and configuration. Additionally, the project is subject to statewide mandatory energy requirements as outlined in Title 24, Part 6, of the California Code of Regulations. Prior to project approval, the applicant would ensure that the project would meet Title 24 requirements applicable at that time, as required by state regulations through their plan review process. Thus, the natural gas consumption of the project would not be considered inefficient or wasteful, and impacts would be less than significant.

Petroleum

During operations, fuel consumption would involve the use of motor vehicles traveling to and from the project site under the project. Fuel demand estimates for the project are provided in Table 13.

Table 13. Operational Petroleum Demand

Scenario	Employee Vehicles (gasoline)	Trucks (diesel)
	Gallons	
Project Operations	84,965.83	322,331.05
	Total Petroleum Consumed for Project Operations	**407,296.88**

Source: Attachment B.

As summarized in Table 13, the project would result in an estimated annual increase in fuel demand of approximately 407,297 gallons of fuel. Fuel would be provided by current and future commercial vendors. Trip generation and VMT associated with the project are consistent with other industrial uses of similar scale and configuration. That is, the project does not propose uses or operations that would inherently result in excessive and wasteful activities, nor associated excess and wasteful vehicle energy consumption. In addition, as detailed in Attachment D, there would be no net increase in VMT per Service Population with the project and there would be a slight decrease in the total regional VMT with the project, since the project would fulfill a need for industrial warehouse uses and employment opportunities where one does not currently exist, thus eliminating the need to travel farther distances for such services and employment opportunities. Also, although not accounted for in Table 13, the project would also implement measures that would further reduce petroleum demand, such as the incorporation of EV charging spaces and stations. Finally, enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. As supported by the preceding discussions, project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary and impacts would be less than significant.

Renewable Energy Potential

As part of the project's design process, the applicant considered how the project could potentially increase its reliance on renewable energy sources to meet the project's energy demand. Renewable energy sources that were considered for their potential to be used to power the project, consistent with the California Energy Commission's (CEC's) definition of eligible renewables, include biomass, geothermal, solar, wind, and small hydroelectric facilities.

Given the project's location and the nature of the project, there are considerable site constraints including incompatibility with surrounding land uses for large scale power generation facilities, unknown interconnection feasibility, compatibility with utility provider systems, and no known water or geothermal resources to harness, that would eliminate the potential for biomass, geothermal, wind, and hydroelectric renewable energy to be installed onsite.

The project would comply with all applicable Title 24 code provisions, such as the solar ready building mandatory requirements. Beyond that, the project would commit to on-site solar generation sufficient to meet 100% of the project's total operational energy requirements from within the building envelope.

In summary, the project includes the onsite renewable energy source (i.e., solar) that was determined to be feasible for the site and does not include the onsite renewable energy sources that were determined to be infeasible.

Summary

As explained above, the project would use renewable energy onsite as determined to be feasible and would not result in wasteful, inefficient, or unnecessary consumption of energy resources, including electricity, natural gas, or petroleum during project construction or operation. Impacts would be less than significant.

5.4.2 Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The project would be subject to and would comply with, at a minimum, the California Building Energy Efficiency Standards (24 CCR Part 6). Part 6 of Title 24 establishes energy efficiency standards for non-residential buildings constructed in California in order to reduce energy demand and consumption. As such, the project would comply with the California code requirements for energy efficiency. Part 11 of Title 24 sets forth voluntary and mandatory energy measures that are applicable to the project under CALGreen. CALGreen institutes mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, high-rise residential, state-owned buildings, schools, and hospitals, as well as certain residential and non-residential additions and alterations. Additionally, energy consumed by the project's operation would be less than or comparable to energy consumed by other industrial uses of similar scale and intensity that are constructed and operating in California. On this basis, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This impact would be less than significant.

6 Conclusions

Criteria air pollutant emissions generated during construction and operation of the project would not exceed the AVAQMD's significance thresholds or result in a cumulatively considerable net increase in emissions. Similarly, the project would not create a CO hotspot or result in substantial health risk impacts at sensitive receptors within the vicinity. Therefore, the project would result in a less than significant impacts to air quality.

The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Accordingly, potential cumulative GHG impacts would be less than significant.

Regarding energy, the additional demand for electricity, natural gas, and petroleum under the project would not be unusual or wasteful as compared to overall local and regional demand for energy resources. Finally, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, the project would result in a less than significant impacts to energy.

7 References Cited

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

24 CCR Part 6. Guidelines for Implementation of the California Environmental Quality Act, as amended. https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards

AB 32. AB 32 Global Warming Solutions act of 2006. Assessed May 2023. https://ww2.arb.ca.gov/resources/fact-sheets/ab-32-global-warming-solutions-act-2006

AVAQMD (Antelope Valley Air Quality Management District). 1976. *Rule 402: Nuisance.* April 1976. https://avaqmd.ca.gov/files/597409879/AV402+1976+07+Apr+reformatted.pdf.

AVAQMD. 2016. *Antelope Valley AQMD California Environmental Quality Act (CEQA) and Federal Conformity Guidelines*. AVAQMD Planning, Rule Making and Grants Section, Air Monitoring Section. August 2016. https://avaqmd.ca.gov/files/e5b34d385/AV%20CEQA%20Guides%202016.pdf.

AVAQMD. 2023. *AVAQMD Federal 70 ppb Ozone Attainment Plan (Western Mojave Desert Nonattainment Area).* January 2023. https://avaqmd.ca.gov/files/1e287138b/70+ppb+Ozone+Plan+Final+Draft+AV+01.04.2023.pdf

BAAQMD (Bay Area Air Quality Management District). 2017. California Environmental Quality Act Air Quality Guidelines. May 2017. Accessed November 17, 2021. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

CAPCOA (California Air Pollution Control Officers Association). 2008. *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. January 2008.

CAPCOA. 2022. *California Emissions Estimator Model (CalEEMod) User's Guide, Version 2022.1*. Prepared by ICF, in collaboration with Sacramento Metopolitan Air Quality Management District, Fehr & Peers, STI, and Ramboll. April. Accessed December 2022. https://caleemod.com/documents/user-guide/CalEEMod_User_Guide_v2022.1.pdf.

CARB (California Air Resources Board). 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October 2000. Accessed March 13, 2017. http://www.arb.ca.gov/diesel/documents/rrpfinal.pdf.

CARB. 2014. *First Update to the Climate Change Scoping Plan Building on the Framework Pursuant to AB 32 – The California Global Warming Solutions Act of 2006*. May 2014. Accessed August 2014. http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf.

CARB. 2017. *The 2017 Climate Change Scoping Plan Update*. January 20. Accessed January 2019. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

CARB. 2019a. “Ozone & Health.” https://ww2.arb.ca.gov/resources/ozone-and-health.

CARB. 2019b. “Nitrogen Dioxide & Health.” https://ww2.arb.ca.gov/resources/nitrogen-dioxide-and-health.

CARB. 2019c. “Carbon Monoxide & Health.” https://ww2.arb.ca.gov/resources/carbon-monoxide-and-health.

CARB. 2021. EMFAC 2021. Accessed March 2023. https://arb.ca.gov/emfac/emissions-inventory

CARB. 2022. *2022 Scoping Plan for Achieving Carbon Neutrality.* November 2022. Accessed January 2023. https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf.

CAT (Climate Action Team). 2010. *Climate Action Team Biennial Report*. Sacramento, California. April 2010. Accessed January 2019. http://www.energy.ca.gov/2010publications/CAT-1000-2010-004/CAT-1000-2010-004.PDF.

CDPH (California Department of Public Health). 2013. “Preventing Work-Related Coccidioidomycosis (Valley Fever).” June 2013. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/OHB/HESIS/CDPH%20Document%20Library/CocciFact.pdf.

CDPH. 2017. Epidemiologic Summary of Coccidioidomycosis in California, 2016. June 2017. Accessed November 17, 2021. https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciEpiSummary2016.pdf.

CEC (California Energy Commission). 2023a. “Electricity Consumption by Entity”. Accessed March 2023. http://www.ecdms.energy.ca.gov/elecbyutil.aspx.

CEC. 2023b. Gas Consumption by Entity. Accessed March 2023. http://ecdms.energy.ca.gov/gasbyutil.aspx.

City of Lancaster. 1996. *Fox Field Industrial Corridor Specific Plan*. May 1996. https://www.cityoflancasterca.org/home/showpublisheddocument/7638/637958143709930000

City of Lancaster. 2017. *City of Lancaster Climate Action Plan*. March 2017.

CNRA (California Natural Resources Agency). 2009. *Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97*. December 2009.

County of Los Angeles. 2017. “Increased Coccidioidomycosis (“Valley Fever”) in Los Angeles County”. Rx for Prevention, July-August 2017. Accessed May 2023. http://rx.ph.lacounty.gov/RxCocci0717

EIA (U.S. Energy Information Administration). 2021. “Today in Energy – EIA’s AEO2021 Explores the Impact of COVID-19 on the U.S. Energy Mix Through 2050”. February 3, 2021. Accessed March 2023. https://www.eia.gov/todayinenergy/detail.php?id=46636

EIA 2023. “Total Petroleum Consumption Estimates, 2020.” [Online] 2021. Accessed February 2023. https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_use_pa.html&sid=US&sid=CA

EPA (U.S. Environmental Protection Agency). 2016. “Health and Environmental Effects of Particulate Matter (PM).” https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm.

EPA. 2017. “Climate Change.” Last updated January 19, 2017. Accessed May 2019. https://19january2017snapshot.epa.gov/climatechange_.html.

IPCC (Intergovernmental Panel on Climate Change). 2007. *IPCC Fourth Assessment Synthesis of Scientific-Technical Information Relevant to Interpreting Article 2 of the U.N. Framework Convention on Climate Change*. November. Accessed January 2019. https://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf.

IPCC. 2013. *Climate Change 2013: The Physical Science Basis*. Contribution of Working Group I to the *Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, Edited by T.F. Stocker, D. Qin, G.K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex, and P.M. Midgley. Cambridge, United Kingdom, and New York, New York: Cambridge University Press. Accessed May 2019. http://www.ipcc.ch/report/ar5/wg1.

IPCC. 2014. *Climate Change 2014 Synthesis Report: A Report of the Intergovernmental Panel on Climate Change.* Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Accessed August 2016. http://www.ipcc.ch/report/ar5/syr/.

OEHHA (Office of Environmental Health Hazard Assessment). 2015. *Air Toxics Hot Spots Program. Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments*. February 2015. Accessed January 2019. http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf.

OPR (Governor’s Office of Planning and Research). 2008. *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review.*

SCAG (Southern California Association of Governments). 2020. *The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments, Connect SoCal*. Adopted September 3, 2020.

SCAQMD (South Coast Air Quality Management District). 2003. Final 2003 Air Quality Management Plan, Appendix V Modeling and Attainment Demonstrations. August 2003. Accessed November 17, 2021. https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2003-air-quality-management-plan/2003-aqmp-appendix-v.pdf?sfvrsn=2.

SCAQMD. 2021. *WAIRE Implementation Guidelines*. June 2021. http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/waire-implementation-guidelines.pdf?sfvrsn=12

The Climate Registry. 2021. *2021 Default Emission Factors*. Accessed October 2021. https://www.theclimateregistry.org/wp-content/uploads/2021/05/2021-Default-Emission-Factor-Document.pdf.

USGS (U.S. Geological Survey). 2000. Operational Guidelines (version 1.0) for Geological Fieldwork in Areas Endemic for Coccidioidomycosis (Valley Fever). USGS Open-File Report 00-348, Version 1.0. Accessed October 20, 2021. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.486.1526 &rep=rep1&type=pdf. 1

Attachment A

Applicant Proposed Measures

Applicant Proposed Measures

Summary

Construction

- Heavy-Duty Off-Road Construction Equipment Requirements/Restrictions
- Provision of Electrical Infrastructure for Construction and Use of Electric Construction Equipment
- Construction Equipment Idling Restrictions
- Construction Haul Truck Requirements
- Dust Control Measures
- Construction Waste Recycling and Management
- Construction Logs

Site Design

- Sustainable Design/LEED Measures
- Solar Power
- Electrical Infrastructure for Electric Equipment and Vehicles
- Electric Vehicle Charging Stations
- Sustainable Energy, Waste, and Water Design Measures
- Design of Ingress/Egress Points
- Measures to Reduce the Urban Heat Island Effect

Operation

- Zero-Emission or Near-Zero-Emission Equipment
- Zero-Emission or Near-Zero-Emission Light-Duty and Medium-Duty Vehicles
- Truck Requirements and Restrictions
- Idling Time Restriction
- Anti-Idling Implementation Measures
- Truck Routing Plan
- Transportation Demand Management Plan
- Yard Sweeping to Reduce Fugitive Dust
- Restriction on Cold and/or Refrigerated Space
- Provision of Information Regarding Programs to Reduce Emissions from Trucks
- Provision of Information Regarding Reducing Emissions from Area and Energy Sources

Construction

APM-1: **Heavy-Duty Off-Road Construction Equipment Requirements/Restrictions.** During Project construction, all internal combustion engines/construction equipment greater than 75 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 City of Lancaster 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 City of Lancaster, the Project Applicant or successor in interest shall be required to demonstrate that at least two construction fleet owners/operators in the air basin were contacted and that those owners/operators confirmed Tier 4 Interim or Final, or better equipment could not be located within the air basin.

APM-2: **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 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.

APM-3: **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.

APM-4: 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 (NOx) standard.

APM-5: **Dust Control Measures.** In compliance with all applicable Rules and Regulations of the Antelope Valley Air Quality Management District (AVAQMD), 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 AVAQMD 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 the Project site 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.

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[1] For example, if a Tier 4 Final piece of equipment is not reasonably available at the time of construction and a lower tier equipment is used instead (e.g., Tier 4 interim), another piece of equipment could be upgraded from a Tier 4 Final to a higher tier (i.e., Tier 5) 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 Final standards.

APM-6: **Construction Waste Recycling and Management.** Consistent with Section 5.408.1 of the California Green Building Standards Code Part 11, a minimum of 65 percent of the nonhazardous construction and demolition waste shall be recycled and/or salvage for reuse.

APM-7: **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).

APM-8: **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 City of Lancaster, AVAQMD, or California Air Resources Board) conduct an inspection at the Project site.

Site Design

APM-9: **Sustainable Design/LEED Measures.** The Project shall be designed so that it is able to achieve Leadership in Energy and Environmental Design (LEED) certification and meet or exceed California Green Building Standards (CALGreen) Tier 2 standards in effect at the time of building permit application. Documentation shall be provided to the City of Lancaster demonstrating that the Project meets this requirement prior to the issuance of building permits.

APM-10: **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 100% of the Project's total operational base energy requirements from within the Project's building envelope. The City of Lancaster 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 successor in interest shall demonstrate how all available space has been maximized (e.g., roof, parking areas) for solar energy system use. Areas which 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 City of Lancaster 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.

APM-11: **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.

APM-12: **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.

APM-13: **Sustainable Energy, Waste, and Water Design Measures.** The Project Applicant or successor in interest shall implement the following measures:

- All heating, cooling, lighting, and appliance fixtures shall be Energy Star-rated
- 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
- Divert a minimum of 50% waste from landfills. Pursuant to this program, Project Applicant or successor in interest will provide storage areas for recyclables and green waste, as well as food waste storage if a pick-up service is available and evaluate the potential for onsite composting
- Buildings shall include high efficiency particulate air (HEPA) filtration systems within in all warehouse facilities
- Develop a Water Conservation Strategy and demonstrate a minimum 20% reduction in indoor and outdoor water usage when compared to baseline water demand (total expected water demand without implementation of the Water Conservation Strategy). Measures shall include, but not be limited to:
  - The Project's landscape plan shall emphasize drought-tolerant plants and use water-efficient irrigation techniques
  - All fixtures installed in restrooms and employee break areas would be U.S. Environmental Protection Agency WaterSense Certified or equivalent
  - Restrict the use of water for cleaning outdoor surfaces and prohibit systems that apply water to non-vegetated surfaces
  - Implement water-sensitive urban design practices in new construction
  - Install rainwater collection systems where feasible

APM-14: **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.

APM-15: **Measures to Reduce the Urban Heat Island Effect.** The following measures shall be implemented to reduce the urban heat island effect:

- Impervious ground surface areas surrounding the Project's buildings shall be concrete (as opposed to asphalt) to reduce the urban heat island effect.
- Surface treatments that lessen impervious surface-related radiative forcing (such as PURETi Coat or Plus Ti) shall be applied to impervious ground surfaces.
- 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).

Operation

APM-16: **Zero-Emission.** 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 equipment. This requirement shall apply to indoor and outdoor equipment such as forklifts, handheld landscaping equipment, yard trucks, office appliances, etc. Each building shall include the necessary charging stations or other necessary infrastructure for cargo handling equipment. The building manager or their designee shall be responsible for enforcing these requirements.

APM-17: **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.

APM-18: **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 three (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.

APM-19: **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 three-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 City of Lancaster 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, one-day Course #512).

APM-20: **Truck Routing Plan.** The Project Applicant or successor in interest shall establish and submit for approval to the City of Lancaster 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 City of Lancaster. The tenant/operator of the Project shall be responsible for enforcement of the Truck Routing Plan. A revised plan shall be submitted to the City of Lancaster prior to a business license being issued by the City of Lancaster 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 City of Lancaster 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.

APM-21: **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 City of Lancaster. 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

APM-22: **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.

APM-23: **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.

APM-24: **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 City of Lancaster 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 partner with the U.S. EPA to measure, benchmark, and improve logistics operations and reduce air pollutant emissions from the transport of cargo.

APM-25: **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 City of Lancaster 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

Attachment B

CalEEMod Emissions Output and Energy Estimates

Table of Contents

Lancaster 35th St and Ave H Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Lancaster 35th St and Ave H
Construction Start Date	9/1/2023
Operational Year	2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	5.00
Precipitation (days)	13.0
Location	3501 W Avenue H, Lancaster, CA 93536, USA
County	Los Angeles-Mojave Desert
City	Lancaster
Air District	Antelope Valley AQMD
Air Basin	Mojave Desert
TAZ	3673
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.12

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Unrefrigerated Warehouse-No Rail	138	1000sqft	5.60	138,387	0.00	—	—	—
Unrefrigerated Warehouse-Rail	257	1000sqft	7.60	257,004	133,845	—	—	—
Parking Lot	7.58	Acre	7.58	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Transportation	T-14*	Provide Electric Vehicle Charging Infrastructure
Water	W-7	Adopt a Water Conservation Strategy
Waste	S-1/S-2	Implement Waste Reduction Plan

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	120	21.3	41.6	0.17	0.39	9.46	9.85	0.39	4.12	4.22	—	22,937	22,937	0.30	2.62	36.2	23,761
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.50	22.1	40.9	0.17	0.39	9.46	9.85	0.39	2.82	3.20	—	22,917	22,917	0.30	2.62	0.94	23,706
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.14	2.75	11.1	0.02	0.06	1.39	1.44	0.06	0.44	0.49	—	2,878	2,878	0.08	0.27	2.53	2,961

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.30	0.50	2.03	< 0.005	0.01	0.25	0.26	0.01	0.08	0.09	—	477	477	0.01	0.04	0.42	490

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.27	21.3	41.6	0.17	0.39	9.46	9.85	0.39	4.12	4.22	—	22,937	22,937	0.30	2.62	36.2	23,761
2024	120	6.34	33.4	0.04	0.15	2.73	2.88	0.14	0.66	0.81	—	6,859	6,859	0.20	0.40	16.1	6,998
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.50	22.1	40.9	0.17	0.39	9.46	9.85	0.39	2.82	3.20	—	22,917	22,917	0.30	2.62	0.94	23,706
2024	1.45	6.54	27.8	0.04	0.15	2.73	2.88	0.14	0.66	0.81	—	6,588	6,588	0.21	0.40	0.42	6,712
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.31	2.75	7.99	0.02	0.05	1.39	1.44	0.05	0.44	0.49	—	2,878	2,878	0.06	0.27	2.20	2,961
2024	7.14	2.53	11.1	0.01	0.06	0.99	1.05	0.06	0.24	0.30	—	2,469	2,469	0.08	0.14	2.53	2,516
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.06	0.50	1.46	< 0.005	0.01	0.25	0.26	0.01	0.08	0.09	—	477	477	0.01	0.04	0.36	490
2024	1.30	0.46	2.03	< 0.005	0.01	0.18	0.19	0.01	0.04	0.05	—	409	409	0.01	0.02	0.42	417

2.3. Construction Emissions by Year, Mitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.27	21.3	41.6	0.17	0.39	9.46	9.85	0.39	4.12	4.22	—	22,937	22,937	0.30	2.62	36.2	23,761
2024	120	6.34	33.4	0.04	0.15	2.73	2.88	0.14	0.66	0.81	—	6,859	6,859	0.20	0.40	16.1	6,998
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.50	22.1	40.9	0.17	0.39	9.46	9.85	0.39	2.82	3.20	—	22,917	22,917	0.30	2.62	0.94	23,706
2024	1.45	6.54	27.8	0.04	0.15	2.73	2.88	0.14	0.66	0.81	—	6,588	6,588	0.21	0.40	0.42	6,712
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.31	2.75	7.99	0.02	0.05	1.39	1.44	0.05	0.44	0.49	—	2,878	2,878	0.06	0.27	2.20	2,961
2024	7.14	2.53	11.1	0.01	0.06	0.99	1.05	0.06	0.24	0.30	—	2,469	2,469	0.08	0.14	2.53	2,516
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.06	0.50	1.46	< 0.005	0.01	0.25	0.26	0.01	0.08	0.09	—	477	477	0.01	0.04	0.36	490
2024	1.30	0.46	2.03	< 0.005	0.01	0.18	0.19	0.01	0.04	0.05	—	409	409	0.01	0.02	0.42	417

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	12.8	24.8	35.5	0.25	0.50	5.02	5.51	0.48	1.06	1.55	376	28,012	28,388	38.6	3.43	88.9	30,462
Mit.	12.8	24.8	35.5	0.25	0.50	5.02	5.51	0.48	1.06	1.55	240	27,910	28,150	24.9	3.34	88.9	29,859
% Reduced	—	—	—	—	—	—	—	—	—	—	36%	< 0.5%	1%	35%	3%	—	2%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	12.5	26.1	29.0	0.24	0.50	5.02	5.51	0.48	1.06	1.55	376	27,495	27,870	38.6	3.45	2.31	29,864
Mit.	12.5	26.1	29.0	0.24	0.50	5.02	5.51	0.48	1.06	1.55	240	27,393	27,633	25.0	3.36	2.31	29,261
% Reduced	—	—	—	—	—	—	—	—	—	—	36%	< 0.5%	1%	35%	3%	—	2%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	12.5	26.4	30.9	0.25	0.50	5.02	5.51	0.48	1.06	1.55	376	27,611	27,987	38.6	3.45	38.4	30,018
Mit.	12.5	26.4	30.9	0.25	0.50	5.02	5.51	0.48	1.06	1.55	240	27,509	27,749	25.0	3.36	38.4	29,415
% Reduced	—	—	—	—	—	—	—	—	—	—	36%	< 0.5%	1%	35%	3%	—	2%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.28	4.81	5.64	0.04	0.09	0.92	1.01	0.09	0.19	0.28	62.2	4,571	4,634	6.39	0.57	6.35	4,970
Mit.	2.28	4.81	5.64	0.04	0.09	0.92	1.01	0.09	0.19	0.28	39.8	4,554	4,594	4.13	0.56	6.35	4,870
% Reduced	—	—	—	—	—	—	—	—	—	—	36%	< 0.5%	1%	35%	3%	—	2%

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.52	22.8	33.7	0.24	0.34	5.02	5.36	0.33	1.06	1.39	—	24,782	24,782	0.28	2.99	88.9	25,768
Area	9.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.11	2.05	1.72	0.01	0.16	—	0.16	0.16	—	0.16	—	2,719	2,719	0.24	0.01	—	2,727
Water	—	—	—	—	—	—	—	—	—	—	175	512	687	18.0	0.43	—	1,266
Waste	—	—	—	—	—	—	—	—	—	—	200	0.00	200	20.0	0.00	—	701
Total	12.8	24.8	35.5	0.25	0.50	5.02	5.51	0.48	1.06	1.55	376	28,012	28,388	38.6	3.43	88.9	30,462

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.23	24.1	27.3	0.23	0.34	5.02	5.36	0.33	1.06	1.39	—	24,264	24,264	0.30	3.01	2.31	25,170
Area	9.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.11	2.05	1.72	0.01	0.16	—	0.16	0.16	—	0.16	—	2,719	2,719	0.24	0.01	—	2,727
Water	—	—	—	—	—	—	—	—	—	—	175	512	687	18.0	0.43	—	1,266
Waste	—	—	—	—	—	—	—	—	—	—	200	0.00	200	20.0	0.00	—	701
Total	12.5	26.1	29.0	0.24	0.50	5.02	5.51	0.48	1.06	1.55	376	27,495	27,870	38.6	3.45	2.31	29,864
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.26	24.3	29.2	0.23	0.34	5.02	5.36	0.33	1.06	1.39	—	24,381	24,381	0.31	3.01	38.4	25,324
Area	9.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.11	2.05	1.72	0.01	0.16	—	0.16	0.16	—	0.16	—	2,719	2,719	0.24	0.01	—	2,727
Water	—	—	—	—	—	—	—	—	—	—	175	512	687	18.0	0.43	—	1,266
Waste	—	—	—	—	—	—	—	—	—	—	200	0.00	200	20.0	0.00	—	701
Total	12.5	26.4	30.9	0.25	0.50	5.02	5.51	0.48	1.06	1.55	376	27,611	27,987	38.6	3.45	38.4	30,018
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.60	4.44	5.33	0.04	0.06	0.92	0.98	0.06	0.19	0.25	—	4,037	4,037	0.05	0.50	6.35	4,193
Area	1.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.02	0.37	0.31	< 0.005	0.03	—	0.03	0.03	—	0.03	—	450	450	0.04	< 0.005	—	452
Water	—	—	—	—	—	—	—	—	—	—	29.0	84.7	114	2.98	0.07	—	210
Waste	—	—	—	—	—	—	—	—	—	—	33.2	0.00	33.2	3.31	0.00	—	116
Total	2.28	4.81	5.64	0.04	0.09	0.92	1.01	0.09	0.19	0.28	62.2	4,571	4,634	6.39	0.57	6.35	4,970

2.6. Operations Emissions by Sector, Mitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.52	22.8	33.7	0.24	0.34	5.02	5.36	0.33	1.06	1.39	—	24,782	24,782	0.28	2.99	88.9	25,768
Area	9.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.11	2.05	1.72	0.01	0.16	—	0.16	0.16	—	0.16	—	2,719	2,719	0.24	0.01	—	2,727
Water	—	—	—	—	—	—	—	—	—	—	140	409	549	14.4	0.35	—	1,013
Waste	—	—	—	—	—	—	—	—	—	—	100	0.00	100	10.0	0.00	—	350
Total	12.8	24.8	35.5	0.25	0.50	5.02	5.51	0.48	1.06	1.55	240	27,910	28,150	24.9	3.34	88.9	29,859
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.23	24.1	27.3	0.23	0.34	5.02	5.36	0.33	1.06	1.39	—	24,264	24,264	0.30	3.01	2.31	25,170
Area	9.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.11	2.05	1.72	0.01	0.16	—	0.16	0.16	—	0.16	—	2,719	2,719	0.24	0.01	—	2,727
Water	—	—	—	—	—	—	—	—	—	—	140	409	549	14.4	0.35	—	1,013
Waste	—	—	—	—	—	—	—	—	—	—	100	0.00	100	10.0	0.00	—	350
Total	12.5	26.1	29.0	0.24	0.50	5.02	5.51	0.48	1.06	1.55	240	27,393	27,633	25.0	3.36	2.31	29,261
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.26	24.3	29.2	0.23	0.34	5.02	5.36	0.33	1.06	1.39	—	24,381	24,381	0.31	3.01	38.4	25,324
Area	9.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.11	2.05	1.72	0.01	0.16	—	0.16	0.16	—	0.16	—	2,719	2,719	0.24	0.01	—	2,727
Water	—	—	—	—	—	—	—	—	—	—	140	409	549	14.4	0.35	—	1,013
Waste	—	—	—	—	—	—	—	—	—	—	100	0.00	100	10.0	0.00	—	350
Total	12.5	26.4	30.9	0.25	0.50	5.02	5.51	0.48	1.06	1.55	240	27,509	27,749	25.0	3.36	38.4	29,415
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.60	4.44	5.33	0.04	0.06	0.92	0.98	0.06	0.19	0.25	—	4,037	4,037	0.05	0.50	6.35	4,193
Area	1.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Energy	0.02	0.37	0.31	< 0.005	0.03	—	0.03	0.03	—	0.03	—	450	450	0.04	< 0.005	—	452
Water	—	—	—	—	—	—	—	—	—	—	23.2	67.8	91.0	2.39	0.06	—	168
Waste	—	—	—	—	—	—	—	—	—	—	16.6	0.00	16.6	1.66	0.00	—	58.0
Total	2.28	4.81	5.64	0.04	0.09	0.92	1.01	0.09	0.19	0.28	39.8	4,554	4,594	4.13	0.56	6.35	4,870

3. Construction Emissions Details

3.1. Site Preparation (2023) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	1.28	1.28	< 0.005	0.13	0.13	—	5.80	5.80	< 0.005	< 0.005	0.02	6.05
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.08	0.85	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	160	160	0.01	< 0.005	—	160

Dust From Material Movement	—	—	—	—	—	0.23	0.23	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.17	0.17	< 0.005	< 0.005	< 0.005	0.18
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	26.4	26.4	< 0.005	< 0.005	—	26.5
Dust From Material Movement	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.12	2.03	0.00	0.00	0.24	0.24	0.00	0.06	0.06	—	270	270	0.01	0.01	1.21	274
Vendor	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
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.43	7.43	< 0.005	< 0.005	0.02	7.54
Vendor	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
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.25
Vendor	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

Hauling	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

3.2. Site Preparation (2023) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	1.28	1.28	< 0.005	0.13	0.13	—	5.80	5.80	< 0.005	< 0.005	0.02	6.05
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.08	0.85	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	160	160	0.01	< 0.005	—	160
Dust From Material Movement	—	—	—	—	—	0.23	0.23	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.17	0.17	< 0.005	< 0.005	< 0.005	0.18
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	26.4	26.4	< 0.005	< 0.005	—	26.5

Dust From Material Movement	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.12	2.03	0.00	0.00	0.24	0.24	0.00	0.06	0.06	—	270	270	0.01	0.01	1.21	274
Vendor	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
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.43	7.43	< 0.005	< 0.005	0.02	7.54
Vendor	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
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.25
Vendor	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
Hauling	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

3.3. Grading (2023) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.81	4.83	35.4	0.06	0.19	—	0.19	0.18	—	0.18	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	3.68	3.68	—	1.44	1.44	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	1.28	1.28	< 0.005	0.13	0.13	—	5.80	5.80	< 0.005	< 0.005	0.02	6.05
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.81	4.83	35.4	0.06	0.19	—	0.19	0.18	—	0.18	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	3.68	3.68	—	1.44	1.44	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	1.28	1.28	< 0.005	0.13	0.13	—	5.81	5.81	< 0.005	< 0.005	< 0.005	6.04
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.40	2.91	0.01	0.02	—	0.02	0.01	—	0.01	—	542	542	0.02	< 0.005	—	544
Dust From Material Movement	—	—	—	—	—	0.30	0.30	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.48	0.48	< 0.005	< 0.005	< 0.005	0.50
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	89.8	89.8	< 0.005	< 0.005	—	90.1

Dust From Material Movement	—	—	—	—	—	0.06	0.06	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.08	0.08	< 0.005	< 0.005	< 0.005	0.08
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.13	2.26	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	300	300	0.01	0.01	1.34	305
Vendor	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
Hauling	0.32	16.3	3.88	0.11	0.21	4.24	4.44	0.21	1.19	1.39	—	16,033	16,033	0.02	2.55	34.8	16,830
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.15	1.53	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	266	266	0.01	0.01	0.03	270
Vendor	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
Hauling	0.29	17.1	3.99	0.11	0.21	4.24	4.44	0.21	1.19	1.39	—	16,047	16,047	0.02	2.55	0.90	16,809
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.14	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	22.5	22.5	< 0.005	< 0.005	0.05	22.8
Vendor	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
Hauling	0.03	1.41	0.32	0.01	0.02	0.35	0.36	0.02	0.10	0.11	—	1,318	1,318	< 0.005	0.21	1.24	1,382
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.73	3.73	< 0.005	< 0.005	0.01	3.78
Vendor	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
Hauling	< 0.005	0.26	0.06	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	218	218	< 0.005	0.03	0.20	229

3.4. Grading (2023) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.81	4.83	35.4	0.06	0.19	—	0.19	0.18	—	0.18	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	3.68	3.68	—	1.44	1.44	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	1.28	1.28	< 0.005	0.13	0.13	—	5.80	5.80	< 0.005	< 0.005	0.02	6.05
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.81	4.83	35.4	0.06	0.19	—	0.19	0.18	—	0.18	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	3.68	3.68	—	1.44	1.44	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	1.28	1.28	< 0.005	0.13	0.13	—	5.81	5.81	< 0.005	< 0.005	< 0.005	6.04
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.40	2.91	0.01	0.02	—	0.02	0.01	—	0.01	—	542	542	0.02	< 0.005	—	544
Dust From Material Movement	—	—	—	—	—	0.30	0.30	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.48	0.48	< 0.005	< 0.005	< 0.005	0.50

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Dust From Material Movement	—	—	—	—	—	0.06	0.06	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.08	0.08	< 0.005	< 0.005	< 0.005	0.08
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.13	2.26	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	300	300	0.01	0.01	1.34	305
Vendor	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
Hauling	0.32	16.3	3.88	0.11	0.21	4.24	4.44	0.21	1.19	1.39	—	16,033	16,033	0.02	2.55	34.8	16,830
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.15	1.53	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	266	266	0.01	0.01	0.03	270
Vendor	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
Hauling	0.29	17.1	3.99	0.11	0.21	4.24	4.44	0.21	1.19	1.39	—	16,047	16,047	0.02	2.55	0.90	16,809
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.14	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	22.5	22.5	< 0.005	< 0.005	0.05	22.8
Vendor	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
Hauling	0.03	1.41	0.32	0.01	0.02	0.35	0.36	0.02	0.10	0.11	—	1,318	1,318	< 0.005	0.21	1.24	1,382
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.73	3.73	< 0.005	< 0.005	0.01	3.78
Vendor	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
Hauling	< 0.005	0.26	0.06	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	218	218	< 0.005	0.03	0.20	229

3.5. Building Construction (2023) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	3.25	15.0	0.02	0.13	—	0.13	0.12	—	0.12	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.40	1.85	< 0.005	0.02	—	0.02	0.01	—	0.01	—	296	296	0.01	< 0.005	—	297
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.34	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	48.9	48.9	< 0.005	< 0.005	—	49.1
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.92	1.24	12.7	0.00	0.00	2.17	2.17	0.00	0.51	0.51	—	2,211	2,211	0.11	0.08	0.29	2,238
Vendor	0.06	2.32	0.91	0.02	0.03	0.56	0.59	0.03	0.16	0.19	—	2,042	2,042	< 0.005	0.30	0.15	2,130
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.16	1.75	0.00	0.00	0.27	0.27	0.00	0.06	0.06	—	280	280	0.01	0.01	0.59	284
Vendor	0.01	0.29	0.11	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	252	252	< 0.005	0.04	0.31	263
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.03	0.32	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	46.4	46.4	< 0.005	< 0.005	0.10	47.1
Vendor	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	41.7	41.7	< 0.005	0.01	0.05	43.5
Hauling	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

3.6. Building Construction (2023) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	3.25	15.0	0.02	0.13	—	0.13	0.12	—	0.12	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.06	0.40	1.85	< 0.005	0.02	—	0.02	0.01	—	0.01	—	296	296	0.01	< 0.005	—	297
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.34	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	48.9	48.9	< 0.005	< 0.005	—	49.1
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.92	1.24	12.7	0.00	0.00	2.17	2.17	0.00	0.51	0.51	—	2,211	2,211	0.11	0.08	0.29	2,238
Vendor	0.06	2.32	0.91	0.02	0.03	0.56	0.59	0.03	0.16	0.19	—	2,042	2,042	< 0.005	0.30	0.15	2,130
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.16	1.75	0.00	0.00	0.27	0.27	0.00	0.06	0.06	—	280	280	0.01	0.01	0.59	284
Vendor	0.01	0.29	0.11	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	252	252	< 0.005	0.04	0.31	263
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.03	0.32	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	46.4	46.4	< 0.005	< 0.005	0.10	47.1
Vendor	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	41.7	41.7	< 0.005	0.01	0.05	43.5
Hauling	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

3.7. Building Construction (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.49	3.21	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.49	3.21	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	1.13	5.28	0.01	0.04	—	0.04	0.04	—	0.04	—	845	845	0.03	0.01	—	847
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.21	0.96	< 0.005	0.01	—	0.01	0.01	—	0.01	—	140	140	0.01	< 0.005	—	140
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.99	1.02	17.6	0.00	0.00	2.17	2.17	0.00	0.51	0.51	—	2,447	2,447	0.10	0.08	10.4	2,485

Vendor	0.07	2.11	0.82	0.02	0.03	0.56	0.59	0.03	0.16	0.19	—	2,014	2,014	< 0.005	0.30	5.77	2,108
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.89	1.10	11.9	0.00	0.00	2.17	2.17	0.00	0.51	0.51	—	2,174	2,174	0.11	0.08	0.27	2,202
Vendor	0.06	2.23	0.85	0.02	0.03	0.56	0.59	0.03	0.16	0.19	—	2,016	2,016	< 0.005	0.30	0.15	2,104
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.41	4.70	0.00	0.00	0.76	0.76	0.00	0.18	0.18	—	788	788	0.04	0.03	1.58	799
Vendor	0.02	0.79	0.29	0.01	0.01	0.20	0.21	0.01	0.05	0.07	—	710	710	< 0.005	0.10	0.87	742
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.08	0.86	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	130	130	0.01	< 0.005	0.26	132
Vendor	< 0.005	0.14	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	118	118	< 0.005	0.02	0.14	123
Hauling	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

3.8. Building Construction (2024) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.49	3.21	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.49	3.21	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	1.13	5.28	0.01	0.04	—	0.04	0.04	—	0.04	—	845	845	0.03	0.01	—	847
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.21	0.96	< 0.005	0.01	—	0.01	0.01	—	0.01	—	140	140	0.01	< 0.005	—	140
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.99	1.02	17.6	0.00	0.00	2.17	2.17	0.00	0.51	0.51	—	2,447	2,447	0.10	0.08	10.4	2,485
Vendor	0.07	2.11	0.82	0.02	0.03	0.56	0.59	0.03	0.16	0.19	—	2,014	2,014	< 0.005	0.30	5.77	2,108
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.89	1.10	11.9	0.00	0.00	2.17	2.17	0.00	0.51	0.51	—	2,174	2,174	0.11	0.08	0.27	2,202
Vendor	0.06	2.23	0.85	0.02	0.03	0.56	0.59	0.03	0.16	0.19	—	2,016	2,016	< 0.005	0.30	0.15	2,104
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.32	0.41	4.70	0.00	0.00	0.76	0.76	0.00	0.18	0.18	—	788	788	0.04	0.03	1.58	799
Vendor	0.02	0.79	0.29	0.01	0.01	0.20	0.21	0.01	0.05	0.07	—	710	710	< 0.005	0.10	0.87	742
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.08	0.86	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	130	130	0.01	< 0.005	0.26	132
Vendor	< 0.005	0.14	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	118	118	< 0.005	0.02	0.14	123
Hauling	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

3.9. Paving (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	2.45	10.6	0.01	0.12	—	0.12	0.11	—	0.11	—	1,512	1,512	0.06	0.01	—	1,517
Paving	0.99	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.13	0.58	< 0.005	0.01	—	0.01	0.01	—	0.01	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.10	1.69	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	236	236	0.01	0.01	1.00	239
Vendor	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
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.8	11.8	< 0.005	< 0.005	0.02	12.0
Vendor	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
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.96	1.96	< 0.005	< 0.005	< 0.005	1.98
Vendor	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
Hauling	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

3.10. Paving (2024) - Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	2.45	10.6	0.01	0.12	—	0.12	0.11	—	0.11	—	1,512	1,512	0.06	0.01	—	1,517
Paving	0.99	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.13	0.58	< 0.005	0.01	—	0.01	0.01	—	0.01	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.10	1.69	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	236	236	0.01	0.01	1.00	239
Vendor	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
Hauling	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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.8	11.8	< 0.005	< 0.005	0.02	12.0
Vendor	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
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.96	1.96	< 0.005	< 0.005	< 0.005	1.98
Vendor	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
Hauling	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

3.11. Architectural Coating (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.91	1.15	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	119	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	6.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	1.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.21	3.60	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	501	501	0.02	0.02	2.12	509
Vendor	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
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.15	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.1	25.1	< 0.005	< 0.005	0.05	25.5
Vendor	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
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.16	4.16	< 0.005	< 0.005	0.01	4.22

Vendor	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
Hauling	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

3.12. Architectural Coating (2024) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.91	1.15	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	119	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	6.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22

Architectu Coatings	1.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.21	3.60	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	501	501	0.02	0.02	2.12	509
Vendor	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
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.15	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.1	25.1	< 0.005	< 0.005	0.05	25.5
Vendor	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
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.16	4.16	< 0.005	< 0.005	0.01	4.22
Vendor	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
Hauling	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

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	2.73	1.56	26.0	0.05	0.02	1.67	1.69	0.02	0.28	0.31	—	4,907	4,907	0.20	0.16	20.5	4,980
Unrefrigerated Warehouse-Rail	0.79	21.2	7.75	0.19	0.32	3.35	3.67	0.30	0.78	1.08	—	19,874	19,874	0.09	2.83	68.4	20,788
Parking Lot	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
Total	3.52	22.8	33.7	0.24	0.34	5.02	5.36	0.33	1.06	1.39	—	24,782	24,782	0.28	2.99	88.9	25,768
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	2.47	1.74	19.6	0.04	0.02	1.67	1.69	0.02	0.28	0.31	—	4,382	4,382	0.22	0.17	0.53	4,439
Unrefrigerated Warehouse-Rail	0.75	22.3	7.73	0.19	0.32	3.35	3.67	0.30	0.78	1.08	—	19,883	19,883	0.09	2.84	1.77	20,731
Parking Lot	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
Total	3.23	24.1	27.3	0.23	0.34	5.02	5.36	0.33	1.06	1.39	—	24,264	24,264	0.30	3.01	2.31	25,170
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehouse-No Rail	0.46	0.33	3.93	0.01	< 0.005	0.30	0.31	< 0.005	0.05	0.06	—	746	746	0.04	0.03	1.46	757
Unrefrigerated Warehouse-Rail	0.14	4.11	1.40	0.03	0.06	0.61	0.67	0.06	0.14	0.20	—	3,291	3,291	0.01	0.47	4.89	3,436
Parking Lot	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
Total	0.60	4.44	5.33	0.04	0.06	0.92	0.98	0.06	0.19	0.25	—	4,037	4,037	0.05	0.50	6.35	4,193

4.1.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	2.73	1.56	26.0	0.05	0.02	1.67	1.69	0.02	0.28	0.31	—	4,907	4,907	0.20	0.16	20.5	4,980
Unrefrigerated Warehouse-Rail	0.79	21.2	7.75	0.19	0.32	3.35	3.67	0.30	0.78	1.08	—	19,874	19,874	0.09	2.83	68.4	20,788
Parking Lot	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
Total	3.52	22.8	33.7	0.24	0.34	5.02	5.36	0.33	1.06	1.39	—	24,782	24,782	0.28	2.99	88.9	25,768
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated	2.47	1.74	19.6	0.04	0.02	1.67	1.69	0.02	0.28	0.31	—	4,382	4,382	0.22	0.17	0.53	4,439
Unrefrigerated Warehouse-Rail	0.75	22.3	7.73	0.19	0.32	3.35	3.67	0.30	0.78	1.08	—	19,883	19,883	0.09	2.84	1.77	20,731
Parking Lot	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
Total	3.23	24.1	27.3	0.23	0.34	5.02	5.36	0.33	1.06	1.39	—	24,264	24,264	0.30	3.01	2.31	25,170
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.46	0.33	3.93	0.01	< 0.005	0.30	0.31	< 0.005	0.05	0.06	—	746	746	0.04	0.03	1.46	757
Unrefrigerated Warehouse-Rail	0.14	4.11	1.40	0.03	0.06	0.61	0.67	0.06	0.14	0.20	—	3,291	3,291	0.01	0.47	4.89	3,436
Parking Lot	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
Total	0.60	4.44	5.33	0.04	0.06	0.92	0.98	0.06	0.19	0.25	—	4,037	4,037	0.05	0.50	6.35	4,193

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

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

Unrefrigerated Warehouse-No	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	276	276	0.03	< 0.005	—	278
Total	—	—	—	—	—	—	—	—	—	—	—	276	276	0.03	< 0.005	—	278
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	276	276	0.03	< 0.005	—	278
Total	—	—	—	—	—	—	—	—	—	—	—	276	276	0.03	< 0.005	—	278
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	45.7	45.7	< 0.005	< 0.005	—	46.0
Total	—	—	—	—	—	—	—	—	—	—	—	45.7	45.7	< 0.005	< 0.005	—	46.0

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	276	276	0.03	< 0.005	—	278
Total	—	—	—	—	—	—	—	—	—	—	—	276	276	0.03	< 0.005	—	278
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	276	276	0.03	< 0.005	—	278
Total	—	—	—	—	—	—	—	—	—	—	—	276	276	0.03	< 0.005	—	278
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	45.7	45.7	< 0.005	< 0.005	—	46.0
Total	—	—	—	—	—	—	—	—	—	—	—	45.7	45.7	< 0.005	< 0.005	—	46.0

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.04	0.72	0.60	< 0.005	0.05	—	0.05	0.05	—	0.05	—	855	855	0.08	< 0.005	—	857
Unrefrigerated Warehouse-Rail	0.07	1.33	1.12	0.01	0.10	—	0.10	0.10	—	0.10	—	1,588	1,588	0.14	< 0.005	—	1,592
Parking Lot	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

Total	0.11	2.05	1.72	0.01	0.16	—	0.16	0.16	—	0.16	—	2,443	2,443	0.22	< 0.005	—	2,449
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.04	0.72	0.60	< 0.005	0.05	—	0.05	0.05	—	0.05	—	855	855	0.08	< 0.005	—	857
Unrefrigerated Warehouse-Rail	0.07	1.33	1.12	0.01	0.10	—	0.10	0.10	—	0.10	—	1,588	1,588	0.14	< 0.005	—	1,592
Parking Lot	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
Total	0.11	2.05	1.72	0.01	0.16	—	0.16	0.16	—	0.16	—	2,443	2,443	0.22	< 0.005	—	2,449
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	142	142	0.01	< 0.005	—	142
Unrefrigerated Warehouse-Rail	0.01	0.24	0.20	< 0.005	0.02	—	0.02	0.02	—	0.02	—	263	263	0.02	< 0.005	—	264
Parking Lot	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
Total	0.02	0.37	0.31	< 0.005	0.03	—	0.03	0.03	—	0.03	—	404	404	0.04	< 0.005	—	406

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.04	0.72	0.60	< 0.005	0.05	—	0.05	0.05	—	0.05	—	855	855	0.08	< 0.005	—	857
Unrefrigerated Warehouse-Rail	0.07	1.33	1.12	0.01	0.10	—	0.10	0.10	—	0.10	—	1,588	1,588	0.14	< 0.005	—	1,592
Parking Lot	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
Total	0.11	2.05	1.72	0.01	0.16	—	0.16	0.16	—	0.16	—	2,443	2,443	0.22	< 0.005	—	2,449
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.04	0.72	0.60	< 0.005	0.05	—	0.05	0.05	—	0.05	—	855	855	0.08	< 0.005	—	857
Unrefrigerated Warehouse-Rail	0.07	1.33	1.12	0.01	0.10	—	0.10	0.10	—	0.10	—	1,588	1,588	0.14	< 0.005	—	1,592
Parking Lot	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
Total	0.11	2.05	1.72	0.01	0.16	—	0.16	0.16	—	0.16	—	2,443	2,443	0.22	< 0.005	—	2,449
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	142	142	0.01	< 0.005	—	142

Unrefrigerated Warehouse-Rail	0.01	0.24	0.20	< 0.005	0.02	—	0.02	0.02	—	0.02	—	263	263	0.02	< 0.005	—	264
Parking Lot	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
Total	0.02	0.37	0.31	< 0.005	0.03	—	0.03	0.03	—	0.03	—	404	404	0.04	< 0.005	—	406

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	8.49	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	9.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	8.49	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	9.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer	1.55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.3.1. Mitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	8.49	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	9.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	8.49	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	9.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectu Coatings	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	61.3	176	237	6.30	0.15	—	440
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	114	336	450	11.7	0.28	—	826
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	175	512	687	18.0	0.43	—	1,266
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	61.3	176	237	6.30	0.15	—	440

Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	114	336	450	11.7	0.28	—	826
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	175	512	687	18.0	0.43	—	1,266
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	10.2	29.1	39.3	1.04	0.03	—	72.9
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	18.9	55.6	74.4	1.94	0.05	—	137
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	29.0	84.7	114	2.98	0.07	—	210

4.4.1. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	49.1	141	190	5.04	0.12	—	352

Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	91.1	269	360	9.37	0.23	—	661
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	140	409	549	14.4	0.35	—	1,013
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	49.1	141	190	5.04	0.12	—	352
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	91.1	269	360	9.37	0.23	—	661
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	140	409	549	14.4	0.35	—	1,013
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	8.12	23.3	31.4	0.84	0.02	—	58.3
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	15.1	44.5	59.5	1.55	0.04	—	109
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	23.2	67.8	91.0	2.39	0.06	—	168

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	70.1	0.00	70.1	7.01	0.00	—	245
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	130	0.00	130	13.0	0.00	—	456
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	200	0.00	200	20.0	0.00	—	701
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	70.1	0.00	70.1	7.01	0.00	—	245
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	130	0.00	130	13.0	0.00	—	456
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	200	0.00	200	20.0	0.00	—	701

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	11.6	0.00	11.6	1.16	0.00	—	40.6
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	21.6	0.00	21.6	2.15	0.00	—	75.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	33.2	0.00	33.2	3.31	0.00	—	116

4.5.1. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	35.1	0.00	35.1	3.50	0.00	—	123
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	65.1	0.00	65.1	6.51	0.00	—	228
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	100	0.00	100	10.0	0.00	—	350
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefriger Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	35.1	0.00	35.1	3.50	0.00	—	123
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	65.1	0.00	65.1	6.51	0.00	—	228
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	100	0.00	100	10.0	0.00	—	350
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	5.80	0.00	5.80	0.58	0.00	—	20.3
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	10.8	0.00	10.8	1.08	0.00	—	37.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	16.6	0.00	16.6	1.66	0.00	—	58.0

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.6.2. Mitigated

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

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

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.9.2. Mitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

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

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

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

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

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

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	9/1/2023	9/15/2023	5.00	11.0	—
Grading	Grading	9/18/2023	10/28/2023	5.00	30.0	—
Building Construction	Building Construction	10/30/2023	6/28/2024	5.00	175	—
Paving	Paving	7/1/2024	7/26/2024	5.00	20.0	—
Architectural Coating	Architectural Coating	7/29/2024	8/23/2024	5.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38

Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20

Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	18.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	2.00	1.00	MHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	234	20.0	HHDT
Grading	Onsite truck	2.00	1.00	MHDT
Building Construction	—	—	—	—
Building Construction	Worker	166	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	66.0	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT

Paving	—	—	—	—
Paving	Worker	16.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	34.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	18.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	2.00	1.00	MHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	234	20.0	HHDT
Grading	Onsite truck	2.00	1.00	MHDT
Building Construction	—	—	—	—
Building Construction	Worker	166	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	66.0	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	16.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	34.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	593,087	197,696	19,811

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)

Site Preparation	—	—	16.5	0.00	—
Grading	55,910	—	90.0	0.00	—
Paving	0.00	0.00	0.00	0.00	7.58

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Unrefrigerated Warehouse-No Rail	0.00	0%
Unrefrigerated Warehouse-Rail	0.00	0%
Parking Lot	7.58	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	532	0.03	< 0.005
2024	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	867	867	867	316,455	6,256	6,256	6,256	2,283,572

Unrefrigerated Warehouse-Rail	272	272	272	99,280	7,646	7,646	7,646	2,790,761
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	867	867	867	316,455	6,256	6,256	6,256	2,283,572
Unrefrigerated Warehouse-Rail	272	272	272	99,280	7,646	7,646	7,646	2,790,761
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	593,087	197,696	19,811

5.10.3. Landscape Equipment

Equipment Type	Fuel Type	Number Per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.10.4. Landscape Equipment - Mitigated

Equipment Type	Fuel Type	Number Per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	0.00	349	0.0330	0.0040	2,667,568
Unrefrigerated Warehouse-Rail	0.00	349	0.0330	0.0040	4,954,047
Parking Lot	289,242	349	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	0.00	349	0.0330	0.0040	2,667,568
Unrefrigerated Warehouse-Rail	0.00	349	0.0330	0.0040	4,954,047
Parking Lot	289,242	349	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	32,001,994	0.00
Unrefrigerated Warehouse-Rail	59,432,175	2,166,187
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	25,601,595	0.00
Unrefrigerated Warehouse-Rail	47,545,740	1,732,950
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	130	—
Unrefrigerated Warehouse-Rail	242	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	65.0	—
Unrefrigerated Warehouse-Rail	121	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	36.1	annual days of extreme heat
Extreme Precipitation	2.05	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	88.7
AQ-PM	5.81
AQ-DPM	4.06

Drinking Water	85.4
Lead Risk Housing	21.0
Pesticides	38.2
Toxic Releases	69.3
Traffic	8.11
Effect Indicators	—
CleanUp Sites	78.1
Groundwater	2.11
Haz Waste Facilities/Generators	88.6
Impaired Water Bodies	0.00
Solid Waste	75.7
Sensitive Population	—
Asthma	74.6
Cardio-vascular	53.5
Low Birth Weights	13.2
Socioeconomic Factor Indicators	—
Education	42.3
Housing	38.1
Linguistic	32.0
Poverty	61.8
Unemployment	26.9

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	67.56063134

Employed	13.29398178
Median HI	45.83600667
Education	—
Bachelor's or higher	38.31643783
High school enrollment	100
Preschool enrollment	48.45374054
Transportation	—
Auto Access	66.18760426
Active commuting	14.50019248
Social	—
2-parent households	65.622995
Voting	65.36635442
Neighborhood	—
Alcohol availability	88.70781471
Park access	23.43128449
Retail density	4.080585141
Supermarket access	30.32208392
Tree canopy	85.67945592
Housing	—
Homeownership	75.37533684
Housing habitability	76.05543436
Low-inc homeowner severe housing cost burden	38.73989478
Low-inc renter severe housing cost burden	63.54420634
Uncrowded housing	83.16437829
Health Outcomes	—
Insured adults	61.15744899
Arthritis	73.2

Asthma ER Admissions	41.1
High Blood Pressure	77.3
Cancer (excluding skin)	55.0
Asthma	43.1
Coronary Heart Disease	72.1
Chronic Obstructive Pulmonary Disease	62.6
Diagnosed Diabetes	68.9
Life Expectancy at Birth	4.1
Cognitively Disabled	94.6
Physically Disabled	49.3
Heart Attack ER Admissions	35.9
Mental Health Not Good	46.4
Chronic Kidney Disease	79.8
Obesity	42.9
Pedestrian Injuries	90.4
Physical Health Not Good	57.2
Stroke	70.4
Health Risk Behaviors	—
Binge Drinking	11.9
Current Smoker	43.1
No Leisure Time for Physical Activity	66.6
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	88.7
Elderly	25.8
English Speaking	89.3

Foreign-born	8.1
Outdoor Workers	46.5
Climate Change Adaptive Capacity	—
Impervious Surface Cover	93.4
Traffic Density	4.7
Traffic Access	23.0
Other Indices	—
Hardship	48.4
Other Decision Support	—
2016 Voting	51.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	46.0
Healthy Places Index Score for Project Location (b)	49.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Adjusted schedule based on applicant input
Land Use	Adjusted land use input based on applicant input. Total acreage includes off-site public ROW improvements
Construction: Trips and VMT	Added on-site trucks during Site Preparation and Grading to account for water trucks. Rounded up one-way trips/day to nearest even number.
Operations: Vehicle Data	Adjusted trip rates to match trip generation provided in traffic report. Split uses to estimate passenger vehicles and trucks separately (i.e., one Warehouse-No Rail for passenger, Warehouse-Rail for trucks). Increased truck trip length based on SCAQMD guidance
Operations: Fleet Mix	Fleet mix adjusted to account for passenger vehicles using Warehouse-No Rail use and trucks using Warehouse-Rail
Operations: Refrigerants	Cold storage not included
Operations: Energy Use	100% of building electricity for offset by solar. Natural gas and parking lot electricity based on defaults
Construction: Off-Road Equipment	As an applicant proposed measure, all equipment >75 hp will be Tier 4 Final

Lancaster 35th St and Ave H Project

Construction Fuels

	CO2 MT/yr					Petroleum Consumption (gallons)				
Phase	**Off-Road**	**Onsite Trucks**	**Haul Trucks**	**Vendor Trucks**	**Workers**	**Off-Road**	**Onsite Trucks**	**Haul Trucks**	**Vendor Trucks**	**Workers**
On-Site										
Site Preparation 2023	26.42	0.03	0.00	0.00	1.23	2,587.66	2.94	0.00	0.00	140.09
Grading 2023	89.79	0.08	218.25	0.00	3.73	8,794.32	7.84	21,376.59	0.00	424.83
Building Construction 2023	48.93	0.00	0.00	41.66	46.43	4,792.36	0.00	0.00	4,080.31	5,288.15
Building Construction 2024	139.83	0.00	0.00	117.50	130.45	13,695.16	0.00	0.00	11,508.45	14,858.11
Paving 2024	13.71	0.00	0.00	0.00	1.96	1,343.12	0.00	0.00	0.00	222.77
Architectural Coatings 2024	1.21	0.00	0.00	0.00	4.16	118.64	0.00	0.00	0.00	473.39
Total	*319.89*	*0.11*	*218.25*	*159.16*	*187.96*	*31,331.26*	*10.77*	*21,376.59*	*15,588.76*	*21,407.35*

Notes: Phases and annual CO2 are from the CaleEMod output files for the project

Conversion Factors:

Diesel Fuel	10.21	kg CO2/gallon
Gasoline	8.78	kg CO2/gallon

Lancaster 35th St and Ave H Project

Electricity Demand

Project

Land Use	KWh/yr
Unrefrigerated Warehouse-No Rail	0.00
Unrefrigerated Warehouse-Rail	0.00
Parking Lot	289,242.00
Total	**289,242.00**
*100% building electricity offset by solar	

Lancaster 35th St and Ave H Project

Natural Gas Demand

Land Use	KBTU/yr
Unrefrigerated Warehouse-No Rail	2,667,568.00
Unrefrigerated Warehouse-Rail	4,954,047.00
Total	**7,621,615.00**

Lancaster 35th St and Ave H Project

Operational Fuel Consumption

Operational Fuel Consumption Summary:

Project	**Vehicle MT CO_2**		
Operations	4,037.00		
Fuel Type	**Vehicle MT CO_2**	**Kg/CO2/Gallon**	**Gallons**
Gasoline	746.00	8.78	84,965.83
Diesel	3,291.00	10.21	322,331.05
		Total	**407,296.88**

*MT by land use from CalEEMod

Attachment C

AERMOD and HARP2 Outputs

Table of Contents

Lancaster 35th St and Ave H Project

Construction HRA

Project Construction Emissions

	With APMs
	DPM
Year	**tons/year**
2023	0.00999
2024	0.01111
Total	**0.021**
Total Lbs	**42.200**
Lbs/hour	**0.021**

MEIR Risk	With APMs
Cancer (persons in a million)	**1.62**
Chronic	**0.0019**

Conversions:

1 ton =	2,000	lb			
Construction =	8	hours/day	Project Construction:	256	active days
	2080	hours/year		0.98	years
	260	days/year			
	12	months			

AERMOD Assumptions

Source Name	Description	No. of Vol. Sources	Emission Rate g/s	Release Height m	Plume Height m	Plume Width m
SLINE1	Off-Road Equipment and Trucks	440	1.00	5.00	10.00	10.00

Receptors

Grid Sizes	Spacing
Discrete	Nearest Sensitive Receptors

Meteorological Data

Station Name		Years	Lat	Long	Elev (m)
KWJF	GENERAL WILLIAM J. FOX AIRFIELD AIRPORT	2017-2021	34.741	-118.213	712.6

https://ww2.arb.ca.gov/resources/documents/harp-aermod-meteorological-files

Other Model Assumption

Rural or Urban	Rural
Urban Grp Pop	N/A
Terrain Data	NED 1
Lakes Version	11.2.0
AERMOD Version	22112

Lancaster 35th & W Ave H Warehouse Project - Construction HRA - Unmitigated Cancer Risk

*HARP - HRACalc v22118 5/16/2023 5:00:18 PM - Cancer Risk - Sorted Max to Min

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO	INH_RISK	SOIL_RISK	DERMAL_F	MMILK_RI	WATER_RI	FISH_RISK	CROP_RIS	BEEF_RISK	DAIRY_RIS	PIG_RISK	CHICKEN_F	EGG_RISK
2	ALL		390886.3	3842483	1.62E-06	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	1.62E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	ALL		390870.9	3842484	1.57E-06	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	1.57E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1	ALL		390852.6	3842484	1.48E-06	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	1.48E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	ALL		390857.4	3842460	1.07E-06	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	1.07E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	ALL		391716.2	3842215	1.81E-07	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	1.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
16	ALL		391414	3841457	4.93E-08	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	4.93E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	ALL		391330.1	3841455	4.90E-08	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	4.90E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	ALL		391493.7	3841455	4.88E-08	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	4.88E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6	ALL		391560.9	3841453	4.76E-08	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	4.76E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7	ALL		391558.8	3841409	4.55E-08	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	4.55E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	ALL		391405.6	3841382	4.47E-08	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	4.47E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13	ALL		391489.6	3841377	4.44E-08	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	4.44E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8	ALL		391556.7	3841348	4.26E-08	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	4.26E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15	ALL		391491.6	3841300	4.05E-08	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	4.05E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	ALL		391336.4	3841304	4.02E-08	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	4.02E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14	ALL		391405.6	3841293	4.01E-08	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	4.01E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9	ALL		391556.7	3841291	4.00E-08	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	4.00E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
21	ALL		389628.6	3840865	1.95E-08	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	1.95E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
20	ALL		389515.1	3840855	1.93E-08	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	1.93E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
19	ALL		389392.2	3840874	1.92E-08	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	1.92E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
18	ALL		389264.5	3840869	1.81E-08	0.98YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	1.81E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Lancaster 35th & W Ave H Warehouse Project - Construction HRA - Unmitigated Chronic Risk

*HARP - HRACalc v22118 5/16/2023 5:00:29 PM - Chronic Risk - Sorted Max to Min

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE	RESP	SKIN	EYE	BONE/TEE	ENDO	BLOOD	ODOR	GENERAL	MAXHI
2	ALL		390886.3	3842483	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.85E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.85E-03
4	ALL		390870.9	3842484	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.80E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.80E-03
1	ALL		390852.6	3842484	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.69E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.69E-03
3	ALL		390857.4	3842460	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.22E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.22E-03
5	ALL		391716.2	3842215	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.08E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.08E-04
16	ALL		391414	3841457	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.65E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.65E-05
10	ALL		391330.1	3841455	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.61E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.61E-05
17	ALL		391493.7	3841455	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.59E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.59E-05
6	ALL		391560.9	3841453	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.46E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.46E-05
7	ALL		391558.8	3841409	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.21E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.21E-05
12	ALL		391405.6	3841382	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.12E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.12E-05
13	ALL		391489.6	3841377	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.09E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.09E-05
8	ALL		391556.7	3841348	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.88E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.88E-05
15	ALL		391491.6	3841300	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.64E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.64E-05
11	ALL		391336.4	3841304	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.60E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.60E-05
14	ALL		391405.6	3841293	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.60E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.60E-05
9	ALL		391556.7	3841291	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.58E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.58E-05
21	ALL		389628.6	3840865	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.23E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.23E-05
20	ALL		389515.1	3840855	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.21E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.21E-05
19	ALL		389392.2	3840874	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.20E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.20E-05
18	ALL		389264.5	3840869	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.07E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.07E-05

Lancaster 35th St and Ave H Project
Operational HRA

Diesel Truck Travel and Idling (Line Volume Sources):

AERMOD Source Name	Description	Release Height (m)	Plume Height (m)	Plume Width (m)	Length of Source (m)	Distance (mi)	Avg. Daily Trips (trips/day)	Annual Trips (trips/year)	Modeled Annual VMT (VMT/year)	Idling Minutes per Day (min/day)	Running PM10 Exhaust (lb/mile)	Idling PM10 (g/min/vehicle)	DPM (lb/hr)	DPM (lb/yr)
TRUCK1	Trucks arriving/departing West (15%)	3.4	6.8	9.7	2,420.30	1.50	41.00	14,965.00	22,505.93	--	0.00004	--	0.0001	1.00
TRUCK2	Trucks arriving/departing East (85%)	3.4	6.8	9.7	3,920.50	2.44	231.00	84,315.00	205,398.57	--	0.00004	--	0.0010	9.17
ALLIDLE	Truck idling in loading docks	3.4	6.8	3.7	--	--	--	--	--				0.0009	7.59

Notes: For all trucks, release parameters based on EPA PM Hotspots Guidance (2021). Idling truck plume width assumes one loading bay/truck width.

MEIR Risk	Unmitigated
Cancer (persons in a million)	**1.09**
Chronic	**0.0003**

CalEEMod Results

Trucks	Exhaust PM10	
	0.0622766	TPY
	124.55	lb/yr
	2790760.8	VMT/yr
	4.46E-05	lb/mile

Conversions:

1 lb =	453.6	g
1 m =	3.28	feet
1 mile =	1609.344	m
1 yr =	8,760	hours

Lancaster 35th and H - Operational HRA - Unmitigated Cancer Risk

*HARP - HRACalc v22118 3/3/2023 1:39:54 PM - Cancer Risk - Sorted Max to Min

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO	INH_RISK	SOIL_RISK	DERMAL_	MMILK_RI	WATER_RI	FISH_RISK	CROP_RIS	BEEF_RISK	DAIRY_RIS	PIG_RISK	CHICKEN_	EGG_RISK
2	ALL		390886.3	3842483	1.09E-06	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	1.09E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	ALL		390870.9	3842484	1.06E-06	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	1.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1	ALL		390852.6	3842484	1.02E-06	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	1.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	ALL		390857.4	3842460	8.15E-07	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	8.15E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	ALL		391716.2	3842215	3.38E-07	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	3.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6	ALL		391560.9	3841453	8.86E-08	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	8.86E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	ALL		391493.7	3841455	8.76E-08	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	8.76E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
16	ALL		391414	3841457	8.59E-08	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	8.59E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7	ALL		391558.8	3841409	8.49E-08	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	8.49E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	ALL		391330.1	3841455	8.34E-08	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	8.34E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13	ALL		391489.6	3841377	8.10E-08	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	8.10E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8	ALL		391556.7	3841348	8.03E-08	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	8.03E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	ALL		391405.6	3841382	7.93E-08	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	7.93E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9	ALL		391556.7	3841291	7.63E-08	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	7.63E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15	ALL		391491.6	3841300	7.54E-08	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	7.54E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14	ALL		391405.6	3841293	7.28E-08	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	7.28E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	ALL		391336.4	3841304	7.18E-08	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	7.18E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
21	ALL		389628.6	3840865	3.14E-08	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	3.14E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
20	ALL		389515.1	3840855	3.03E-08	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	3.03E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
19	ALL		389392.2	3840874	2.94E-08	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	2.94E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
18	ALL		389264.5	3840869	2.78E-08	30YrCancerRMP_InhSoilDermMMilkCrops_FAH16to70	2.78E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Lancaster 35th and H - Operational HRA - Unmitigated Chronic Risk

*HARP - HRACalc v22118 3/3/2023 1:40:11 PM - Chronic Risk - Sorted Max to Min

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE	RESP	SKIN	EYE	BONE/TEE	ENDO	BLOOD	ODOR	GENERAL	MAXHI
2	ALL		390886.3	3842483	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.94E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.94E-04
4	ALL		390870.9	3842484	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.85E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.85E-04
1	ALL		390852.6	3842484	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.74E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.74E-04
3	ALL		390857.4	3842460	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.19E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.19E-04
5	ALL		391716.2	3842215	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.09E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.09E-05
6	ALL		391560.9	3841453	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.38E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.38E-05
17	ALL		391493.7	3841455	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.35E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.35E-05
16	ALL		391414	3841457	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.31E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.31E-05
7	ALL		391558.8	3841409	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.28E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.28E-05
10	ALL		391330.1	3841455	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.24E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.24E-05
13	ALL		391489.6	3841377	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.18E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.18E-05
8	ALL		391556.7	3841348	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.16E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.16E-05
12	ALL		391405.6	3841382	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.13E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.13E-05
9	ALL		391556.7	3841291	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.05E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.05E-05
15	ALL		391491.6	3841300	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.03E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.03E-05
14	ALL		391405.6	3841293	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.96E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.96E-05
11	ALL		391336.4	3841304	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.93E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.93E-05
21	ALL		389628.6	3840865	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.43E-06
20	ALL		389515.1	3840855	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.15E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.15E-06
19	ALL		389392.2	3840874	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.90E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.90E-06
18	ALL		389264.5	3840869	NonCancerChronicDerived_InhSoilDermMMilkCrops	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.48E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.48E-06

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** Lakes Environmental AERMOD MPI
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**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.2.0
** Lakes Environmental Software Inc.
** Date: 3/3/2023
** File: C:\Lakes\AERMOD View\Lancaster35th-H Const HRA\Lancaster35th-H Const
HRA.ADI
**
****************************************
**
**
****************************************
** AERMOD Control Pathway
****************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Lancaster35th-H Const HRA\Lancaster35th-H Const
   TITLETWO Lancaster 35th St/Ave H Construction HRA
   MODELOPT DFAULT CONC
   AVERTIME 1 PERIOD
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL "Lancaster35th-H Const HRA.err"
CO FINISHED
**
****************************************
** AERMOD Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC Off-road Equipment and Trucks
** PREFIX
** Length of Side = 10.00
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 10.00
** SZINIT = 4.65
** Nodes = 24
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** 390812.397, 3842529.836, 708.45, 0.00, 4.65
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** 390991.058, 3842525.302, 707.49, 0.00, 4.65
** 390990.151, 3842884.438, 707.73, 0.00, 4.65
** 390824.187, 3842888.972, 708.12, 0.00, 4.65
** 390823.531, 3842543.387, 708.48, 0.00, 4.65
** 390978.169, 3842540.766, 707.53, 0.00, 4.65
** 390977.514, 3842868.389, 707.76, 0.00, 4.65
** 390839.912, 3842869.699, 708.03, 0.00, 4.65
** 390838.602, 3842564.355, 708.12, 0.00, 4.65
** 390963.753, 3842561.734, 707.61, 0.00, 4.65
** 390962.443, 3842848.731, 707.85, 0.00, 4.65
** 390858.914, 3842850.042, 707.94, 0.00, 4.65
** 390855.638, 3842588.599, 707.80, 0.00, 4.65
** 390946.717, 3842587.288, 707.72, 0.00, 4.65
** 390944.096, 3842829.729, 707.84, 0.00, 4.65
** 390875.295, 3842831.695, 707.88, 0.00, 4.65
** 390873.985, 3842612.843, 707.81, 0.00, 4.65
** 390929.681, 3842610.877, 707.94, 0.00, 4.65
** 390929.025, 3842814.003, 707.78, 0.00, 4.65
** 390894.297, 3842814.003, 707.86, 0.00, 4.65
** 390894.297, 3842631.190, 707.97, 0.00, 4.65
** 390910.682, 3842631.736, 707.94, 0.00, 4.65
** 390910.679, 3842800.243, 707.87, 0.00, 4.65
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   LOCATION L0000849     VOLUME   390809.864 3842866.694 708.06
   LOCATION L0000850     VOLUME   390809.940 3842856.694 708.06
   LOCATION L0000851     VOLUME   390810.015 3842846.694 708.07
   LOCATION L0000852     VOLUME   390810.090 3842836.694 708.08
   LOCATION L0000853     VOLUME   390810.165 3842826.695 708.10
   LOCATION L0000854     VOLUME   390810.240 3842816.695 708.12
   LOCATION L0000855     VOLUME   390810.316 3842806.695 708.12
   LOCATION L0000856     VOLUME   390810.391 3842796.696 708.07
   LOCATION L0000857     VOLUME   390810.466 3842786.696 708.02
   LOCATION L0000858     VOLUME   390810.541 3842776.696 707.99
   LOCATION L0000859     VOLUME   390810.616 3842766.696 708.06
   LOCATION L0000860     VOLUME   390810.691 3842756.697 708.13
   LOCATION L0000861     VOLUME   390810.767 3842746.697 708.18
   LOCATION L0000862     VOLUME   390810.842 3842736.697 708.14
   LOCATION L0000863     VOLUME   390810.917 3842726.697 708.11
   LOCATION L0000864     VOLUME   390810.992 3842716.698 708.07
   LOCATION L0000865     VOLUME   390811.067 3842706.698 708.05
   LOCATION L0000866     VOLUME   390811.143 3842696.698 708.03
   LOCATION L0000867     VOLUME   390811.218 3842686.699 708.01
   LOCATION L0000868     VOLUME   390811.293 3842676.699 708.02
   LOCATION L0000869     VOLUME   390811.368 3842666.699 708.04
   LOCATION L0000870     VOLUME   390811.443 3842656.699 708.05
   LOCATION L0000871     VOLUME   390811.519 3842646.700 708.05
   LOCATION L0000872     VOLUME   390811.594 3842636.700 708.04
   LOCATION L0000873     VOLUME   390811.669 3842626.700 708.03
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LOCATION L0000876     VOLUME   390811.894 3842596.701 708.00
LOCATION L0000877     VOLUME   390811.970 3842586.701 708.00
LOCATION L0000878     VOLUME   390812.045 3842576.702 708.00
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LOCATION L0000880     VOLUME   390812.195 3842556.702 708.09
LOCATION L0000881     VOLUME   390812.270 3842546.703 708.23
LOCATION L0000882     VOLUME   390812.346 3842536.703 708.37
LOCATION L0000883     VOLUME   390815.530 3842529.757 708.48
LOCATION L0000884     VOLUME   390825.526 3842529.503 708.55
LOCATION L0000885     VOLUME   390835.523 3842529.250 708.19
LOCATION L0000886     VOLUME   390845.520 3842528.996 707.84
LOCATION L0000887     VOLUME   390855.517 3842528.742 707.83
LOCATION L0000888     VOLUME   390865.514 3842528.488 707.89
LOCATION L0000889     VOLUME   390875.510 3842528.235 707.91
LOCATION L0000890     VOLUME   390885.507 3842527.981 707.87
LOCATION L0000891     VOLUME   390895.504 3842527.727 707.82
LOCATION L0000892     VOLUME   390905.501 3842527.473 707.74
LOCATION L0000893     VOLUME   390915.497 3842527.220 707.65
LOCATION L0000894     VOLUME   390925.494 3842526.966 707.58
LOCATION L0000895     VOLUME   390935.491 3842526.712 707.60
LOCATION L0000896     VOLUME   390945.488 3842526.459 707.62
LOCATION L0000897     VOLUME   390955.485 3842526.205 707.60
LOCATION L0000898     VOLUME   390965.481 3842525.951 707.56
LOCATION L0000899     VOLUME   390975.478 3842525.697 707.53
LOCATION L0000900     VOLUME   390985.475 3842525.444 707.51
LOCATION L0000901     VOLUME   390991.047 3842529.717 707.52
LOCATION L0000902     VOLUME   390991.022 3842539.717 707.56
LOCATION L0000903     VOLUME   390990.996 3842549.717 707.59
LOCATION L0000904     VOLUME   390990.971 3842559.717 707.63
LOCATION L0000905     VOLUME   390990.946 3842569.717 707.75
LOCATION L0000906     VOLUME   390990.921 3842579.717 707.87
LOCATION L0000907     VOLUME   390990.895 3842589.717 708.00
LOCATION L0000908     VOLUME   390990.870 3842599.717 707.94
LOCATION L0000909     VOLUME   390990.845 3842609.717 707.82
LOCATION L0000910     VOLUME   390990.820 3842619.717 707.71
LOCATION L0000911     VOLUME   390990.794 3842629.717 707.68
LOCATION L0000912     VOLUME   390990.769 3842639.717 707.69
LOCATION L0000913     VOLUME   390990.744 3842649.717 707.70
LOCATION L0000914     VOLUME   390990.719 3842659.717 707.69
LOCATION L0000915     VOLUME   390990.693 3842669.717 707.66
LOCATION L0000916     VOLUME   390990.668 3842679.716 707.64
LOCATION L0000917     VOLUME   390990.643 3842689.716 707.64
LOCATION L0000918     VOLUME   390990.618 3842699.716 707.66
LOCATION L0000919     VOLUME   390990.592 3842709.716 707.68
LOCATION L0000920     VOLUME   390990.567 3842719.716 707.72
LOCATION L0000921     VOLUME   390990.542 3842729.716 707.79
LOCATION L0000922     VOLUME   390990.517 3842739.716 707.86
LOCATION L0000923     VOLUME   390990.491 3842749.716 707.89
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LOCATION L0000924     VOLUME   390990.466 3842759.716 707.86
LOCATION L0000925     VOLUME   390990.441 3842769.716 707.84
LOCATION L0000926     VOLUME   390990.416 3842779.716 707.81
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LOCATION L0000929     VOLUME   390990.340 3842809.716 707.71
LOCATION L0000930     VOLUME   390990.315 3842819.716 707.77
LOCATION L0000931     VOLUME   390990.289 3842829.716 707.83
LOCATION L0000932     VOLUME   390990.264 3842839.716 707.88
LOCATION L0000933     VOLUME   390990.239 3842849.716 707.83
LOCATION L0000934     VOLUME   390990.214 3842859.716 707.78
LOCATION L0000935     VOLUME   390990.188 3842869.716 707.73
LOCATION L0000936     VOLUME   390990.163 3842879.716 707.73
LOCATION L0000937     VOLUME   390984.875 3842884.582 707.73
LOCATION L0000938     VOLUME   390974.879 3842884.855 707.75
LOCATION L0000939     VOLUME   390964.882 3842885.128 707.79
LOCATION L0000940     VOLUME   390954.886 3842885.401 707.83
LOCATION L0000941     VOLUME   390944.890 3842885.674 707.88
LOCATION L0000942     VOLUME   390934.894 3842885.947 707.94
LOCATION L0000943     VOLUME   390924.897 3842886.220 707.98
LOCATION L0000944     VOLUME   390914.901 3842886.494 707.98
LOCATION L0000945     VOLUME   390904.905 3842886.767 707.99
LOCATION L0000946     VOLUME   390894.908 3842887.040 707.98
LOCATION L0000947     VOLUME   390884.912 3842887.313 707.97
LOCATION L0000948     VOLUME   390874.916 3842887.586 707.96
LOCATION L0000949     VOLUME   390864.920 3842887.859 707.99
LOCATION L0000950     VOLUME   390854.923 3842888.132 708.02
LOCATION L0000951     VOLUME   390844.927 3842888.405 708.05
LOCATION L0000952     VOLUME   390834.931 3842888.679 708.07
LOCATION L0000953     VOLUME   390824.935 3842888.952 708.10
LOCATION L0000954     VOLUME   390824.169 3842879.720 708.07
LOCATION L0000955     VOLUME   390824.150 3842869.720 708.03
LOCATION L0000956     VOLUME   390824.131 3842859.720 708.03
LOCATION L0000957     VOLUME   390824.112 3842849.720 708.03
LOCATION L0000958     VOLUME   390824.093 3842839.720 708.02
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LOCATION L0000961     VOLUME   390824.037 3842809.720 707.98
LOCATION L0000962     VOLUME   390824.018 3842799.720 707.95
LOCATION L0000963     VOLUME   390823.999 3842789.720 707.93
LOCATION L0000964     VOLUME   390823.980 3842779.720 707.91
LOCATION L0000965     VOLUME   390823.961 3842769.720 707.96
LOCATION L0000966     VOLUME   390823.942 3842759.720 708.03
LOCATION L0000967     VOLUME   390823.923 3842749.720 708.10
LOCATION L0000968     VOLUME   390823.904 3842739.720 708.09
LOCATION L0000969     VOLUME   390823.885 3842729.720 708.06
LOCATION L0000970     VOLUME   390823.866 3842719.720 708.04
LOCATION L0000971     VOLUME   390823.847 3842709.720 708.03
LOCATION L0000972     VOLUME   390823.828 3842699.720 708.02
LOCATION L0000973     VOLUME   390823.809 3842689.720 708.02
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LOCATION L0000975     VOLUME   390823.771 3842669.720 708.02
LOCATION L0000976     VOLUME   390823.752 3842659.720 708.02
LOCATION L0000977     VOLUME   390823.733 3842649.720 708.00
LOCATION L0000978     VOLUME   390823.714 3842639.720 707.97
LOCATION L0000979     VOLUME   390823.695 3842629.720 707.94
LOCATION L0000980     VOLUME   390823.676 3842619.720 707.91
LOCATION L0000981     VOLUME   390823.657 3842609.720 707.89
LOCATION L0000982     VOLUME   390823.638 3842599.720 707.87
LOCATION L0000983     VOLUME   390823.619 3842589.720 707.87
LOCATION L0000984     VOLUME   390823.600 3842579.720 707.89
LOCATION L0000985     VOLUME   390823.581 3842569.721 707.92
LOCATION L0000986     VOLUME   390823.562 3842559.721 708.02
LOCATION L0000987     VOLUME   390823.543 3842549.721 708.27
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LOCATION L0000989     VOLUME   390837.195 3842543.155 708.16
LOCATION L0000990     VOLUME   390847.194 3842542.986 707.95
LOCATION L0000991     VOLUME   390857.192 3842542.816 707.93
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LOCATION L0000994     VOLUME   390887.188 3842542.308 707.84
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LOCATION L0000996     VOLUME   390907.185 3842541.969 707.72
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LOCATION L0001001     VOLUME   390957.178 3842541.122 707.62
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LOCATION L0001015     VOLUME   390977.931 3842659.772 707.74
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LOCATION L0001022     VOLUME   390977.791 3842729.772 707.82
LOCATION L0001023     VOLUME   390977.771 3842739.772 707.88
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LOCATION L0001045     VOLUME   390886.135 3842869.259 707.93
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LOCATION L0001065     VOLUME   390839.252 3842715.926 708.04
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LOCATION L0001071     VOLUME   390838.995 3842655.926 707.97
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LOCATION L0001073     VOLUME   390838.909 3842635.926 707.92
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LOCATION L0001222     VOLUME   390893.991 3842612.137 707.89
LOCATION L0001223     VOLUME   390903.985 3842611.784 707.91
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LOCATION L0001273     VOLUME   390910.681 3842668.962 707.85
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   LOCATION L0001283     VOLUME   390910.679 3842768.962 708.01
   LOCATION L0001284     VOLUME   390910.679 3842778.962 708.04
   LOCATION L0001285     VOLUME   390910.679 3842788.962 707.96
   LOCATION L0001286     VOLUME   390910.679 3842798.962 707.88
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** Source Parameters **
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SRCPARAM L0001280     0.0022727273      0.00      4.65      4.65
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   SRCPARAM L0001286     0.0022727273      0.00      4.65      4.65
** ------------------------------------------------------------------------
   SRCGROUP ALL
SO FINISHED
**
****************************************
** AERMOD Receptor Pathway
****************************************
**
**
RE STARTING
   INCLUDED "Lancaster35th-H Const HRA.rou"
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
   SURFFILE KWJF_723816_03159\KWJF_723816_03159\723816_2017-2021_AdjU.sfc
   PROFFILE KWJF_723816_03159\KWJF_723816_03159\723816_2017-2021_AdjU.PFL
   SURFDATA 3159 2017
   UAIRDATA 93214 2017
   PROFBASE 712.6 METERS
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "Lancaster35th-H Const HRA.AD\01H1GALL.PLT" 31
   PLOTFILE PERIOD ALL "Lancaster35th-H Const HRA.AD\PE00GALL.PLT" 32
   SUMMFILE "Lancaster35th-H Const HRA.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------
```

```
 A Total of           0 Fatal Error Message(s)
 A Total of           2 Warning Message(s)
 A Total of           0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     979       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
     0.50
 ME W187     979       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Construction HRA
                       ***        12:33:55

                                  PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                                            ***     MODEL SETUP OPTIONS SUMMARY
 ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
      * Model Uses RURAL Dispersion Only.
      * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
      * CCVR_Sub - Meteorological data includes CCVR substitutions
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Assumes No FLAGPOLE Receptor Heights.
```

```
      * The User Specified a Pollutant Type of: PM_10

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates PERIOD Averages

 **This Run Includes:    440 Source(s);       1 Source Group(s); and      21
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:    440 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                 and:      0 SWPOINT source(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  21112

 **Output Options Selected:
          Model Outputs Tables of PERIOD Averages by Receptor
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing Hours
                                                                 b for Both Calm and
Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =   712.60 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                                ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.7 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out
```

```
 **Detailed Error/Message File:   Lancaster35th-H Const HRA.err

 **File for Summary of Results:   Lancaster35th-H Const HRA.sum

↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Construction HRA
                       ***        12:33:55

                                  PAGE   2
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*


                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.              (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

 L0000847         0   0.22727E-02  390809.7 3842886.7   708.2     0.00     4.65
4.65     NO
 L0000848         0   0.22727E-02  390809.8 3842876.7   708.1     0.00     4.65
4.65     NO
 L0000849         0   0.22727E-02  390809.9 3842866.7   708.1     0.00     4.65
4.65     NO
 L0000850         0   0.22727E-02  390809.9 3842856.7   708.1     0.00     4.65
4.65     NO
 L0000851         0   0.22727E-02  390810.0 3842846.7   708.1     0.00     4.65
4.65     NO
 L0000852         0   0.22727E-02  390810.1 3842836.7   708.1     0.00     4.65
4.65     NO
 L0000853         0   0.22727E-02  390810.2 3842826.7   708.1     0.00     4.65
4.65     NO
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4.65     NO
 L0000855         0   0.22727E-02  390810.3 3842806.7   708.1     0.00     4.65
4.65     NO
 L0000856         0   0.22727E-02  390810.4 3842796.7   708.1     0.00     4.65
4.65     NO
 L0000857         0   0.22727E-02  390810.5 3842786.7   708.0     0.00     4.65
4.65     NO
 L0000858         0   0.22727E-02  390810.5 3842776.7   708.0     0.00     4.65
4.65     NO
 L0000859         0   0.22727E-02  390810.6 3842766.7   708.1     0.00     4.65
4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
 L0000884         0   0.22727E-02  390825.5 3842529.5   708.5     0.00     4.65
4.65     NO
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4.65     NO
 L0000886         0   0.22727E-02  390845.5 3842529.0   707.8     0.00     4.65
4.65     NO
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Construction HRA
                       ***        12:33:55

                                  PAGE   3
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*


                                                          *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X         Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.              (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

 L0000887         0   0.22727E-02  390855.5 3842528.7   707.8     0.00     4.65
4.65     NO
 L0000888         0   0.22727E-02  390865.5 3842528.5   707.9     0.00     4.65
4.65     NO
 L0000889         0   0.22727E-02  390875.5 3842528.2   707.9     0.00     4.65
4.65     NO
 L0000890         0   0.22727E-02  390885.5 3842528.0   707.9     0.00     4.65
4.65     NO
 L0000891         0   0.22727E-02  390895.5 3842527.7   707.8     0.00     4.65
4.65     NO
 L0000892         0   0.22727E-02  390905.5 3842527.5   707.7     0.00     4.65
4.65     NO
 L0000893         0   0.22727E-02  390915.5 3842527.2   707.6     0.00     4.65
4.65     NO
 L0000894         0   0.22727E-02  390925.5 3842527.0   707.6     0.00     4.65
4.65     NO
 L0000895         0   0.22727E-02  390935.5 3842526.7   707.6     0.00     4.65
4.65     NO
 L0000896         0   0.22727E-02  390945.5 3842526.5   707.6     0.00     4.65
4.65     NO
 L0000897         0   0.22727E-02  390955.5 3842526.2   707.6     0.00     4.65
4.65     NO
 L0000898         0   0.22727E-02  390965.5 3842526.0   707.6     0.00     4.65
4.65     NO
 L0000899         0   0.22727E-02  390975.5 3842525.7   707.5     0.00     4.65
4.65     NO
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4.65     NO
 L0000901         0   0.22727E-02  390991.0 3842529.7   707.5     0.00     4.65
4.65     NO
 L0000902         0   0.22727E-02  390991.0 3842539.7   707.6     0.00     4.65
4.65     NO
 L0000903         0   0.22727E-02  390991.0 3842549.7   707.6     0.00     4.65
4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
 L0000907         0   0.22727E-02  390990.9 3842589.7   708.0     0.00     4.65
4.65     NO
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4.65     NO
 L0000909         0   0.22727E-02  390990.8 3842609.7   707.8     0.00     4.65
4.65     NO
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4.65     NO
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4.65     NO
 L0000912         0   0.22727E-02  390990.8 3842639.7   707.7     0.00     4.65
4.65     NO
 L0000913         0   0.22727E-02  390990.7 3842649.7   707.7     0.00     4.65
4.65     NO
 L0000914         0   0.22727E-02  390990.7 3842659.7   707.7     0.00     4.65
4.65     NO
 L0000915         0   0.22727E-02  390990.7 3842669.7   707.7     0.00     4.65
4.65     NO
 L0000916         0   0.22727E-02  390990.7 3842679.7   707.6     0.00     4.65
4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
 L0000920         0   0.22727E-02  390990.6 3842719.7   707.7     0.00     4.65
4.65     NO
 L0000921         0   0.22727E-02  390990.5 3842729.7   707.8     0.00     4.65
4.65     NO
 L0000922         0   0.22727E-02  390990.5 3842739.7   707.9     0.00     4.65
4.65     NO
 L0000923         0   0.22727E-02  390990.5 3842749.7   707.9     0.00     4.65
4.65     NO
 L0000924         0   0.22727E-02  390990.5 3842759.7   707.9     0.00     4.65
4.65     NO
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4.65     NO
 L0000926         0   0.22727E-02  390990.4 3842779.7   707.8     0.00     4.65
4.65     NO
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Construction HRA
                       ***        12:33:55

                                  PAGE   4
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*


                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X         Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.              (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - -

 L0000927         0   0.22727E-02  390990.4 3842789.7   707.8     0.00     4.65
4.65     NO
 L0000928         0   0.22727E-02  390990.4 3842799.7   707.7     0.00     4.65
4.65     NO
 L0000929         0   0.22727E-02  390990.3 3842809.7   707.7     0.00     4.65
4.65     NO
 L0000930         0   0.22727E-02  390990.3 3842819.7   707.8     0.00     4.65
4.65     NO
 L0000931         0   0.22727E-02  390990.3 3842829.7   707.8     0.00     4.65
4.65     NO
 L0000932         0   0.22727E-02  390990.3 3842839.7   707.9     0.00     4.65
4.65     NO
 L0000933         0   0.22727E-02  390990.2 3842849.7   707.8     0.00     4.65
4.65     NO
 L0000934         0   0.22727E-02  390990.2 3842859.7   707.8     0.00     4.65
4.65     NO
 L0000935         0   0.22727E-02  390990.2 3842869.7   707.7     0.00     4.65
4.65     NO
 L0000936         0   0.22727E-02  390990.2 3842879.7   707.7     0.00     4.65
4.65     NO
 L0000937         0   0.22727E-02  390984.9 3842884.6   707.7     0.00     4.65
4.65     NO
 L0000938         0   0.22727E-02  390974.9 3842884.9   707.8     0.00     4.65
4.65     NO
 L0000939         0   0.22727E-02  390964.9 3842885.1   707.8     0.00     4.65
4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
 L0000945          0   0.22727E-02  390904.9 3842886.8   708.0     0.00     4.65
4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
 L0000955          0   0.22727E-02  390824.1 3842869.7   708.0     0.00     4.65
4.65     NO
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4.65     NO
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4.65     NO
 L0000958          0   0.22727E-02  390824.1 3842839.7   708.0     0.00     4.65
4.65     NO
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4.65     NO
 L0000960          0   0.22727E-02  390824.1 3842819.7   708.0     0.00     4.65
4.65     NO
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4.65     NO
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4.65     NO
 L0000963          0   0.22727E-02  390824.0 3842789.7   707.9     0.00     4.65
4.65     NO
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4.65     NO
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4.65     NO
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Construction HRA
                       ***        12:33:55

                                  PAGE   5
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*


                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - -

 L0000967         0   0.22727E-02  390823.9 3842749.7   708.1     0.00     4.65
4.65     NO
 L0000968         0   0.22727E-02  390823.9 3842739.7   708.1     0.00     4.65
4.65     NO
 L0000969         0   0.22727E-02  390823.9 3842729.7   708.1     0.00     4.65
4.65     NO
 L0000970         0   0.22727E-02  390823.9 3842719.7   708.0     0.00     4.65
4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
 L0000976         0   0.22727E-02  390823.8 3842659.7   708.0     0.00     4.65
4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
 L0000984          0   0.22727E-02  390823.6 3842579.7   707.9      0.00     4.65
4.65     NO
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4.65     NO
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4.65     NO
 L0000987          0   0.22727E-02  390823.5 3842549.7   708.3      0.00     4.65
4.65     NO
 L0000988          0   0.22727E-02  390827.2 3842543.3   708.4      0.00     4.65
4.65     NO
 L0000989          0   0.22727E-02  390837.2 3842543.2   708.2      0.00     4.65
4.65     NO
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4.65     NO
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4.65     NO
 L0000992          0   0.22727E-02  390867.2 3842542.6   707.9      0.00     4.65
4.65     NO
 L0000993          0   0.22727E-02  390877.2 3842542.5   707.9      0.00     4.65
4.65     NO
 L0000994          0   0.22727E-02  390887.2 3842542.3   707.8      0.00     4.65
4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
 L0001000          0   0.22727E-02  390947.2 3842541.3   707.6      0.00     4.65
4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Construction HRA
                       ***        12:33:55

                                  PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*


                                                          *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X         Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.              (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - -

 L0001007         0   0.22727E-02  390978.1 3842579.8   707.8     0.00     4.65
4.65     NO
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4.65     NO
 L0001009         0   0.22727E-02  390978.1 3842599.8   707.9     0.00     4.65
4.65     NO
 L0001010         0   0.22727E-02  390978.0 3842609.8   707.8     0.00     4.65
4.65     NO
 L0001011         0   0.22727E-02  390978.0 3842619.8   707.8     0.00     4.65
4.65     NO
 L0001012         0   0.22727E-02  390978.0 3842629.8   707.8     0.00     4.65
4.65     NO
 L0001013         0   0.22727E-02  390978.0 3842639.8   707.8     0.00     4.65
4.65     NO
 L0001014         0   0.22727E-02  390978.0 3842649.8   707.8     0.00     4.65
4.65     NO
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4.65     NO
 L0001016         0   0.22727E-02  390977.9 3842669.8   707.7     0.00     4.65
4.65     NO
 L0001017         0   0.22727E-02  390977.9 3842679.8   707.7     0.00     4.65
4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
 L0001022         0   0.22727E-02  390977.8 3842729.8   707.8     0.00     4.65
4.65     NO
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 L0001024         0   0.22727E-02  390977.8 3842749.8   707.9     0.00     4.65
4.65     NO
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4.65     NO
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4.65     NO
 L0001027         0   0.22727E-02  390977.7 3842779.8   707.9     0.00     4.65
4.65     NO
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4.65     NO
 L0001029         0   0.22727E-02  390977.7 3842799.8   707.8     0.00     4.65
4.65     NO
 L0001030         0   0.22727E-02  390977.6 3842809.8   707.7     0.00     4.65
4.65     NO
 L0001031         0   0.22727E-02  390977.6 3842819.8   707.8     0.00     4.65
4.65     NO
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4.65     NO
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4.65     NO
 L0001034         0   0.22727E-02  390977.6 3842849.8   707.8     0.00     4.65
4.65     NO
 L0001035         0   0.22727E-02  390977.5 3842859.8   707.8     0.00     4.65
4.65     NO
 L0001036         0   0.22727E-02  390976.1 3842868.4   707.8     0.00     4.65
4.65     NO
 L0001037         0   0.22727E-02  390966.1 3842868.5   707.8     0.00     4.65
4.65     NO
 L0001038         0   0.22727E-02  390956.1 3842868.6   707.8     0.00     4.65
4.65     NO
 L0001039         0   0.22727E-02  390946.1 3842868.7   707.9     0.00     4.65
4.65     NO
 L0001040         0   0.22727E-02  390936.1 3842868.8   707.9     0.00     4.65
4.65     NO
 L0001041         0   0.22727E-02  390926.1 3842868.9   708.0     0.00     4.65
4.65     NO
 L0001042         0   0.22727E-02  390916.1 3842869.0   708.0     0.00     4.65
4.65     NO
 L0001043         0   0.22727E-02  390906.1 3842869.1   708.0     0.00     4.65
4.65     NO
 L0001044         0   0.22727E-02  390896.1 3842869.2   708.0     0.00     4.65
4.65     NO
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 L0001045         0   0.22727E-02  390886.1 3842869.3   707.9     0.00     4.65
4.65     NO
 L0001046         0   0.22727E-02  390876.1 3842869.4   707.9     0.00     4.65
4.65     NO
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***       03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Construction HRA
                       ***        12:33:55

                                  PAGE   7
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*


                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X         Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

 L0001047         0   0.22727E-02  390866.1 3842869.4   707.9     0.00     4.65
4.65     NO
 L0001048         0   0.22727E-02  390856.1 3842869.5   708.0     0.00     4.65
4.65     NO
 L0001049         0   0.22727E-02  390846.1 3842869.6   708.0     0.00     4.65
4.65     NO
 L0001050         0   0.22727E-02  390839.9 3842865.9   708.0     0.00     4.65
4.65     NO
 L0001051         0   0.22727E-02  390839.9 3842855.9   708.0     0.00     4.65
4.65     NO
 L0001052         0   0.22727E-02  390839.8 3842845.9   708.0     0.00     4.65
4.65     NO
 L0001053         0   0.22727E-02  390839.8 3842835.9   708.0     0.00     4.65
4.65     NO
 L0001054         0   0.22727E-02  390839.7 3842825.9   707.9     0.00     4.65
4.65     NO
 L0001055         0   0.22727E-02  390839.7 3842815.9   707.9     0.00     4.65
4.65     NO
 L0001056         0   0.22727E-02  390839.6 3842805.9   707.9     0.00     4.65
4.65     NO
 L0001057         0   0.22727E-02  390839.6 3842795.9   707.9     0.00     4.65
4.65     NO
 L0001058         0   0.22727E-02  390839.6 3842785.9   707.9     0.00     4.65
4.65     NO
 L0001059         0   0.22727E-02  390839.5 3842775.9   707.9     0.00     4.65
4.65     NO
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4.65     NO
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4.65     NO
 L0001062         0   0.22727E-02  390839.4 3842745.9   708.0     0.00     4.65
4.65     NO
 L0001063         0   0.22727E-02  390839.3 3842735.9   708.0     0.00     4.65
4.65     NO
 L0001064         0   0.22727E-02  390839.3 3842725.9   708.0     0.00     4.65
4.65     NO
 L0001065         0   0.22727E-02  390839.3 3842715.9   708.0     0.00     4.65
4.65     NO
 L0001066         0   0.22727E-02  390839.2 3842705.9   708.0     0.00     4.65
4.65     NO
 L0001067         0   0.22727E-02  390839.2 3842695.9   708.0     0.00     4.65
4.65     NO
 L0001068         0   0.22727E-02  390839.1 3842685.9   707.9     0.00     4.65
4.65     NO
 L0001069         0   0.22727E-02  390839.1 3842675.9   707.9     0.00     4.65
4.65     NO
 L0001070         0   0.22727E-02  390839.0 3842665.9   708.0     0.00     4.65
4.65     NO
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4.65     NO
 L0001072         0   0.22727E-02  390839.0 3842645.9   707.9     0.00     4.65
4.65     NO
 L0001073         0   0.22727E-02  390838.9 3842635.9   707.9     0.00     4.65
4.65     NO
 L0001074         0   0.22727E-02  390838.9 3842625.9   707.9     0.00     4.65
4.65     NO
 L0001075         0   0.22727E-02  390838.8 3842615.9   707.9     0.00     4.65
4.65     NO
 L0001076         0   0.22727E-02  390838.8 3842605.9   707.8     0.00     4.65
4.65     NO
 L0001077         0   0.22727E-02  390838.7 3842595.9   707.8     0.00     4.65
4.65     NO
 L0001078         0   0.22727E-02  390838.7 3842585.9   707.9     0.00     4.65
4.65     NO
 L0001079         0   0.22727E-02  390838.7 3842575.9   708.0     0.00     4.65
4.65     NO
 L0001080         0   0.22727E-02  390838.6 3842565.9   708.1     0.00     4.65
4.65     NO
 L0001081         0   0.22727E-02  390847.0 3842564.2   708.2     0.00     4.65
4.65     NO
 L0001082         0   0.22727E-02  390857.0 3842564.0   708.0     0.00     4.65
4.65     NO
 L0001083         0   0.22727E-02  390867.0 3842563.8   707.9     0.00     4.65
4.65     NO
 L0001084         0   0.22727E-02  390877.0 3842563.5   707.8     0.00     4.65
4.65     NO
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 L0001085         0   0.22727E-02  390887.0 3842563.3   707.7     0.00     4.65
4.65     NO
 L0001086         0   0.22727E-02  390897.0 3842563.1   707.7     0.00     4.65
4.65     NO
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***       03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Construction HRA
                       ***        12:33:55

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*


                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.              (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

 L0001087         0   0.22727E-02  390907.0 3842562.9   707.6     0.00     4.65
4.65     NO
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4.65     NO
 L0001089         0   0.22727E-02  390927.0 3842562.5   707.6     0.00     4.65
4.65     NO
 L0001090         0   0.22727E-02  390937.0 3842562.3   707.6     0.00     4.65
4.65     NO
 L0001091         0   0.22727E-02  390947.0 3842562.1   707.6     0.00     4.65
4.65     NO
 L0001092         0   0.22727E-02  390957.0 3842561.9   707.6     0.00     4.65
4.65     NO
 L0001093         0   0.22727E-02  390963.7 3842565.0   707.6     0.00     4.65
4.65     NO
 L0001094         0   0.22727E-02  390963.7 3842575.0   707.7     0.00     4.65
4.65     NO
 L0001095         0   0.22727E-02  390963.6 3842585.0   707.8     0.00     4.65
4.65     NO
 L0001096         0   0.22727E-02  390963.6 3842595.0   707.8     0.00     4.65
4.65     NO
 L0001097         0   0.22727E-02  390963.6 3842605.0   707.8     0.00     4.65
4.65     NO
 L0001098         0   0.22727E-02  390963.5 3842615.0   707.9     0.00     4.65
4.65     NO
 L0001099         0   0.22727E-02  390963.5 3842625.0   707.9     0.00     4.65
4.65     NO
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4.65     NO
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4.65     NO
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4.65     NO
 L0001103         0   0.22727E-02  390963.3 3842665.0   707.8     0.00     4.65
4.65     NO
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4.65     NO
 L0001105         0   0.22727E-02  390963.2 3842685.0   707.7     0.00     4.65
4.65     NO
 L0001106         0   0.22727E-02  390963.1 3842695.0   707.8     0.00     4.65
4.65     NO
 L0001107         0   0.22727E-02  390963.1 3842705.0   707.8     0.00     4.65
4.65     NO
 L0001108         0   0.22727E-02  390963.1 3842715.0   707.8     0.00     4.65
4.65     NO
 L0001109         0   0.22727E-02  390963.0 3842725.0   707.8     0.00     4.65
4.65     NO
 L0001110         0   0.22727E-02  390963.0 3842735.0   707.8     0.00     4.65
4.65     NO
 L0001111         0   0.22727E-02  390962.9 3842745.0   707.8     0.00     4.65
4.65     NO
 L0001112         0   0.22727E-02  390962.9 3842755.0   707.9     0.00     4.65
4.65     NO
 L0001113         0   0.22727E-02  390962.8 3842765.0   707.9     0.00     4.65
4.65     NO
 L0001114         0   0.22727E-02  390962.8 3842775.0   707.9     0.00     4.65
4.65     NO
 L0001115         0   0.22727E-02  390962.7 3842785.0   707.9     0.00     4.65
4.65     NO
 L0001116         0   0.22727E-02  390962.7 3842795.0   707.9     0.00     4.65
4.65     NO
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4.65     NO
 L0001118         0   0.22727E-02  390962.6 3842815.0   707.8     0.00     4.65
4.65     NO
 L0001119         0   0.22727E-02  390962.6 3842825.0   707.8     0.00     4.65
4.65     NO
 L0001120         0   0.22727E-02  390962.5 3842835.0   707.8     0.00     4.65
4.65     NO
 L0001121         0   0.22727E-02  390962.5 3842845.0   707.8     0.00     4.65
4.65     NO
 L0001122         0   0.22727E-02  390956.2 3842848.8   707.8     0.00     4.65
4.65     NO
 L0001123         0   0.22727E-02  390946.2 3842848.9   707.9     0.00     4.65
4.65     NO
 L0001124         0   0.22727E-02  390936.2 3842849.1   707.9     0.00     4.65
4.65     NO
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4.65     NO
 L0001126         0   0.22727E-02  390916.2 3842849.3   707.9     0.00     4.65
4.65     NO
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Construction HRA
                       ***        12:33:55

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*


                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.              (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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 L0001127         0   0.22727E-02  390906.2 3842849.4   707.9     0.00     4.65
4.65     NO
 L0001128         0   0.22727E-02  390896.2 3842849.6   707.9     0.00     4.65
4.65     NO
 L0001129         0   0.22727E-02  390886.2 3842849.7   707.9     0.00     4.65
4.65     NO
 L0001130         0   0.22727E-02  390876.2 3842849.8   707.9     0.00     4.65
4.65     NO
 L0001131         0   0.22727E-02  390866.2 3842849.9   707.9     0.00     4.65
4.65     NO
 L0001132         0   0.22727E-02  390858.9 3842847.3   707.9     0.00     4.65
4.65     NO
 L0001133         0   0.22727E-02  390858.8 3842837.3   707.9     0.00     4.65
4.65     NO
 L0001134         0   0.22727E-02  390858.6 3842827.3   707.9     0.00     4.65
4.65     NO
 L0001135         0   0.22727E-02  390858.5 3842817.3   707.9     0.00     4.65
4.65     NO
 L0001136         0   0.22727E-02  390858.4 3842807.3   707.9     0.00     4.65
4.65     NO
 L0001137         0   0.22727E-02  390858.3 3842797.3   707.9     0.00     4.65
4.65     NO
 L0001138         0   0.22727E-02  390858.1 3842787.3   708.0     0.00     4.65
4.65     NO
 L0001139         0   0.22727E-02  390858.0 3842777.3   708.0     0.00     4.65
4.65     NO
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 L0001140          0   0.22727E-02  390857.9 3842767.3   708.0      0.00      4.65
4.65     NO
 L0001141          0   0.22727E-02  390857.8 3842757.3   708.0      0.00      4.65
4.65     NO
 L0001142          0   0.22727E-02  390857.6 3842747.3   707.9      0.00      4.65
4.65     NO
 L0001143          0   0.22727E-02  390857.5 3842737.3   708.0      0.00      4.65
4.65     NO
 L0001144          0   0.22727E-02  390857.4 3842727.3   708.0      0.00      4.65
4.65     NO
 L0001145          0   0.22727E-02  390857.3 3842717.3   708.1      0.00      4.65
4.65     NO
 L0001146          0   0.22727E-02  390857.1 3842707.3   708.0      0.00      4.65
4.65     NO
 L0001147          0   0.22727E-02  390857.0 3842697.3   708.0      0.00      4.65
4.65     NO
 L0001148          0   0.22727E-02  390856.9 3842687.3   707.9      0.00      4.65
4.65     NO
 L0001149          0   0.22727E-02  390856.8 3842677.3   707.9      0.00      4.65
4.65     NO
 L0001150          0   0.22727E-02  390856.6 3842667.3   707.9      0.00      4.65
4.65     NO
 L0001151          0   0.22727E-02  390856.5 3842657.3   707.9      0.00      4.65
4.65     NO
 L0001152          0   0.22727E-02  390856.4 3842647.3   707.9      0.00      4.65
4.65     NO
 L0001153          0   0.22727E-02  390856.2 3842637.3   707.9      0.00      4.65
4.65     NO
 L0001154          0   0.22727E-02  390856.1 3842627.3   707.8      0.00      4.65
4.65     NO
 L0001155          0   0.22727E-02  390856.0 3842617.3   707.8      0.00      4.65
4.65     NO
 L0001156          0   0.22727E-02  390855.9 3842607.3   707.8      0.00      4.65
4.65     NO
 L0001157          0   0.22727E-02  390855.7 3842597.4   707.8      0.00      4.65
4.65     NO
 L0001158          0   0.22727E-02  390856.9 3842588.6   707.8      0.00      4.65
4.65     NO
 L0001159          0   0.22727E-02  390866.9 3842588.4   707.8      0.00      4.65
4.65     NO
 L0001160          0   0.22727E-02  390876.9 3842588.3   707.8      0.00      4.65
4.65     NO
 L0001161          0   0.22727E-02  390886.9 3842588.1   707.8      0.00      4.65
4.65     NO
 L0001162          0   0.22727E-02  390896.9 3842588.0   707.8      0.00      4.65
4.65     NO
 L0001163          0   0.22727E-02  390906.9 3842587.9   707.7      0.00      4.65
4.65     NO
 L0001164          0   0.22727E-02  390916.9 3842587.7   707.7      0.00      4.65
4.65     NO
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4.65     NO
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4.65     NO
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                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X         Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.              (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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 L0001167         0   0.22727E-02  390946.7 3842587.4   707.7     0.00     4.65
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4.65     NO
 L0001169         0   0.22727E-02  390946.5 3842607.4   707.8     0.00     4.65
4.65     NO
 L0001170         0   0.22727E-02  390946.4 3842617.4   707.9     0.00     4.65
4.65     NO
 L0001171         0   0.22727E-02  390946.3 3842627.4   707.9     0.00     4.65
4.65     NO
 L0001172         0   0.22727E-02  390946.2 3842637.4   707.9     0.00     4.65
4.65     NO
 L0001173         0   0.22727E-02  390946.1 3842647.4   707.9     0.00     4.65
4.65     NO
 L0001174         0   0.22727E-02  390946.0 3842657.4   707.8     0.00     4.65
4.65     NO
 L0001175         0   0.22727E-02  390945.8 3842667.4   707.8     0.00     4.65
4.65     NO
 L0001176         0   0.22727E-02  390945.7 3842677.4   707.8     0.00     4.65
4.65     NO
 L0001177         0   0.22727E-02  390945.6 3842687.4   707.8     0.00     4.65
4.65     NO
 L0001178         0   0.22727E-02  390945.5 3842697.4   707.8     0.00     4.65
4.65     NO
 L0001179         0   0.22727E-02  390945.4 3842707.4   707.8     0.00     4.65
4.65     NO
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 L0001180        0   0.22727E-02  390945.3 3842717.4   707.8     0.00     4.65
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4.65     NO
 L0001182        0   0.22727E-02  390945.1 3842737.4   707.8     0.00     4.65
4.65     NO
 L0001183        0   0.22727E-02  390945.0 3842747.4   707.9     0.00     4.65
4.65     NO
 L0001184        0   0.22727E-02  390944.9 3842757.4   707.8     0.00     4.65
4.65     NO
 L0001185        0   0.22727E-02  390944.8 3842767.4   707.8     0.00     4.65
4.65     NO
 L0001186        0   0.22727E-02  390944.7 3842777.4   707.8     0.00     4.65
4.65     NO
 L0001187        0   0.22727E-02  390944.6 3842787.4   707.8     0.00     4.65
4.65     NO
 L0001188        0   0.22727E-02  390944.4 3842797.4   707.9     0.00     4.65
4.65     NO
 L0001189        0   0.22727E-02  390944.3 3842807.4   707.9     0.00     4.65
4.65     NO
 L0001190        0   0.22727E-02  390944.2 3842817.4   707.9     0.00     4.65
4.65     NO
 L0001191        0   0.22727E-02  390944.1 3842827.4   707.9     0.00     4.65
4.65     NO
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↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Construction HRA
                       ***        12:33:55

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*


                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X         Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.              (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

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↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***       03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Construction HRA
                       ***        12:33:55

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*


                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.              (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - -

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↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Construction HRA
                       ***        12:33:55

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*


                                             *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                                      SOURCE IDs
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↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Construction HRA
                       ***        12:33:55

                                          PAGE  14
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*


                                             *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                                SOURCE IDs
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                                                    *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                                     SOURCE IDs
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↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Construction HRA
                       ***        12:33:55

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                                                       *** DISCRETE CARTESIAN RECEPTORS ***
                                                     (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                                     (METERS)

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     ( 390857.3, 3842459.9,     707.7,     707.7,       0.0);         ( 390870.8,
3842484.2,     707.6,     707.6,       0.0);
     ( 391716.2, 3842214.5,     705.6,     705.6,       0.0);         ( 391560.9,
3841452.8,     706.0,     706.0,       0.0);
     ( 391558.8, 3841408.8,     706.0,     706.0,       0.0);         ( 391556.7,
3841347.9,     706.0,     706.0,       0.0);
     ( 391556.7, 3841291.3,     706.0,     706.0,       0.0);         ( 391330.1,
3841454.9,     706.3,     706.3,       0.0);
     ( 391336.4, 3841303.9,     706.2,     706.2,       0.0);         ( 391405.6,
3841381.5,     706.1,     706.1,       0.0);
     ( 391489.5, 3841377.3,     706.1,     706.1,       0.0);         ( 391405.6,
3841293.4,     706.2,     706.2,       0.0);
     ( 391491.6, 3841299.7,     706.3,     706.3,       0.0);         ( 391414.0,
3841457.0,     706.1,     706.1,       0.0);
     ( 391493.7, 3841454.9,     706.2,     706.2,       0.0);         ( 389264.5,
3840869.4,     710.4,     710.4,       0.0);
     ( 389392.2, 3840874.2,     710.0,     710.0,       0.0);         ( 389515.1,
3840855.2,     708.4,     708.4,       0.0);
     ( 389628.6, 3840864.7,     709.1,     711.0,       0.0);

↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Construction HRA
                       ***        12:33:55
```

```
                                  PAGE  17
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                                            *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                               (1=YES; 0=NO)

            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1

                NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON
WHAT IS INCLUDED IN THE DATA FILE.



                                  *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED
CATEGORIES ***
                                                            (METERS/SEC)

                                               1.54,   3.09,   5.14,   8.23,
10.80,
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Construction HRA
                        ***        12:33:55

                                  PAGE  18
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                                    *** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL
DATA ***

   Surface file:   KWJF_723816_03159\KWJF_723816_03159\723816_2017-2021_AdjU.sfc
                 Met Version:  21112
   Profile file:   KWJF_723816_03159\KWJF_723816_03159\723816_2017-2021_AdjU.PFL

   Surface format: FREE
```

```
   Profile format: FREE

   Surface station no.:     3159                  Upper air station no.:    93214
                  Name: UNKNOWN                                    Name: UNKNOWN

                  Year:   2017                                     Year:   2017

 First 24 hours of scalar data
 YR MO DY JDY HR     H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN
ALBEDO  REF WS   WD     HT  REF TA     HT
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
 17 01 01   1 01  -20.9  0.223 -9.000 -9.000 -999.  253.     54.7  0.08   3.25
1.00    2.86  281.   10.0  277.0    2.0
 17 01 01   1 02  -21.4  0.228 -9.000 -9.000 -999.  262.     57.4  0.04   3.25
1.00    3.36  258.   10.0  277.5    2.0
 17 01 01   1 03  -24.6  0.262 -9.000 -9.000 -999.  322.     75.5  0.04   3.25
1.00    3.83  252.   10.0  277.0    2.0
 17 01 01   1 04  -16.2  0.175 -9.000 -9.000 -999.  179.     33.7  0.03   3.25
1.00    2.69  216.   10.0  275.9    2.0
 17 01 01   1 05   -8.9  0.130 -9.000 -9.000 -999.  113.     20.5  0.05   3.25
1.00    1.91  171.   10.0  277.0    2.0
 17 01 01   1 06  -25.8  0.275 -9.000 -9.000 -999.  347.     83.4  0.03   3.25
1.00    4.14  231.   10.0  277.0    2.0
 17 01 01   1 07  -37.5  0.397 -9.000 -9.000 -999.  600.    173.3  0.08   3.25
1.00    4.97  278.   10.0  275.4    2.0
 17 01 01   1 08  -23.5  0.297 -9.000 -9.000 -999.  395.     97.2  0.04   3.25
0.60    4.31  244.   10.0  279.2    2.0
 17 01 01   1 09   25.2  0.504  0.475  0.008  141.  860.   -421.5  0.04   3.25
0.37    6.89  260.   10.0  281.4    2.0
 17 01 01   1 10   94.9  0.626  1.121  0.005  492. 1188.   -214.6  0.04   3.25
0.29    8.45  261.   10.0  283.8    2.0
 17 01 01   1 11  143.7  0.772  1.460  0.007  718. 1624.   -265.1  0.08   3.25
0.26    9.10  273.   10.0  284.9    2.0
 17 01 01   1 12  168.0  1.035  1.602  0.005  810. 2516.   -544.8  0.08   3.25
0.25   12.35  271.   10.0  285.9    2.0
 17 01 01   1 13  167.0  0.882  1.755  0.011 1072. 2031.   -339.9  0.04   3.25
0.26   12.01  265.   10.0  287.0    2.0
 17 01 01   1 14  139.7  0.925  1.670  0.009 1104. 2131.   -468.2  0.04   3.25
0.27   12.65  256.   10.0  286.4    2.0
 17 01 01   1 15   87.7  0.788  1.438  0.008 1122. 1711.   -461.8  0.04   3.25
0.30   10.78  243.   10.0  284.9    2.0
 17 01 01   1 16   16.4  0.685  0.822  0.005 1124. 1381.  -1627.1  0.03   3.25
0.39    9.75  237.   10.0  283.1    2.0
 17 01 01   1 17  -57.0  0.667 -9.000 -9.000 -999. 1311.    490.0  0.04   3.25
0.65    9.39  242.   10.0  281.4    2.0
 17 01 01   1 18  -54.1  0.585 -9.000 -9.000 -999. 1084.    376.6  0.04   3.25
1.00    8.28  244.   10.0  280.9    2.0
 17 01 01   1 19  -56.2  0.606 -9.000 -9.000 -999. 1132.    404.5  0.03   3.25
```

```
1.00    8.83  237.   10.0  280.4    2.0
 17 01 01   1 20  -55.2  0.595 -9.000 -9.000 -999. 1103.    389.9  0.04   3.25
1.00    8.42  243.   10.0  280.4    2.0
 17 01 01   1 21  -62.0  0.668 -9.000 -9.000 -999. 1306.    490.3  0.03   3.25
1.00    9.69  239.   10.0  280.4    2.0
 17 01 01   1 22  -64.0  0.715 -9.000 -9.000 -999. 1447.    561.6  0.04   3.25
1.00   10.05  240.   10.0  279.9    2.0
 17 01 01   1 23  -54.5  0.586 -9.000 -9.000 -999. 1096.    377.4  0.03   3.25
1.00    8.54  236.   10.0  279.9    2.0
 17 01 01   1 24  -46.2  0.496 -9.000 -9.000 -999.  848.    270.7  0.03   3.25
1.00    7.28  236.   10.0  279.2    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 17 01 01 01   10.0 1  281.    2.86   277.1   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
⬆ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Construction HRA
                       ***        12:33:55

                                  PAGE  19
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                              *** THE PERIOD ( 43824 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     L0000847    , L0000848
, L0000849    , L0000850    , L0000851    ,
                 L0000852    , L0000853    , L0000854    , L0000855    , L0000856
, L0000857    , L0000858    , L0000859    ,
                 L0000860    , L0000861    , L0000862    , L0000863    , L0000864
, L0000865    , L0000866    , L0000867    ,
                 L0000868    , L0000869    , L0000870    , L0000871    , L0000872
, L0000873    , L0000874    ,  . . .      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_10    IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         390852.64    3842484.16       13.92080                       390886.27
3842483.49       15.25838
         390857.35    3842459.95       10.07932                       390870.85
```

```
3842484.20       14.80613
         391716.16    3842214.50        1.70975                      391560.89
3841452.84        0.44938
         391558.79    3841408.78        0.42903                      391556.69
3841347.93        0.40170
         391556.69    3841291.28        0.37732                      391330.08
3841454.94        0.46200
         391336.37    3841303.87        0.37924                      391405.62
3841381.50        0.42212
         391489.55    3841377.31        0.41917                      391405.62
3841293.38        0.37877
         391491.64    3841299.67        0.38223                      391414.01
3841457.04        0.46539
         391493.74    3841454.94        0.46026                      389264.48
3840869.44        0.17066
         389392.17    3840874.17        0.18096                      389515.12
3840855.25        0.18209
         389628.61    3840864.71        0.18368

↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Construction HRA
                       ***        12:33:55

                                  PAGE  20
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     L0000847    , L0000848
, L0000849    , L0000850    , L0000851    ,
                 L0000852    , L0000853    , L0000854    , L0000855    , L0000856
, L0000857    , L0000858    , L0000859    ,
                 L0000860    , L0000861    , L0000862    , L0000863    , L0000864
, L0000865    , L0000866    , L0000867    ,
                 L0000868    , L0000869    , L0000870    , L0000871    , L0000872
, L0000873    , L0000874    ,  . . .      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_10    IN MICROGRAMS/M**3
                    **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -
        390852.64   3842484.16      518.18508  (20112608)              390886.27
3842483.49      498.37276  (20112608)
```

```
        390857.35   3842459.95      461.96624  (20112608)                390870.85
3842484.20      501.71861  (20112608)
        391716.16   3842214.50      106.45431  (19051804)                391560.89
3841452.84       93.22498  (21120301)
        391558.79   3841408.78       91.62346  (19110607)                391556.69
3841347.93       88.48604  (19121522)
        391556.69   3841291.28       85.94326  (21052404)                391330.08
3841454.94      105.66637  (17021603)
        391336.37   3841303.87       92.96590  (20020201)                391405.62
3841381.50       98.78402  (20101407)
        391489.55   3841377.31       93.02143  (19100507)                391405.62
3841293.38       91.44517  (17021603)
        391491.64   3841299.67       90.40863  (19100507)                391414.01
3841457.04      101.95306  (19100507)
        391493.74   3841454.94       97.01050  (21052404)                389264.48
3840869.44       56.14333  (21043004)
        389392.17   3840874.17       60.37550  (20011608)                389515.12
3840855.25       60.13361  (20111102)
        389628.61   3840864.71       64.58945  (17050106)

↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Construction HRA
                       ***        12:33:55

                                  PAGE  21
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                                        *** THE SUMMARY OF MAXIMUM PERIOD ( 43824
HRS) RESULTS ***


                                    ** CONC OF PM_10    IN MICROGRAMS/M**3
               **


                        NETWORK
GROUP ID                      AVERAGE CONC                RECEPTOR  (XR, YR, ZELEV,
ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS      15.25838 AT (  390886.27,  3842483.49,   707.57,
  707.57,    0.00)  DC
          2ND HIGHEST VALUE IS      14.80613 AT (  390870.85,  3842484.20,   707.64,
  707.64,    0.00)  DC
          3RD HIGHEST VALUE IS      13.92080 AT (  390852.64,  3842484.16,   707.64,
  707.64,    0.00)  DC
          4TH HIGHEST VALUE IS      10.07932 AT (  390857.35,  3842459.95,   707.67,
  707.67,    0.00)  DC
```

```
         5TH HIGHEST VALUE IS       1.70975 AT (  391716.16,  3842214.50,   705.63,
 705.63,    0.00)  DC
         6TH HIGHEST VALUE IS       0.46539 AT (  391414.01,  3841457.04,   706.09,
 706.09,    0.00)  DC
         7TH HIGHEST VALUE IS       0.46200 AT (  391330.08,  3841454.94,   706.26,
 706.26,    0.00)  DC
         8TH HIGHEST VALUE IS       0.46026 AT (  391493.74,  3841454.94,   706.21,
 706.21,    0.00)  DC
         9TH HIGHEST VALUE IS       0.44938 AT (  391560.89,  3841452.84,   706.04,
 706.04,    0.00)  DC
        10TH HIGHEST VALUE IS       0.42903 AT (  391558.79,  3841408.78,   706.00,
 706.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Construction HRA
                       ***        12:33:55

                                  PAGE  22
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                                                ***  THE SUMMARY OF HIGHEST  1-HR
RESULTS ***


                                    ** CONC OF PM_10    IN MICROGRAMS/M**3
               **

                                                      DATE
                                         NETWORK
GROUP ID                            AVERAGE CONC     (YYMMDDHH)             RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS     518.18508  ON 20112608: AT (  390852.64,
3842484.16,   707.64,   707.64,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Const
HRA\Lancaster35th-H Const ***        03/03/23
```

```
*** Message Summary : AERMOD Model Execution ***

 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            2 Warning Message(s)
A Total of         1556 Informational Message(s)

A Total of        43824 Hours Were Processed

A Total of          854 Calm Hours Identified

A Total of          702 Missing Hours Identified (  1.60 Percent)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186     979       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
    0.50
ME W187     979       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


   ************************************
   *** AERMOD Finishes Successfully ***
   ************************************
```

```
** Lakes Environmental AERMOD MPI
**
****************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.2.0
** Lakes Environmental Software Inc.
** Date: 3/3/2023
** File: C:\Lakes\AERMOD View\Lancaster35th-H Ops HRA\Lancaster35th-H Ops HRA.ADI
**
****************************************
**
**
****************************************
** AERMOD Control Pathway
****************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Lancaster35th-H Ops HRA\Lancaster35th-H Ops
   TITLETWO Lancaster 35th St/Ave H Operational HRA
   MODELOPT DFAULT CONC
   AVERTIME 1 PERIOD
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL "Lancaster35th-H Ops HRA.err"
CO FINISHED
**
****************************************
** AERMOD Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** --------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC Truck Travel West
** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.80
** SZINIT = 3.16
** Nodes = 3
** 390967.180, 3842848.601, 707.84, 3.40, 4.51
** 390971.518, 3842502.625, 707.39, 3.40, 4.51
** 388897.344, 3842527.061, 711.87, 3.40, 4.51
```

```
** ----------------------------------------------------------------------
   LOCATION L0000001     VOLUME   390967.241 3842843.751 707.83
   LOCATION L0000002     VOLUME   390967.362 3842834.052 707.84
   LOCATION L0000003     VOLUME   390967.484 3842824.352 707.83
   LOCATION L0000004     VOLUME   390967.606 3842814.653 707.82
   LOCATION L0000005     VOLUME   390967.727 3842804.954 707.82
   LOCATION L0000006     VOLUME   390967.849 3842795.255 707.84
   LOCATION L0000007     VOLUME   390967.970 3842785.556 707.86
   LOCATION L0000008     VOLUME   390968.092 3842775.856 707.88
   LOCATION L0000009     VOLUME   390968.214 3842766.157 707.88
   LOCATION L0000010     VOLUME   390968.335 3842756.458 707.88
   LOCATION L0000011     VOLUME   390968.457 3842746.759 707.88
   LOCATION L0000012     VOLUME   390968.579 3842737.059 707.84
   LOCATION L0000013     VOLUME   390968.700 3842727.360 707.80
   LOCATION L0000014     VOLUME   390968.822 3842717.661 707.75
   LOCATION L0000015     VOLUME   390968.943 3842707.962 707.73
   LOCATION L0000016     VOLUME   390969.065 3842698.262 707.72
   LOCATION L0000017     VOLUME   390969.187 3842688.563 707.70
   LOCATION L0000018     VOLUME   390969.308 3842678.864 707.71
   LOCATION L0000019     VOLUME   390969.430 3842669.165 707.74
   LOCATION L0000020     VOLUME   390969.551 3842659.465 707.77
   LOCATION L0000021     VOLUME   390969.673 3842649.766 707.79
   LOCATION L0000022     VOLUME   390969.795 3842640.067 707.81
   LOCATION L0000023     VOLUME   390969.916 3842630.368 707.83
   LOCATION L0000024     VOLUME   390970.038 3842620.668 707.84
   LOCATION L0000025     VOLUME   390970.160 3842610.969 707.85
   LOCATION L0000026     VOLUME   390970.281 3842601.270 707.87
   LOCATION L0000027     VOLUME   390970.403 3842591.571 707.88
   LOCATION L0000028     VOLUME   390970.524 3842581.872 707.80
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   LOCATION L0000030     VOLUME   390970.768 3842562.473 707.62
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   LOCATION L0000041     VOLUME   390924.674 3842503.177 707.50
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   LOCATION L0000045     VOLUME   390885.876 3842503.634 707.61
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   LOCATION L0000049     VOLUME   390847.079 3842504.091 707.64
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LOCATION L0000069     VOLUME   390653.093 3842506.377 707.94
LOCATION L0000070     VOLUME   390643.393 3842506.491 707.96
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LOCATION L0000073     VOLUME   390614.295 3842506.834 708.04
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LOCATION L0000075     VOLUME   390594.897 3842507.062 708.10
LOCATION L0000076     VOLUME   390585.197 3842507.177 708.13
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LOCATION L0000080     VOLUME   390546.400 3842507.634 708.21
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LOCATION L0000082     VOLUME   390527.001 3842507.862 708.26
LOCATION L0000083     VOLUME   390517.302 3842507.977 708.29
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LOCATION L0000085     VOLUME   390497.903 3842508.205 708.34
LOCATION L0000086     VOLUME   390488.204 3842508.319 708.37
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LOCATION L0000092     VOLUME   390430.008 3842509.005 708.49
LOCATION L0000093     VOLUME   390420.309 3842509.119 708.51
LOCATION L0000094     VOLUME   390410.609 3842509.234 708.53
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LOCATION L0000099     VOLUME   390362.113 3842509.805 708.69
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LOCATION L0000102     VOLUME   390333.015 3842510.148 708.74
LOCATION L0000103     VOLUME   390323.315 3842510.262 708.76
LOCATION L0000104     VOLUME   390313.616 3842510.376 708.78
LOCATION L0000105     VOLUME   390303.917 3842510.490 708.80
LOCATION L0000106     VOLUME   390294.217 3842510.605 708.81
LOCATION L0000107     VOLUME   390284.518 3842510.719 708.84
LOCATION L0000108     VOLUME   390274.819 3842510.833 708.90
LOCATION L0000109     VOLUME   390265.119 3842510.948 708.96
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LOCATION L0000111     VOLUME   390245.721 3842511.176 708.98
LOCATION L0000112     VOLUME   390236.021 3842511.290 708.98
LOCATION L0000113     VOLUME   390226.322 3842511.405 708.98
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LOCATION L0000127     VOLUME   390090.532 3842513.004 709.14
LOCATION L0000128     VOLUME   390080.832 3842513.119 709.14
LOCATION L0000129     VOLUME   390071.133 3842513.233 709.16
LOCATION L0000130     VOLUME   390061.434 3842513.347 709.18
LOCATION L0000131     VOLUME   390051.734 3842513.461 709.20
LOCATION L0000132     VOLUME   390042.035 3842513.576 709.23
LOCATION L0000133     VOLUME   390032.336 3842513.690 709.25
LOCATION L0000134     VOLUME   390022.636 3842513.804 709.28
LOCATION L0000135     VOLUME   390012.937 3842513.919 709.31
LOCATION L0000136     VOLUME   390003.238 3842514.033 709.33
LOCATION L0000137     VOLUME   389993.538 3842514.147 709.34
LOCATION L0000138     VOLUME   389983.839 3842514.261 709.35
LOCATION L0000139     VOLUME   389974.140 3842514.376 709.36
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LOCATION L0000141     VOLUME   389954.741 3842514.604 709.39
LOCATION L0000142     VOLUME   389945.042 3842514.718 709.42
LOCATION L0000143     VOLUME   389935.342 3842514.833 709.45
LOCATION L0000144     VOLUME   389925.643 3842514.947 709.48
LOCATION L0000145     VOLUME   389915.944 3842515.061 709.52
LOCATION L0000146     VOLUME   389906.244 3842515.175 709.55
LOCATION L0000147     VOLUME   389896.545 3842515.290 709.58
LOCATION L0000148     VOLUME   389886.846 3842515.404 709.60
LOCATION L0000149     VOLUME   389877.146 3842515.518 709.63
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LOCATION L0000154     VOLUME   389828.650 3842516.090 709.69
LOCATION L0000155     VOLUME   389818.950 3842516.204 709.72
LOCATION L0000156     VOLUME   389809.251 3842516.318 709.76
LOCATION L0000157     VOLUME   389799.552 3842516.432 709.78
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LOCATION L0000166     VOLUME   389712.258 3842517.461 709.96
LOCATION L0000167     VOLUME   389702.558 3842517.575 709.98
LOCATION L0000168     VOLUME   389692.859 3842517.689 709.98
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LOCATION L0000172     VOLUME   389654.062 3842518.146 710.04
LOCATION L0000173     VOLUME   389644.363 3842518.261 710.06
LOCATION L0000174     VOLUME   389634.663 3842518.375 710.07
LOCATION L0000175     VOLUME   389624.964 3842518.489 710.08
LOCATION L0000176     VOLUME   389615.265 3842518.604 710.08
LOCATION L0000177     VOLUME   389605.565 3842518.718 710.09
LOCATION L0000178     VOLUME   389595.866 3842518.832 710.09
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LOCATION L0000183     VOLUME   389547.369 3842519.403 710.13
LOCATION L0000184     VOLUME   389537.670 3842519.518 710.14
LOCATION L0000185     VOLUME   389527.971 3842519.632 710.15
LOCATION L0000186     VOLUME   389518.271 3842519.746 710.16
LOCATION L0000187     VOLUME   389508.572 3842519.860 710.18
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LOCATION L0000190     VOLUME   389479.474 3842520.203 710.23
LOCATION L0000191     VOLUME   389469.775 3842520.318 710.24
LOCATION L0000192     VOLUME   389460.075 3842520.432 710.24
LOCATION L0000193     VOLUME   389450.376 3842520.546 710.24
LOCATION L0000194     VOLUME   389440.677 3842520.660 710.25
LOCATION L0000195     VOLUME   389430.977 3842520.775 710.26
LOCATION L0000196     VOLUME   389421.278 3842520.889 710.28
LOCATION L0000197     VOLUME   389411.579 3842521.003 710.32
LOCATION L0000198     VOLUME   389401.879 3842521.117 710.36
LOCATION L0000199     VOLUME   389392.180 3842521.232 710.38
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LOCATION L0000201     VOLUME   389372.781 3842521.460 710.37
LOCATION L0000202     VOLUME   389363.082 3842521.574 710.38
LOCATION L0000203     VOLUME   389353.383 3842521.689 710.39
LOCATION L0000204     VOLUME   389343.683 3842521.803 710.40
LOCATION L0000205     VOLUME   389333.984 3842521.917 710.41
LOCATION L0000206     VOLUME   389324.285 3842522.032 710.43
LOCATION L0000207     VOLUME   389314.585 3842522.146 710.45
LOCATION L0000208     VOLUME   389304.886 3842522.260 710.48
LOCATION L0000209     VOLUME   389295.187 3842522.374 710.51
LOCATION L0000210     VOLUME   389285.487 3842522.489 710.52
LOCATION L0000211     VOLUME   389275.788 3842522.603 710.53
LOCATION L0000212     VOLUME   389266.089 3842522.717 710.55
LOCATION L0000213     VOLUME   389256.389 3842522.831 710.57
LOCATION L0000214     VOLUME   389246.690 3842522.946 710.58
LOCATION L0000215     VOLUME   389236.991 3842523.060 710.59
LOCATION L0000216     VOLUME   389227.291 3842523.174 710.60
LOCATION L0000217     VOLUME   389217.592 3842523.289 710.61
LOCATION L0000218     VOLUME   389207.893 3842523.403 710.65
LOCATION L0000219     VOLUME   389198.193 3842523.517 710.70
LOCATION L0000220     VOLUME   389188.494 3842523.631 710.73
LOCATION L0000221     VOLUME   389178.795 3842523.746 710.76
LOCATION L0000222     VOLUME   389169.096 3842523.860 710.79
LOCATION L0000223     VOLUME   389159.396 3842523.974 710.81
LOCATION L0000224     VOLUME   389149.697 3842524.088 710.83
LOCATION L0000225     VOLUME   389139.998 3842524.203 710.85
LOCATION L0000226     VOLUME   389130.298 3842524.317 710.88
LOCATION L0000227     VOLUME   389120.599 3842524.431 710.92
LOCATION L0000228     VOLUME   389110.900 3842524.545 710.95
LOCATION L0000229     VOLUME   389101.200 3842524.660 710.98
LOCATION L0000230     VOLUME   389091.501 3842524.774 711.00
LOCATION L0000231     VOLUME   389081.802 3842524.888 711.06
LOCATION L0000232     VOLUME   389072.102 3842525.003 711.11
LOCATION L0000233     VOLUME   389062.403 3842525.117 711.16
LOCATION L0000234     VOLUME   389052.704 3842525.231 711.20
LOCATION L0000235     VOLUME   389043.004 3842525.345 711.24
LOCATION L0000236     VOLUME   389033.305 3842525.460 711.28
LOCATION L0000237     VOLUME   389023.606 3842525.574 711.32
LOCATION L0000238     VOLUME   389013.906 3842525.688 711.36
LOCATION L0000239     VOLUME   389004.207 3842525.802 711.42
LOCATION L0000240     VOLUME   388994.508 3842525.917 711.48
LOCATION L0000241     VOLUME   388984.808 3842526.031 711.52
LOCATION L0000242     VOLUME   388975.109 3842526.145 711.54
LOCATION L0000243     VOLUME   388965.410 3842526.259 711.56
LOCATION L0000244     VOLUME   388955.710 3842526.374 711.58
LOCATION L0000245     VOLUME   388946.011 3842526.488 711.61
LOCATION L0000246     VOLUME   388936.312 3842526.602 711.64
LOCATION L0000247     VOLUME   388926.612 3842526.717 711.68
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LOCATION L0000249     VOLUME   388907.214 3842526.945 711.77
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** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE2
** DESCRSRC Truck Travel East
** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.80
** SZINIT = 3.16
** Nodes = 7
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   LOCATION L0002423     VOLUME   390968.195 3842780.811 707.87
   LOCATION L0002424     VOLUME   390968.245 3842771.111 707.88
   LOCATION L0002425     VOLUME   390968.295 3842761.411 707.88
   LOCATION L0002426     VOLUME   390968.346 3842751.711 707.88
   LOCATION L0002427     VOLUME   390968.396 3842742.011 707.86
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   LOCATION L0002429     VOLUME   390968.496 3842722.612 707.78
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   LOCATION L0002440     VOLUME   390969.049 3842615.913 707.85
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   LOCATION L0002444     VOLUME   390969.250 3842577.114 707.75
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LOCATION L0002449     VOLUME   390969.502 3842528.614 707.56
LOCATION L0002450     VOLUME   390969.552 3842518.914 707.51
LOCATION L0002451     VOLUME   390969.602 3842509.214 707.45
LOCATION L0002452     VOLUME   390973.107 3842502.928 707.41
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LOCATION L0002461     VOLUME   391060.394 3842501.430 707.21
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LOCATION L0002475     VOLUME   391196.174 3842499.100 706.91
LOCATION L0002476     VOLUME   391205.873 3842498.934 706.90
LOCATION L0002477     VOLUME   391215.571 3842498.767 706.89
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LOCATION L0002482     VOLUME   391264.064 3842497.935 706.78
LOCATION L0002483     VOLUME   391273.763 3842497.769 706.78
LOCATION L0002484     VOLUME   391283.461 3842497.602 706.75
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LOCATION L0002487     VOLUME   391312.557 3842497.103 706.66
LOCATION L0002488     VOLUME   391322.256 3842496.937 706.65
LOCATION L0002489     VOLUME   391331.954 3842496.770 706.63
LOCATION L0002490     VOLUME   391341.653 3842496.604 706.62
LOCATION L0002491     VOLUME   391351.351 3842496.437 706.60
LOCATION L0002492     VOLUME   391361.050 3842496.271 706.58
LOCATION L0002493     VOLUME   391370.749 3842496.105 706.56
LOCATION L0002494     VOLUME   391380.447 3842495.938 706.54
LOCATION L0002495     VOLUME   391390.146 3842495.772 706.52
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   LOCATION L0002800     VOLUME   392825.430 3840916.160 713.76
   LOCATION L0002801     VOLUME   392825.367 3840906.460 713.96
   LOCATION L0002802     VOLUME   392825.304 3840896.760 714.06
   LOCATION L0002803     VOLUME   392825.240 3840887.060 714.17
   LOCATION L0002804     VOLUME   392825.177 3840877.361 714.27
   LOCATION L0002805     VOLUME   392825.113 3840867.661 712.50
   LOCATION L0002806     VOLUME   392825.050 3840857.961 710.34
   LOCATION L0002807     VOLUME   392824.987 3840848.261 708.17
   LOCATION L0002808     VOLUME   392824.923 3840838.562 708.84
   LOCATION L0002809     VOLUME   392824.860 3840828.862 711.02
   LOCATION L0002810     VOLUME   392824.796 3840819.162 713.20
   LOCATION L0002811     VOLUME   392824.733 3840809.462 714.23
   LOCATION L0002812     VOLUME   392824.670 3840799.762 714.00
   LOCATION L0002813     VOLUME   392824.606 3840790.063 713.77
   LOCATION L0002814     VOLUME   392824.543 3840780.363 713.51
   LOCATION L0002815     VOLUME   392824.479 3840770.663 713.16
   LOCATION L0002816     VOLUME   392824.416 3840760.963 712.82
   LOCATION L0002817     VOLUME   392824.353 3840751.263 712.50
   LOCATION L0002818     VOLUME   392824.289 3840741.564 712.40
   LOCATION L0002819     VOLUME   392824.226 3840731.864 712.29
   LOCATION L0002820     VOLUME   392824.162 3840722.164 712.19
** End of LINE VOLUME Source ID = SLINE2
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** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE3
** DESCRSRC Truck idling
** PREFIX
** Length of Side = 3.70
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.80
** SZINIT = 3.16
** Nodes = 2
** 390947.906, 3842840.014, 707.87, 3.40, 1.72
** 390949.238, 3842618.852, 707.96, 3.40, 1.72
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   LOCATION L0002822     VOLUME   390947.939 3842834.464 707.87
   LOCATION L0002823     VOLUME   390947.961 3842830.764 707.87
   LOCATION L0002824     VOLUME   390947.984 3842827.065 707.88
   LOCATION L0002825     VOLUME   390948.006 3842823.365 707.88
   LOCATION L0002826     VOLUME   390948.028 3842819.665 707.89
   LOCATION L0002827     VOLUME   390948.050 3842815.965 707.89
   LOCATION L0002828     VOLUME   390948.073 3842812.265 707.90
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LOCATION L0002835     VOLUME   390948.229 3842786.365 707.86
LOCATION L0002836     VOLUME   390948.251 3842782.665 707.85
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LOCATION L0002839     VOLUME   390948.318 3842771.566 707.83
LOCATION L0002840     VOLUME   390948.340 3842767.866 707.83
LOCATION L0002841     VOLUME   390948.363 3842764.166 707.83
LOCATION L0002842     VOLUME   390948.385 3842760.466 707.83
LOCATION L0002843     VOLUME   390948.407 3842756.766 707.83
LOCATION L0002844     VOLUME   390948.429 3842753.066 707.83
LOCATION L0002845     VOLUME   390948.452 3842749.366 707.82
LOCATION L0002846     VOLUME   390948.474 3842745.666 707.82
LOCATION L0002847     VOLUME   390948.496 3842741.966 707.82
LOCATION L0002848     VOLUME   390948.519 3842738.266 707.81
LOCATION L0002849     VOLUME   390948.541 3842734.566 707.80
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LOCATION L0002853     VOLUME   390948.630 3842719.766 707.78
LOCATION L0002854     VOLUME   390948.652 3842716.067 707.78
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LOCATION L0002856     VOLUME   390948.697 3842708.667 707.79
LOCATION L0002857     VOLUME   390948.719 3842704.967 707.80
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LOCATION L0002867     VOLUME   390948.942 3842667.967 707.84
LOCATION L0002868     VOLUME   390948.964 3842664.267 707.84
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LOCATION L0002870     VOLUME   390949.009 3842656.868 707.84
LOCATION L0002871     VOLUME   390949.031 3842653.168 707.84
LOCATION L0002872     VOLUME   390949.053 3842649.468 707.86
LOCATION L0002873     VOLUME   390949.076 3842645.768 707.87
LOCATION L0002874     VOLUME   390949.098 3842642.068 707.89
LOCATION L0002875     VOLUME   390949.120 3842638.368 707.90
LOCATION L0002876     VOLUME   390949.143 3842634.668 707.92
LOCATION L0002877     VOLUME   390949.165 3842630.968 707.94
LOCATION L0002878     VOLUME   390949.187 3842627.268 707.95
LOCATION L0002879     VOLUME   390949.210 3842623.568 707.97
LOCATION L0002880     VOLUME   390949.232 3842619.868 707.94
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** Source Parameters **
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SRCPARAM L0002674     0.0024752475      3.40      4.51      3.16
SRCPARAM L0002675     0.0024752475      3.40      4.51      3.16
SRCPARAM L0002676     0.0024752475      3.40      4.51      3.16
SRCPARAM L0002677     0.0024752475      3.40      4.51      3.16
SRCPARAM L0002678     0.0024752475      3.40      4.51      3.16
SRCPARAM L0002679     0.0024752475      3.40      4.51      3.16
SRCPARAM L0002680     0.0024752475      3.40      4.51      3.16
SRCPARAM L0002681     0.0024752475      3.40      4.51      3.16
SRCPARAM L0002682     0.0024752475      3.40      4.51      3.16
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SRCPARAM L0002686     0.0024752475      3.40      4.51      3.16
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SRCPARAM L0002688     0.0024752475      3.40      4.51      3.16
SRCPARAM L0002689     0.0024752475      3.40      4.51      3.16
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SRCPARAM L0002691     0.0024752475      3.40      4.51      3.16
SRCPARAM L0002692     0.0024752475      3.40      4.51      3.16
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SRCPARAM L0002694     0.0024752475      3.40      4.51      3.16
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SRCPARAM L0002699     0.0024752475      3.40      4.51      3.16
SRCPARAM L0002700     0.0024752475      3.40      4.51      3.16
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SRCPARAM L0002702     0.0024752475      3.40      4.51      3.16
SRCPARAM L0002703     0.0024752475      3.40      4.51      3.16
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SRCPARAM L0002706     0.0024752475      3.40      4.51      3.16
SRCPARAM L0002707     0.0024752475      3.40      4.51      3.16
SRCPARAM L0002708     0.0024752475      3.40      4.51      3.16
SRCPARAM L0002709     0.0024752475      3.40      4.51      3.16
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SRCPARAM L0002711     0.0024752475      3.40      4.51      3.16
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SRCPARAM L0002714     0.0024752475       3.40       4.51       3.16
SRCPARAM L0002715     0.0024752475       3.40       4.51       3.16
SRCPARAM L0002716     0.0024752475       3.40       4.51       3.16
SRCPARAM L0002717     0.0024752475       3.40       4.51       3.16
SRCPARAM L0002718     0.0024752475       3.40       4.51       3.16
SRCPARAM L0002719     0.0024752475       3.40       4.51       3.16
SRCPARAM L0002720     0.0024752475       3.40       4.51       3.16
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SRCPARAM L0002723     0.0024752475       3.40       4.51       3.16
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SRCPARAM L0002729     0.0024752475       3.40       4.51       3.16
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SRCPARAM L0002733     0.0024752475       3.40       4.51       3.16
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SRCPARAM L0002736     0.0024752475       3.40       4.51       3.16
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SRCPARAM L0002738     0.0024752475       3.40       4.51       3.16
SRCPARAM L0002739     0.0024752475       3.40       4.51       3.16
SRCPARAM L0002740     0.0024752475       3.40       4.51       3.16
SRCPARAM L0002741     0.0024752475       3.40       4.51       3.16
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SRCPARAM L0002744     0.0024752475       3.40       4.51       3.16
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SRCPARAM L0002746     0.0024752475       3.40       4.51       3.16
SRCPARAM L0002747     0.0024752475       3.40       4.51       3.16
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SRCPARAM L0002758     0.0024752475       3.40       4.51       3.16
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SRCPARAM L0002761     0.0024752475       3.40       4.51       3.16
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SRCPARAM L0002771     0.0024752475      3.40      4.51      3.16
SRCPARAM L0002772     0.0024752475      3.40      4.51      3.16
SRCPARAM L0002773     0.0024752475      3.40      4.51      3.16
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SRCPARAM L0002775     0.0024752475      3.40      4.51      3.16
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SRCPARAM L0002789     0.0024752475      3.40      4.51      3.16
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SRCPARAM L0002792     0.0024752475      3.40      4.51      3.16
SRCPARAM L0002793     0.0024752475      3.40      4.51      3.16
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SRCPARAM L0002811     0.0024752475      3.40      4.51      3.16
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   SRCPARAM L0002815     0.0024752475      3.40      4.51      3.16
   SRCPARAM L0002816     0.0024752475      3.40      4.51      3.16
   SRCPARAM L0002817     0.0024752475      3.40      4.51      3.16
   SRCPARAM L0002818     0.0024752475      3.40      4.51      3.16
   SRCPARAM L0002819     0.0024752475      3.40      4.51      3.16
   SRCPARAM L0002820     0.0024752475      3.40      4.51      3.16
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** LINE VOLUME Source ID = SLINE3
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   SRCPARAM L0002822     0.0166666667      3.40      1.72      3.16
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   SRCPARAM L0002826     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002827     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002828     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002829     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002830     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002831     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002832     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002833     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002834     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002835     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002836     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002837     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002838     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002839     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002840     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002841     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002842     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002843     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002844     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002845     0.0166666667      3.40      1.72      3.16
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   SRCPARAM L0002847     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002848     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002849     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002850     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002851     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002852     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002853     0.0166666667      3.40      1.72      3.16
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   SRCPARAM L0002856     0.0166666667      3.40      1.72      3.16
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   SRCPARAM L0002858     0.0166666667      3.40      1.72      3.16
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   SRCPARAM L0002862     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002863     0.0166666667      3.40      1.72      3.16
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   SRCPARAM L0002868     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002869     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002870     0.0166666667      3.40      1.72      3.16
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   SRCPARAM L0002872     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002873     0.0166666667      3.40      1.72      3.16
   SRCPARAM L0002874     0.0166666667      3.40      1.72      3.16
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   SRCPARAM L0002879     0.0166666667      3.40      1.72      3.16
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   SRCGROUP SLINE1   L0000037 L0000038 L0000039 L0000040 L0000041 L0000042
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   SRCGROUP SLINE1   L0000073 L0000074 L0000075 L0000076 L0000077 L0000078
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   SRCGROUP SLINE1   L0000091 L0000092 L0000093 L0000094 L0000095 L0000096
   SRCGROUP SLINE1   L0000097 L0000098 L0000099 L0000100 L0000101 L0000102
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   SRCGROUP SLINE1   L0000163 L0000164 L0000165 L0000166 L0000167 L0000168
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SRCGROUP SLINE1   L0000175 L0000176 L0000177 L0000178 L0000179 L0000180
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SRCGROUP SLINE1   L0000193 L0000194 L0000195 L0000196 L0000197 L0000198
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SRCGROUP SLINE1   L0000211 L0000212 L0000213 L0000214 L0000215 L0000216
SRCGROUP SLINE1   L0000217 L0000218 L0000219 L0000220 L0000221 L0000222
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SRCGROUP SLINE1   L0000229 L0000230 L0000231 L0000232 L0000233 L0000234
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SRCGROUP SLINE1   L0000241 L0000242 L0000243 L0000244 L0000245 L0000246
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SRCGROUP SLINE2   L0002417 L0002418 L0002419 L0002420 L0002421 L0002422
SRCGROUP SLINE2   L0002423 L0002424 L0002425 L0002426 L0002427 L0002428
SRCGROUP SLINE2   L0002429 L0002430 L0002431 L0002432 L0002433 L0002434
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SRCGROUP SLINE2   L0002447 L0002448 L0002449 L0002450 L0002451 L0002452
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SRCGROUP SLINE2   L0002471 L0002472 L0002473 L0002474 L0002475 L0002476
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SRCGROUP SLINE2   L0002537 L0002538 L0002539 L0002540 L0002541 L0002542
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SRCGROUP SLINE2   L0002549 L0002550 L0002551 L0002552 L0002553 L0002554
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SRCGROUP SLINE2   L0002573 L0002574 L0002575 L0002576 L0002577 L0002578
SRCGROUP SLINE2   L0002579 L0002580 L0002581 L0002582 L0002583 L0002584
SRCGROUP SLINE2   L0002585 L0002586 L0002587 L0002588 L0002589 L0002590
SRCGROUP SLINE2   L0002591 L0002592 L0002593 L0002594 L0002595 L0002596
SRCGROUP SLINE2   L0002597 L0002598 L0002599 L0002600 L0002601 L0002602
SRCGROUP SLINE2   L0002603 L0002604 L0002605 L0002606 L0002607 L0002608
SRCGROUP SLINE2   L0002609 L0002610 L0002611 L0002612 L0002613 L0002614
SRCGROUP SLINE2   L0002615 L0002616 L0002617 L0002618 L0002619 L0002620
SRCGROUP SLINE2   L0002621 L0002622 L0002623 L0002624 L0002625 L0002626
SRCGROUP SLINE2   L0002627 L0002628 L0002629 L0002630 L0002631 L0002632
```

```
   SRCGROUP SLINE2   L0002633 L0002634 L0002635 L0002636 L0002637 L0002638
   SRCGROUP SLINE2   L0002639 L0002640 L0002641 L0002642 L0002643 L0002644
   SRCGROUP SLINE2   L0002645 L0002646 L0002647 L0002648 L0002649 L0002650
   SRCGROUP SLINE2   L0002651 L0002652 L0002653 L0002654 L0002655 L0002656
   SRCGROUP SLINE2   L0002657 L0002658 L0002659 L0002660 L0002661 L0002662
   SRCGROUP SLINE2   L0002663 L0002664 L0002665 L0002666 L0002667 L0002668
   SRCGROUP SLINE2   L0002669 L0002670 L0002671 L0002672 L0002673 L0002674
   SRCGROUP SLINE2   L0002675 L0002676 L0002677 L0002678 L0002679 L0002680
   SRCGROUP SLINE2   L0002681 L0002682 L0002683 L0002684 L0002685 L0002686
   SRCGROUP SLINE2   L0002687 L0002688 L0002689 L0002690 L0002691 L0002692
   SRCGROUP SLINE2   L0002693 L0002694 L0002695 L0002696 L0002697 L0002698
   SRCGROUP SLINE2   L0002699 L0002700 L0002701 L0002702 L0002703 L0002704
   SRCGROUP SLINE2   L0002705 L0002706 L0002707 L0002708 L0002709 L0002710
   SRCGROUP SLINE2   L0002711 L0002712 L0002713 L0002714 L0002715 L0002716
   SRCGROUP SLINE2   L0002717 L0002718 L0002719 L0002720 L0002721 L0002722
   SRCGROUP SLINE2   L0002723 L0002724 L0002725 L0002726 L0002727 L0002728
   SRCGROUP SLINE2   L0002729 L0002730 L0002731 L0002732 L0002733 L0002734
   SRCGROUP SLINE2   L0002735 L0002736 L0002737 L0002738 L0002739 L0002740
   SRCGROUP SLINE2   L0002741 L0002742 L0002743 L0002744 L0002745 L0002746
   SRCGROUP SLINE2   L0002747 L0002748 L0002749 L0002750 L0002751 L0002752
   SRCGROUP SLINE2   L0002753 L0002754 L0002755 L0002756 L0002757 L0002758
   SRCGROUP SLINE2   L0002759 L0002760 L0002761 L0002762 L0002763 L0002764
   SRCGROUP SLINE2   L0002765 L0002766 L0002767 L0002768 L0002769 L0002770
   SRCGROUP SLINE2   L0002771 L0002772 L0002773 L0002774 L0002775 L0002776
   SRCGROUP SLINE2   L0002777 L0002778 L0002779 L0002780 L0002781 L0002782
   SRCGROUP SLINE2   L0002783 L0002784 L0002785 L0002786 L0002787 L0002788
   SRCGROUP SLINE2   L0002789 L0002790 L0002791 L0002792 L0002793 L0002794
   SRCGROUP SLINE2   L0002795 L0002796 L0002797 L0002798 L0002799 L0002800
   SRCGROUP SLINE2   L0002801 L0002802 L0002803 L0002804 L0002805 L0002806
   SRCGROUP SLINE2   L0002807 L0002808 L0002809 L0002810 L0002811 L0002812
   SRCGROUP SLINE2   L0002813 L0002814 L0002815 L0002816 L0002817 L0002818
   SRCGROUP SLINE2   L0002819 L0002820
   SRCGROUP SLINE3   L0002821 L0002822 L0002823 L0002824 L0002825 L0002826
   SRCGROUP SLINE3   L0002827 L0002828 L0002829 L0002830 L0002831 L0002832
   SRCGROUP SLINE3   L0002833 L0002834 L0002835 L0002836 L0002837 L0002838
   SRCGROUP SLINE3   L0002839 L0002840 L0002841 L0002842 L0002843 L0002844
   SRCGROUP SLINE3   L0002845 L0002846 L0002847 L0002848 L0002849 L0002850
   SRCGROUP SLINE3   L0002851 L0002852 L0002853 L0002854 L0002855 L0002856
   SRCGROUP SLINE3   L0002857 L0002858 L0002859 L0002860 L0002861 L0002862
   SRCGROUP SLINE3   L0002863 L0002864 L0002865 L0002866 L0002867 L0002868
   SRCGROUP SLINE3   L0002869 L0002870 L0002871 L0002872 L0002873 L0002874
   SRCGROUP SLINE3   L0002875 L0002876 L0002877 L0002878 L0002879 L0002880
SO FINISHED
**
****************************************
** AERMOD Receptor Pathway
****************************************
**
**
RE STARTING
```

```
   INCLUDED "Lancaster35th-H Ops HRA.rou"
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
   SURFFILE KWJF_723816_03159\KWJF_723816_03159\723816_2017-2021_AdjU.sfc
   PROFFILE KWJF_723816_03159\KWJF_723816_03159\723816_2017-2021_AdjU.PFL
   SURFDATA 3159 2017
   UAIRDATA 93214 2017
   PROFBASE 712.6 METERS
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 SLINE1 1ST "LANCASTER35TH-H OPS HRA.AD\01H1G001.PLT" 31
   PLOTFILE 1 SLINE2 1ST "LANCASTER35TH-H OPS HRA.AD\01H1G002.PLT" 32
   PLOTFILE 1 SLINE3 1ST "LANCASTER35TH-H OPS HRA.AD\01H1G003.PLT" 33
   PLOTFILE PERIOD SLINE1 "LANCASTER35TH-H OPS HRA.AD\PE00G001.PLT" 34
   PLOTFILE PERIOD SLINE2 "LANCASTER35TH-H OPS HRA.AD\PE00G002.PLT" 35
   PLOTFILE PERIOD SLINE3 "LANCASTER35TH-H OPS HRA.AD\PE00G003.PLT" 36
   SUMMFILE "Lancaster35th-H Ops HRA.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186    1664       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
```

```
    0.50
 ME W187    1664       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


 **********************************
 *** SETUP Finishes Successfully ***
 **********************************

↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

                                  PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                                            ***     MODEL SETUP OPTIONS SUMMARY
 ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
      * Model Uses RURAL Dispersion Only.
      * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
      * CCVR_Sub - Meteorological data includes CCVR substitutions
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Assumes No FLAGPOLE Receptor Heights.
      * The User Specified a Pollutant Type of: PM_10

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates PERIOD Averages

 **This Run Includes:    714 Source(s);       3 Source Group(s); and      21
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:    714 VOLUME source(s)
                 and:      0 AREA type source(s)
```

```
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                 and:      0 SWPOINT source(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  21112

 **Output Options Selected:
          Model Outputs Tables of PERIOD Averages by Receptor
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing Hours
                                                                 b for Both Calm and
Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =   712.60 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                                ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.8 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out


 **Detailed Error/Message File:   Lancaster35th-H Ops HRA.err

 **File for Summary of Results:   Lancaster35th-H Ops HRA.sum

↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                        ***        13:23:43

                                  PAGE   2
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*
```

```
                                                  *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE      PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID        CATS.              (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

 L0000001         0   0.40000E-02  390967.2 3842843.8   707.8     3.40     4.51
3.16     NO
 L0000002         0   0.40000E-02  390967.4 3842834.1   707.8     3.40     4.51
3.16     NO
 L0000003         0   0.40000E-02  390967.5 3842824.4   707.8     3.40     4.51
3.16     NO
 L0000004         0   0.40000E-02  390967.6 3842814.7   707.8     3.40     4.51
3.16     NO
 L0000005         0   0.40000E-02  390967.7 3842805.0   707.8     3.40     4.51
3.16     NO
 L0000006         0   0.40000E-02  390967.8 3842795.3   707.8     3.40     4.51
3.16     NO
 L0000007         0   0.40000E-02  390968.0 3842785.6   707.9     3.40     4.51
3.16     NO
 L0000008         0   0.40000E-02  390968.1 3842775.9   707.9     3.40     4.51
3.16     NO
 L0000009         0   0.40000E-02  390968.2 3842766.2   707.9     3.40     4.51
3.16     NO
 L0000010         0   0.40000E-02  390968.3 3842756.5   707.9     3.40     4.51
3.16     NO
 L0000011         0   0.40000E-02  390968.5 3842746.8   707.9     3.40     4.51
3.16     NO
 L0000012         0   0.40000E-02  390968.6 3842737.1   707.8     3.40     4.51
3.16     NO
 L0000013         0   0.40000E-02  390968.7 3842727.4   707.8     3.40     4.51
3.16     NO
 L0000014         0   0.40000E-02  390968.8 3842717.7   707.8     3.40     4.51
3.16     NO
 L0000015         0   0.40000E-02  390968.9 3842708.0   707.7     3.40     4.51
3.16     NO
 L0000016         0   0.40000E-02  390969.1 3842698.3   707.7     3.40     4.51
3.16     NO
 L0000017         0   0.40000E-02  390969.2 3842688.6   707.7     3.40     4.51
3.16     NO
 L0000018         0   0.40000E-02  390969.3 3842678.9   707.7     3.40     4.51
3.16     NO
 L0000019         0   0.40000E-02  390969.4 3842669.2   707.7     3.40     4.51
3.16     NO
```

```
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3.16     NO
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3.16     NO
 L0000022         0   0.40000E-02  390969.8 3842640.1   707.8     3.40     4.51
3.16     NO
 L0000023         0   0.40000E-02  390969.9 3842630.4   707.8     3.40     4.51
3.16     NO
 L0000024         0   0.40000E-02  390970.0 3842620.7   707.8     3.40     4.51
3.16     NO
 L0000025         0   0.40000E-02  390970.2 3842611.0   707.8     3.40     4.51
3.16     NO
 L0000026         0   0.40000E-02  390970.3 3842601.3   707.9     3.40     4.51
3.16     NO
 L0000027         0   0.40000E-02  390970.4 3842591.6   707.9     3.40     4.51
3.16     NO
 L0000028         0   0.40000E-02  390970.5 3842581.9   707.8     3.40     4.51
3.16     NO
 L0000029         0   0.40000E-02  390970.6 3842572.2   707.7     3.40     4.51
3.16     NO
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3.16     NO
 L0000031         0   0.40000E-02  390970.9 3842552.8   707.6     3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
 L0000035         0   0.40000E-02  390971.4 3842514.0   707.5     3.40     4.51
3.16     NO
 L0000036         0   0.40000E-02  390971.5 3842504.3   707.4     3.40     4.51
3.16     NO
 L0000037         0   0.40000E-02  390963.5 3842502.7   707.4     3.40     4.51
3.16     NO
 L0000038         0   0.40000E-02  390953.8 3842502.8   707.4     3.40     4.51
3.16     NO
 L0000039         0   0.40000E-02  390944.1 3842502.9   707.5     3.40     4.51
3.16     NO
 L0000040         0   0.40000E-02  390934.4 3842503.1   707.5     3.40     4.51
3.16     NO
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

                                  PAGE   3
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*
```

```
                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

 L0000041         0   0.40000E-02  390924.7 3842503.2   707.5     3.40     4.51
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
 L0000047         0   0.40000E-02  390866.5 3842503.9   707.6     3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
 L0000051         0   0.40000E-02  390827.7 3842504.3   707.8     3.40     4.51
3.16     NO
 L0000052         0   0.40000E-02  390818.0 3842504.4   707.8     3.40     4.51
3.16     NO
 L0000053         0   0.40000E-02  390808.3 3842504.5   707.8     3.40     4.51
3.16     NO
 L0000054         0   0.40000E-02  390798.6 3842504.7   707.7     3.40     4.51
3.16     NO
 L0000055         0   0.40000E-02  390788.9 3842504.8   707.7     3.40     4.51
3.16     NO
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3.16     NO
 L0000057         0   0.40000E-02  390769.5 3842505.0   707.7     3.40     4.51
3.16     NO
 L0000058         0   0.40000E-02  390759.8 3842505.1   707.7     3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
 L0000074         0   0.40000E-02  390604.6 3842506.9   708.1      3.40     4.51
3.16     NO
 L0000075         0   0.40000E-02  390594.9 3842507.1   708.1      3.40     4.51
3.16     NO
 L0000076         0   0.40000E-02  390585.2 3842507.2   708.1      3.40     4.51
3.16     NO
 L0000077         0   0.40000E-02  390575.5 3842507.3   708.1      3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

                                  PAGE   4
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*
```

```
                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

 L0000081         0   0.40000E-02  390536.7 3842507.7   708.2     3.40     4.51
3.16     NO
 L0000082         0   0.40000E-02  390527.0 3842507.9   708.3     3.40     4.51
3.16     NO
 L0000083         0   0.40000E-02  390517.3 3842508.0   708.3     3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
 L0000086         0   0.40000E-02  390488.2 3842508.3   708.4     3.40     4.51
3.16     NO
 L0000087         0   0.40000E-02  390478.5 3842508.4   708.4     3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
 L0000105         0   0.40000E-02  390303.9 3842510.5   708.8     3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
 L0000119         0   0.40000E-02  390168.1 3842512.1   709.1     3.40     4.51
3.16     NO
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3.16     NO
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

                                  PAGE   5
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*
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                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.    HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.              (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

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3.16     NO
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3.16     NO
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3.16     NO
 L0000127         0   0.40000E-02  390090.5 3842513.0   709.1     3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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 L0000132         0   0.40000E-02  390042.0 3842513.6   709.2     3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

                                  PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*
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```
                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X         Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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                                                           *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                       BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X         Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

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3.16     NO
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3.16     NO
 L0000204         0   0.40000E-02  389343.7 3842521.8   710.4     3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

                                  PAGE   8
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*
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```
                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                      BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X         Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

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3.16     NO
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3.16     NO
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

                                  PAGE   9
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*
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                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X         Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

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3.16     NO
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3.16     NO
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3.16     NO
↑ *** AERMOD - VERSION 22112  ***    *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***    *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

                                  PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*
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```
                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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3.16     NO
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                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.              (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
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- - - - - - - - - - - - - - - - - - -

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3.16     NO
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3.16     NO
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3.16     NO
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```
                                                    *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                      BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X         Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.                (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - -

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3.16     NO
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3.16     NO
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3.16     NO
 L0002570          0   0.24752E-02  392117.5 3842483.3   705.3     3.40     4.51
3.16     NO
 L0002571          0   0.24752E-02  392127.2 3842483.1   705.2     3.40     4.51
3.16     NO
 L0002572          0   0.24752E-02  392136.9 3842482.9   705.2     3.40     4.51
3.16     NO
 L0002573          0   0.24752E-02  392146.6 3842482.7   705.2     3.40     4.51
3.16     NO
 L0002574          0   0.24752E-02  392156.3 3842482.6   705.2     3.40     4.51
3.16     NO
 L0002575          0   0.24752E-02  392166.0 3842482.4   705.2     3.40     4.51
3.16     NO
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3.16     NO
 L0002577          0   0.24752E-02  392185.4 3842482.0   705.2     3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
 L0002581          0   0.24752E-02  392224.2 3842481.3   705.3     3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
 L0002602         0   0.24752E-02  392427.9 3842477.7   705.5     3.40     4.51
3.16     NO
 L0002603         0   0.24752E-02  392437.6 3842477.5   705.4     3.40     4.51
3.16     NO
 L0002604         0   0.24752E-02  392447.3 3842477.3   705.4     3.40     4.51
3.16     NO
 L0002605         0   0.24752E-02  392457.0 3842477.1   705.4     3.40     4.51
3.16     NO
 L0002606         0   0.24752E-02  392466.7 3842477.0   705.4     3.40     4.51
3.16     NO
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

                                  PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*
```

```
                                                       *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X         Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.              (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

 L0002607         0   0.24752E-02  392476.4 3842476.8   705.4     3.40     4.51
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3.16     NO
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3.16     NO
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3.16     NO
 L0002613         0   0.24752E-02  392534.6 3842475.7   705.5     3.40     4.51
3.16     NO
 L0002614         0   0.24752E-02  392544.3 3842475.6   705.6     3.40     4.51
3.16     NO
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3.16     NO
 L0002616         0   0.24752E-02  392563.7 3842475.2   705.8     3.40     4.51
3.16     NO
 L0002617         0   0.24752E-02  392573.4 3842475.0   705.9     3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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```
                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

 L0002647         0   0.24752E-02  392813.3 3842397.3   707.3     3.40     4.51
3.16     NO
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3.16     NO
 L0002649         0   0.24752E-02  392820.1 3842379.1   706.2     3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
 L0002665         0   0.24752E-02  392831.0 3842225.6   705.7     3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*
```

```
                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
 L0002712         0   0.24752E-02  392831.0 3841769.7   705.9      3.40     4.51
3.16     NO
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3.16     NO
 L0002722         0   0.24752E-02  392830.4 3841672.7   706.1      3.40     4.51
3.16     NO
 L0002723         0   0.24752E-02  392830.3 3841663.0   706.1      3.40     4.51
3.16     NO
 L0002724         0   0.24752E-02  392830.2 3841653.3   706.1      3.40     4.51
3.16     NO
 L0002725         0   0.24752E-02  392830.2 3841643.6   706.1      3.40     4.51
3.16     NO
 L0002726         0   0.24752E-02  392830.1 3841633.9   706.1      3.40     4.51
3.16     NO
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

                                  PAGE  16
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*
```

```
                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.              (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

 L0002727         0   0.24752E-02  392830.1 3841624.2   706.1     3.40     4.51
3.16     NO
 L0002728         0   0.24752E-02  392830.0 3841614.5   706.1     3.40     4.51
3.16     NO
 L0002729         0   0.24752E-02  392829.9 3841604.8   706.1     3.40     4.51
3.16     NO
 L0002730         0   0.24752E-02  392829.9 3841595.1   706.1     3.40     4.51
3.16     NO
 L0002731         0   0.24752E-02  392829.8 3841585.4   706.1     3.40     4.51
3.16     NO
 L0002732         0   0.24752E-02  392829.7 3841575.7   706.1     3.40     4.51
3.16     NO
 L0002733         0   0.24752E-02  392829.7 3841566.0   706.2     3.40     4.51
3.16     NO
 L0002734         0   0.24752E-02  392829.6 3841556.3   706.2     3.40     4.51
3.16     NO
 L0002735         0   0.24752E-02  392829.6 3841546.6   706.2     3.40     4.51
3.16     NO
 L0002736         0   0.24752E-02  392829.5 3841536.9   706.2     3.40     4.51
3.16     NO
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3.16     NO
 L0002738         0   0.24752E-02  392829.4 3841517.5   706.2     3.40     4.51
3.16     NO
 L0002739         0   0.24752E-02  392829.3 3841507.8   706.2     3.40     4.51
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 L0002740         0   0.24752E-02  392829.2 3841498.1   706.3     3.40     4.51
3.16     NO
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3.16     NO
 L0002742         0   0.24752E-02  392829.1 3841478.7   706.3     3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
 L0002753         0   0.24752E-02  392828.4 3841372.0   706.8      3.40     4.51
3.16     NO
 L0002754         0   0.24752E-02  392828.3 3841362.3   706.8      3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
 L0002761         0   0.24752E-02  392827.9 3841294.5   707.0      3.40     4.51
3.16     NO
 L0002762         0   0.24752E-02  392827.8 3841284.8   707.0      3.40     4.51
3.16     NO
 L0002763         0   0.24752E-02  392827.8 3841275.1   707.0      3.40     4.51
3.16     NO
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3.16     NO
 L0002765         0   0.24752E-02  392827.6 3841255.7   707.0      3.40     4.51
3.16     NO
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3.16     NO
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

                                  PAGE  17
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*
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```
                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X         Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
    ID         CATS.              (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

 L0002767         0   0.24752E-02  392827.5 3841236.3   707.0     3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
 L0002770         0   0.24752E-02  392827.3 3841207.2   707.1     3.40     4.51
3.16     NO
 L0002771         0   0.24752E-02  392827.3 3841197.5   707.2     3.40     4.51
3.16     NO
 L0002772         0   0.24752E-02  392827.2 3841187.8   707.3     3.40     4.51
3.16     NO
 L0002773         0   0.24752E-02  392827.1 3841178.1   707.4     3.40     4.51
3.16     NO
 L0002774         0   0.24752E-02  392827.1 3841168.4   707.5     3.40     4.51
3.16     NO
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3.16     NO
 L0002776         0   0.24752E-02  392827.0 3841149.0   707.8     3.40     4.51
3.16     NO
 L0002777         0   0.24752E-02  392826.9 3841139.3   708.0     3.40     4.51
3.16     NO
 L0002778         0   0.24752E-02  392826.8 3841129.6   708.2     3.40     4.51
3.16     NO
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3.16     NO
 L0002780         0   0.24752E-02  392826.7 3841110.2   708.7     3.40     4.51
3.16     NO
 L0002781         0   0.24752E-02  392826.6 3841100.5   709.0     3.40     4.51
3.16     NO
 L0002782         0   0.24752E-02  392826.6 3841090.8   709.3     3.40     4.51
3.16     NO
 L0002783         0   0.24752E-02  392826.5 3841081.1   709.7     3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
 L0002800         0   0.24752E-02  392825.4 3840916.2   713.8     3.40     4.51
3.16     NO
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3.16     NO
 L0002802         0   0.24752E-02  392825.3 3840896.8   714.1     3.40     4.51
3.16     NO
 L0002803         0   0.24752E-02  392825.2 3840887.1   714.2     3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

                                  PAGE  18
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*
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```
                                                  *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X         Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

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3.16     NO
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3.16     NO
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3.16     NO
 L0002810          0   0.24752E-02  392824.8 3840819.2   713.2     3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
 L0002813          0   0.24752E-02  392824.6 3840790.1   713.8     3.40     4.51
3.16     NO
 L0002814          0   0.24752E-02  392824.5 3840780.4   713.5     3.40     4.51
3.16     NO
 L0002815          0   0.24752E-02  392824.5 3840770.7   713.2     3.40     4.51
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
 L0002819          0   0.24752E-02  392824.2 3840731.9   712.3     3.40     4.51
3.16     NO
 L0002820          0   0.24752E-02  392824.2 3840722.2   712.2     3.40     4.51
3.16     NO
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3.16     NO
 L0002822          0   0.16667E-01  390947.9 3842834.5   707.9     3.40     1.72
3.16     NO
 L0002823          0   0.16667E-01  390948.0 3842830.8   707.9     3.40     1.72
3.16     NO
 L0002824          0   0.16667E-01  390948.0 3842827.1   707.9     3.40     1.72
3.16     NO
 L0002825          0   0.16667E-01  390948.0 3842823.4   707.9     3.40     1.72
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
 L0002831        0   0.16667E-01  390948.1 3842801.2   707.9     3.40     1.72
3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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3.16     NO
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                                                    *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

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3.16     NO
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3.16     NO
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3.16     NO
 L0002850         0   0.16667E-01  390948.6 3842730.9   707.8     3.40     1.72
3.16     NO
 L0002851         0   0.16667E-01  390948.6 3842727.2   707.8     3.40     1.72
3.16     NO
 L0002852         0   0.16667E-01  390948.6 3842723.5   707.8     3.40     1.72
3.16     NO
 L0002853         0   0.16667E-01  390948.6 3842719.8   707.8     3.40     1.72
3.16     NO
 L0002854         0   0.16667E-01  390948.7 3842716.1   707.8     3.40     1.72
3.16     NO
 L0002855         0   0.16667E-01  390948.7 3842712.4   707.8     3.40     1.72
3.16     NO
 L0002856         0   0.16667E-01  390948.7 3842708.7   707.8     3.40     1.72
3.16     NO
 L0002857         0   0.16667E-01  390948.7 3842705.0   707.8     3.40     1.72
3.16     NO
 L0002858         0   0.16667E-01  390948.7 3842701.3   707.8     3.40     1.72
3.16     NO
 L0002859         0   0.16667E-01  390948.8 3842697.6   707.8     3.40     1.72
3.16     NO
 L0002860         0   0.16667E-01  390948.8 3842693.9   707.8     3.40     1.72
3.16     NO
 L0002861         0   0.16667E-01  390948.8 3842690.2   707.8     3.40     1.72
3.16     NO
 L0002862         0   0.16667E-01  390948.8 3842686.5   707.8     3.40     1.72
3.16     NO
 L0002863         0   0.16667E-01  390948.9 3842682.8   707.8     3.40     1.72
3.16     NO
 L0002864         0   0.16667E-01  390948.9 3842679.1   707.8     3.40     1.72
3.16     NO
 L0002865         0   0.16667E-01  390948.9 3842675.4   707.8     3.40     1.72
3.16     NO
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3.16     NO
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3.16     NO
 L0002869         0   0.16667E-01  390949.0 3842660.6   707.8     3.40     1.72
3.16     NO
 L0002870         0   0.16667E-01  390949.0 3842656.9   707.8     3.40     1.72
3.16     NO
 L0002871         0   0.16667E-01  390949.0 3842653.2   707.8     3.40     1.72
3.16     NO
 L0002872         0   0.16667E-01  390949.1 3842649.5   707.9     3.40     1.72
3.16     NO
 L0002873         0   0.16667E-01  390949.1 3842645.8   707.9     3.40     1.72
3.16     NO
 L0002874         0   0.16667E-01  390949.1 3842642.1   707.9     3.40     1.72
3.16     NO
 L0002875         0   0.16667E-01  390949.1 3842638.4   707.9     3.40     1.72
3.16     NO
 L0002876         0   0.16667E-01  390949.1 3842634.7   707.9     3.40     1.72
3.16     NO
 L0002877         0   0.16667E-01  390949.2 3842631.0   707.9     3.40     1.72
3.16     NO
 L0002878         0   0.16667E-01  390949.2 3842627.3   707.9     3.40     1.72
3.16     NO
 L0002879         0   0.16667E-01  390949.2 3842623.6   708.0     3.40     1.72
3.16     NO
 L0002880         0   0.16667E-01  390949.2 3842619.9   707.9     3.40     1.72
3.16     NO
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

                                           PAGE  20
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*


                                            *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                                SOURCE IDs
 -----------                                                ----------


  SLINE1     L0000001    , L0000002    , L0000003    , L0000004    , L0000005    ,
L0000006    , L0000007    , L0000008    ,

             L0000009    , L0000010    , L0000011    , L0000012    , L0000013    ,
L0000014    , L0000015    , L0000016    ,
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L0000022    , L0000023    , L0000024    ,

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L0000030    , L0000031    , L0000032    ,

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L0000038    , L0000039    , L0000040    ,

             L0000041    , L0000042    , L0000043    , L0000044    , L0000045    ,
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L0000062    , L0000063    , L0000064    ,

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L0000070    , L0000071    , L0000072    ,

             L0000073    , L0000074    , L0000075    , L0000076    , L0000077    ,
L0000078    , L0000079    , L0000080    ,

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                                            *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                                         SOURCE IDs
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             L0000161    , L0000162    , L0000163    , L0000164    , L0000165    ,
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L0000174    , L0000175    , L0000176    ,

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L0000182    , L0000183    , L0000184    ,

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L0000190    , L0000191    , L0000192    ,

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L0002462    , L0002463    , L0002464    ,

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L0002470    , L0002471    , L0002472    ,

             L0002473    , L0002474    , L0002475    , L0002476    , L0002477    ,
L0002478    , L0002479    , L0002480    ,
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*


                                           *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                                SOURCE IDs
 -----------                                                ----------


             L0002481    , L0002482    , L0002483    , L0002484    , L0002485    ,
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             L0002489    , L0002490    , L0002491    , L0002492    , L0002493    ,
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L0002502    , L0002503    , L0002504    ,
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L0002518    , L0002519    , L0002520    ,

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L0002542    , L0002543    , L0002544    ,

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L0002574    , L0002575    , L0002576    ,

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L0002638    , L0002639    , L0002640    ,
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***       13:23:43

                                  PAGE  23
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*


                                           *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                                     SOURCE IDs
 -----------                                                     ----------


             L0002641    , L0002642    , L0002643    , L0002644    , L0002645    ,
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L0002662    , L0002663    , L0002664    ,

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L0002670    , L0002671    , L0002672    ,

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L0002678    , L0002679    , L0002680    ,

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                                                    *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                                      SOURCE IDs
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             L0002801    , L0002802    , L0002803    , L0002804    , L0002805    ,
L0002806    , L0002807    , L0002808    ,

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L0002814    , L0002815    , L0002816    ,

             L0002817    , L0002818    , L0002819    , L0002820    ,

  SLINE3     L0002821    , L0002822    , L0002823    , L0002824    , L0002825    ,
L0002826    , L0002827    , L0002828    ,
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L0002874    , L0002875    , L0002876    ,

             L0002877    , L0002878    , L0002879    , L0002880    ,
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                                           *** DISCRETE CARTESIAN RECEPTORS ***
                                         (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                         (METERS)

     ( 390852.6, 3842484.2,     707.6,     707.6,       0.0);         ( 390886.3,
3842483.5,     707.6,     707.6,       0.0);
     ( 390857.3, 3842459.9,     707.7,     707.7,       0.0);         ( 390870.8,
3842484.2,     707.6,     707.6,       0.0);
     ( 391716.2, 3842214.5,     705.6,     705.6,       0.0);         ( 391560.9,
3841452.8,     706.0,     706.0,       0.0);
     ( 391558.8, 3841408.8,     706.0,     706.0,       0.0);         ( 391556.7,
3841347.9,     706.0,     706.0,       0.0);
     ( 391556.7, 3841291.3,     706.0,     706.0,       0.0);         ( 391330.1,
3841454.9,     706.3,     706.3,       0.0);
     ( 391336.4, 3841303.9,     706.2,     706.2,       0.0);         ( 391405.6,
3841381.5,     706.1,     706.1,       0.0);
     ( 391489.5, 3841377.3,     706.1,     706.1,       0.0);         ( 391405.6,
3841293.4,     706.2,     706.2,       0.0);
     ( 391491.6, 3841299.7,     706.3,     706.3,       0.0);         ( 391414.0,
3841457.0,     706.1,     706.1,       0.0);
     ( 391493.7, 3841454.9,     706.2,     706.2,       0.0);         ( 389264.5,
3840869.4,     710.4,     710.4,       0.0);
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     ( 389392.2, 3840874.2,     710.0,     710.0,       0.0);         ( 389515.1,
3840855.2,     708.4,     708.4,       0.0);
     ( 389628.6, 3840864.7,     709.1,     711.0,       0.0);
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```
                                            *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                               (1=YES; 0=NO)

            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
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1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
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1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
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1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
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1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1

                NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON
WHAT IS INCLUDED IN THE DATA FILE.



                                  *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED
CATEGORIES ***
                                                            (METERS/SEC)

                                                 1.54,   3.09,   5.14,   8.23,
10.80,
```

```
                                    *** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL
DATA ***

   Surface file:   KWJF_723816_03159\KWJF_723816_03159\723816_2017-2021_AdjU.sfc
                 Met Version:  21112
   Profile file:   KWJF_723816_03159\KWJF_723816_03159\723816_2017-2021_AdjU.PFL

   Surface format: FREE

   Profile format: FREE

   Surface station no.:     3159                  Upper air station no.:    93214
                  Name: UNKNOWN                                    Name: UNKNOWN

                  Year:   2017                                     Year:   2017

 First 24 hours of scalar data
 YR MO DY JDY HR     H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN
ALBEDO  REF WS   WD     HT  REF TA     HT
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
 17 01 01   1 01  -20.9  0.223 -9.000 -9.000 -999.  253.     54.7  0.08   3.25
1.00    2.86  281.   10.0  277.0    2.0
 17 01 01   1 02  -21.4  0.228 -9.000 -9.000 -999.  262.     57.4  0.04   3.25
1.00    3.36  258.   10.0  277.5    2.0
 17 01 01   1 03  -24.6  0.262 -9.000 -9.000 -999.  322.     75.5  0.04   3.25
1.00    3.83  252.   10.0  277.0    2.0
 17 01 01   1 04  -16.2  0.175 -9.000 -9.000 -999.  179.     33.7  0.03   3.25
1.00    2.69  216.   10.0  275.9    2.0
 17 01 01   1 05   -8.9  0.130 -9.000 -9.000 -999.  113.     20.5  0.05   3.25
1.00    1.91  171.   10.0  277.0    2.0
 17 01 01   1 06  -25.8  0.275 -9.000 -9.000 -999.  347.     83.4  0.03   3.25
1.00    4.14  231.   10.0  277.0    2.0
 17 01 01   1 07  -37.5  0.397 -9.000 -9.000 -999.  600.    173.3  0.08   3.25
1.00    4.97  278.   10.0  275.4    2.0
 17 01 01   1 08  -23.5  0.297 -9.000 -9.000 -999.  395.     97.2  0.04   3.25
0.60    4.31  244.   10.0  279.2    2.0
 17 01 01   1 09   25.2  0.504  0.475  0.008  141.  860.   -421.5  0.04   3.25
0.37    6.89  260.   10.0  281.4    2.0
 17 01 01   1 10   94.9  0.626  1.121  0.005  492. 1188.   -214.6  0.04   3.25
0.29    8.45  261.   10.0  283.8    2.0
 17 01 01   1 11  143.7  0.772  1.460  0.007  718. 1624.   -265.1  0.08   3.25
0.26    9.10  273.   10.0  284.9    2.0
 17 01 01   1 12  168.0  1.035  1.602  0.005  810. 2516.   -544.8  0.08   3.25
0.25   12.35  271.   10.0  285.9    2.0
 17 01 01   1 13  167.0  0.882  1.755  0.011 1072. 2031.   -339.9  0.04   3.25
0.26   12.01  265.   10.0  287.0    2.0
 17 01 01   1 14  139.7  0.925  1.670  0.009 1104. 2131.   -468.2  0.04   3.25
0.27   12.65  256.   10.0  286.4    2.0
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 17 01 01   1 15   87.7  0.788  1.438  0.008 1122. 1711.   -461.8  0.04   3.25
0.30   10.78  243.   10.0  284.9    2.0
 17 01 01   1 16   16.4  0.685  0.822  0.005 1124. 1381.  -1627.1  0.03   3.25
0.39    9.75  237.   10.0  283.1    2.0
 17 01 01   1 17  -57.0  0.667 -9.000 -9.000 -999. 1311.    490.0  0.04   3.25
0.65    9.39  242.   10.0  281.4    2.0
 17 01 01   1 18  -54.1  0.585 -9.000 -9.000 -999. 1084.    376.6  0.04   3.25
1.00    8.28  244.   10.0  280.9    2.0
 17 01 01   1 19  -56.2  0.606 -9.000 -9.000 -999. 1132.    404.5  0.03   3.25
1.00    8.83  237.   10.0  280.4    2.0
 17 01 01   1 20  -55.2  0.595 -9.000 -9.000 -999. 1103.    389.9  0.04   3.25
1.00    8.42  243.   10.0  280.4    2.0
 17 01 01   1 21  -62.0  0.668 -9.000 -9.000 -999. 1306.    490.3  0.03   3.25
1.00    9.69  239.   10.0  280.4    2.0
 17 01 01   1 22  -64.0  0.715 -9.000 -9.000 -999. 1447.    561.6  0.04   3.25
1.00   10.05  240.   10.0  279.9    2.0
 17 01 01   1 23  -54.5  0.586 -9.000 -9.000 -999. 1096.    377.4  0.03   3.25
1.00    8.54  236.   10.0  279.9    2.0
 17 01 01   1 24  -46.2  0.496 -9.000 -9.000 -999.  848.    270.7  0.03   3.25
1.00    7.28  236.   10.0  279.2    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 17 01 01 01   10.0 1  281.    2.86   277.1   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

                                  PAGE  28
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                              *** THE PERIOD ( 43824 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: SLINE1   ***
                                  INCLUDING SOURCE(S):     L0000001    , L0000002
, L0000003    , L0000004    , L0000005    ,
                 L0000006    , L0000007    , L0000008    , L0000009    , L0000010
, L0000011    , L0000012    , L0000013    ,
                 L0000014    , L0000015    , L0000016    , L0000017    , L0000018
, L0000019    , L0000020    , L0000021    ,
                 L0000022    , L0000023    , L0000024    , L0000025    , L0000026
, L0000027    , L0000028    ,  . . .      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_10    IN MICROGRAMS/M**3
```

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                    **

       X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -
         390852.64    3842484.16       25.54697                          390886.27
3842483.49       25.29867
         390857.35    3842459.95       15.48516                          390870.85
3842484.20       25.74440
         391716.16    3842214.50        1.40911                          391560.89
3841452.84        0.47404
         391558.79    3841408.78        0.44931                          391556.69
3841347.93        0.41815
         391556.69    3841291.28        0.39183                          391330.08
3841454.94        0.49718
         391336.37    3841303.87        0.41087                          391405.62
3841381.50        0.44716
         391489.55    3841377.31        0.43856                          391405.62
3841293.38        0.40223
         391491.64    3841299.67        0.40013                          391414.01
3841457.04        0.49141
         391493.74    3841454.94        0.48252                          389264.48
3840869.44        0.22426
         389392.17    3840874.17        0.23240                          389515.12
3840855.25        0.23445
         389628.61    3840864.71        0.24146

↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***       13:23:43

                                  PAGE  29
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                              *** THE PERIOD ( 43824 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: SLINE2   ***
                                  INCLUDING SOURCE(S):     L0002417    , L0002418
, L0002419    , L0002420    , L0002421    ,
                     L0002422    , L0002423    , L0002424    , L0002425    , L0002426
, L0002427    , L0002428    , L0002429    ,
                     L0002430    , L0002431    , L0002432    , L0002433    , L0002434
, L0002435    , L0002436    , L0002437    ,
                     L0002438    , L0002439    , L0002440    , L0002441    , L0002442
, L0002443    , L0002444    ,  . . .      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***
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                                        ** CONC OF PM_10    IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -
         390852.64    3842484.16        2.14022                      390886.27
3842483.49        2.75479
         390857.35    3842459.95        2.06334                      390870.85
3842484.20        2.43876
         391716.16    3842214.50        1.89566                      391560.89
3841452.84        0.47056
         391558.79    3841408.78        0.45418                      391556.69
3841347.93        0.43384
         391556.69    3841291.28        0.41721                      391330.08
3841454.94        0.41357
         391336.37    3841303.87        0.37049                      391405.62
3841381.50        0.40759
         391489.55    3841377.31        0.42639                      391405.62
3841293.38        0.38261
         391491.64    3841299.67        0.40397                      391414.01
3841457.04        0.43468
         391493.74    3841454.94        0.45408                      389264.48
3840869.44        0.11862
         389392.17    3840874.17        0.12540                      389515.12
3840855.25        0.13123
         389628.61    3840864.71        0.13776

↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

                                  PAGE  30
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                              *** THE PERIOD ( 43824 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: SLINE3   ***
                                  INCLUDING SOURCE(S):     L0002821    , L0002822
, L0002823    , L0002824    , L0002825    ,
                 L0002826    , L0002827    , L0002828    , L0002829    , L0002830
, L0002831    , L0002832    , L0002833    ,
                 L0002834    , L0002835    , L0002836    , L0002837    , L0002838
, L0002839    , L0002840    , L0002841    ,
                 L0002842    , L0002843    , L0002844    , L0002845    , L0002846
, L0002847    , L0002848    ,  . . .      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***
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                                          ** CONC OF PM_10    IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)        CONC                          X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -
         390852.64    3842484.16        6.49784                         390886.27
3842483.49       6.69465
         390857.35    3842459.95        5.42384                         390870.85
3842484.20       6.61456
         391716.16    3842214.50        1.65004                         391560.89
3841452.84       0.44966
         391558.79    3841408.78        0.42773                         391556.69
3841347.93       0.39943
         391556.69    3841291.28        0.37506                         391330.08
3841454.94       0.45238
         391336.37    3841303.87        0.37367                         391405.62
3841381.50       0.41560
         391489.55    3841377.31        0.41537                         391405.62
3841293.38       0.37314
         391491.64    3841299.67        0.37918                         391414.01
3841457.04       0.45838
         391493.74    3841454.94        0.45660                         389264.48
3840869.44       0.16678
         389392.17    3840874.17        0.17657                         389515.12
3840855.25       0.18087
         389628.61    3840864.71        0.18462

↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***       13:23:43

                                  PAGE  31
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  SLINE1   ***
                                  INCLUDING SOURCE(S):     L0000001    , L0000002
, L0000003    , L0000004    , L0000005    ,
                 L0000006    , L0000007    , L0000008    , L0000009    , L0000010
, L0000011    , L0000012    , L0000013    ,
                 L0000014    , L0000015    , L0000016    , L0000017    , L0000018
, L0000019    , L0000020    , L0000021    ,
                 L0000022    , L0000023    , L0000024    , L0000025    , L0000026
, L0000027    , L0000028    ,  . . .      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
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***

                                            ** CONC OF PM_10    IN MICROGRAMS/M**3
                       **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
        390852.64   3842484.16      327.45789  (17052206)                390886.27
3842483.49      325.65968  (17052206)
        390857.35   3842459.95      213.54981  (17052206)                390870.85
3842484.20      329.86271  (17052206)
        391716.16   3842214.50       50.64591  (17100407)                391560.89
3841452.84       16.99235  (18010806)
        391558.79   3841408.78       16.58266  (21120301)                391556.69
3841347.93       16.09838  (21120301)
        391556.69   3841291.28       15.49512  (21120301)                391330.08
3841454.94       19.24927  (20101407)
        391336.37   3841303.87       16.99415  (21090401)                391405.62
3841381.50       18.11759  (19100507)
        391489.55   3841377.31       16.90328  (19100507)                391405.62
3841293.38       16.92470  (20101407)
        391491.64   3841299.67       16.55858  (19100507)                391414.01
3841457.04       19.10970  (19100507)
        391493.74   3841454.94       17.56772  (21120301)                389264.48
3840869.44       16.21796  (17011517)
        389392.17   3840874.17       16.56305  (20011608)                389515.12
3840855.25       16.18811  (17101102)
        389628.61   3840864.71       16.19841  (17050106)

↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

                                  PAGE  32
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  SLINE2   ***
                                  INCLUDING SOURCE(S):     L0002417    , L0002418
, L0002419    , L0002420    , L0002421    ,
                 L0002422    , L0002423    , L0002424    , L0002425    , L0002426
, L0002427    , L0002428    , L0002429    ,
                 L0002430    , L0002431    , L0002432    , L0002433    , L0002434
, L0002435    , L0002436    , L0002437    ,
                 L0002438    , L0002439    , L0002440    , L0002441    , L0002442
, L0002443    , L0002444    ,  . . .      ,
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                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_10    IN MICROGRAMS/M**3
                   **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -
        390852.64   3842484.16      178.06100  (21020123)                390886.27
3842483.49      194.75589  (21020123)
        390857.35   3842459.95      145.64117  (21052406)                390870.85
3842484.20      187.90169  (21020123)
        391716.16   3842214.50       43.41400  (18062006)                391560.89
3841452.84       15.31990  (19100507)
        391558.79   3841408.78       14.88360  (19100507)                391556.69
3841347.93       14.06295  (19100507)
        391556.69   3841291.28       13.15172  (20101407)                391330.08
3841454.94       14.63810  (17122518)
        391336.37   3841303.87       12.79569  (17122518)                391405.62
3841381.50       13.68764  (21020506)
        391489.55   3841377.31       14.00619  (20101407)                391405.62
3841293.38       12.75780  (21020506)
        391491.64   3841299.67       12.84556  (20122518)                391414.01
3841457.04       14.70816  (20122518)
        391493.74   3841454.94       15.24192  (19100507)                389264.48
3840869.44       10.21900  (21122117)
        389392.17   3840874.17        9.35326  (21122117)                389515.12
3840855.25        8.94198  (21122117)
        389628.61   3840864.71        8.73437  (21122117)

↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

                                  PAGE  33
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  SLINE3   ***
                                  INCLUDING SOURCE(S):     L0002821    , L0002822
, L0002823    , L0002824    , L0002825    ,
                 L0002826    , L0002827    , L0002828    , L0002829    , L0002830
, L0002831    , L0002832    , L0002833    ,
                 L0002834    , L0002835    , L0002836    , L0002837    , L0002838
, L0002839    , L0002840    , L0002841    ,
                 L0002842    , L0002843    , L0002844    , L0002845    , L0002846
, L0002847    , L0002848    ,  . . .      ,
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                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_10    IN MICROGRAMS/M**3
                   **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
        390852.64   3842484.16      684.28567  (18010407)                390886.27
3842483.49      811.75627  (19021402)
        390857.35   3842459.95      649.82139  (21110305)                390870.85
3842484.20      748.79759  (19092006)
        391716.16   3842214.50      121.84346  (19121908)                391560.89
3841452.84       75.41718  (17121307)
        391558.79   3841408.78       73.42895  (17121307)                391556.69
3841347.93       70.39910  (19100507)
        391556.69   3841291.28       68.50714  (21111308)                391330.08
3841454.94       84.20524  (20010718)
        391336.37   3841303.87       72.91714  (20010718)                391405.62
3841381.50       76.68241  (17021603)
        391489.55   3841377.31       74.20963  (20101407)                391405.62
3841293.38       69.78947  (20020201)
        391491.64   3841299.67       70.35216  (20101407)                391414.01
3841457.04       82.33518  (20101407)
        391493.74   3841454.94       80.10142  (19100507)                389264.48
3840869.44       41.04987  (21043004)
        389392.17   3840874.17       44.87701  (20011608)                389515.12
3840855.25       44.47700  (17020503)
        389628.61   3840864.71       47.69045  (17050106)

↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

                                   PAGE  34
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                                        *** THE SUMMARY OF MAXIMUM PERIOD ( 43824
HRS) RESULTS ***


                                    ** CONC OF PM_10    IN MICROGRAMS/M**3
               **


                        NETWORK
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GROUP ID                       AVERAGE CONC                RECEPTOR  (XR, YR, ZELEV,
ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -

SLINE1    1ST HIGHEST VALUE IS      25.74440 AT (  390870.85,  3842484.20,   707.64,
  707.64,    0.00)  DC
          2ND HIGHEST VALUE IS      25.54697 AT (  390852.64,  3842484.16,   707.64,
  707.64,    0.00)  DC
          3RD HIGHEST VALUE IS      25.29867 AT (  390886.27,  3842483.49,   707.57,
  707.57,    0.00)  DC
          4TH HIGHEST VALUE IS      15.48516 AT (  390857.35,  3842459.95,   707.67,
  707.67,    0.00)  DC
          5TH HIGHEST VALUE IS       1.40911 AT (  391716.16,  3842214.50,   705.63,
  705.63,    0.00)  DC
          6TH HIGHEST VALUE IS       0.49718 AT (  391330.08,  3841454.94,   706.26,
  706.26,    0.00)  DC
          7TH HIGHEST VALUE IS       0.49141 AT (  391414.01,  3841457.04,   706.09,
  706.09,    0.00)  DC
          8TH HIGHEST VALUE IS       0.48252 AT (  391493.74,  3841454.94,   706.21,
  706.21,    0.00)  DC
          9TH HIGHEST VALUE IS       0.47404 AT (  391560.89,  3841452.84,   706.04,
  706.04,    0.00)  DC
         10TH HIGHEST VALUE IS       0.44931 AT (  391558.79,  3841408.78,   706.00,
  706.00,    0.00)  DC

SLINE2    1ST HIGHEST VALUE IS       2.75479 AT (  390886.27,  3842483.49,   707.57,
  707.57,    0.00)  DC
          2ND HIGHEST VALUE IS       2.43876 AT (  390870.85,  3842484.20,   707.64,
  707.64,    0.00)  DC
          3RD HIGHEST VALUE IS       2.14022 AT (  390852.64,  3842484.16,   707.64,
  707.64,    0.00)  DC
          4TH HIGHEST VALUE IS       2.06334 AT (  390857.35,  3842459.95,   707.67,
  707.67,    0.00)  DC
          5TH HIGHEST VALUE IS       1.89566 AT (  391716.16,  3842214.50,   705.63,
  705.63,    0.00)  DC
          6TH HIGHEST VALUE IS       0.47056 AT (  391560.89,  3841452.84,   706.04,
  706.04,    0.00)  DC
          7TH HIGHEST VALUE IS       0.45418 AT (  391558.79,  3841408.78,   706.00,
  706.00,    0.00)  DC
          8TH HIGHEST VALUE IS       0.45408 AT (  391493.74,  3841454.94,   706.21,
  706.21,    0.00)  DC
          9TH HIGHEST VALUE IS       0.43468 AT (  391414.01,  3841457.04,   706.09,
  706.09,    0.00)  DC
         10TH HIGHEST VALUE IS       0.43384 AT (  391556.69,  3841347.93,   706.00,
  706.00,    0.00)  DC

SLINE3    1ST HIGHEST VALUE IS       6.69465 AT (  390886.27,  3842483.49,   707.57,
  707.57,    0.00)  DC
          2ND HIGHEST VALUE IS       6.61456 AT (  390870.85,  3842484.20,   707.64,
```

```
  707.64,    0.00)  DC
         3RD HIGHEST VALUE IS       6.49784 AT (  390852.64,  3842484.16,   707.64,
  707.64,    0.00)  DC
         4TH HIGHEST VALUE IS       5.42384 AT (  390857.35,  3842459.95,   707.67,
  707.67,    0.00)  DC
         5TH HIGHEST VALUE IS       1.65004 AT (  391716.16,  3842214.50,   705.63,
  705.63,    0.00)  DC
         6TH HIGHEST VALUE IS       0.45838 AT (  391414.01,  3841457.04,   706.09,
  706.09,    0.00)  DC
         7TH HIGHEST VALUE IS       0.45660 AT (  391493.74,  3841454.94,   706.21,
  706.21,    0.00)  DC
         8TH HIGHEST VALUE IS       0.45238 AT (  391330.08,  3841454.94,   706.26,
  706.26,    0.00)  DC
         9TH HIGHEST VALUE IS       0.44966 AT (  391560.89,  3841452.84,   706.04,
  706.04,    0.00)  DC
        10TH HIGHEST VALUE IS       0.42773 AT (  391558.79,  3841408.78,   706.00,
  706.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

                                  PAGE  35
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                                                *** THE SUMMARY OF HIGHEST  1-HR
RESULTS ***


                                    ** CONC OF PM_10    IN MICROGRAMS/M**3
               **

                                                          DATE
                                         NETWORK
GROUP ID                          AVERAGE CONC     (YYMMDDHH)             RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -

SLINE1   HIGH   1ST HIGH VALUE IS     329.86271  ON 17052206: AT (  390870.85,
3842484.20,   707.64,   707.64,    0.00)  DC

SLINE2   HIGH   1ST HIGH VALUE IS     194.75589  ON 21020123: AT (  390886.27,
3842483.49,   707.57,   707.57,    0.00)  DC
```

```
SLINE3   HIGH   1ST HIGH VALUE IS     811.75627  ON 19021402: AT (  390886.27,
3842483.49,   707.57,   707.57,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION 22112  ***   *** C:\Lakes\AERMOD View\Lancaster35th-H Ops
HRA\Lancaster35th-H Ops     ***        03/03/23
 *** AERMET - VERSION  21112 ***   *** Lancaster 35th St/Ave H Operational HRA
                       ***        13:23:43

                                  PAGE  36
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of         1556 Informational Message(s)

 A Total of        43824 Hours Were Processed

 A Total of          854 Calm Hours Identified

 A Total of          702 Missing Hours Identified (  1.60 Percent)


    ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186    1664       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
    0.50
 ME W187    1664       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


    ************************************
    *** AERMOD Finishes Successfully ***
    ************************************
```

Attachment D

Supplemental VMT Analysis

DUDEK
MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

MEMORANDUM

To:	Michael Di Sano, West Avenue H 18 LLC
From:	Lisa Valdez, Senior Transportation Planner
Subject:	Supplemental Vehicle Miles Traveled Analysis
Date:	May 3, 2023
cc:	Jennifer Sucha, Dudek Project Manager

The purpose of this supplemental Vehicle Miles Traveled (VMT) Analysis is to evaluate the potential VMT impacts associated with the proposed 35th Street & Avenue H Industrial Project (proposed Project or Project), an industrial development in the City of Lancaster (City), in Los Angeles County (County). The following analysis is based on the Total VMT per Service Population for the Antelope Valley Region and has been prepared to evaluate potential VMT impacts at the regional level. The analysis is a supplement to the *35th Street & Avenue H Industrial Project VMT Analysis* prepared by Dudek in March 2023 which was based on the Home-based Work VMT per Employee for the City of Lancaster. Both analyses have been prepared per the City of Lancaster Department of Development Services Local Transportation Assessment Guidelines (January 2021)[1].

1 Project Description

The Project involves the construction and operation of up to approximately 395,390 square feet of industrial/warehouse space on approximately 18 acres of vacant land within the City of Lancaster. The Project site is bound to the south by West Avenue H, to the west by 35th Street West and an existing Michaels Distribution Center, and to the north and east by vacant land. Access to the Project site would be provided via State Route 14 (SR-14) to the north and south ramps at West Avenue H. The Project site has a General Plan and Zoning designation of "SP – Specific Plan" and is subject to the Fox Field Industrial Corridor Specific Plan (Specific Plan).

On-Site and Off-Site Improvements

The Project would include frontage improvements along West Avenue H and 35th Street West, including 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.

Site Access and Circulation

Access to the Project site would be provided via a new full access driveway on 35th Street West at the north end of the site and a new full access driveway on West Avenue H on the east end of the site. Paved passenger vehicle parking areas would be provided along the southern edge of the building, while tractor-trailer stalls and loading

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[1] City of Lancaster. 2021. Department of Development Services Local Transportation Assessment Guidelines. January.

docks would be provided along the eastern edge of the building. In total, the Project would provide 40 loading dock positions, 70 tractor-trailer stalls, 117 passenger vehicle spaces, and approximately 134,950 square feet of landscape area coverage.

Operations

Tenants for the Project have not been identified and the industrial warehouse building space is considered speculative. Business operations would be expected to be conducted within the enclosed building space, with the exception of trucks and passenger vehicles accessing the site, passenger and truck parking, the loading and unloading of trailers within designated truck courts/loading area, and the internal and external movement of materials around the Project site via forklifts, pallet jacks, yard hostlers, and similar equipment. It is anticipated that the facilities would be operated 24 hours a day, 7 days a week.

2 Project Trip Generation

The Project would include construction of an approximately 395,390 square foot industrial/warehouse building with associated office spaces, surface parking, and loading areas. Trip generation estimates for the proposed Project 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 the high percentage of truck traffic associated with the Project. Neither the City of Lancaster nor Los Angeles County specify the use of PCE rates, therefore, the San Bernardino County Congestion Management Plan (CMP)[2], which provides guidance on the application of PCE rates, was used. 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 2003 Fontana Truck Trip Generation Study (City of Fontana 2003) and the 2014 SCAQMD *Warehouse Truck Trip Study Data Results and Usage* (SCAQMD 2014). Trip generation rates, vehicle splits, and the resulting trip generation estimates for the Project are summarized in Table 1.

The layout of the building is most representative of a high-cube warehousing land use. However, as a specific end-user is not in place for the proposed Project, a 35% General Light Industrial and 65% High-Cube Fulfillment Center Warehousing split of the total building square footage, is applied to provide a conservative analysis for daily trip generation. As such, the following vehicle mix and land use assumptions provide a conservative analysis:

- **General Light Industrial (ITE Code 110)** trip rates were used to obtain trip generation estimates for 35% of the Project, totaling approximately 138,387 square feet of the total estimated building area.
- **High-Cube Fulfillment Center Warehouse (ITE Code 155)** trip rates were used to obtain trip generation estimates for 65% of the Project, totaling approximately 257,004 square feet of the total estimated building area.

As shown in Table 1, the proposed Project would generate 1,139 daily trips, 141 AM peak hour trips, and 131 PM peak hour trips. Accounting for truck traffic from warehousing and industrial land uses, the proposed project would generate 1,518 daily PCE trips, 185 AM peak hour PCE trips, and 172 PM peak hour PCE trips.

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[2] San Bernardino Association of Governments (SANBAG). 2016. San Bernardino County Congestion Management Plan. June.

Table 1. Lancaster 18 Project Trip Generation Summary

Land Use	ITE Code	Size/Units		Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Trip Rates1										
General Light Industrial	110	TSF		4.87	0.65	0.09	0.74	0.09	0.56	0.65
High-Cube Fulfillment Center (non-sort)	155	TSF		1.81	0.12	0.03	0.15	0.06	0.10	0.16
Trip Generation										
General Light Industrial – 35%	110	138.387	TSF	674	90	12	102	13	77	90
High-Cube Fulfillment Center (non-sort) – 65%	155	257.004	TSF	465	31	8	39	16	25	41
	Project Total	**395.390**	**TSF**	**1,139**	**121**	**20**	**141**	**29**	**102**	**131**
Trip Generation Summary (Vehicle Mix, Non-PCE, by Vehicle Classification)										
ITE 110[2]										
Passenger Vehicles	78.6%			530	71	10	80	10	61	71
2-Axle Trucks	8.0%			44	7	1	8	1	6	7
3-Axle Trucks	3.9%			26	4	0	4	0	3	4
4+-Axle Trucks	9.5%			64	9	1	10	1	7	9
	ITE 110 Total (Non-PCE)			*674*	*90*	*12*	*102*	*13*	*77*	*90*
ITE 155 (non-sort)[3]										
Passenger Vehicles	72.5%			337	23	6	28	12	18	30
2-Axle Trucks	4.6%			21	1	0	2	1	1	2
3-Axle Trucks	5.7%			27	2	0	2	1	1	2
4+-Axle Trucks	17.2%			80	5	1	7	3	4	7
	ITE 155 (non-sort) Total (Non-PCE)			*465*	*31*	*8*	*39*	*16*	*25*	*41*
	Total			**1,139**	**121**	**20**	**141**	**29**	**102**	**131**
Trip Generation Summary (PCE, by Vehicle Classification)										
Vehicle Mix	**PCE[4]**									
Passenger Vehicles	1.0			867	93	15	109	22	79	101
2-Axle Trucks	1.5			113	13	2	15	3	11	14
3-Axle Trucks	2.0			106	11	1	12	3	9	11
4+-Axle Trucks	3.0			432	42	8	49	12	35	47
	Total Trip Generation (PCE)			**1,518**	**159**	**26**	**185**	**39**	**134**	**172**

Notes: Rounding discrepancies may occur. TSF = Thousand Square Feet; PCE = Passenger Car Equivalent

[1] Trip rates from the Institute of Transportation Engineers (ITE), *Trip Generation, 11th Edition, 2021.*

[2] Vehicle Mix and Percent from the Fontana Truck Trip Generation Study, August, 2003.

[3] Vehicle mix and percent from SCAQMD Warehouse Truck Trip Study Data Results and Usage, July 17, 2014.

[4] Passenger Car Equivalent (PCE) factors from the San Bernardino County CMP, Appendix B - Guidelines for CMP Traffic Impact Analysis Reports in Los Angeles County, 2016.

3 Vehicle Miles Traveled Analysis

On September 27, 2013, Senate Bill (SB) 743 was signed into law, which creates a process to change the way that transportation impacts are analyzed under CEQA. SB 743 required the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to LOS for evaluating transportation impacts. Under the new transportation guidelines, LOS, or vehicle delay, is no longer considered an environmental impact under CEQA. OPR recommended VMT as the most appropriate measure of project transportation impacts for land use projects and land use plans. The updates to the CEQA Guidelines required under SB 743 were approved on December 28, 2018. In accordance with SB 743, the City of Lancaster adopted the City's Local Transportation Assessment Guidelines which identify VMT-related screening criteria, methodologies, and impact criteria to be used to evaluate a project's potential impact on VMT. The screening criteria and project-level VMT analysis are presented below.

3.1 Project VMT Screening

The City's Guidelines identifies projects that can be screened from conducting a project-specific VMT analysis. A land use project need only to meet one of the screening thresholds identified in Table 2 to result in a less-than-significant impact.

Table 2. City of Lancaster VMT Screening Criteria

Screening Categories	Project Requirements to Meet Screening Criteria
Project Size	A project that generates 110 or fewer daily trips.
Locally Serving Retail	A project that has locally serving retail uses that are 50,000 square feet or less, including specialty retail, shopping center, grocery store, pharmacy, financial services/banks, fitness center or health club, restaurant, and café. If the project contains other land uses, those uses need to be considered under other applicable screening criteria.
Project Located in a Low VMT Area	A residential or office project that is located in a TAZ that is already 15% below the AVPA Baseline VMT.
Transit Proximity	A multifamily residential project providing higher density housing or a commercial project in an area already zoned for commercial use that is located within a ½ mile of the Metrolink station or within a ½ mile of a bus stop with service frequency of 15 minutes or less during commute periods.
Affordable Housing	A residential project that provides affordable housing units; if part of a larger development, only those units that meet the definition of affordable housing satisfy the screening criteria.
Transportation Facilities	Transportation projects that promote non-auto travel, improve safety, or improve traffic operations at current bottlenecks, such as transit, bicycle and pedestrian facilities, intersection traffic control (e.g., traffic signals or roundabouts), or widening at intersections to provide new turn lanes.

Source: City of Lancaster Local Transportation Assessment Guidelines, 2021

The proposed Project does not meet any of the screening criteria listed above. The Project does not generate less than 110 daily trips (as shown in Table 1) and is an industrial project that would not be considered a locally serving retail use and does not include affordable housing. The Project is also not located in a low VMT area as identified on the City's VMT maps or is it within a half-mile mile of an existing major transit stop, or along a high-quality transit corridor. Therefore, a project-level VMT analysis is required and is presented below.

3.2 VMT Analysis

The following section summarizes the VMT analysis approach and findings.

VMT Approach

Per City of Lancaster Guidelines, the proposed Project VMT has been calculated using the most current version of the Southern California Association of Governments (SCAG) regional travel demand model, and includes an analysis of the baseline year 2020, with and without the project. Per the City's Guidelines, VMT can be reported as "Home-Based VMT" per capita for residential projects and "Home-Based Work VMT" per employee for office projects. Total VMT and/or VMT per Service Population is to be reported for area plans, large-scale retail projects, or other project types.

Consistent with recent VMT studies prepared for similar land use projects in the City, the Total VMT per Service Population metric has been used for this supplemental analysis. The Project is not a residential or regional retail use, or a transportation project. In addition, the VMT per Service Population is a common metric used by jurisdictions throughout Southern California in evaluating the potential transportation impacts of development projects, including warehousing facilities. Within the SCAG model, the total VMT (all vehicles and all trip purposes) to and from all zones in the geographic area are divided by the total service population (employees and residents) to get the efficiency metric of VMT per Service Population. The first model run included the existing land uses for the area with no changes and the second model run was conducted with socio-economic data from the proposed Project (e.g., population, households, employment).

Impact Threshold

The City of Lancaster identifies significance thresholds for determining project impacts on VMT according to the type of project. For "other land use types", the City identifies the following significance threshold:

- Other Land Use Types – The project exceeds 15% below the Antelope Valley Planning Area (AVPA) Baseline VMT. For land use types not listed above (e.g., residential, office, etc.), the City can determine the appropriate VMT metric depending on the project characteristics. For projects that are generally producing job related travel, the employment generating VMT (home-based work VMT per employee) can be compared to the baseline. For other projects, the total VMT per Service Population can be compared to the AVPA baseline, or the net change in Total VMT can be estimated.

A less than significant impact under Existing/Baseline conditions would also result in a less than significant cumulative impact as long as the Project is consistent with the SCAG RTP/SCS.

For the purpose of this analysis, the potential net change in the total VMT per Service Population has been compared to the AVPA baseline and is presented in the following section.

VMT Per Service Population

Table 3 presents the VMT per Service Population for the baseline and Project conditions. As shown in the table, the VMT per Service Population is 39.7 for both the baseline and project conditions. Therefore, there would be no net increase in VMT per Service Population with the project within the Antelope Valley. As also shown, there would be a slight decrease in the total regional VMT with the project. The project would fulfill a need for industrial warehouse uses and employment opportunities where one does not currently exist, thus eliminating the need to travel farther distances for such services and employment opportunities.

Table 3. Project VMT Summary

2020	Antelope Valley (With Project)	Antelope Valley (Without Project)[1]
Total Population	430,915	430,915
Total Employment	96,073	95,936
Total Service Population	526,988	526,851
OD VMT	20,899,314	20,901,125
OD VMT per service population	39.7	39.7

Note: VMT = vehicle miles traveled; OD = origin destination
Source: Translutions, Inc.

[1] Estimated from 2020 No Project model run by Translutions, Inc.

Appendix C

Biological Resources Technical Report

Biological Resources Technical Report

35th Street & Avenue H Industrial Project

MAY 2023

Prepared for:

WEST AVENUE H 18, LLC
3 Corporate Plaza, Suite 230
Newport Beach, California 92660
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Printed on 30% post-consumer recycled material.

Table of Contents

SECTION **PAGE NO.**

TABLES

FIGURES

APPENDICES

Acronyms and Abbreviations

Acronym/Abbreviation	Definition
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
Esri	Environmental Systems Research Institute
FESA	Federal Endangered Species Act
GIS	geographic information system
HCP	habitat conservation plan
IPaC	Information for Planning and Conservation System
ISA	International Society of Arboriculture
NCCP	natural community conservation plan
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
OHWM	ordinary high water mark
Project	35th Street & Avenue H Project
SSC	California Species of Special Concern
Study Area	Project site plus 500-foot buffer
SWPPP	Storm Water Pollution Prevention Plan
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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1 Introduction

This report presents the findings of a biological resources assessment conducted by Dudek for the proposed 35th Street & Avenue H project (Project). The purpose of this assessment was to evaluate the existing biological conditions and potential impacts to sensitive biological resources associated with the proposed Project, including a 300-foot buffer (Study Area). This report is prepared at a level of detail sufficient to address California Environmental Quality Act (CEQA) requirements, specifically the biological thresholds of significance included in Appendix G of the CEQA Guidelines, as well as identifying the potential need for permits for sensitive resources protected under federal and state regulations.

1.1 Project Location

The Project site is located in the northwestern portion of the City of Lancaster (City), which is within the Antelope Valley region of Los Angeles County, California (Figure 1, Project Location). The proposed Project would be located on Assessor's Parcel Numbers 3107-026-077 and 3107-026-079. The parcels combine for a total of approximately 19.09 acres of currently undeveloped land at the northeast corner of 35th Street West and West Avenue H. Regional access to the Project site is provided via State Route (SR) 14 Freeway, directly east of the Project site, and SR 138 Highway, directly north of the Project site. Local access to the Project site is provided via W Avenue H or 35th Street.

1.2 Project Description

The Project would include construction of an industrial warehouse building and associated improvements on 19.09 acres of vacant land. The proposed Project would provide 395,390 square feet of industrial/warehouse space and include associated improvements, such as loading docks, tractor-trailer stalls, passenger vehicle parking spaces, stormwater detention basins, and landscaping. The project would include three primary bio-detention basins on site: one located on the southeast corner, one located on the northeast corner, and one located along the west portion of the Project site to detain and treat stormwater runoff.

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SOURCE: DigitalGlobe 2017

DUDEK

FIGURE 1

Project Location

35th Street & Ave. H Project

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2 Regulatory Context

This section describes the regulatory framework relevant to the Project.

2.1 Federal Regulations

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. FESA is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend, and to provide programs for the conservation of those species, thus preventing 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. Upon development of a habitat conservation plan, USFWS can issue incidental take permits for listed species.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The primary motivation for the international negotiations was to stop the "indiscriminate slaughter" of migratory birds by market hunters and others (16 USC 703–712). Each of the treaties protects selected species of birds and provides for closed and open seasons for hunting game birds. The Migratory Bird Treaty Act protects more than 800 species. Two species of eagles that are native to the United States—bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*)—were granted additional protection within the United States under the Bald and Golden Eagle Protection Act (16 USC 668–668d) to prevent these species from becoming extinct.

Section 404 of the Clean Water Act

The objective of the Clean Water Act (CWA) is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Under Section 404 of the CWA, the USACE has the authority to regulate activities that could discharge fill or dredge material or otherwise adversely modify wetlands or other waters of the United States. The USACE implements the federal policy embodied in Executive Order 11990, which, when implemented, is intended to result in no net loss of wetland values or function.

Section 401 of the Clean Water Act

The State Water Resources Control Board has authority over wetlands through Section 401 of the CWA, as well as the Porter–Cologne Act, California Code of Regulations Section 3831(k), and California Wetlands Conservation Policy. The CWA requires that an applicant for a Section 404 permit (to discharge dredge or fill material into waters of the United States) first obtain certification from the appropriate state agency stating that the fill is consistent with the state's water quality standards and criteria. In California, the authority to either grant certification or waive the requirement for permits is delegated by the State Water Resources Control Board to the nine regional boards. The Los Angeles Regional Water Quality Control Board has authority for Section 401 compliance in the project area. A request for certification is submitted to the regional board at the same time that an application is filed with the USACE.

2.2 State Regulations

California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) administers the California Endangered Species Act (CESA), which prohibits the take of plant and animal species designated by the Fish and Game Commission as endangered or threatened in California. Under CESA Section 86, "take" is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA Section 2053 stipulates that state agencies may not approve projects that will "jeopardize the continued existence of any endangered species or threatened species, or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy."

CESA defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." CESA defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the Commission as rare on or before January 1, 1985, is a threatened species." A candidate species is defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the Commission has published a notice of proposed regulation to add the species to either list." CESA does not list invertebrate species.

California Fish and Game Code Sections 3503, 3511, 3513, 3801, 4700, 5050, and 5515

Section 2081(b) and (c) of the California Fish and Game Code authorizes take of endangered, threatened, or candidate species if take is incidental to otherwise lawful activity and if specific criteria are met. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed species that are also state-listed species. In certain circumstances, Section 2080.1 of CESA allows CDFW to adopt a federal incidental take statement or a 10(a) permit as its own, based on its findings that the federal permit adequately protects the species and is consistent with state law. A Section 2081(b) permit may not authorize the take of "fully protected" species or "specified birds" (California Fish and Game Code Sections 3505, 3511, 4700, 5050, 5515, and 5517). If a project is planned in an area where a fully protected species or a specified bird occurs, an applicant must design the project to avoid take.

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.

Special-Status Plants and Wildlife

The CEQA Guidelines define 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" (14 CCR 15380[b][1]). A rare animal or plant is defined in CEQA Guidelines Section 15380(b)(2) as a species that, although not currently 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).

Special-Status Vegetation Communities

Section IV, Appendix G (Environmental Checklist Form) of the CEQA Guidelines (14 CCR 15000 et seq.) 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 CDFW or the USFWS."

California Fish and Game Code, Sections 1600–1616

California Fish and Game Code, Sections 1600–1616, mandates that "it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity."

CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of (1) definable bed and banks and (2) existing fish or wildlife resources. CDFW takes 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 OHWM to be claimed as jurisdictional. The CDFW does not have jurisdiction over ocean or shoreline resources.

Under California Fish and Game Code, Sections 1600–1616, the 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. The 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 the CDFW must include a complete certified CEQA document.

Porter–Cologne Water Quality Control Act

Pursuant to provisions of the Porter–Cologne Water Quality Act, the Regional Water Quality Control Board regulates 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]).

2.3 Local Regulations

Lancaster Municipal Code Chapter 15.66 - Biological Impact Fee

Lancaster Municipal Code Chapter 15.66 – Biological Impact Fee, establishes a biological impact fee to mitigate long-term incremental impacts of new development on biological resources on a regional basis. The fee is based upon expected regional effects from new development and fees necessary to contribute to the City's "fair share" to mitigate impacts on a regional basis. The fee applies to all new development of vacant land including land subdivisions, new development approvals, and request for approval extensions.

3 Methods

Data regarding biological resources present within the Study Area were obtained through a review of pertinent literature, field reconnaissance, and a jurisdictional waters delineation.

3.1 Literature Review

The following data sources were reviewed to assist with the assessment of biological resources:

- CDFW California Natural Diversity Database (CNDDB) (CDFW 2023a)
- USFWS Information for Planning and Consultation (IPaC) (USFWS 2023a)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (Inventory) (CNPS 2023a)
- U.S. Department of Agriculture (USDA) NRCS Web Soil Survey (USDA 2023a)
- CDFW Biogeographic Information and Observation System (CDFW 2023b)

Prior to conducting the field investigation, the CNDDB and CNPS Inventory were queried based on the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map for Lancaster West, California where the Study Area is located, as well as the surrounding eight USGS 7.5-minute quadrangle maps (i.e., Little Buttes, Rosamond, Rosamond Lake, Del Sur, Lancaster East, Sleepy Valley, Ritter Ridge, and Palmdale). The purpose of this review was to determine whether special-status plant and wildlife species are known to occur in the vicinity of or within the Study Area.

Other literature reviewed included A Manual of California Vegetation, Online Edition (CNPS 2023b); the California Natural Community list (CDFW 2023f); State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW 2023c); State and Federally Listed Endangered and Threatened Animals of California (CDFW 2023d); and the CDFW California Wildlife Habitat Relationships Life History Accounts and Range Maps (CDFW 2023e). The following available resources were reviewed to assess the potential for jurisdictional waters: aerial photographs (Google Earth 2023; NETR 2023); the USGS Newhall 7.5-minute topographic quadrangle map (USGS 2018); the National Hydrography Dataset and Watershed Boundary Dataset (USGS 2023); and the USFWS National Wetland Inventory (USFWS 2023b).

3.2 General Field Reconnaissance

Dudek Senior Biologist Michael Cady conducted a general biological resources survey of the Project site on September 14, 2022, from 0850 to 0954. The survey was conducted when weather conditions were favorable, with no cloud cover, wind speeds of zero to three miles per hour, and temperatures ranging from 72 to 75 degrees Fahrenheit (°F). The general biological resources survey was conducted on foot using meandering transects. All plant and wildlife species encountered within the Project site were identified and recorded. The potential for special-status plant and wildlife species to occur within the Project site was evaluated based on the observed vegetation communities, soils present, and surrounding features. Vegetation communities and land covers on-site were mapped directly in the field.

Vegetation Community and Land Cover Mapping

Vegetation communities and land uses within the Study Area were mapped in the field using the Environmental Systems Research Institute (Esri) Collector, a mobile data collection application, on a digital aerial-based background (Esri 2023). Following completion of the fieldwork, all vegetation linework was finalized using Esri ArcGIS software and GIS coverage was created. Once in ArcGIS, the acreage of each vegetation community and land cover type within the Study Area was determined. Vegetation communities within the Study Area were mapped using CDFW's List of Vegetation Alliances and Associations (or California Natural Community List) (CDFW 2023f), which is based on A Manual of California Vegetation, Second Edition (Sawyer et al. 2009) and A Manual of California Vegetation, Online Edition (CNPS 2023b), where feasible, with modifications made to accommodate the lack of conformity of the observed communities (e.g., developed/disturbed land cover types) using Oberbauer et al. (2008) and Jones and Stokes (1993). Vegetation communities were classified based on site factors, descriptions, distribution, and characteristic species present within an area. Each natural community was mapped to the association level, where feasible. Representative photos are included in Appendix A. Special-status vegetation communities are those communities identified as high priority for inventory in the California Natural Communities List (CDFW 2023f) by a state rarity ranking of S1, S2, or S3.

Plants

All plant species encountered during the field surveys were identified and recorded. Latin and common names for plant species with a California Rare Plant Rank (CRPR) follow the CNPS Inventory (CNPS 2023a). For plant species without a CRPR, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2023), and common names follow the USDA NRCS Plants Database (USDA 2023b). Potential for special-status plant species to occur within the Study Area was assessed based on known geographic and elevation ranges as well as habitat and soil conditions that are known to support species occurring in the region.

Wildlife

All wildlife species, as detected during the field survey—by sight, calls, tracks, scat, or other signs—were identified and recorded. Binoculars were used to aid in the identification of observed wildlife. No trapping or focused surveys for special-status species or nocturnal species was conducted. In addition to species actually observed, expected wildlife usage of the Study Area was determined according to known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. Latin and common names for wildlife species referred to in this report follow Crother (2017) for reptiles and amphibians, American Ornithologists' Union Checklist (AOU 2018) for birds, Wilson and Reeder (2005) for mammals, and Moyle (2002) for fish. Potential for special-status wildlife species to occur within the Study Area was assessed based on known geographic ranges, the presence/absence of suitable habitat, and other natural history elements that might predict their occurrence.

3.3 Special-Status Plant and Wildlife Species Assessment

The potential for occurrence of plant and wildlife species was summarized according to the following categories. Because not all species are accommodated precisely by a given category (i.e., category definitions may be too restrictive), an expanded rationale for each category assignment is provided.

- Known to occur: the species has been documented on the property by a reliable source.

- High potential to occur: the species has not been documented on the property but is known to recently occur in the vicinity and suitable habitat is present.
- Moderate potential to occur: the species has not been documented on the property or in the vicinity, but the site is within the known range of the species and suitable habitat for the species is present.
- Low potential to occur: the species has not been documented in the vicinity or on the property, but the site is within the known range of the species; however, suitable habitat for the species on site is of low quality.
- Not expected to occur: the property is outside the known geographic or elevational range of the species and/or the site does not support suitable habitat for the species.

Special-Status Plant Species

Endangered, rare, or threatened plant species as defined in Section 15380(b) of the CEQA Guidelines (14 CCR 15000 et seq.) are referred to as “special-status plant species” and, as used in this report, include (1) plant species listed, proposed for listing, or candidates for listing as endangered or threatened recognized in the context of CESA and the FESA (CDFW 2023c); and/or (2) plant species with a CRPR 1 or 2 as designated by the CNPS (2023a). Species with CRPR 3 or 4 generally do not qualify for protection under CEQA; therefore, are not analyzed in this report.

For each special-status plant species known to occur in the vicinity of or within the Study Area, a determination was made regarding the potential for the species to occur within the Study Area based on site-specific information gathered during the field reconnaissance, such as the location of the site, vegetation communities and soils present, current site conditions, and each species’ known range, habitat associations, preferred soil substrate, life form, elevation, and blooming period.

Special-Status Wildlife Species

Endangered, rare, or threatened wildlife species as defined in CEQA Guidelines, Section 15380(b) (14 CCR 15000 et seq.), are referred to as “special-status wildlife species” and, as used in this report, include (1) wildlife species listed, proposed for listing, or candidates for listing as endangered or threatened recognized in the context of CESA and FESA (CDFW 2023d); (2) California Species of Special Concern (SSC) as designated by CDFW (2023g); and (3) mammals and birds that are fully protected species as described in the California Fish and Game Code, Sections 4700 and 3511 (CDFW 2023h).

For each special-status wildlife species listed, a determination was made regarding potential use within the Study Area based on site-specific information gathered during the field reconnaissance, such as the location of the site, vegetation communities and soils present, current site conditions, and each species’ known range, habitat preferences, and knowledge of the species’ relative distributions in the area.

3.4 Rare Plant Survey

Following the special-status plant species assessment, it was determined that two species had the potential to occur. As such, Dudek Senior Biologist Michael Cady conducted a rare plant survey on the project site on May 17, 2023 during the associated blooming period for the species with potential to occur. Prior to the survey, iNaturalist (2023) was used to find records with photographs of the species in bloom from the current blooming season in the vicinity of the Project site. The survey was conducted by walk south-north transect that were spaced approximately 30 feet apart. A GPS mapping application on a smartphone was used to map the occurrences of special-status species. All plant species encountered were documented.

3.5 Jurisdictional Waters Delineation

A formal wetlands delineation following the methodology described in USACE's A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008a), 1987 Wetlands Delineation Manual (USACE 1987), and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008b) was conducted by Dudek biologist Eilleen Salas on November 11, 2022. For a full detailed methodology, see Appendix A., Aquatic Resources Delineation Report.

4 Environmental Setting

The Project site is located within the western Mojave Desert, which is a region containing desert plains, dry lakebeds, and scattered mountains. The following describes the existing abiotic conditions of the proposed Project site and surrounding area.

4.1 Land Use

The Project site consists of an open undeveloped space with semi-sparse vegetation throughout. Directly west adjacent to the Project site is a pre-existing warehouse building, and a developed road to the south. Further east lies another industrial development with open flat land in between. The southern and western border of the Project site has been disturbed likely from the pre-existing development outside of the Project boundaries. The Project site has not been graded or developed, with exception of the shoulders of the adjacent roadways (Google 2023, NETR 2023).

4.2 Climate

The Project region has a Mediterranean climate with cool, wet winters and hot, dry summers. On average, July is the warmest month with an average high temperature of 87˚F and January is the coolest month on average with a low of 40˚F. Rainfall occurs primarily between November through March, with the maximum average precipitation occurring in February. The mean annual rainfall for the region is approximately 7.5 inches of rain per year (WRCC 2023).

4.3 Topography

The topography within the Study Area is a generally flat and undeveloped open space. Elevations in the Project site range from 2,320 to 2,324 feet above mean sea level. There are no substantial topographical features in the Project vicinity (USGS 2018, Google 2023).

4.4 Soils

According to the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2023a), two soil mapping units occur within the Study Area: Pond-Oban complex and Tray loam, saline-alkali (Figure 2, Soils). soil series are described by the NRCS as follows (USDA 2023a):

Pond-Oban Complex. The soils of the Pond-Oban Complex contain Pond soil series and Oban soil series. Both soil series occur on basin floors and have slow to moderately slow permeability. The Oban soil series have moderately well-drained soils where the Pond soil series has poorly to moderately drained soils. Both series are formed in alluvium from granitic rock sources.

Tray Series. The soils of the Tray series occur along the rim or in basins formed in alluvium from predominantly granitic sources. They are moderately well drained, with very slow runoff, and moderate permeability. Natural vegetation occurring in this soil series includes saltbush and a few related shrubs and grasses.

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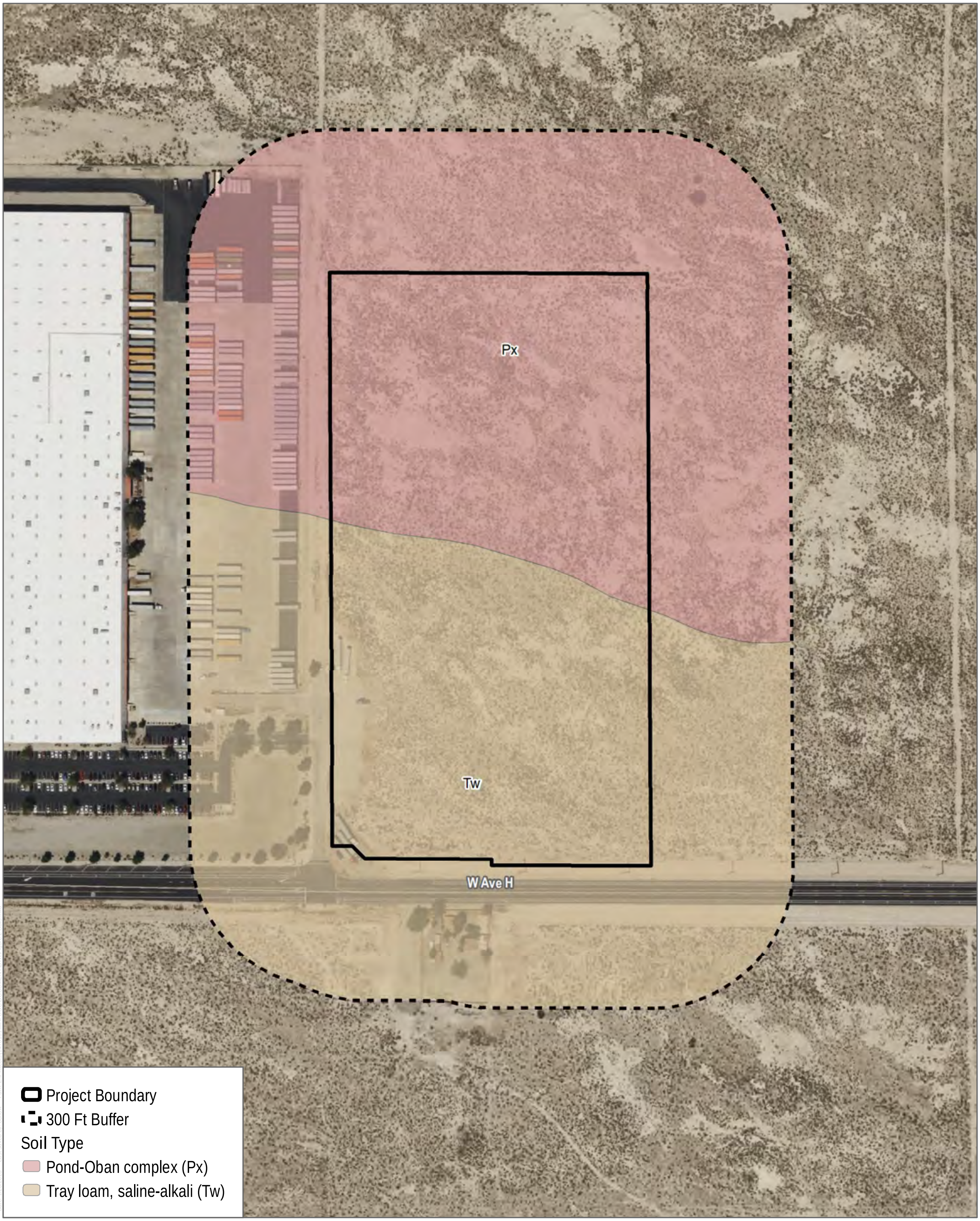

SOURCE: DigitalGlobe 2017, CA Dept. of Conservation 2018

FIGURE 2

Soils

35th Street & Ave. H Project

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5 Results

Representative photos of the Study Area and the biological resources described in this chapter are included in Appendix B, Photo Exhibit.

5.1 Vegetation Communities and Land Covers

A total of one vegetation community and two land cover types were mapped in the study area during the surveys. These vegetation communities and land cover types are described below, their acreages are presented in Table 1, and their spatial distributions are presented in Figure 3, Vegetation Communities and Land Cover Types.

Table 1. Vegetation Communities and Land Covers within the Project Site

Vegetation Community/ Land Cover	Alliance	Association	Ranking[1]	Project Site Acreage	Study Area Acreage
Vegetation Communities					
Shadscale Scrub	*Atriplex confertifolia*	*Atriplex confertifolia*	G5/S4	18.32	37.30
Disturbed and Developed Land Cover Types					
Disturbed Habitat	NA	NA	GNR/SNR	0.78	3.01
Developed	NA	NA	NA	0.00	11.53
			Total[2]	**19.09**	**51.81**

Source: CNPS 2023b.

Notes:

[1] The conservation status of a vegetation community is designated by a number from 1 to 5, preceded by a letter reflecting the appropriate geographic scale of the assessment (G = global, N = national, and S = subnational). The numbers have the following meaning (NatureServe 2023):
1 = critically imperiled
2 = imperiled
3 = vulnerable to extirpation or extinction
4 = apparently secure
5 = demonstrably widespread, abundant, and secure
NA = not applicable
GNR = unranked, global rank not yet assessed
SNR = unranked, subnational rank not yet assessed

[2] Totals may not sum due to rounding.

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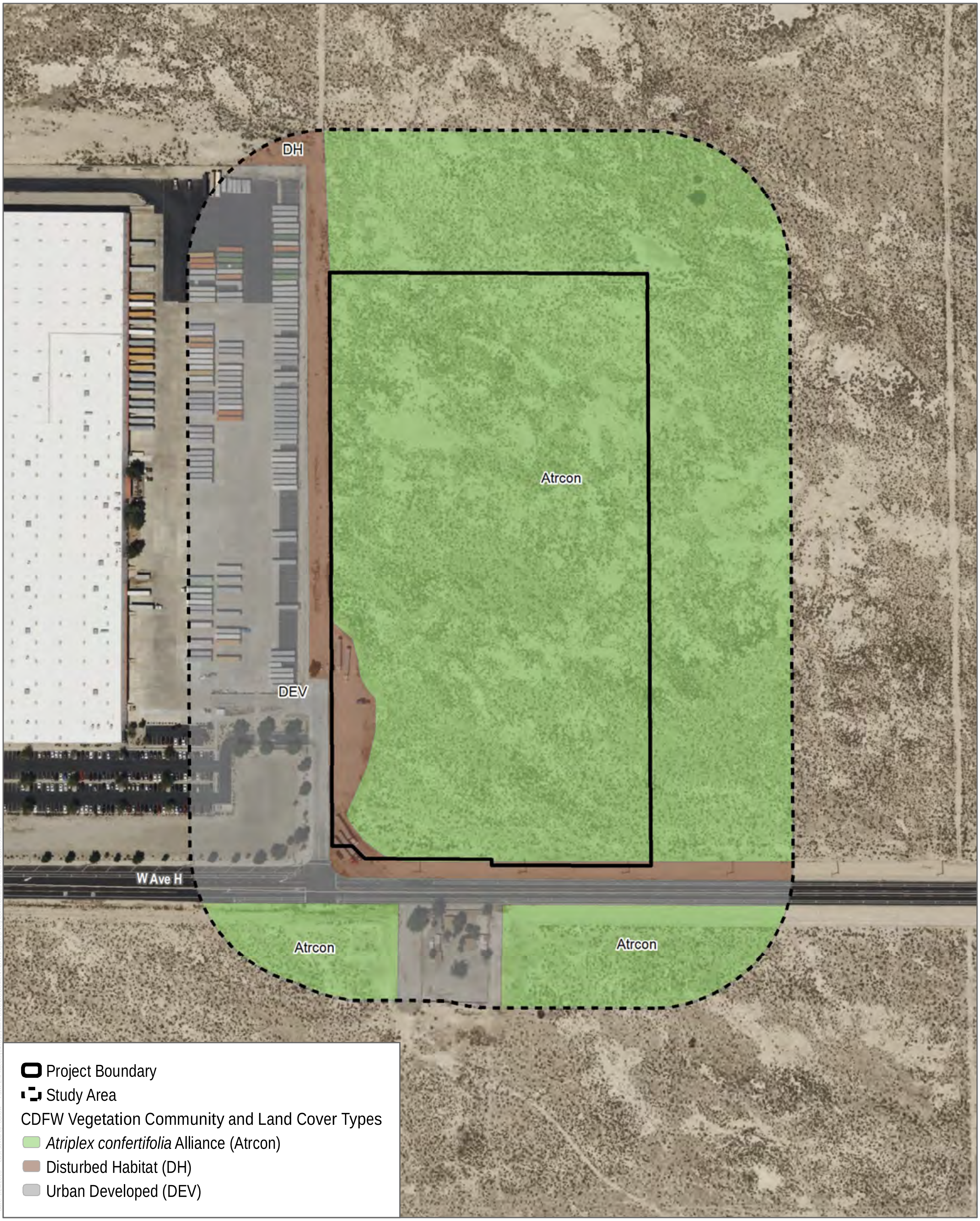

SOURCE: DigitalGlobe 2017

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FIGURE 3

Vegetation Communities and Land Covers

35th Street & Ave. H Project

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5.1.1 Native Vegetation Communities

Shadscale Scrub

Shadscale scrub vegetation communities (*Atriplex confertifolia* Shrubland Alliance) include shadscale (*Atriplex confertifolia*) as dominant or co-dominant in the shrub canopy (CNPS 2023). This alliance has an open to continuous canopy less than one meter in height with the herbaceous layer sparse to abundant. Other species associated with this alliance includes white bursage (*Ambrosia dumosa*), allscale (*Atriplex polycarpa*), spinescale (*Atriplex spinifera*), (*Chrysothamnus viscidiflorus*), black brush (*Coleogyne ramosissima*), Acton's brittle brush (*Encelia actoni*), Virgin River brittle brush (*Encelia virginensis*), Nevada joint fir (*Ephedra nevadensis*), Heermann's buckwheat (*Eriogonum heermannii*), spiny hop sage (*Grayia spinosa*), threadleaf snakeweed (*Gutierrezia microcephala*), winterfat (*Krascheninnikovia lanata*), creosote bush (*Larrea tridentata*), Anderson's boxthorn (*Lycium andersonii*), bud sage (*Picrothamnus desertorum*), greasewood (*Sarcobatus vermiculatus*), and longspine horsebrush (*Tetradymia axillaris*) (CNPS 2023). This community typically occurs in bajadas, flats, lower slopes, rocky hills, exposed bedrock, erosional highlands, valleys, minor rills, washes, and edges of playas (CNPS 2023). Soils within this community can vary between carbonate rich, clay rich, or have a high sand content, may also be covered with desert pavement (CNPS 2023). One association in the alliance, *Atriplex confertifolia* Association, was mapped throughout the Project site with cattle saltbush (*Atriplex polycarpa*) and littleleaf horsebrush (*Tetradymia glabrata*) also in the shrub strata.

5.1.2 Disturbed and Developed Land Cover Types

Disturbed Habitat

Although not recognized by the Manual of California Vegetation, Online Edition (CNPS 2023b) or the Natural Communities List (CDFW 2023f), disturbed habitat is described in the Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008). Disturbed habitat is described as areas generally lacking vegetation due to high levels of existing or historical human disturbance and are no longer recognizable as a native or naturalized vegetation association. Areas mapped as disturbed habitat may include unpaved roads, trails, and graded areas (Oberbauer et al. 2008). Vegetation in these areas, if present at all, is usually sparse and dominated by non-native weedy herbaceous species (Oberbauer et al. 2008). Areas mapped as disturbed habitat within the Study Area contained non-native ruderal species and were found along the southern and western border between the developed road and industrial building.

Urban/Developed

Although not recognized by the Manual of California Vegetation (CNPS 2023b) or the Natural Communities List (CDFW 2023f), the urban/developed mapping unit (or developed land) is described in Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008). This mapping unit is described as areas supporting human-made structures, including homes, yards, sidewalks, and other highly modified lands supporting structures associated with dwellings or other permanent structures. Vegetation in these areas, if present at all, is typically associated with ornamental landscaping that has been included in the development footprint (Oberbauer et al. 2008). Developed lands in the Study Area include the industrial warehouse building to the west, residential property, and paved road that is West H Avenue to the south.

5.2 Plants

A list of plant and wildlife species observed during the biological reconnaissance survey is included in Appendix C, Species Compendium. Of the eight plant species observed, 62% were native species and 38% were non-native species. The surveys were conducted outside of the typical blooming period for most desert, herbaceous annual species and it is expected that the site supports a variety of common species.

5.2.1 Special-Status Plant Species

Appendix D, Special-Status Plant Species Potentially Occurring in the Study Area, lists special-status plant species that are known to occur in the in the USGS 7.5-minute Lancaster West quadrangle and the surrounding eight USGS 7.5-minute quadrangles, or are included within the USFWS IPaC list generated for the Study Area (CDFW 2023a; CNPS 2023a; USFWS 2023a). The assessment for occurrence resulted in four special-status species have a high potential to occur, as summarized in Table 2: alkali mariposa lily (*Calochortus striatus*), Mojave spineflower (*Chorizanthe spinosa*), Rosamond eriastrum (*Eriastrum rosamondense*), and golden goodmania (*Goodmania luteola*). The survey was conducted in an above average rainfall year (Public Works 2023) and it is expected that if present in the seed bank, each of the four species would be observed. Only alkali mariposa-lily was observed, and 41 individuals were mapped within the shadscale scrub during the rare plant survey, as shown in Figure 4, Rare Plants.

Table 2. Special-Status Plant Species with a High Potential to Occur in the Study Area

Scientific Name	Common Name	Status[1] (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
Calochortus striatus	alkali mariposa-lily	None/None/1B.2	Chaparral, Chenopod scrub, Meadows and seeps, Mojavean desert scrub; Alkaline, Mesic/perennial bulbiferous herb/Apr–June/230–5,230	**Occurs.** Forty-one individuals were identified scattered throughout the Project site and suitable habitat is present in the form of shadscale scrub. There are multiple CNDDB occurrences within a five-mile radius of the Project site (CDFW 2023).
Chorizanthe spinosa	Mojave spineflower	None/None/4.2	Chenopod scrub, Joshua tree "woodland", Mojavean desert scrub, Playas; Alkaline (sometimes)/annual herb/Mar–July/20–4,265	**Not expected to occur.** Suitable habitat is present for this species to occur and there are records in the vicinity (CalFlora 2023); however, the species was not observed during the rare plant survey.

Table 2. Special-Status Plant Species with a High Potential to Occur in the Study Area

Scientific Name	Common Name	Status[1] (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
Eriastrum rosamondense	Rosamond eriastrum	None/None/1B.1	Chenopod scrub, Vernal pools; Alkaline, Sandy (often)/annual herb/Apr–May(June–July)/2,295–3,850	**Not expected to occur.** Suitable habitat is present for this species to occur and there are records in the vicinity (CalFlora 2023); however, the species was not observed during the rare plant survey.
Goodmania luteola	golden goodmania	None/None/4.2	Meadows and seeps, Mojavean desert scrub, Playas, Valley and foothill grassland; Alkaline (sometimes), Clay (sometimes)/annual herb/Apr–Aug/65–7,215	**Not expected to occur.** Suitable habitat is present for this species to occur and there are records in the vicinity (CalFlora 2023); however, the species was not observed during the rare plant survey.

Notes: CRPR: California Rare Plant Rank (CNPS 2023a)

1B: Plants rare, threatened, or endangered in California and elsewhere

4: Watch List: Plants of limited distribution

Modifiers:

.1: Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)

.2: Moderately threatened in California (20% - 80% of occurrences threatened/moderate degree and immediacy of threat)

.3: Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat)

5.3 Wildlife

Eight wildlife species were recorded within the project site during the biological reconnaissance survey, which can be found in Appendix C, Species Compendium. Seven of the species were birds and the Study Area could support nesting birds. No amphibian species were observed, and none are expected to occur due to the lack of aquatic habitat on site. One reptile species, common side-blotched lizard (*Uta stansburiana*), was observed during the survey; however, western fence lizard (*Sceloporus occidentalis*) is another common reptile species that could occur within the Study Area. No mammal species were observed during the survey; however, burrows associated with kangaroo rat (Dipodomys sp.) were observed and coyote (*Canis latrans*) may also use the Project site and surrounding area for foraging.

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SOURCE: DigitalGlobe 2017

FIGURE 4

Rare Plants

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5.3.1 Special-Status Wildlife Species

Appendix E, Special-Status Wildlife Species Potentially Occurring in the Study Area, lists special-status wildlife species that are known to occur in the USGS 7.5-minute Lancaster West quadrangle and the surrounding eight USGS 7.5-minute quadrangles, as well as wildlife species included within the USFWS IPaC list generated for the Study Area (CDFW 2023a; CNPS 2023a, USFWS 2023a). No critical habitat for wildlife has been designated within the Study Area (USFWS 2023a).

One special-status wildlife species was observed foraging during the biological reconnaissance survey, loggerhead shrike (*Lanius ludovicianus*; CDFW SSC); however, nesting habitat does not occur on the Project site (builds nest on stable branch in densely foliaged shrub or tree). No other special-status wildlife has a moderate or high potential to occur in the Study Area as residents, or use it for breeding. Several species may be transient in the area during foraging or migration. The three species listed in Table 3 merit additional discussion due to their listing status or sensitivity to development in the Study Area region.

Table 3. Special-Status Wildlife Species with a High Potential to Occur in the Study Area

Scientific Name	Common Name	Status[1] (Federal/State)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
Gopherus agassizii	Mojave desert tortoise	FT/ST, SCE	Arid and semi-arid habitats in Mojave and Sonoran Deserts, including sandy or gravelly locations along riverbanks, washes, sandy dunes, canyon bottoms, desert oases, rocky hillsides, creosote flats, and hillsides	**Not expected to occur.** The species has no modern recorded occurrences west of SR 14 and south of SR 138, and the habitat on the project site is marginal for the species (CDFW 2023a).
Athene cunicularia (burrow sites & some wintering sites)	burrowing owl	BCC/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	**Low potential to occur.** Marginal habitat is present onsite, and no suitable burrows were observed during the September 2022 biological survey. However, multiple CNDDB occurrences are found within a 5-mile radius of the Project site (CDFW 2023a). The species would not be expected to breed on site due to the lack of suitable burrows, but individuals

Table 3. Special-Status Wildlife Species with a High Potential to Occur in the Study Area

Scientific Name	Common Name	Status[1] (Federal/State)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
				could be present during migration and dispersal.
Spermophilus (*Xerospermophilus*) *mohavensis*	Mohave ground squirrel	None/ST	Desert scrub habitats including those dominated by creosote bush and burrobush, desert sink scrub, and desert saltbush scrub	**Not expected to occur.** Marginal habitat is present. However, populations west of the SR 14 are thought to be extirpated and there are no modern CNDDB occurrences in a 10-mile radius (CDFW 2023a and 2023b).

Notes: Federal: FT=federally listed as threatened; BCC=Bird of Conservation Concern (USFWS)
State: ST=state listed as threatened; SCE=state candidate for endangered; SSC=Species of Special Concern (CDFW)

Mojave Desert Tortoise

The Study Area contains arid habitats in the western Mojave Desert within the historic range of Mojave desert tortoise (*Gopherus agassizii*) (CDFW 2023e). The nearest CNDDB record is approximately 14 miles to the northeast on Edwards Air Force Base (CDFW 2023a). The species has no modern recorded occurrences west of SR 14 and south of SR 138, which are both expected to be barriers to movement by the species from potential population sources due to the high volume of traffic. No desert tortoise burrows or other diagnostic sign (e.g., carcasses and scat) were observed in the Study Area. The study area is immediately adjacent to West Avenue H and a warehouse distribution center that is expected to have consistent vehicle use to would increase the chance of mortality for species with low mobility. Based upon the aforementioned conditions, Mojave desert tortoise is not expected in the Study Area or adjacent properties.

Burrowing Owl

Burrowing owl (*Athene cunicularia*) is known to occur within the Antelope Valley and the Study Area has low density and low height vegetation that could be used by the species. However, no California ground squirrel (*Otospermophilus beecheyi*) or associated burrows capable of being used by the species was observed in the Study Area, and no diagnostic sign of the species (e.g., pellets, whitewash, or feathers) was observed. No artificial structures (e.g., exposed irrigation pipes or concrete debris piles) capable of providing refugia for the species was observed. Burrowing owl observations have declined over the past ten years in the region, especially during the breeding season (CDFW 2023a, eBird 2023). Based upon the aforementioned conditions, burrowing owl is not expected in the Study Area or adjacent properties. However, the species may be transient in the area during migration and dispersal.

Mohave Ground Squirrel

The Study Area is just outside the historic range of Mohave ground squirrel (*Xerospermophilus mohavensis*) (CDFW 2023e), and the species has no records west of SR 14 and south of SR 138 (CDFW 2023a, Leitner 2021). Within Los Angeles County, protocol and regional trapping efforts since 2013 have largely failed to document the species, with there being only five recent occurrences in the extreme northeastern corner of Los Angeles County, on or adjoining Edwards Air Force Base (Leitner 2021). These results are consistent with all survey efforts in recent years, strongly suggesting that the species is essentially extirpated in Los Angeles County (Leitner 2008; Leitner 2015). As such, Mohave ground squirrel is not expected to occur in the Study Area.

5.3.2 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. Corridors can also be aquatic resources that provide passage for fish. Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation; they may be continuous habitat or discrete habitat islands that function as steppingstones for wildlife dispersal.

On a regional level, the Study Area does not occur within any designated wildlife corridors or habitat linkages identified in the South Coast Missing Linkages analysis conducted by South Coast Wildlands (2008) or CDFW's California Essential Habitat Connectivity Project (Spencer et al. 2010), as shown in the CDFW BIOS (CDFW 2023b). On a local level, the Study Area does not have any streams that would provide fish passage and it provides limited connectivity for terrestrial wildlife movement. The undeveloped land with native habitat can provide opportunities for wildlife to move across the site when migrating through the region. However, the Project is in a region with abundant open space and would not create a significant impediment to wildlife movement that would warrant a wildlife corridor study.

No diagnostic signs of bird rookeries (e.g., numerous nests, whitewash) or large maternal or overwintering bat roosts (e.g., large concentrations of guano or guano odors) were identified in the Study Area and are not expected. The lack of habitat to provide substantial foraging opportunities for birds on site or in the immediate area make rookeries unlikely. The lack of typical urban roosting habitat (bridges and older buildings with structural deficiencies) makes it unlikely for the Study Area to support native wildlife nursery sites. Shrub vegetation located within and adjacent to the Study Area provides suitable nesting habitat for birds.

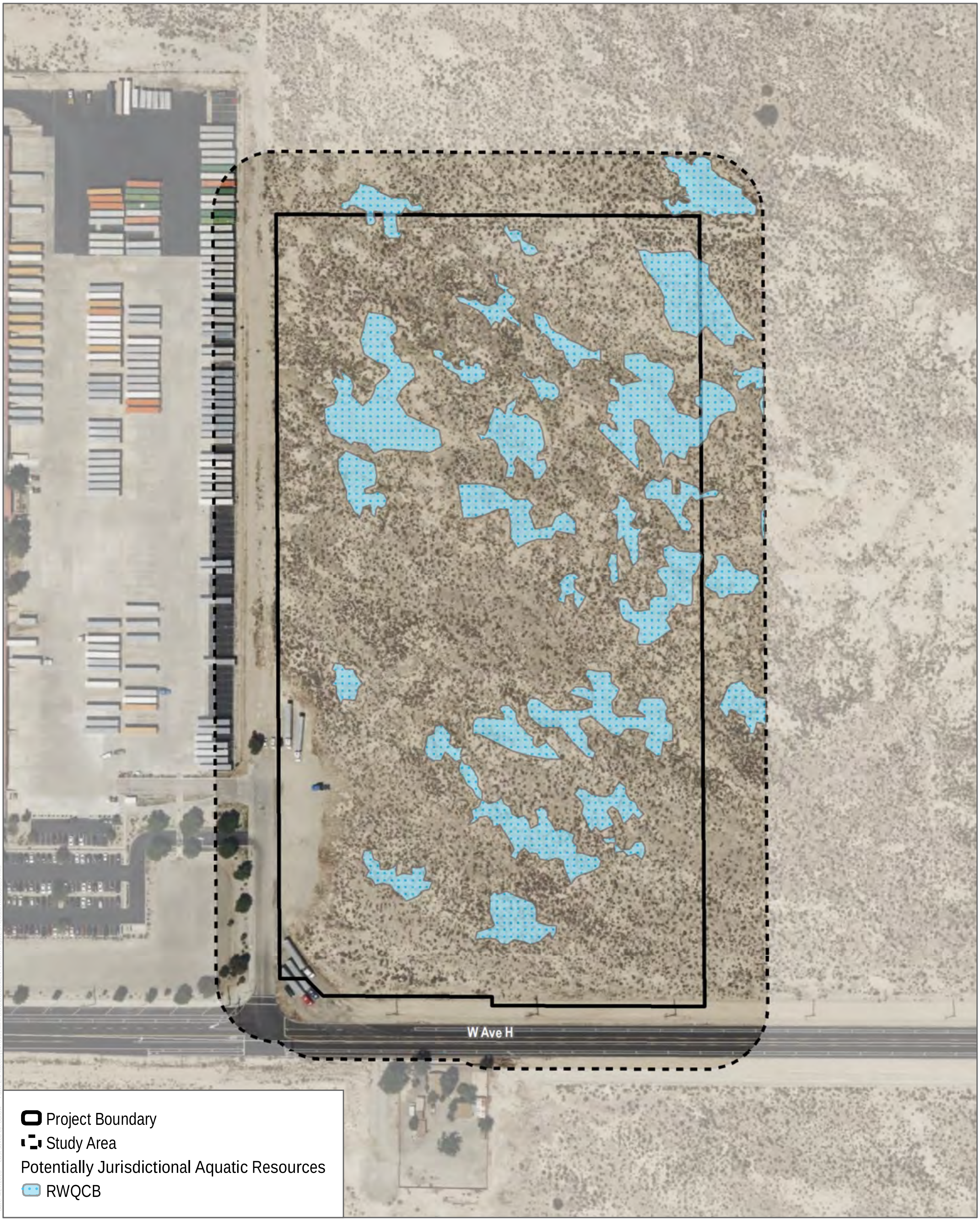
5.4 Jurisdictional Wetlands and Waters

Twenty-five isolated depressions were recorded within the Project site ranging from 0.01 to 0.42 acres in size, totaling 3.08 acres, as shown in Figure 5, Aquatic Resources. These features are characterized by their soil cracks, depressional topography and evidence of periodic ponding or pooling from a recent rain event. These features are expected to be ephemeral in nature based upon the small size and the low amount of annual rainfall (5.82 inches) that the region receives (WRCC 2023).

These features lack hydrophytic vegetation and also lack connectivity with streams or other aquatic features. As such the features are not expected to be regulated under the CWA. The isolated depressions within the Study Area may be waters of the State since surface water is present and could be regulated by the RWQCB per the Porter–Cologne Water Quality Act. For a more detailed analysis, please see Appendix E., Aquatic Resources Delineation Report.

5.5 Local, Regional, or State Habitat Conservation Plans

The Study Area is not within any habitat conservation plan (HCP), natural community conservation plan (NCCP), or other approved local, regional, or state habitat conservation plan (CDFW 2019).



SOURCE: Bing Imagery 2021

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FIGURE 5

Aquatic Resources

35th Street & Avenue H Project

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6 Project Impacts

This chapter addresses direct and indirect impacts to biological resources that would result from implementation of the proposed Project.

6.1 Definition of Impacts

6.1.1 Direct Permanent Impacts

Direct permanent impacts refer to the absolute and permanent physical loss of a biological resource due to clearing, grading, and/or construction of structures, which can be determined in four ways: (1) permanent loss of vegetation communities, land covers, and general wildlife and their habitat; (2) permanent loss of or harm to individuals of special-status plant and wildlife species; (3) permanent loss of suitable habitat for special-status species; and (4) permanent loss of wildlife movement and habitat connectivity.

6.1.2 Direct Temporary Impacts

Direct temporary impacts refer to a temporal loss of vegetation communities and land covers resulting from vegetation and land cover clearing. The main criterion for direct temporary impacts is that impacts would occur for a short period of time and would be reversible. Areas currently supporting native vegetation temporarily disturbed by construction activities would be restored and revegetated with a native species mix similar to that which existed prior to disturbance following completion of work in the area such that full biological function can be restored. Areas not currently supporting native vegetation would be adequately restored to prevent adverse effects such as erosion or establishment of invasive species following construction.

6.1.3 Indirect Impacts

Indirect impacts are reasonably foreseeable effects caused by project implementation on remaining or adjacent biological resources outside the direct construction disturbance zone that may occur during construction (i.e., short-term construction related indirect impacts) or later in time as a result of the development (i.e., long-term, or operational, indirect impacts). Indirect impacts may affect areas within the defined study area, but outside the construction disturbance zone. Indirect impacts include short-term effects immediately related to construction activities and long-term or chronic effects related to the human occupation of developed areas (i.e., development-related long-term effects) that are adjacent to naturalized areas.

For the proposed Project, it is assumed that the potential indirect impacts resulting from construction activities include fugitive dust from earthmoving activities, accidental leaks or spills from construction equipment, noise from construction activities, and general human presence that may temporarily disrupt species and habitat vitality, as well construction-related soil erosion and runoff that could affect downstream resources.

6.1.4 Explanation of Findings of Significance

Impacts to sensitive vegetation communities or riparian habitat, special-status plant species, special-status wildlife species, wildlife corridors and habitat connectivity, and regional resource planning must be analyzed to determine whether such impacts are significant. CEQA Guidelines Section 15064(b) states that an ironclad definition of “significant” effect is not possible because the significance of an activity may vary with the setting. However, CEQA Guidelines Section 15065(a) lists impacts that are helpful in defining whether a project may have a significant effect on the environment. Mandatory findings of significance occur when there is substantial evidence that a project could: (1) substantially degrade the quality of the environment, (2) substantially reduce the habitat of a fish or wildlife species, (3) cause a fish or wildlife population to drop below self-sustaining levels, (4) threaten to eliminate a plant or animal community, or (5) reduce the number or restrict the range of a rare or endangered plant or animal.

The following are the significance thresholds for biological resources provided in the CEQA Appendix G environmental checklist, which states that a project would potentially have a significant effect if it:

Impact BIO-1.	Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?
Impact BIO-2.	Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS?
Impact BIO-3.	Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
Impact BIO-4.	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 impedes the use of native wildlife nursery sites?
Impact BIO-5.	Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
Impact BIO-6.	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 evaluation of whether or not an impact to a particular biological resource is significant must consider both the resource itself and the role of that resource in a regional context. Substantial impacts are those that contribute to, or result in, permanent loss of an important resource, such as a population of a rare plant or animal. Impacts may be important locally because they result in an adverse alteration of existing site conditions but considered not significant because they do not contribute substantially to the permanent loss of that resource regionally. The severity of an impact and the offsetting benefits of mitigation are the primary determinants of whether or not that impact can be mitigated to a less-than-significant level.

There are no local ordinances protecting biological resources and the Project will not impact an HCP.

6.2 Impact BIO-1: Special-Status Species

Direct Impacts

Special-Status Plants

Alkali mariposa lily is considered rare, threatened, or endangered in California and elsewhere (CNPS 2023a), and meet the definition of special-status under CEQA. Alkali mariposa lily has suitable habitat throughout the 18.32 acres of shadscale on the Project site; however, only 41 individuals were observed scattered throughout the site despite it being an above average rain year (Public Works 2023) that has resulted in above average bloom for most plant species in the Project vicinity. As such, the Project site is not expected to support a substantial population above the 41 individuals observed. Nevertheless, the species would be directly impacted during vegetation removal and grading, and impacts would be significant without mitigation. To reduce impacts to a less-than-significant level, monetary compensation would be required for the loss of 18.32 acres of suitable habitat for the species using the City of Lancaster's Biological Impact Fee (MM-BIO-1, Biological Impact Fee). The monetary compensation would be used to fund the City's acquisition of mitigation land, restoration of habitat, environmental education, or other uses. Implementation of MM-BIO-1 would reduce the direct impacts to special-status plants to less than significant.

Special-Status Wildlife

No special-status wildlife species are expected within the Study Area. The site occurs within the known range of burrowing owl (and there are modern documented occurrences within five miles of the project site (CDFW 2023a). The soils on site are marginal for fossorial mammals larger than rodents and there were no burrows greater than four inches in width observed on the Project site. However, the burrowing owl is an opportunistic species that can move onto a site once a suitable burrow is established and unoccupied. Therefore, there is still at least low potential for this species to occur within the Project site and preconstruction surveys for the species would be warranted. Therefore, impacts to burrowing owl would be considered significant without mitigation. With implementation of MM-BIO-2, Pre-construction Burrowing Owl Survey; MM-BIO-3, Pre-Construction Nesting Bird Survey; and MM-BIO-4, Biological Monitoring, impacts to special-status wildlife would be less than significant.

Indirect Impacts

Special-Status Plants

Special-status plants in the areas adjacent to the Project site could be inadvertently impacted should construction workers or vehicles stray out of the Project footprint. Invasive plant species could be introduced by the Project during construction and installation of landscaping that could alter the habitat for special-status plants in the Project vicinity. Invasive plants could compete with special-status plants for resources (i.e., water) and space. These indirect impacts could be significant without mitigation. Implementation of MM-BIO-5, Demarcation of Disturbance Limits, would avoid and minimize Project activities outside of the Project footprint. MM-BIO-6, Invasive Plant Species Prevention, would avoid and minimize the introduction of invasive plant species to the Project site. Implementation of MM-BIO-5 and MM-BIO-6 would reduce indirect impacts to special-status plants to less than significant.

Special-Status Wildlife

Indirect short-term and long-term impacts to special-status wildlife species may include both habitat degradation and effects on individuals. Indirect construction impacts to wildlife habitat may include fugitive dust; runoff, sedimentation, chemical pollution, and erosion; litter; and accidental clearing, grading, and trampling, as well as attracting predators. Trash and other garbage associated with construction activities can degrade vegetation communities and wildlife habitat and can attract nuisance and pest species that affect several of the wildlife guilds. Trash and debris include discarded construction-related materials, such as packaging materials, which may be dispersed into natural areas by wind. Trash generated by construction personnel, such as food packaging and cigarette butts, also can be dispersed by wind and water into natural areas. These indirect impacts could be significant without mitigation. Implementation of MM-BIO-5 and MM-BIO-6 would reduce indirect impacts to special-status wildlife to less than significant.

6.3 Impact BIO-2: Riparian Habitat and Sensitive Communities

Riparian habitats or sensitive vegetation communities were not identified on the Project site, and no impacts would occur.

6.4 Impact BIO-3: Jurisdictional Wetlands and Waters

Direct Impacts

Direct impacts to 25 isolated depressions that were recorded as part of the aquatic resources delineation within the Project site would occur. These depressions range from 0.01 to 0.42 acres in size, totaling 3.08 acres. Impacts to these features would be significant without mitigation. Implementation of MM-BIO-1 would reduce these impacts to less than significant by providing funds to the City to acquire mitigation land or restoration of habitat that includes similar features.

Additionally, impacts to these features may require the necessary permits from the RWQCB. The applicant shall consult with the Lahontan Regional RWQCB to determine if the isolated depressions on the Project site are subject to their jurisdiction. Any necessary permits from the RWQCB shall be obtained prior to the issuance of construction related permits (e.g., grading, building, etc.) by the City.

Indirect Impacts

Potential temporary indirect impacts could result from construction activities and would include impacts from the generation of fugitive dust and the potential introduction of chemical pollutants (including herbicides). Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration, transpiration, increased penetration of phytotoxic gaseous pollutants, and increased incidence of pests and diseases. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other construction materials) may affect wetlands/ jurisdictional waters. The release of chemical pollutants can reduce the water quality downstream and degrade adjacent habitats. However, during construction, erosion-control measures would be implemented as part of the Storm Water Pollution Prevention Plan (SWPPP) for the Project. Prior to the start of construction activities, the Contractor is required to file a Permit Registration Document with the State Water Resources Control Board (SWRCB) in order to obtain coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2009-009-DWQ, NPDES No. CAS000002) or the latest approved general permit. This permit is required for earthwork that results in the disturbance of one acre or more of total land area. The required SWPPP will mandate the implementation of best management practices to reduce or eliminate construction-related pollutants in the runoff, including sediment. Therefore, temporary indirect impacts would be less than significant due to compliance with regulations.

6.5 Impact BIO-4: Wildlife Corridors and Nurseries

The Project site does not function as a wildlife corridor or habitat linkage and does not occur within any designated wildlife corridors of habitat linkages. Direct or indirect impacts to wildlife corridors and habitat connectivity are not anticipated; and would therefore, be less than significant.

The Project would be required to comply with the MBTA and sections 3503, 3503.5, and 3513 of the California Fish and Game Code by preventing the disturbance of nesting birds during construction activities. This would generally involve clearing a project site of all vegetation outside the nesting season (from September 1 through January 31) or if construction would commence within the nesting season (which generally runs from February 1 through August 31 and as early as February 1 for raptors), conducting a pre-construction nesting bird survey to determine the presence of nesting birds or active nests at a construction site. Any active nests and nesting birds must be protected from disturbance by construction activities through buffers between nest sites and construction activities. The buffer areas may be removed only after the birds have fledged. Compliance with the MBTA would ensure that the implementation of the Project would not interfere with the nesting of any native bird species. With the implementation of MM-BIO-3, direct and indirect impacts would be less than significant.

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7 Mitigation Measures

The following mitigation measures shall be implemented during the proposed Project to reduce the significant impacts identified in Chapter 6 to a less-than-significant level. Significant direct and indirect impacts to special-status species and sensitive vegetation communities can be mitigated to less than significant with implementation of the following measures:

MM-BIO-1 **Biological Impact Fee.** Prior to issuance of a grading permit for construction, the applicant shall pay the City's Biological Impact Fee (Lancaster Municipal Code Chapter 15.66). The fee shall be the dollar amount per acre determined by the City at the time of the applicant submittal of the fee to the City. The fee shall encompass the loss of 18.32 acres of natural habitat that may support special-status plants and that does support potential waters of the State (isolated depressions).

MM-BIO-2 **Pre-Construction Burrowing Owl Survey.** Prior to the initiation of construction activities, a qualified biologist shall conduct preconstruction surveys for burrowing owl to determine presence/absence of the species. The survey shall be conducted in accordance with the most current CDFW protocol within 30 days of site disturbance to determine whether the burrowing owl is present at the site. Preconstruction surveys shall include suitable burrowing owl habitat within the Project footprint and within 500 feet of the project footprint (or within an appropriate buffer as required in the most recent guidelines and where legal access to conduct the survey exists). If burrowing owls are not detected during the clearance survey, no additional mitigation is required.

If burrowing owl is detected, a 160-foot buffer non-disturbance buffer shall be maintained between the Project activities and the occupied area. The owl will be monitored daily by the Biological Monitor (MM-BIO-5) until it has left the site on its own volition. Construction work may proceed after the owl has left the site. Results of the surveys and monitoring shall be provided to the City.

MM-BIO- 3 **Pre-Construction Nesting Bird Survey:** Project construction should be conducted in compliance with the conditions set forth in the MBTA and California Fish and Game Code to protect active bird/raptor nests. To the maximum extent feasible, vegetation removal should occur during the non-breeding season for nesting birds (generally late September to early March) and nesting raptors (generally early July to late January) to avoid impacts to nesting birds and raptors. If the project requires that work be initiated during the breeding season for nesting birds (March 1–September 30) and nesting raptors (February 1–June 30), in order to avoid direct impacts on active nests, a pre-construction survey should be conducted in the study area by qualified Biologists (approved by the City) for nesting birds and/or raptors within three days prior to project activities. If the Biologist does not find any active nests within or immediately adjacent to the impact areas, the vegetation clearing/construction work should be allowed to proceed.

If the Biologist finds an active nest within or immediately adjacent to the construction area and determines that the nest may be impacted or breeding activities substantially disrupted, the Biologist should delineate an appropriate buffer zone around the nest depending on the sensitivity of the species and the nature of the construction activity. To protect any nest site, the following restrictions to construction activities should be required until nests are no longer active, as determined by a qualified Biologist (someone who has more than three years of experience of conducting nesting bird surveys and monitoring active nests during construction): (1) clearing limits should be established within a buffer around any occupied nest; and (2) access and surveying should be restricted within the buffer of any occupied nest, unless otherwise determined by a qualified Biologist (someone who has more than five years of experience of conducting nesting bird surveys and monitoring active nests during construction). The buffer should be 100-300 feet for non-raptor nesting birds and 300–500 feet for nesting raptors. Construction can proceed into the buffer when the qualified Biologist has determined that the nest is no longer active.

MM-BIO-4 **Biological Monitoring.** Prior to the issuance of a grading permit, the applicant shall submit the qualifications of the biologist(s) to the City for review and approval. The applicant shall provided a City-approved Biological Monitor during all native vegetation removal and initial ground disturbance activities. Each day prior to the commencement of activities, the Biological Monitor shall be responsible for conducting a pre-construction clearance survey and any wildlife (common or special-status) will be relocated offsite to a City-approved area.

MM-BIO-5 **Demarcation of Disturbance Limits.** Prior to commencement of earthwork in the undeveloped portion of the Project site, the construction limits shall be clearly demarcated (e.g., installation of flagging or temporary high visibility construction fence), as recommended by Biological Monitor. All construction activities including equipment staging and maintenance shall be conducted within the marked disturbance limits to prevent inadvertent disturbance to sensitive vegetation communities outside the limits of work. The flagging shall be maintained throughout construction.

MM-BIO-6 **Invasive Plant Species Prevention.** The Project shall not include invasive plant species listed on the California Invasive Plant Council inventory in Project landscaping palettes. Project landscape palettes shall be reviewed and approved by the City to ensure that invasive plant species are excluded. In addition, to prevent the spread of invasive plant species during construction and until the establishment of common landscaped areas associated with the Project (for a period of up to five years):

- All equipment shall be washed prior to entering and prior to leaving the Project site in an upland location where any seed material from invasive species will be contained.
- All vegetative material removed from the Project impact footprint shall be transported in a covered vehicle and will be disposed of at a certified disposal site.

8 References

AOU (American Ornithologists' Union). 2018. Checklist of North and Middle American Birds. Accessed January 2023. http://checklist.aou.org/taxa/.

Calflora. 2023. What Grows Here, online database viewer. Accessed January 2023. https://www.calflora.org/entry/wgh.html.

CDFW (California Department of Fish and Wildlife). 2019. California Natural Community Conservation Plans. April 2019. Accessed January 2023. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=68626&inline.

CDFW. 2023a. California Natural Diversity Database (CNDDB). RareFind 5.0 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed January 2023. https://nrmsecure.dfg.ca.gov/cnddb/Default.aspx.

CDFW. 2023b. Biogeographic Information and Observation System (BIOS); online viewer. Accessed January 2023. https://wildlife.ca.gov/Data/BIOS.

CDFW. 2023c. State and Federally Listed Endangered, Threatened, and Rare Plants of California. Accessed January 2023. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390&inline.

CDFW. 2023d. State and Federally Listed Endangered and Threatened Animals of California. Accessed January 2023. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109405&inline.

CDFW. 2023e. CWHR Life History Accounts and Range Maps. Accessed January 2023. https://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

CDFW. 2023f. California Natural Community list. Sacramento, California: CDFW. Accessed January 2023. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline.

CDFW. 2023g. Species of Special Concern. Accessed January 2023. https://www.wildlife.ca.gov/Conservation/SSC.

CDFW. 2023h. Fully Protected Animals. Accessed January 2023. https://www.dfg.ca.gov/wildlife/nongame/t_e_spp/fully_pro.html.

CNPS (California Native Plant Society). 2023a. Inventory of Rare and Endangered Plants (online edition, v8-03). Accessed January 2023. www.rareplants.cnps.org.

CNPS. 2023b. A Manual of California Vegetation, Online Edition. Accessed January 2023. https://www.cnps.org/vegetation.

Crother, B.I. 2017. Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding. 8th ed. Herpetological Circular No. 43, edited by J.J. Moriarty. Shoreview, Minnesota: Society for the Study of Amphibians and Reptiles.

Esri. 2023. “World Imagery” [basemap]. Scale Not Given. “World Topographic Map.” Accessed in January 2023. http://www.arcgis.com/home/item.html?id=30e5fe3149c34df1ba922e6f5bbf808f.

Faber-Langendoen, D., T. Keeler-Wolf, D. Meidinger, D. Tart, B. Hoagland, C. Josse, G. Navarro, S. Ponomarenko, J. Saucier, A. Weakley, and P. Comer. 2014. EcoVeg: a new approach to vegetation description and classification. Ecological monographs, 84, 533-561. doi: 10.1890/13-2334.1

Google. 2023. Google Earth, desktop application; centered on the project site. Accessed January 2023. https://www.google.com/earth/.

iNaturalist. 2023. iNaturalist, online database viewer. Accessed May 2023. https://www.inaturalist.org/.

Jepson Flora Project. 2023. Jepson eFlora. Berkeley, California: University of California. Accessed January 2023. http://ucjeps.berkeley.edu/interchange/.

Jones and Stokes (Jones & Stokes, Inc). 1993. Methods used to survey the vegetation of Orange County parks and open space areas and The Irvine Company property. February 10, 1993 (JSA 92-032.).

Leitner, P. 2008. Current status of the Mohave ground squirrel. Transactions of the Western Section of The Wildlife Society 44:11–29.

Leitner, P. 2015. Current status of the Mohave Ground Squirrel (Xerospermophilus mohavensis): A five-year update (2008–2012). Western Wildlife 2:9–22.

Leitner, P. 2021. Current status of the Mohave ground squirrel: an update covering the period 2013–2020. California Fish and Wildlife Special CESA Issue:300-316; 2021.

Moyle, P.B. 2002. Inland Fishes of California. Berkeley and Los Angeles, California: University of California Press.

NatureServe. 2023. Conservation Status Assessment, Identifying Threatened Species and Ecosystems. NatureServe. Accessed January 2023. https://www.natureserve.org/conservation-tools/conservation-status-assessment.

NETR (Nationwide Environmental Title Research). 2023. Historic Aerials, online viewer. Accessed January 2023. https://www.historicaerials.com/viewer.

Oberbauer, T., M. Kelly, and J. Buegge. 2008. *Draft Vegetation Communities of San Diego County*. March 2008. Accessed January 2023. https://www.sandiegocounty.gov/content/dam/sdc/pds/ceqa/Soitec-Documents/Final-EIR-Files/references/rtcref/ch9.0/rtcrefaletters/O14%202014-12-19_Oberbauer TM2008.pdf.

Public Works (Los Angeles County Public Works). 2023. Near Real-Time Precipitation Map; Quartz Hill rain-gauge. Accessed May 2023. http://ladpw.org/wrd/precip/.

Sawyer, J., T. Keeler-Wolf, and J. Evens. 2009. A Manual of California Vegetation. 2nd ed. Sacramento, California: California Native Plant Society.

South Coast Wildlands. 2008. South Coast Missing Linkages: A Wildland Network for the South Coast Region. Accessed January 2023. http://www.scwildlands.org/reports/SCMLRegionalReport.pdf.

Spencer, W.D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. California Essential Habitat Connectivity (CEHC) Project: A Strategy for Conserving a Connected California. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration. Accessed January 2023. http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18366.

USDA (U.S. Department of Agriculture). 2023a. Web Soil Survey. USDA, Natural Resources Conservation Service. Accessed January 2023. http://websoilsurvey.nrcs.usda.gov.

USDA. 2023b. "California." State PLANTS Checklist. Accessed January 2023. http://plants.usda.gov/dl_state.html.

USFWS (U.S. Fish and Wildlife Service). 2023a. Environmental Conservation Online System Information, Planning, and Conservation System (IPaC). Accessed January 2023. https://ecos.fws.gov/ipac/.

USFWS. 2023b. National Wetlands Inventory. Accessed January 2023. https://www.fws.gov/wetlands/.

USGS. (U.S. Geological Survey). 2018. Lancaster West, California Quadrangle [map]. 1:24,000. 7.5-minute Series. Washington D.C.

USGS. 2023. National Hydrography and Watershed Boundary Dataset. USGS National Hydrography Products. Accessed January 2023. https://www.usgs.gov/national-hydrography.

Wilson, D.E, and D.M. Reeder, eds. 2005. Mammal Species of the World: A Taxonomic and Geographic Reference. 3rd ed. Baltimore, Maryland: Johns Hopkins University Press.

WRCC (Western Regional Climate Center). 2023. Cooperative Climatological Data Summaries. NOAA Cooperative Stations – Temperature and Precipitation. Accessed January 2023. https://wrcc.dri.edu/summary/Climsmsca.html.

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Appendix A

Aquatic Resources Delineation Report

DRAFT

Aquatic Resources Delineation Report

35th Street & Avenue H Industrial Project

MAY 2023

Prepared for:

COVINGTON INVESTMENTS, LLC
3 Corporate Plaza, Suite 230
Newport Beach, California 92660
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Printed on 30% post-consumer recycled material.

Table of Contents

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APPENDICES

TABLE

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
ARDR	Aquatic Resources Delineation Report
CDFW	California Department of Fish and Wildlife
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	Ordinary High Water Mark
RWQCB	Regional Quality Control Board
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

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1 Introduction

This Aquatic Resources Delineation Report was prepared in accordance with the Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (USACE 2017). This report and supporting appendices provide the 20 items listed in the Minimum Standards for Acceptance of Aquatic Resources Delineation Reports. This report presents the results of the jurisdictional aquatic resource delineation conducted by Dudek for the proposed 35th Street & Avenue H Industrial Project (Project) located in Lancaster, California. The delineation was conducted to identify and map existing aquatic resources potentially subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (CWA; 33 USC 1344), waters of the state potentially subject to the regulatory jurisdiction of the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA and the Porter-Cologne Water Quality Control Act, and stream and riparian habitats potentially subject to California Department of Fish and Wildlife (CDFW) jurisdiction pursuant to Section 1602 of the California Fish and Game Code (collectively defined as jurisdictional aquatic resources).

1.1 Disclaimer Statement

This report presents Dudek's best effort to quantify the extent of aquatic resources potentially regulated by USACE, RWQCB, and CDFW (i.e., regulatory agencies) within the identified review area (the proposed Project site) using the current regulations, written policies, and guidance from these regulatory agencies. The potential jurisdictional boundaries described in this report are subject to verification by the regulatory agencies. Only the regulatory agencies can make a final determination on whether the features present are subject to USACE, RWQCB, and/or CDFW regulation. A request for USACE Jurisdictional Determination is not provided at this time; this report is purely informational.[1]

1.2 Contact Information

Contact information for the Project applicant and agent are provided in Table 1.[2] West Avenue H 18, LLC is the Project applicant. If a site visit is requested, the Project applicant or the applicant's agent will accompany regulatory staff to the review area.[3]

Table 1. Contact Information

Project Applicant	West Avenue H 18, LLC	**Agent**	Dudek
Contact Name	Michael Di Sano	**Contact Name**	Michael Cady
Phone	949-514-0274	**Phone**	626.314.0101
Email	mdisano@covingtongroupinc.com	**Email**	mcady@dudek.com

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[1] Minimum Standards Item 1 (Request for Jurisdictional Determination)
[2] Minimum Standards Item 2 (Contact Information)
[3] Minimum Standards Item 3 (Site Access Statement)

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2 Review Area Description and Landscape Setting

The proposed Project site is located on Assessor's Parcel Numbers 3107-026-077 and 3107-026-079. The parcels combine for a total of approximately 19.09 acres of currently undeveloped land at the northeast corner of 35th Street West and West Avenue H (Appendix A, Figure 1, Project Location). The Study Area (Project site and a 100-foot buffer) is situated within the Section 06, Township 07 North, Range 12 West, within the Lancaster West U.S. Geological Survey (USGS) 7.5-minute quadrangle map.

The Project site consists of an open undeveloped space with semi-sparse vegetation throughout. Directly west adjacent to the Project site is a pre-existing warehouse building, and a developed road to the south. Further east lies another industrial development with open flat land in between. The southern and western border of the Project has been previously disturbed likely from the pre-existing development outside of the Project boundaries. The Project site has not been graded or been developed since at least 1985 (Google 2023).

2.1 Soils[4]

According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2022a), two soil mapping units occur within the Study Area, as shown in Figure 2, Soils (Appendix A): Pond-Oban complex and Tray loam, saline-alkali. Neither soil is listed as being hydric (USDA 2023b). The soil series are described by the NRCS as follows (USDA 2023a):

- **Pond-Oban complex.** The soils of the Pond-Oban Complex contain Pond soil series and Oban soil series. Both soil series occur on basin floors and have slow to moderately slow permeability. The Oban soil series have moderately well-drained soils where the Pond soil series has poorly to moderately drained soils. Both series are formed in alluvium from granitic rock sources.
- **Tray Series.** The soils of the Tray series occur along the rim or in basins formed in alluvium from predominantly granitic sources. They are moderately well drained, with very slow runoff, and moderate permeability. Natural vegetation occurring in this soil series includes saltbush and a few related shrubs and grasses.

2.2 Vegetation Communities and Land Covers

A total of five vegetation communities and four land cover types were mapped in the study area during site surveys. Vegetation communities and land cover types are described below, their acreages are presented in Table 2, and their spatial distributions are presented in Figure 3, Vegetation Communities and Land Cover Types (Appendix A).

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[4] Minimum Standards Item 13 (Soil Descriptions)

Table 2. Vegetation Community and Land Cover Types in the Review Area

Vegetation Community/Land Cover Type	Project Site (Acres)	Study Area (Acres)
Native Vegetation Communities		
Shadscale Scrub (*Atriplex confertifolia* Association)	18.32	23.07
Disturbed, Developed, and Non-Vegetated Land Cover Types		
Disturbed Habitat	0.77	2.49
Developed	0	3.00
Subtotal:	*0.77*	*5.49*
Total[1]:	**19.09**	**28.56**

Notes: [1] Totals may not add up due to rounding.

Native Vegetation Communities

Shadscale Scrub

Shadscale scrub vegetation communities (*Atriplex confertifolia* Shrubland Alliance) include shadscale (*Atriplex confertifolia*) as dominant or co-dominant in the shrub canopy (CNPS 2023). This alliance has an open to continuous canopy less than one meter in height with the herbaceous layer sparse to abundant. Other species associated with this alliance includes white bursage (*Ambrosia dumosa*), allscale (*Atriplex polycarpa*), spinescale (*Atriplex spinifera*), (*Chrysothamnus viscidiflorus*), black brush (*Coleogyne ramosissima*), Acton's brittle brush (*Encelia actoni*), Virgin River brittle brush (*Encelia virginensis*), Nevada joint fir (*Ephedra nevadensis*), Heermann's buckwheat (*Eriogonum heermannii*), spiny hop sage (*Grayia spinosa*), threadleaf snakeweed (*Gutierrezia microcephala*), winterfat (*Krascheninnikovia lanata*), creosote bush (*Larrea tridentata*), Anderson's boxthorn (*Lycium andersonii*), (*Picrothamnus desertorum*), greasewood (*Sarcobatus vermiculatus*), and longspine horsebrush (*Tetradymia axillaris*) (CNPS 2023). This community typically occurs in bajadas, flats, lower slopes, rocky hills, exposed bedrock, erosional highlands, valleys, minor rills, washes, and edges of playas (CNPS 2023). Soils within this community can vary between carbonate rich, clay rich, or have a high sand content, may also be covered with desert pavement (CNPS 2023). One association in the alliance, *Atriplex confertifolia* Association, was mapped throughout the Project site with cattle saltbush (*Atriplex polycarpa*), and littleleaf horsebrush (*Tetradymia glabrata*) also in the shrub strata.

Disturbed, Developed, and Non-Vegetated Land Cover Types

Disturbed Habitat

Although not recognized by the Manual of California Vegetation, Online Edition (CNPS 2023) or the Natural Communities List (CDFW 2023), disturbed habitat is described in the Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008). Disturbed habitat is described as areas generally lacking vegetation due to high levels of existing or historical human disturbance and are no longer recognizable as a native or naturalized vegetation association. Areas mapped as disturbed habitat may include unpaved roads, trails, and graded areas (Oberbauer et al. 2008). Vegetation in these areas, if present at all, is usually sparse and dominated by non-native weedy herbaceous species (Oberbauer et al. 2008). Areas mapped as disturbed habitat within the Study Area contained non-native ruderal species and are found along the southern and western border between the developed road and industrial building.

Urban/Developed

Although not recognized by the Manual of California Vegetation (CNPS 2023) or the Natural Communities List (CDFW 2023), the urban/developed mapping unit (or developed land) is described in Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008). This mapping unit is described areas supporting human-made structures, including homes, yards, sidewalks, and other highly modified lands supporting structures associated with dwellings or other permanent structures. Vegetation in these areas, if present at all, is typically associated with ornamental landscaping that has been included in the development footprint (Oberbauer et al. 2008). Developed lands in the Study Area include the industrial warehouse building to the west, residential property, and the paved road West Avenue H to the south.

2.3 Hydrology

The Review Area occurs within the Antelope-Fremont Valleys Watershed (HUC 8), within the Armargosa Creek Watershed (HUC 10) and more specifically, the Upper Amargosa Creek sub-watershed (HUC 12). The Antelope-Fremont Valleys Watershed is made up of 2,155,258 acres and encompasses Los Angeles County, Kern County, and San Bernardino County. According to the National Wetland Inventory dataset, there are no wetlands or riparian features mapped within the Study Area, as shown in Figure 4, Hydrology (Appendix A).

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3 Investigation Methods[5]

The following available resources were reviewed to assess the potential for jurisdictional waters: aerial photographs (Google Earth 2022); the National Hydrography Dataset and Watershed Boundary Dataset (USGS 2022); and the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (USFWS 2022). The features were then groundtruthed by Dudek biologist Eilleen Salas on November 11, 2022. Wetland delineation methodologies for each agency are summarized in the subsections below.

3.1 U.S. Army Corps of Engineers

The USACE wetlands delineation was conducted in accordance with the 1987 USACE Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a). A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual (USACE 2008b) was used to determine the limits of non-wetland waters. Non-wetland waters were delineated with ESRI Collector on a mobile device. The widths of each non-wetland water were determined in the field according to the OHWM manual. Wetland Determination Forms were not taken during the delineation since no areas of hydrophytic vegetation were observed. USACE OHWM Forms were not taken as there were no ordinary high-water marks observed within mapped features.

The following information provides detail on how the USACE implements Section 404 of the CWA: The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Under Section 404 of the CWA, the USACE has the authority to regulate activities that could discharge fill or dredge material or otherwise adversely modify wetlands or other waters of the United States. The USACE implements the federal policy embodied in Executive Order 11990, which, when implemented, is intended to result in no net loss of wetland values or function.

On January 9, 2001, the U.S. Supreme Court issued a decision in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (2001) 121 S. Ct. 675 that held that the language of the CWA cannot be interpreted as conferring authority for the federal government to regulate "isolated, intrastate, and non-navigable waters" merely because migratory birds may frequent them. The Court emphasized the states' responsibility for regulating such waters. In the U.S. Supreme Court's decision in Rapanos v. United States and Carabell v. United States, the USACE and the U.S. Environmental Protection Agency (EPA) issued joint guidance regarding the USACE's jurisdiction over waters of the U.S. under the CWA. The guidance summarizes the Supreme Court's findings and provides how and when the USACE should apply the "significant nexus" test in its jurisdictional determinations. This test determines whether a waterway is substantially connected to a Traditional Navigable Water tributary and thus falls within the USACE's jurisdiction. The guidance provides the factors and summarizes the significant nexus test as an assessment of "the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream traditional navigable waters." Flow characteristics include the volume, duration, and frequency of the flow. Additionally, ecological factors should be included, such as the shared hydrological and biological characteristics between a tributary and an adjacent wetland.

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[5] Minimum Standards Item 8 (Dates of Field Work), Item 5 (Use of 1987 Manual, Regional Supplement, and OHWM guide), Item 12 (Statement Regarding Use of Remote Sensing), Item 18 (Data Forms) and Item 19 (Methods)

The Clean Water Rule was issued in 2015 to clarify water resource management. The regulation defined the scope of federal water protection in a more consistent manner, particularly over streams and wetlands which have a significant hydrological and ecological connection to traditional navigable waters, interstate waters, and territorial seas. It is also referred to as the waters of the United States rule, which defines all bodies of water that fall under U.S. federal jurisdiction. The Clean Water Rule was repealed on September 12, 2019. On January 23, 2020, the USACE and EPA finalized the "Navigable Waters Protection Rule," which establishes a new definition of "Waters of the U.S." under the CWA. The Environmental Protection Agency and U.S. Army Corps of Engineers (the agencies) are in receipt of the U.S. District Court for the District of Arizona's August 30, 2021, order vacating and remanding the Navigable Waters Protection Rule in the case of *Pascua Yaqui Tribe v. U.S. Environmental Protection Agency*. Considering this order, the agencies have halted implementation of the Navigable Waters Protection Rule and are interpreting "waters of the United States" consistent with the pre-2015 regulatory regime until further notice.

3.2 Regional Water Quality Control Board

Waters of the state regulated by the RWQCB were mapped in accordance with the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB 2019). As described in these procedures, wetland waters of the state are mapped based on the procedures in USACE's 1987 Corps of Engineers Wetlands Delineation Manual (USACE 1987) and its 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008a). Non-wetland waters are mapped at the OHWM based on the procedures defined in USACE's 2008 A Field Guide to Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008b). Where isolated waters and wetlands (not subject to federal jurisdiction) are involved, the state will exert independent jurisdiction via the Porter-Cologne Water Quality Control Act.

Section 401 of the Clean Water Act

Section 401 of the CWA requires that any applicant for a federal permit for activities that involve a discharge to waters of the United States shall provide the federal permitting agency a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal CWA. Therefore, in California, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification or waiver from the RWQCB.

Under Section 401 of the CWA, the RWQCB regulates at the state level all activities that are regulated at the federal level by USACE.

Porter-Cologne Water Quality Control Act

The RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state" (California Water Code, Section 13260(a)), pursuant to provisions of the state Porter-Cologne Water Quality Control Act. "Waters of the state" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050(e)).

Under the Porter-Cologne Water Quality Control Act, the RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into waters of the state, that are not regulated by the USACE due to a lack of connectivity with a navigable water body.

3.3 California Department of Fish and Wildlife

The California Fish and Game Code, Sections 1600–1616, mandates that “it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity.”

The CDFW’s jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of (1) definable bed and banks and (2) existing fish or wildlife resources. Furthermore, CDFW jurisdiction extends to riparian habitat and 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 OHWM to be claimed as jurisdictional. CDFW does not have jurisdiction over ocean or shoreline resources.

Under the 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.

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4 Aquatic Resource Narrative[6]

Twenty-five isolated depressions were recorded within the Project site ranging from 0.01 to 0.42 acres in size, totaling 3.08 acres, as shown in Figure 5, Aquatic Resources (Appendix A). These features are characterized by their soil cracks, depressional topography and evidence of periodic ponding or pooling from a recent rain event. These features are expected to be ephemeral in nature based upon the small size and the low amount of annual rainfall (5.82 inches) that the region receives (WRCC 2023). No hydrophytic vegetation was observed and none is expected. The isolated depressions occur within the shadscale scrub. No OHWM forms or wetland data point stations were taken due to the lack of streams and hydrophytic vegetation.

4.1 Potential Waters of the United States (USACE)

The aquatic features onsite are isolated depressions with no association to drainage features or connection to downstream TNWs. Therefore, the aquatic features within the Study Area are not expected to be classified as waters of the U.S. Additionally, to date, the USACE has determined that all tributaries to Rosamond, Buckhorn, and Rogers Lakes, excluding Lake Palmdale and tributaries to Lake Palmdale, are non-jurisdictional by the USACE due to the Antelope Valley watershed being an isolated, intrastate watershed without any surface water-related commerce (File No. SPL-2011-01084-SLP).

4.2 Potential Waters of the U.S./State (RWQCB)

The features identified within the study area are likely regulated by the RWQCB, since they may contribute surface water and/or groundwater to the hydrology in Antelope Valley and would be regulated under the Porter–Cologne Water Quality Control Act. Impacts to these features would require a Waste Discharge Requirement (WDR) permit.

4.3 Potential CDFW Jurisdiction

No streams or lakes were identified on the Project site. As such, a Lake or Stream Alteration Agreement is not warranted. However, CDFW would have discretion if a permit is needed from the agency.

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[6] Minimum Standards Item 6 (Aquatic Resource Narrative)

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5 Conclusions

No aquatic features were found to have USACE jurisdiction due to the lack of connectivity to a Navigable Water. A network of 25 isolated depressions were found to be potentially regulated by RWQCB as waters of the State and impacts to these features would require a Waste Discharge Requirement (WDR) permit.

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6 References Cited

CDFW (California Department of Fish and Wildlife). 2023. California Natural Community list. Sacramento, California: CDFW. Accessed February 2023. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline.

CNPS (California Native Plant Society). 2023. A Manual of California Vegetation, Online Edition. Accessed February 2023. https://www.https://www.cnps.org/vegetation.

Google. 2023. Google Earth, desktop application; centered on the Project. Accessed February 2023. https://www.google.com/earth/.

Oberbauer, T., M. Kelly, and J. Buegge. 2008. *Draft Vegetation Communities of San Diego County*. March 2008. Accessed February 2023. https://www.sandiegocounty.gov/content/dam/sdc/pds/ceqa/Soitec-Documents/Final-EIR-Files/references/rtcref/ch9.0/rtcrefaletters/014%202014-12-19_OberbauerTM2008.pdf.

SWRCB (State Water Resources Control Board). 2019. State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. Adopted April 2, 2019; revised April 6, 2021. Accessed February 2023. https://www.waterboards.ca.gov/press_room/press_releases/2021/procedures.pdf.

USACE (U.S. Army Corps of Engineers). 1987*. Corps of Engineers Wetlands Delineation Manual*. Online ed. Environmental Laboratory, Wetlands Research Program Technical Report Y-87-1. Vicksburg, Mississippi: U.S. Army Engineer Waterways Experiment Station. January 1987. Accessed February 2023. http://www.cpe.rutgers.edu/Wetlands/1987-Army-Corps-Wetlands-Delineation-Manual.pdf.

USACE. 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0).* Environmental Laboratory, ERDC/EL TR-08-28. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center. September 2008. Accessed February 2023. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1046489.pdf.

USACE. 2008b. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual. ERDC/CRREL TR-08-12. Prepared by R.W. Lichvar and S.M. McColley. Hanover, New Hampshire: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory. August 2008. Accessed February 2023. https://apps.dtic.mil/dtic/tr/fulltext/u2/a486603.pdf.

USACE. 2017. *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports*. U.S. Army Corps of Engineers, Los Angeles District. March 16, 2017. Accessed February 2023. https://www.spl.USACE.army.mil/Portals/17/Users/251/43/2043/Final%20Delin%20report%20standards%203-16-2017.pdf?ver=2017-03-16-170513-523.

USACE and EPA (U.S. Environmental Protection Agency). 2008. "Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States." December 2, 2008.

Accessed February 2023. http://water.epa.gov/lawsregs/guidance/wetlands/upload/2008_12_3_wetlands_CWA_Jurisdiction_Following_Rapanos120208.pdf.

USDA (U.S. Department of Agriculture). 2023a. Web Soil Survey. USDA Natural Resources Conservation Service, Soil Survey Staff. Accessed February 2023. https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm.

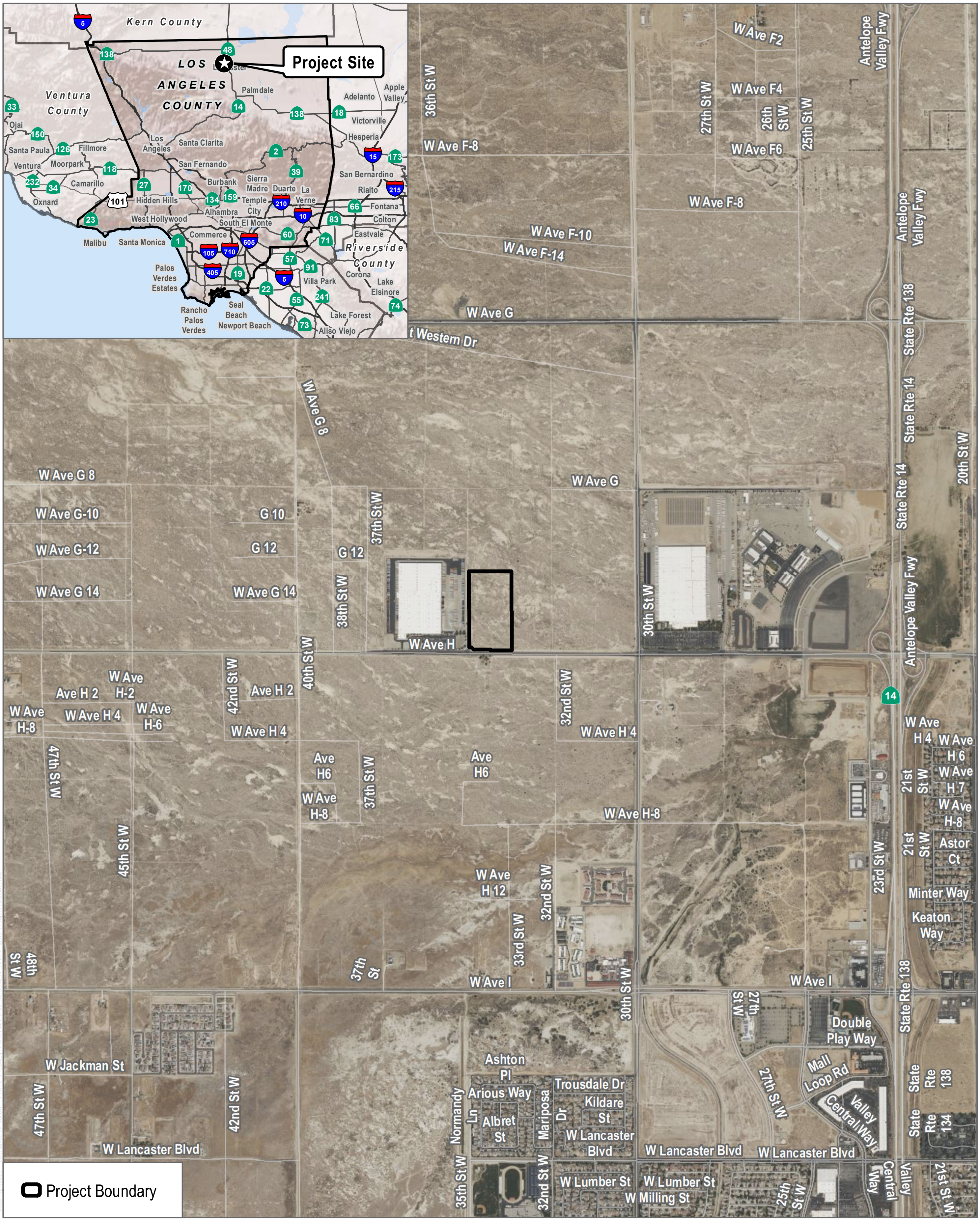
USDA. 2023b. State Soil Data Access (SDA) Hydric Soils List, California; online database. Accessed February 2023. https://www.nrcs.usda.gov/publications/query-by-state.html.

USFWS (U.S. Fish and Wildlife Service). 2023. National Wetland Inventory data. Accessed February 2023. http://www.fws.gov/data. https://www.usgs.gov/national-hydrography.

USGS (U.S. Geologic Survey). 2022. National Hydrography Dataset and Watershed Boundary Dataset.

Appendix A

Figures



SOURCE: Bing Imagery 2021

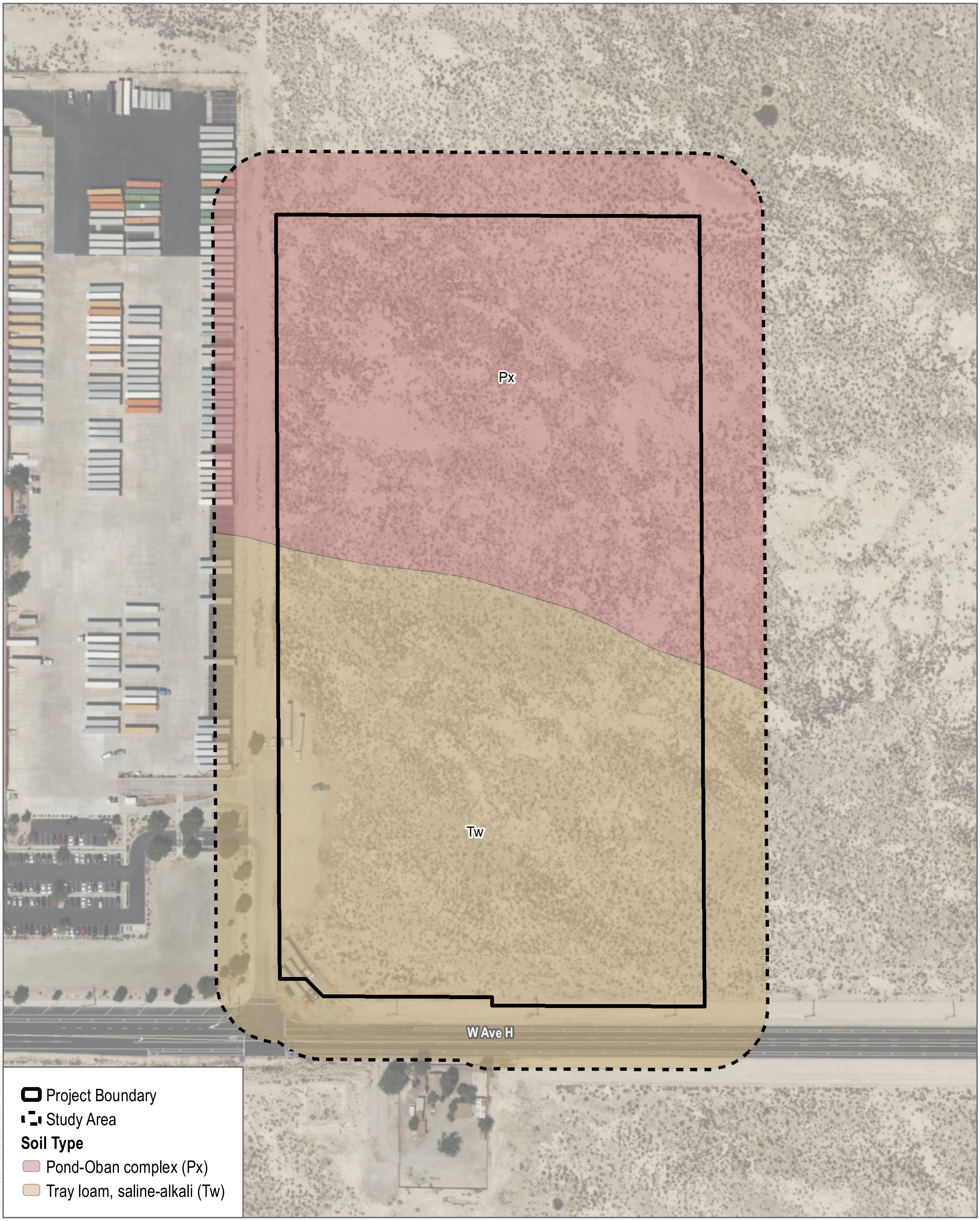
DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

35th Street & Avenue H Industrial Project



SOURCE: Bing Imagery 2021, CA Dept. of Conservation 2018

FIGURE 2

Soils

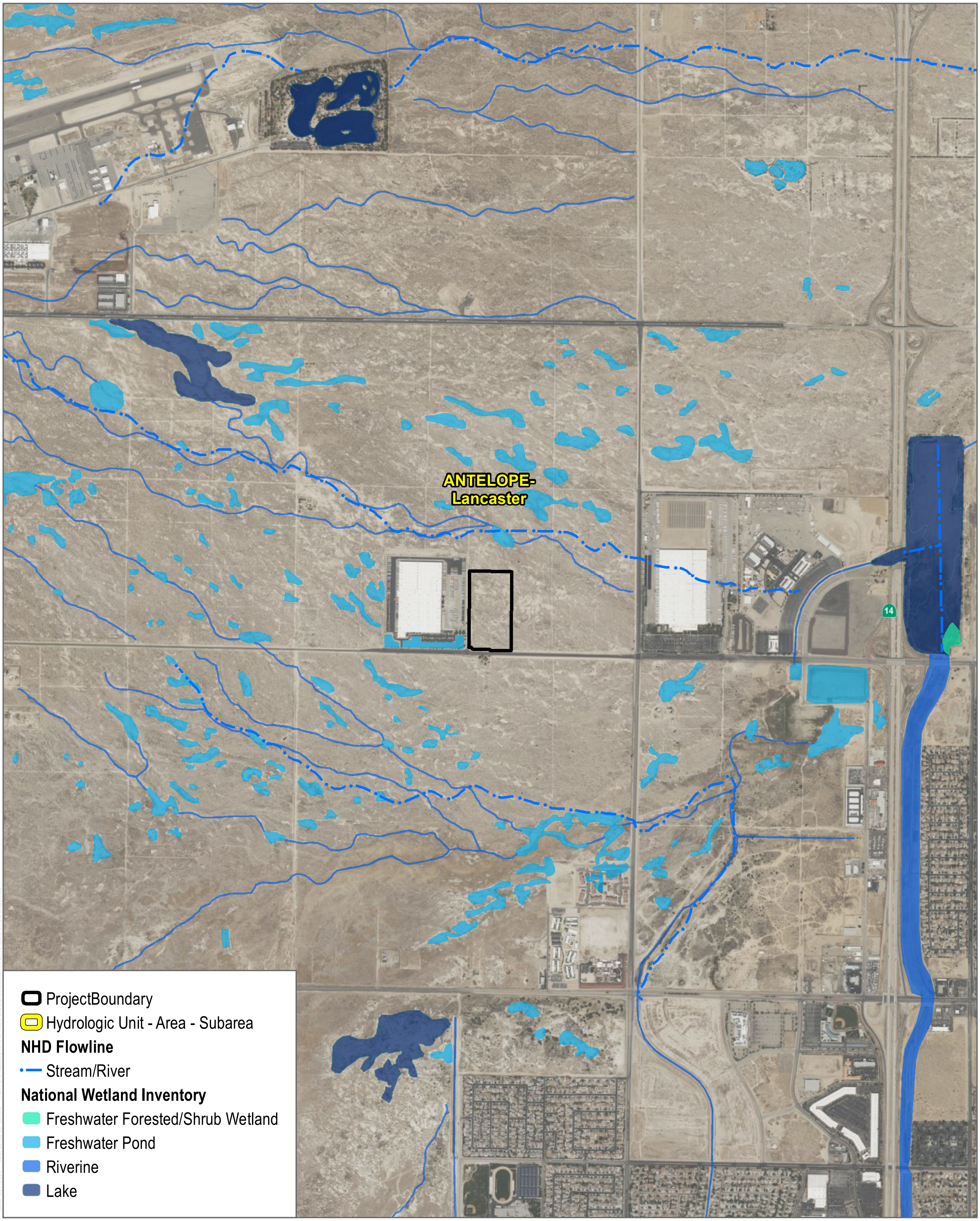
35th Street & Avenue H Industrial Project

SOURCE: Bing Imagery 2021

FIGURE 3

Vegetation Communities and Land Covers

35th Street & Avenue H Industrial Project



Date: 4/27/2023 - Last saved by: ochow - Path: Z:\Projects\j1473101\MAPDOC\DOCUMENT\ARDR\Figure 4 Hydrology.mxd

SOURCE: Bing Imagery 2021, USFWS 2019, USGS 2019

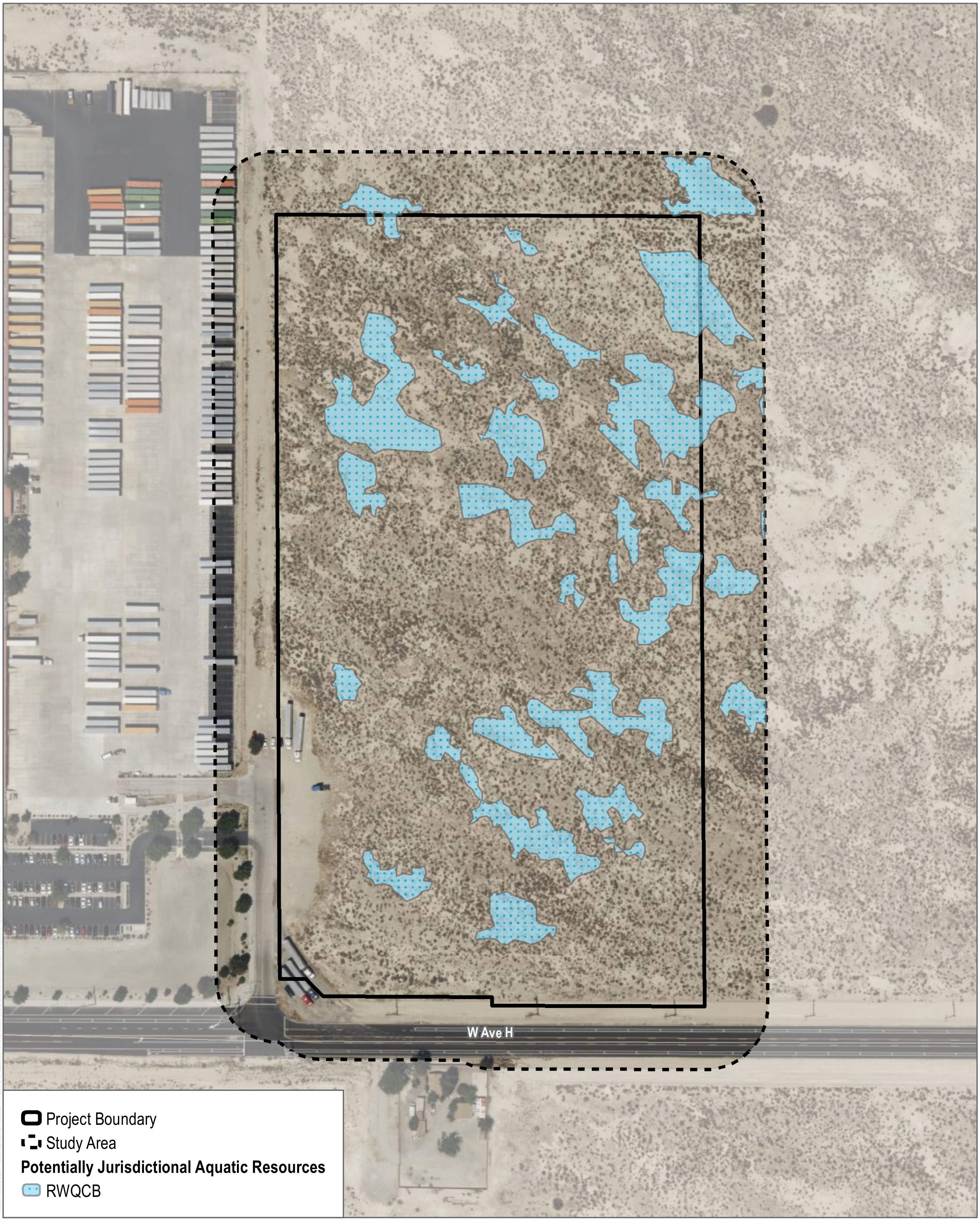
DUDEK

0 1,000 2,000 Feet

FIGURE 4

Hydrology

35th Street & Avenue H Industrial Project



SOURCE: Bing Imagery 2021

FIGURE 5

Aquatic Resources

35th Street & Avenue H Industrial Project

DUDEK

Appendix B

Photo Exhibit

Photo 1: Representative photo of features within the Project Site.

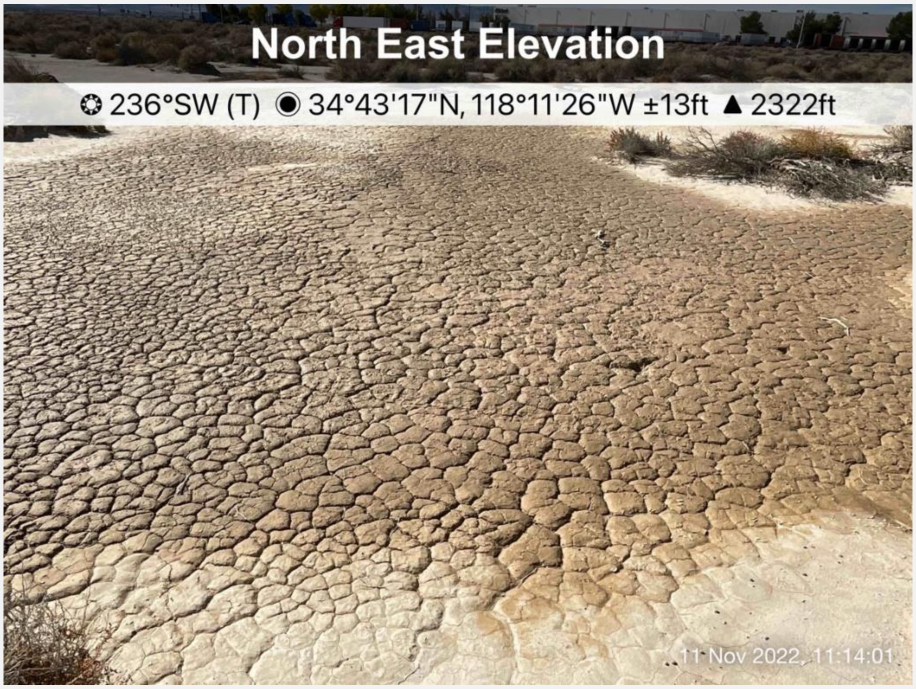


Photo 2: Characteristic soil cracks found within the features.

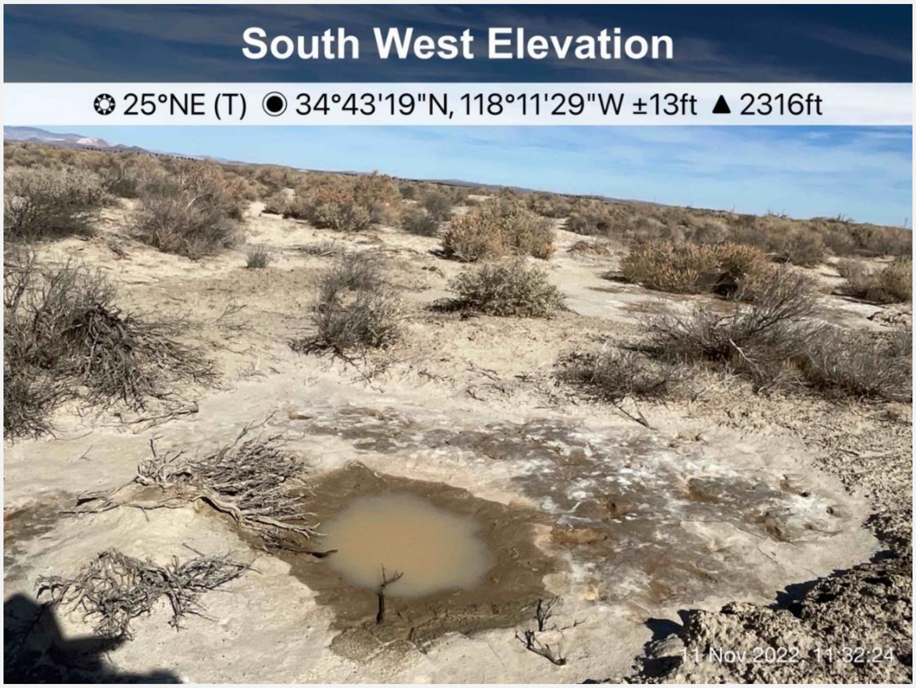


Photo 3: Representative photo of remnant water ponding after the recent rain event.

Photo 4: Soil cracks and ponding with presence of upland desert species surrounding the feature.

Appendix B

Photo Exhibit

Photo 1: Representative photo of shadscale scrub in the project site.

Photo 2: Representative photo of disturbed habitat (left side of photo) in the project site.

Photo 3: Representative photo of areas where water ponds that are potential waters of the State.

Photo 4: Representative photo of areas where water ponds that are potential waters of the State.

Appendix C

Plant and Wildlife Compendia

Plant Species

Dicots

ASTERACEAE—SUNFLOWER FAMILY

Centromadia pungens—common tarweed

Ericameria nauseosa—rubber rabbitbrush

Lasthenia gracilis—needle goldfields

Malacothrix californica—desert dandelion

Tetradymia glabrata—littleleaf horsebrush

CHENOPODIACEAE—GOOSEFOOT FAMILY

Atriplex confertifolia—shadscale

Atriplex polycarpa—allscale

Chenopodium album—lambs quarter

Salsola tragus—prickly Russian thistle[1]

CLEOMACEAE—SPIDERFLOWER FAMILY

Cleomella obtusifolia—Mojave cleomella

GERANIACEAE—GERANIUM FAMILY

Eremothera boothii ssp. *desertorum* — Booth's desert primrose

ONAGRACEAE—PRIMROSE FAMILY

Erodium cicutarium—redstem stork's bill[1]

Gymnosperms and Gnetophytes

EPHEDRACEAE—EPHEDRA FAMILY

Ephedra nevadensis—Nevada joint fir

Monocots

LILIACEAE—LILY FAMILY

Calochortus striatus— alkali mariposa lily

POACEAE—GRASS FAMILY

Bromus madritensis ssp. *rubens*—red brome[1]

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[1] Non-native species

Wildlife Species

Reptiles

CROTAPHYTIDAE—COLLARED LIZARDS

Gambelia wislizenii—long-nosed leopard lizard

PHRYNOSOMATIDAE—IGUANID LIZARDS

Uta stansburiana—common side-blotched lizard

TEIIDAE—WHIPTAIL LIZARDS

Aspidoscelis tigris—tiger whiptail

Birds

FRINGILLIDAE—FRINGILLINE & CARDUELINE FINCHES & ALLIES

Haemorhous mexicanus—house finch

CORVIDAE—CROWS & JAYS

Corvus corax—common raven

ALAUDIDAE—LARKS

Eremophila alpestris—horned lark

LANIIDAE—SHRIKES

Lanius ludovicianus loggerhead shrike

MIMIDAE—MOCKINGBIRDS & THRASHERS

Mimus polyglottos—northern mockingbird

COLUMBIDAE—PIGEONS & DOVES

Zenaida macroura—mourning dove

CHARADRIIDAE—LAPWINGS & PLOVERS

Charadrius vociferus—killdeer

PASSERELLIDAE—NEW WORLD SPARROWS

Artemisiospiza nevadensis—sagebrush sparrow

Appendix D

Assessment of Special-Status Plant Species Potentially Occurring in the Study Area

Scientific Name	Common Name	Status[1] (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
Androsace elongata ssp. *acuta*	California androsace	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Meadows and seeps, Pinyon and juniper woodland, Valley and foothill grassland/annual herb/Mar–June/490–4,280	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Astragalus hornii var. *hornii*	Horn's milk-vetch	None/None/1B.1	Meadows and seeps, Playas; Alkaline, Lake Margins/annual herb/May–Oct/195–2,785	Low potential to occur. Suitable habitat is present for this species to occur; however, the only record of the species from the Antelope Valley is from a 1970 checklist for the Antelope Valley California Poppy Preserve (CalFlora 2023), and a 1929 record from near Palmdale and 1931 record from near Willow Springs (CDFW 2023). This is despite the numerous surveys that occurred for development within the valley. Modern records of the species are from the Central Valley (CDFW 2023, CalFlora 2023).
Astragalus preussii var. *laxiflorus*	Lancaster milk-vetch	None/None/1B.1	Chenopod scrub/perennial herb/Mar–May/2,295–2,295	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Calochortus catalinae	Catalina mariposa lily	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/perennial bulbiferous herb/(Feb)Mar–June/50–2,295	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Calochortus clavatus var. *avius*	Pleasant Valley mariposa-lily	None/None/1B.2	Lower montane coniferous forest/perennial bulbiferous herb/May–July/1,000–5,905	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Calochortus clavatus var. *gracilis*	slender mariposa-lily	None/None/1B.2	Chaparral, Coastal scrub, Valley and foothill grassland/perennial bulbiferous herb/Mar–June(Nov)/1,045–3,280	Not expected to occur. Suitable habitat for the species is not present in the Study Area.

Scientific Name	Common Name	Status[1] (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
Calochortus palmeri var. *palmeri*	Palmer's mariposa-lily	None/None/1B.2	Chaparral, Lower montane coniferous forest, Meadows and seeps; Mesic/perennial bulbiferous herb/Apr–July/2,325–7,840	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Calochortus striatus	alkali mariposa-lily	None/None/1B.2	Chaparral, Chenopod scrub, Meadows and seeps, Mojavean desert scrub; Alkaline, Mesic/perennial bulbiferous herb/Apr–June/230–5,230	Occurs. Forty-one individuals were identified scattered throughout the Project site and suitable habitat is present in the form of shadscale scrub. There are multiple CNDDB occurrences within a five-mile radius of the Project site (CDFW 2023).
Calystegia peirsonii	Peirson's morning-glory	None/None/4.2	Chaparral, Chenopod scrub, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland/perennial rhizomatous herb/Apr–June/100–4,920	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Canbya candida	white pygmy-poppy	None/None/4.2	Joshua tree "woodland", Mojavean desert scrub, Pinyon and juniper woodland; Granitic, Gravelly, Sandy/annual herb/Mar–June/1,965–4,790	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Castilleja plagiotoma	Mojave paintbrush	None/None/4.3	Great Basin scrub, Joshua tree "woodland", Lower montane coniferous forest, Pinyon and juniper woodland/perennial herb (hemiparasitic)/Apr–June/985–8,200	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Chorizanthe parryi var. *parryi*	Parry's spineflower	None/None/1B.1	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland; Openings, Rocky (sometimes), Sandy (sometimes)/annual herb/Apr–June/900–4,000	Not expected to occur. Suitable habitat for the species is not present in the Study Area.

Scientific Name	Common Name	Status[1] (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
Chorizanthe spinosa	Mojave spineflower	None/None/4.2	Chenopod scrub, Joshua tree "woodland", Mojavean desert scrub, Playas; Alkaline (sometimes)/annual herb/Mar–July/20–4,265	Not expected to occur. Suitable habitat is present for this species to occur and there are records in the vicinity (CalFlora 2023); however, the species was not observed during the rare plant survey.
Cryptantha clokeyi	Clokey's cryptantha	None/None/1B.2	Mojavean desert scrub/annual herb/Apr/2,375–4,475	Not expected to occur. No suitable habitat is present in the Study Area.
Eriastrum rosamondense	Rosamond eriastrum	None/None/1B.1	Chenopod scrub, Vernal pools; Alkaline, Sandy (often)/annual herb/Apr–May(June–July)/2,295–3,850	Not expected to occur. Suitable habitat is present for this species to occur and there are records in the vicinity (CalFlora 2023); however, the species was not observed during the rare plant survey.
Eriophyllum mohavense	Barstow woolly sunflower	None/None/1B.2	Chenopod scrub, Mojavean desert scrub, Playas/annual herb/Mar–May/1,640–3,145	Not expected to occur. Suitable habitat is present for this species to occur, but the Study Area is outside of the range of the species (CDFW 2023, CalFlora 2023).
Gilia interior	inland gilia	None/None/4.3	Cismontane woodland, Joshua tree "woodland", Lower montane coniferous forest; Rocky/annual herb/Mar–May/2,295–5,575	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Gilia latiflora ssp. *cuyamensis*	Cuyama gilia	None/None/4.3	Pinyon and juniper woodland/annual herb/Apr–June/1,950–6,560	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Goodmania luteola	golden goodmania	None/None/4.2	Meadows and seeps, Mojavean desert scrub, Playas, Valley and foothill grassland; Alkaline (sometimes), Clay (sometimes)/annual herb/Apr–Aug/65–7,215	Not expected to occur. Suitable habitat is present for this species to occur and there are records in the vicinity (CalFlora 2023); however, the species was not observed during the rare plant survey.
Loeflingia squarrosa var. *artemisiarum*	sagebrush loeflingia	None/None/2B.2	Desert dunes, Great Basin scrub, Sonoran desert scrub; Sandy/annual herb/Apr–May/2,295–5,295	Not expected to occur. Suitable habitat for this species is not present in the Study Area.

Scientific Name	Common Name	Status[1] (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
Lycium torreyi	Torrey's box-thorn	None/None/4.2	Mojavean desert scrub, Sonoran desert scrub; Rocky, Sandy, Streambanks, Washes/perennial shrub/(Jan–Feb)Mar–June(Sep–Nov)/-,165–4,000	Not expected to occur. Suitable habitat for this species is not present in the Study Area.
Muilla coronata	crowned muilla	None/None/4.2	Chenopod scrub, Joshua tree "woodland", Mojavean desert scrub, Pinyon and juniper woodland/perennial bulbiferous herb/Mar–Apr(May)/2,195–6,430	Not expected to occur. Suitable habitat for this species is not present in the Study Area.
Opuntia basilaris var. *brachyclada*	short-joint beavertail	None/None/1B.2	Chaparral, Joshua tree "woodland", Mojavean desert scrub, Pinyon and juniper woodland/perennial stem/Apr–June(Aug)/1,390–5,905	Not expected to occur. Suitable habitat for this species is not present in the Study Area.
Perideridia pringlei	adobe yampah	None/None/4.3	Chaparral, Cismontane woodland, Coastal scrub, Pinyon and juniper woodland; Clay (often), Serpentinite/perennial herb/Apr–June(July)/985–5,905	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Puccinellia simplex	California alkali grass	None/None/1B.2	Chenopod scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools; Alkaline, Flats, Lake Margins, Vernally Mesic/annual herb/Mar–May/5–3,050	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Yucca brevifolia	western Joshua tree	None/SC/CBR	Great Basin grassland, Great Basin scrub, Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland, Sonoran desert scrub, Valley and foothill grassland/perennial leaf succulent/Apr–May/1,310–6,560	Not present. This conspicuous species was not seen during the September 2022 biological reconnaissance survey.

Notes:

[1] **Status Abbreviations**

Federal and State Statuses

FE: Federally listed as endangered
FT: Federally listed as threatened
SC: State candidate for listing
SE: State listed as endangered
ST: State listed as threatened
SR: State designated as rare

CRPR: California Rare Plant Rank (CNPS 2023)

1A: Plants presumed extirpated in California and either rare or extinct elsewhere
1B: Plants rare, threatened, or endangered in California and elsewhere
2B: Plants rare, threatened, or endangered in California but more common elsewhere
4: Watch List: Plants of limited distribution
CBR: Considered but Rejected

Modifiers

.1: Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2: Moderately threatened in California (20% - 80% of occurrences threatened/moderate degree and immediacy of threat)
.3: Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat)

References

Calflora. 2023. The CalFlora Database: Information on California plants for education, research, and conservation, with data contributed by public and private institutions and individuals, including the Consortium of California Herbaria. [web application]. Berkeley, California. Accessed January 2023. https://www.calflora.org/.

CDFW (California Department of Fish and Wildlife). 2023. *RareFind*, Version 5.2.14. California Natural Diversity Database (CNDDB). Accessed January 2023. https://map.dfg.ca.gov/rarefind/view/RareFind.aspx.

CNPS (California Native Plant Society). 2023. *Inventory of Rare and Endangered Plants*. Online Ed. Version 8-03 0.45. Sacramento, California: CNPS. Accessed January 2023. http://www.rareplants.cnps.org/advanced.html.

Consortium of California Herbaria (CCH). 2023. CCH1: Featuring California vascular plant data from the Consortium of California Herbaria and other sources. Regents of the University of California. Accessed January 2023. https://ucjeps.berkeley.edu/consortium/.

Jepson Flora Project. 2023. Jepson eFlora. Berkeley, California: University of California. Accessed January 2023. http://ucjeps.berkeley.edu/eflora/.

USFWS. 2023. IPaC: Information for Planning and Consultation. Powered by ECOS – the Environmental Conservation Online System. Accessed January 2023. https://ecos.fws.gov/ipac/.

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Appendix E

Assessment of Special-Status Wildlife Species Potentially Occurring in the Study Area

Scientific Name	Common Name	Status1 (Federal/State)	Primary Habitat Associations	Potential to Occur
Amphibians				
Rana draytonii	California red-legged frog	FT/SSC	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands	Not expected to occur. Suitable habitat is not present.
Reptiles				
Anniella spp.	California legless lizard	None/SSC	Coastal dunes, stabilized dunes, beaches, dry washes, valley–foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated with sparse vegetation and moist sandy or loose, loamy soils	Not expected to occur. Suitable habitat is not present.
Arizona elegans occidentalis	California glossy snake	None/SSC	Arid scrub, rocky washes, grasslands, chaparral, open areas with loose soil	Not expected to occur. Suitable habitat is not present.
Emys marmorata	western pond turtle	None/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	Not expected to occur. Suitable habitat is not present.
Gopherus agassizii	Mojave desert tortoise	FT/ST, SCE	Arid and semi-arid habitats in Mojave and Sonoran Deserts, including sandy or gravelly locations along riverbanks, washes, sandy dunes, canyon bottoms, desert oases, rocky hillsides, creosote flats, and hillsides	Not expected to occur. The species has no modern recorded occurrences west of State Route (SR) 14 and south of SR 138, and the habitat on the project site is marginal for the species (CDFW 2023a).

Scientific Name	Common Name	Status1 (Federal/State)	Primary Habitat Associations	Potential to Occur
Phrynosoma blainvillii	Blainville's horned lizard	None/SSC	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats	Not expected to occur. Suitable habitat is not present.
Thamnophis hammondii	two-striped gartersnake	None/SSC	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Not expected to occur. Suitable habitat is not present.
Birds				
Accipiter cooperii (nesting)	Cooper's hawk	None/WL	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	Not expected to occur. Suitable habitat is not present.
Agelaius tricolor (nesting colony)	tricolored blackbird	BCC/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture	Not expected to occur. Suitable habitat is not present.
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None/WL	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches	Not expected to occur. Suitable habitat is not present.
Aquila chrysaetos (nesting & wintering)	golden eagle	None/FP, WL	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats	Low potential to occur. Nesting habitat is not present but the species could forage in the Study Area if black-tailed jackrabbit (*Lepus californicus*) are present.

Scientific Name	Common Name	Status1 (Federal/State)	Primary Habitat Associations	Potential to Occur
Artemisiospiza belli belli	Bell's sage sparrow	None/WL	Nests and forages in coastal scrub and dry chaparral; typically in large, unfragmented patches dominated by chamise; nests in more dense patches but uses more open habitat in winter	Not expected to occur. Suitable habitat is not present.
Asio flammeus (nesting)	short-eared owl	BCC/SSC	Grassland, prairies, dunes, meadows, irrigated lands, and saline and freshwater emergent wetlands	Not expected to occur. Suitable habitat is not present.
Athene cunicularia (burrow sites & some wintering sites)	burrowing owl	BCC/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Low potential to occur. Marginal habitat is present onsite and no suitable burrows were observed during the September 2022 biological survey. However, multiple CNDDB occurrences are found within a 5-mile radius of the Project site (CDFW 2023). The species would not be expected to breed on site due to the lack of suitable burrows but individuals could be present during migration and dispersal.
Buteo *regalis* (*wintering*)	ferruginous hawk	None/WL	Winters and forages in open, dry country, grasslands, open fields, agriculture	Low potential to occur. The species could forage in the Study Area if black-tailed jackrabbit (*Lepus californicus*) are present.
Buteo swainsoni (nesting)	Swainson's hawk	None/ST	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture	Not expected to occur. Suitable nesting habitat is not present.
Charadrius montanus (wintering)	mountain plover	BCC/SSC	Winters in shortgrass prairies, plowed fields, open sagebrush, and sandy deserts	Low potential to occur. Marginal habitat is present within the Study Area. However, there are no CNDDB occurrences within a 5-mile radius and the species' occurrence in the Antelope Valley is typically associated with agriculture fields that provide foraging opportunities (CDFW 2023).

Scientific Name	Common Name	Status1 (Federal/State)	Primary Habitat Associations	Potential to Occur
Charadrius nivosus nivosus (nesting)	western snowy plover	FT, BCC/SSC	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds	Not expected to occur. Suitable nesting habitat is not present.
Circus hudsonius (nesting)	northern harrier	BCC/SSC	Nests in open wetlands (marshy meadows, wet lightly-grazed pastures, old fields, freshwater and brackish marshes); also in drier habitats (grassland and grain fields); forages in grassland, scrubs, rangelands, emergent wetlands, and other open habitats	Not expected to occur. Suitable nesting habitat is not present.
Falco columbarius (wintering)	merlin	None/WL	Forages in semi-open areas, including coastline, grassland, agriculture, savanna, woodland, lakes, and wetlands	Low potential to occur. Marginal foraging habitat is present within the Study Area.
Lanius ludovicianus (nesting)	loggerhead shrike	None/SSC	Nests and forages in open habitats with scattered shrubs, trees, or other perches	Known to occur. This species was observed foraging during the September 2022 biological reconnaissance survey; however, the species is not expected to nest on site.
Plegadis chihi (nesting colony)	white-faced ibis	None/WL	Nests in shallow marshes with areas of emergent vegetation; winter foraging in shallow lacustrine waters, flooded agricultural fields, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded fields, and estuaries	Not expected to occur. Suitable nesting habitat is not present. May be seen flying over as there have been sightings less than 0.5 miles east (eBird 2023).

Scientific Name	Common Name	Status1 (Federal/State)	Primary Habitat Associations	Potential to Occur
Gymnogyps californianus	California condor	FE/FP, SE	Nests in rock formations, deep caves, and occasionally in cavities in giant sequoia trees (Sequoiadendron giganteus); forages in relatively open habitats where large animal carcasses can be detected	Not expected to occur. Suitable nesting and foraging habitat are not present.
Polioptila californica californica	coastal California gnatcatcher	FT/SSC	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level	Not expected to occur. The project site is outside the range of the species and suitable habitat is not present.
Toxostoma lecontei	Le Conte's thrasher	BCC/SSC	Nests and forages in desert wash, desert scrub, alkali desert scrub, desert succulent, and Joshua tree habitats; nests in spiny shrubs or cactus	Low potential too occur. Not expected to nest. Marginal suitable habitat is present. Suitable nesting habitat (i.e., spiny shrubs or cactus) is not present.
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	Not expected to occur. Suitable nesting habitat is not present.
Mammals				
Corynorhinus townsendii	Townsend's big-eared bat	None/SSC	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels	Not expected to occur. Suitable habitat is not present.

Scientific Name	Common Name	Status1 (Federal/State)	Primary Habitat Associations	Potential to Occur
Onychomys torridus ramona	southern grasshopper mouse	None/SSC	Grassland and sparse coastal scrub	Not expected to occur. Suitable habitat is not present.
Perognathus inornatus	San Joaquin pocket mouse	None/None	Open grassland and scrub areas on fine-textured soils	Not expected to occur. The desert scrub onsite may provide suitable habitat. However, the Project site lacks fine textured soils.
Spermophilus (*Xerospermophilus*) *mohavensis*	Mohave ground squirrel	None/ST	Desert scrub habitats including those dominated by creosote bush and burrobush, desert sink scrub, and desert saltbush scrub	Not expected to occur. Marginal habitat is present. However, populations in Los Angeles County are thought to be extirpated and there are no modern CNDDB occurrences in a 10-mile radius (CDFW 2023a and Leitner 2021).
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Not expected to occur. Suitable habitat is not present.
Invertebrates				
Branchinecta lynchi	vernal pool fairy shrimp	FT/None	Vernal pools, seasonally ponded areas within vernal swales, and ephemeral freshwater habitats	Not expected to occur. The playas are not expected to retain water for a long enough period for breeding and larval development, so suitable habitat is not present.
Danaus plexippus pop. 1 (wintering)	monarch	FC/None	Wind-protected tree groves with nectar sources and nearby water sources	Not expected to occur. Suitable wintering and foraging habitat is not present.
Euphydryas editha quino	Quino checkerspot butterfly	FE/SCE	Annual forblands, grassland, open coastal scrub and chaparral; often soils with cryptogamic crusts and fine-textured clay; host plants include Plantago erecta, Antirrhinum coulterianum, and Plantago patagonica (Silverado Occurrence Complex)	Not expected to occur. The project site is outside of the species' known geographic range and lacks suitable host plants.

Notes:

[1] **Status Abbreviations**
Federal Statuses
FC: Candidate for federal listing as threatened or endangered
FE: Federally listed Endangered
FT: Federally listed as Threatened
FD: Federally Delisted
BCC: U.S. Fish and Wildlife Service Bird of Conservation Concern
State Statuses
SE: State listed as Endangered
ST: State listed as Threatened
SCE: State candidate for listing as Endangered
SD: State Delisted
FP: Fully protected species
SSC: Species of Special Concern
WL: California Watch List Species

References

CDFW (California Department of Fish and Wildlife). 2023a. RareFind, Version 5.2.14. California Natural Diversity Database (CNDDB). Accessed January 2023. https://map.dfg.ca.gov/rarefind/view/RareFind.aspx.

CDFW. 2023b. CWHR Life History Accounts and Range Maps. Website. Updated versions of species information in Zeiner et al. 1988–1990. CDFW, CWHR Program. Accessed January 2023. https://www.wildlife.ca.gov/Data/CWHR/Life-History-and Range.

Leitner, P. 2021. Current status of the Mohave ground squirrel: an update covering the period 2013–2020. California Fish and Wildlife Special CESA Issue:300-316; 2021.

Miner, K.L., and D.C. Stokes. 2005. “Bats in the South Coast Ecoregion: Status, Conservation Issues, and Research Needs.” USDA Forest Service Gen. Tech. Rep. PSW-GTR-195:211-227.

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Appendix D

Archaeological Resources Assessment

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May 24, 2023 14731

Michael Di Sano
Senior Director – Entitlements
West Avenue H 18, LLC
3 Corporate Plaza, Suite 230
Newport Beach, CA 92660

Subject: Draft Archaeological Resources Assessment for the 35th Street and W Avenue H Industrial Project, City of Lancaster, Los Angeles County, California

Dear Mr. Michael Di Sano:

This letter report documents the cultural resources assessment conducted by Dudek for the 35th Street and W Avenue H Industrial Project (proposed Project), located within the City of Lancaster, Los Angeles County, California. The present study documents the results of a California Historical Resources Information System (CHRIS) records search conducted at the South Central Coastal Information Center (SCCIC), review historical maps and aerial photographs, review of a geotechnical report prepared for the proposed Project site, an archaeological pedestrian survey, an analysis of the sensitivity of the proposed Project site to contain archaeological resources, as well as management recommendations. The City of Lancaster (City) is the lead agency responsible for compliance with California Environmental Quality Act (CEQA).

Project Location

The proposed Project site is located in the northwestern part of the City, which is situated in the Antelope Valley region of Los Angeles County. Specifically, the proposed Project site falls on public land survey system Section 6 of Township 7 North, Range 12 West on the *Lancaster West*, CA 7.5-minute United States Geological Survey (USGS) Quadrangle (Appendix A: Figure 1, Project Location). The proposed Project site is located north of West Avenue H, immediately east of an existing distribution center, and south and west of vacant and undeveloped (Appendix A: Figure 2, Project Site). The proposed Project site is located on two parcels consisting of Assessor's Parcel Numbers (APNs) 3107-026-077 and 3107-026-079.

Project Description

The proposed Project would include construction of an industrial warehouse building and associated improvements on 20.15 acres of vacant land. However, in consideration of the required setbacks from the centerlines of the adjacent roadways, the net acreage of 18.15 acres represents the total site acreage for the proposed Project site. The proposed Project would provide 395,390 square feet of industrial/warehouse space and include associated improvements, such as loading docks, tractor-trailer stalls, passenger vehicle parking spaces, stormwater detention basins, and landscape area, which is further discussed below.

The proposed Project would include off-site improvements along 35th Street and West Avenue H, including frontage landscaping, pedestrian, and street lighting improvements (e.g., road repaving or installation of sidewalks along building frontages). A variety of trees, shrubs, plants, and land covers would be planted within the proposed Project's frontage landscape setback area, as well as within the landscape areas found around the proposed industrial/warehouse buildings and throughout the proposed Project site.

Access to the proposed Project site would be provided by one driveway:

- West Avenue H South Driveway – 40-foot-wide, full-access (passenger cars and trucks) driveway with stop sign

Signage and striping would be provided to demarcate fire lanes and clear spaces throughout the proposed Project site. All gated entryways to truck courts would include rapid-access Knox boxes to provide emergency access to gated areas.

Paved passenger vehicle parking areas would be provided within area south of the building, while tractor-trailer stalls and loading docks would be located east of the building. In total, the proposed Project would provide approximately 49 loading dock positions, approximately two (2) grade doors, approximately 72 tractor-trailer stalls, and approximately 173 passenger vehicle parking spaces, including 130 standard parking, six (6) accessible parking, two (2) electric charging stalls (EVCS) accessible, and 35 electric vehicle [EV] charging stalls, as well as six (6) bicycle parking spaces. 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 proposed Project would include off-site improvements that include street improvements along the frontage of the proposed Project on West Avenue H and 35th Street.

Given the vacant, undeveloped nature of the proposed Project site, both wet and dry utilities, including domestic water, sanitary sewer, and electricity, would need to be extended onto the proposed Project site as follows:

- Within the immediate vicinity of the proposed Project site, existing domestic water lines include water lines within 35th Street.
- Within the immediate vicinity of the proposed Project site, existing sewer lines include a gravity line starting north of State Route 14 with West Avenue H (to the south of the proposed Project site).

Additionally, a new engineered stormwater drainage system would be constructed on the proposed Project site to collect and treat on-site stormwater. Post-development, stormwater flows would be captured on site and treated within a series of aboveground and underground infiltration facilities. The proposed Project would include seven (7) bio-detention basins on site: one (1) located on the southeast corner, one (1) located on the northeast corner, and five (5) located along the west portion of the proposed Project site to detain and treat stormwater runoff. Stormwater flows would be conveyed via sheet flows away from buildings and where possible, through below-grade, landscaped areas prior to entering the nearest catch basin and subsequently being conveyed to the infiltration and retention facilities. The landscaped areas would act as the first filter for detaining suspended solids in stormwater flows. The detention basins would be planted with native grasses and erosion control vegetation along their side banks. Concrete forebays or riprap would accumulate a majority of the trash and sediment within the stormwater prior to entering the earthen basins.

In addition to the proposed construction and improvement activities discussed above, 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 proposed Project site to provide service to the proposed Project.

Based on proposed Project construction activities and the recommendations of the geotechnical report prepared for the proposed Project site, the minimum depth of ground disturbance for the proposed Project site is between 3 to 5 feet below the existing ground surface for the removal of existing vegetation and organic materials, treatment of existing soils for the building pad of the proposed building area, foundation bearing grade, scarification of soils after the subgrade depth has been reached, installation of utilities, and the proposed retaining walls. It is also assumed that a maximum depth of 20 feet below the existing ground surface is anticipated for the installation of the proposed detention basins within the northeast and southeast corners of the proposed Project site. All proposed ground disturbing work would occur within native alluvium.

Environmental Setting

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 Antelope Valley in the western Mojave Desert. Water sources in the general vicinity of the proposed Project site within Los Angeles County include the California Aqueduct (approximately 7 miles to the southwest), Lake Palmdale (approximately 11 miles to the southeast), Una Lake (approximately 12 miles to the southeast), Bouquet Reservoir (approximately 14 miles to the southwest), Castaic Lake (approximately 27 miles to the southwest), and Fairmont Reservoir (approximately 13 miles west), and "Pond Two (approximately 1 mile to the east), and a Apollo Community Regional Park (approximately 1 mile north), to name a few. The proposed Project site is relatively flat with elevation ranges between approximately 2,317 and 2,325 feet above mean sea level (amsl), sloping gently to the south along the western half portion of the proposed Project site (Google 2023). There are no substantial topographical features in the proposed Project site.

Land uses surrounding the proposed Project site primarily consist of vacant land, along with some scattered residential, commercial, light industrial, and utility uses. Specific land uses located in the immediate vicinity of the proposed Project site include: vacant land to the north; industrial use to the west; vacant land, industrial and commercial uses, and State Route (SR) 14 to the east; and vacant land and residential uses to the south.

Ground surface cover consists of shadscale scrub, with cattle saltbush and littleleaf horsebrush in the shrub strate located throughout the proposed Project site.

According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2023a), two (2) soil types have been identified in the proposed Project site: Pond-Oban complex with 0 to 2 percent slopes; and Tray loam, slightly saline with 0 to 2 percent slopes. The Pond and Tray soil series official soil descriptions are summarized as follows:

> **Pond Series** (USDA 2023b): The Pond series consists of fine-loamy, mixed, superactive, thermic Natric Haploxeralfs, and occur on nearly level to undulating alluvial fans formed from alluvium from granitic rock

at elevations of 40 to 2,600 feet amsl. The soils have light gray to light brownish gray, slightly hard, clay loam A1 horizons, very pale brown sandy clay loam Bt horizons and very pale brown sandy loam C horizons. The soils are calcareous throughout and developed on granitic alluvium. A typical Pond series pedon extends from 0 to 58+ inches below ground surface (bgs).

Tray Series (USDA 2023c): The Tray series consists of coarse-loamy, mixed, superactive, thermic Typic Haplargids, and are nearly level and are along the rim or in basins at elevations of 2,300 to 2,400 feet amsl and are formed in alluvium dominantly from granitic sources. Tray soils have light yellowish brown, very strongly alkaline, sandy loam A horizons, yellowish brown, very strongly alkaline, heavy sandy loam B2t horizons grading to light yellowish brown, very strongly and strongly alkaline, sandy loam C horizon. A typical Tray series pedon extends from 0 to 70 inches bgs.

A review of the United States Geological Society (USGS) mineral resources (USGS 2023) online spatial data for geology indicates that native soils within the proposed Project site 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.

Regulatory Context

Work for this proposed Project was conducted in compliance with the California Environmental Quality Act (CEQA). The regulatory framework as it pertains to cultural resources under CEQA is detailed below.

Under the provisions of CEQA, including the CEQA Statutes (PRC Sections 21083.2 and 21084.1), the CEQA Guidelines (14 CCR 15064.5), and California Public Resources Code (PRC) Section 5024.1 (14 CCR 4850 et seq.), properties expected to be directly or indirectly affected by a Project must be evaluated for California Register of Historical Resources (CRHR) eligibility (PRC Section 5024.1).

The purpose of the CRHR is to maintain listings of the state's historical resources and to indicate which properties are to be protected, to the extent prudent and feasible, from material impairment and substantial adverse change. The term historical resources includes a resource listed in or determined to be eligible for listing in the CRHR; a resource included in a local register of historical resources; and any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (14 CCR 15064.5[a]). The criteria for listing properties in the CRHR were developed in accordance with previously established criteria developed for listing in the National Register of Historic Places. The California Office of Historic Preservation regards "any physical evidence of human activities over 45 years old" as meriting recordation and evaluation (OHP 1995:2).

State

The California Register of Historical Resources

A cultural resource is considered "historically significant" under CEQA if the resource meets one or more of the criteria for listing on the CRHR. The CRHR was designed to be used by state and local agencies, private groups, and citizens to identify existing cultural resources within the state and to indicate which of those resources should be protected, to the extent prudent and feasible, from substantial adverse change. The following criteria have been established for the CRHR. A resource is considered significant if it:

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; or
4. has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one or more of the above criteria, historical resources eligible for listing in the CRHR must retain enough of their historic character or appearance to be able to convey the reasons for their significance. Such integrity is evaluated in regard to the retention of location, design, setting, materials, workmanship, feeling, and association.

Under CEQA, if an archeological site is not a historical resource but meets the definition of a "unique archeological resource" as defined in PRC Section 21083.2, then it should be treated in accordance with the provisions of that section. A unique archaeological resource is defined as follows:

- 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:
  - Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
  - Has a special and particular quality, such as being the oldest of its type or the best available example of its type; or
  - Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Resources that neither meet any of these criteria for listing in the CRHR nor qualify as a "unique archaeological resource" under CEQA (PRC Section 21083.2) are viewed as not significant. Under CEQA, "A non-unique archaeological resource need be given no further consideration, other than the simple recording of its existence by the lead agency if it so elects" (PRC Section 21083.2[h]).

Impacts that adversely alter the significance of a resource listed in or eligible for listing in the CRHR are considered a significant effect on the environment. Impacts to historical resources from a Project are thus considered significant if the project (1) physically destroys or damages all or part of a resource; (2) changes the character of the use of the resource or physical feature within the setting of the resource, which contributes to its significance; or (3) introduces visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource.

California Environmental Quality Act

As described further, 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 tribal cultural resources:

- PRC Section 21083.2(g) defines "unique archaeological resource."

- PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) defines “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 the archaeological site(s).

More specifically, under CEQA, a project may have a significant effect on the environment if it may cause “a substantial adverse change in the significance of an historical resource” (PRC Section 21084.1; CEQA Guidelines Section 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 an “historical resource” and is presumed to be historically or culturally significant for purposes of CEQA (PRC Section 21084.1; CEQA Guidelines Section 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; CEQA Guidelines Section 15064.5(a)).

A “substantial adverse change in the significance of an historical resource” reflecting a significant effect 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” (CEQA Guidelines Section 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 as determined by a lead agency for purposes of CEQA (CEQA Guidelines Section 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:

(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 (PRC Section 21083.2(g)).

Impacts on nonunique archaeological resources are generally not considered a significant environmental impact (PRC Section 21083.2(a); CEQA Guidelines Section 15064.5(c)(4)). However, if a nonunique archaeological resource qualifies as a TCR (PRC Sections 21074(c) and 21083.2(h)), further consideration of significant impacts is required.

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 Health and Safety Code Section 7050.5

California law protects Native American burials, skeletal remains, 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 (Section 7050.5(b)). PRC Section 5097.98 also outlines the process to be followed in the event that remains are discovered. If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact NAHC within 24 hours (Section 7050.5(c)). NAHC will notify the “most likely descendant.” With the permission of the landowner, the most likely descendant may inspect the site of discovery. The inspection must be completed within 48 hours of notification of the most likely descendant by NAHC. The most likely descendant may recommend means of treating or disposing of, with appropriate dignity, the human remains, and items associated with Native Americans.

Local

City of Lancaster General Plan 2030 (Adopted 2009)

The City of Lancaster General Plan 2030 contains the following goals, objectives with corresponding policies, and specific actions that address cultural resources and are applicable to the proposed Project (City of Lancaster 2009):

Plan for Active Living: Historical, Archaeological, and Cultural Resources

Goal 12: To promote community appreciation for the unique history of the Antelope Valley and the City of Lancaster and to promote community involvement in the protection, preservation, and restoration of the area's significant cultural, historical, or architectural features.

Objective 12.1: Identify and preserve and/or restore those features of cultural, historical, or architectural significance.

- Policy 12.11: Preserve features and sites of significant historical and cultural value consistent with their intrinsic and scientific values.

Specific Actions:

- 12.1.1(a): As part of the CEQA review process, require site - specific historical, archaeological, and/or paleontological studies when there exists a possibility that significant environmental impacts might result or when there is a lack of sufficient documentation on which to determine potential impacts.
- 12.1.1(b): Include a condition of approval on all development projects that addresses State and Federal regulations with respect to the disposition of cultural resources.
- 12.1.1(c): Process requests for inclusion in state and federal historic registers those historic and prehistoric sites and features which meet state or federal criteria.
- 12.1.1(d): Prior to permitting demolition of any historic structure, require that an evaluation of the condition of the structure, potential adaptive reuse of the structure, and the cost of rehabilitation be undertaken.
- 12.1.1(e): Work with area school districts and historical/archaeological/paleontological preservation support groups to establish educational programs related to all phases of Lancaster's cultural and historical heritage.

Plan for Physical Development: Community Design

Goal 19: To achieve an attractive and unique image for the community by creating a sustainable, cohesive and enduring built environment.

Objective 19.3 – City Image: Improve the city's visual identity by utilizing design standards that instill a sense of pride and well - being in the community.

Historic Resources

- Policy 19.3.4: Preserve and protect important areas of historic and cultural interest that serve as visible reminders of the City's social and architectural history.

Specific Actions:

- 19.3.4(a): Through the development review process, apply Community Design guidelines that incorporate site - sensitive building design techniques into developments that shall integrate harmoniously into the community to preserve areas of historic and cultural interest.

Background Research

SCCIC Records Search

On November 3, 2022, Dudek conducted a search of the CHRIS at the SCCIC, located on the campus of California State University, Fullerton. The search included any previously recorded cultural resources and investigations within a 1.0 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 SCCIC records to determine whether the implementation of the Project would have the potential to impact any known and unknown cultural resources. The records search results are provided in Confidential Appendix B.

Previously Conducted Cultural Resource Studies

Results of the CHRIS records search indicate that seventeen (17) previous cultural resources studies have been conducted within 1-mile of the proposed Project site. These studies were conducted between 1989 and 2014. Of these investigations, one study, LA-07991, overlaps the proposed Project site and two studies, LA-02272 and LA09679, are adjacent to west and south, respectively. The entirety (100 percent) of the proposed Project site has been subject to an archaeological investigation; however, this previous investigation did not include an intensive-level archaeological pedestrian survey. Table 1, below, provides a complete list of all 17 previous cultural resources studies within 1-mile of the proposed Project site, followed by summaries of the overlapping and adjacent reports.

Table 1. Previous Technical Studies Within 1-Mile of the Proposed Project Site

SCCIC Report Number	Authors	Year	Title	Proximity to Proposed Project Site
LA-02054	Love, Bruce and William H. De Witt	1990	Cultural Resources Evaluation for Lancaster EIR Group 13 Lancaster, Los Angeles County	Outside
LA-02140	Alexander, Molly B.	1989	An Archaeological Investigation of a 448+/- Acre" Parcel in the City of Lancaster, Los Angeles County	Outside
LA-02272	White, Robert S.	1990	An Archaeological Assessment of an 80-acre Parcel Located Immediately Northeast of the Intersection of 40th Street West and Avenue H in Lancaster, Los Angeles County	**Immediately Adjacent to the west**
LA-03305	Love, Bruce	1996	Cultural Resources Report: California Veterans Home Project	Outside
LA-05323	Norwood, Richard H.	2000	Phase I Cultural Resource Investigation for a 200 Acre Property "parcel 3" 30th Street West and West Avenue G, Lancaster, Los Angeles County California	Outside

Table 1. Previous Technical Studies Within 1-Mile of the Proposed Project Site

SCCIC Report Number	Authors	Year	Title	Proximity to Proposed Project Site
LA-05799	McKenna, Jeanette A.	2001	City of Lancaster, Avenue G Improvements and Associated Elements	Outside
LA-07964	Hudlow, Scott M.	2006	A Phase I Cultural Resource Survey for Avenue G-8 Storm Drain Improvements, Between 30th and 50th Streets West, City of Lancaster, California	Outside
LA-07991	Tang, Bai "Tom", Michael Hogan, and Josh Smallwood	2006	Cultural Resources Technical Report City of Lancaster General Plan Update	**Overlaps (100 percent)**
LA-08034	Hudlow, Scott M.	2005	A Phase I Cultural Resource Survey for Property at 40th Street West and Avenue H, City of Lancaster, California	Outside
LA-08163	Hudlow, Scott M.	2005	A Phase I Cultural Resource Survey for Property at 30th Street West and Avenue H-8, City of Lancaster, California	Outside
LA-08180	Chandler, Evelyn N., Cotterman, Cary D., Mason, Roger D, and Van Hemelryck, Valerie M.	2001	Archaeological Survey for the Proposed Installation of the Trunk "f" Sewer and Rosamond Outfall Relief Trunk Sewer Located Between Lancaster and Rosamond, Los Angeles County, California	Outside
LA-08349	Bonner, Wayne H.	2005	Cultural Resources Records Search Results and Site Visit for Cingular Wireless Candidate Im-0016-01 (Antelope Valley Fair) 2551 West Avenue H, Lancaster, Los Angeles County, California	Outside
LA-08351	McKenna, Jeanette A.	2005	A Phase I Cultural Resources Investigation for APNs 3105-017-001 and 3105-017-017 (approximately 20 Acres) in the City of Lancaster, Los Angeles County, California	Outside
LA-08458	Hudlow, Scott M.	2004	A Phase I Cultural Resources Survey for Property at 40th West and Avenue H-8, City of Lancaster, California	Outside
LA-09320	Turner, Robin D.	2006	A Phase I Cultural Resource Assessment of 2.6 Acres at 40th Street West and Avenue G in the City of Lancaster, Los Angeles County, California	Outside
LA-09679	Loftus, Shannon L. and Robin D. Turner	2008	Cultural Resource And Paleontological Assessment, North Los Angeles/Kern County, Regional Recycled Water Master Plan, Los Angeles / East Kern Counties, California.	**Adjacent to the south**
LA-13163	Brunzell, David	2014	Cultural Resources Assessment of the Avenue H Project, Lancaster, Los Angeles County, California (BCR Consulting Project No. TRF1405)	Outside

LA-02272

An Archaeological Assessment of [an] 80-acre Parcel Located Immediately Northeast of the Intersection of 40th Street W and West Avenue H in Lancaster, Los Angeles County (Robert S. 1990), documents the results of a Phase I archaeological resources assessment consisting of an archival record search and pedestrian survey. The area of study is immediately west of the current Proposed project site. The study was conducted to ascertain whether significant cultural resources are present within the boundaries of an 80-acre parcel located immediately northeast of the intersection of 40th Street W and West Avenue H. No previously recorded cultural resources were identified within the study area through the archival records search. The study notes that surficial soils at the time of the field investigation, consisted of lake bed silts and sands, and disturbances observed consisted of scatters of structural debris and household refuse along the perimeter of the study area. No new cultural resources were discovered as a result of the intensive-level pedestrian survey, which provided for very good ground surface visibility (80 percent) over the entirety of the 80-acre study area. Site conditions documented in the 1990 study provides insight on the undeveloped and vacant nature of the landscape in close proximity of the current proposed Project site, prior to development. The study concluded that no mitigation measures for cultural resources are recommended.

LA-07991

Cultural Resources Technical Report, City of Lancaster General Plan Update (Tang et. el. 2006), documents the results of Phase I cultural resources assessment for an approximately 267-square-mile-area in support of a General Plan update. The study included the results of an archival record search, literature review, a reconnaissance-level survey, and consultation with representatives of the local community. The area of study overlaps the entirety of the current proposed Project site. The study noted that the results of the records search indicated that less than one-quarter of the overall study area had been subjected to previous cultural investigations, including surveys, though of the areas previously investigated, over 700 previously recorded resources were identified, including archaeological (both prehistoric and historic-period) and historic built environment resources. The study notes that the historic-period archaeological sites identified through the records search are documented as refuse dumps and remnants of early homesteads and represents the bulk of the types of resources within the study area. None of these previously recorded cultural resources were identified within the current proposed Project site.

The reconnaissance-level survey conducted consisted of a windshield survey and spot-checking locations of prehistoric and historic-period features; which suggests that the survey conducted likely did not encompass the entirety of the current proposed Project site. The goal of survey was to determine the cultural sensitivity of the overall study/planning area. The study determined that there is a low to moderate potential for encountering archaeological resources (both prehistoric and historic-period) within the study area that overlaps the current proposed Project site; however, no new cultural resources were identified within the current proposed Project site as a result of the reconnaissance-level windshield survey and spot-checking field methodology. As a result of the study's findings, the study recommended the following for procedures as part of the planning process in the General Plan update for cultural resources as they pertain to archaeological resources: conducting a records search at the SCCIC; a Phase I cultural resources study; and Native American coordination, including contacting the Native American Heritage Commission (NAHC) for a Sacred Lands File (SLF) search, as well as consultation pursuant to Senate Bill 18, if warranted.

LA-09679

Cultural Resource And Paleontological Assessment, North Los Angeles/Kern County, Regional Recycled Water Master Plan, Los Angeles/East Kern Counties, California (Loftus and Turner 2008), documents the results of a Phase I cultural resources assessment consisting of an archival records search, literature review, and intensive-level pedestrian survey. The study was conducted in support of an Environmental Impact Report/Environmental Impact Statement for an approximately 70-mile linear alignment for a proposed new recycled water line and associated distribution and booster pump stations, and reservoirs. A portion of the approximately 70-mile linear study area is immediately south and outside of the current proposed Project site. The records search did not identify any previously recorded cultural resources within the current proposed Project site. While the study identified new cultural resources as a result of the pedestrian survey, none of these newly identified resources, consisting of prehistoric and historic period archaeological resources, were identified within the current proposed Project site or in the linear study area to the south. Based on the study's findings, the following mitigation measures were recommended, which address areas outside of the current proposed Project site: a cultural resources monitoring and mitigation plan (CRMMP) and treatment plan (TP) in accordance with CEQA; archaeological and paleontological monitoring during construction activities; and project-related and location-specific measures for the associated distribution/booster pump stations and reservoir locations, which are all outside of the proposed Project site.

Previously Recorded Cultural Resources

The CHRIS records search indicate that eleven (11) cultural resources have been previously recorded within 1-mile of the proposed Project site, none of which are located within or are immediately adjacent to the proposed Project site. These resources consist of five (5) historic-period archaeological sites, three (3) prehistoric isolates, and three (3) historic-period archaeological isolates. These resources were formally recorded between 1990 and 2005. The resource closest to the proposed Project site is a historic-period archaeological site (P-36-002824), which is located approximately 380 meters (1,250 feet) to the north. The remaining resources identified through the CHRIS records search are primarily mapped to the north, with one to the west and one to the southeast of the proposed Project site. Table 2, below, summarizes all previously recorded cultural resources identified within the records research radius followed by summaries of each.

Table 2. Previously Recorded Cultural Resources Within a 1-Mile of the Proposed Project Site

Primary (P-19-)	Trinomial (CA-LAN-)	Resource Age and Type	Resource Description	NRHP/CRHR Eligibility	Recording Events	Proximity to Proposed Project Site (~)
001819	001819H	Archaeological site: Historic-period	Dirt road dating from early 1900s	7R: Not evaluated	1990 (Bruce Love and William H. De Witt)	1.2 kilometers (4,000 feet) northeast
002823	02823H	Archaeological site: Historic-period	Refuse scatter	7R: Not evaluated	2000 (R.H. Norwood)	914 meters (3,000 feet) north
002824	002824H	Archaeological site: Historic Period	Well drilling location and refuse scatter	7R: Not evaluated	2000 (R.H. Norwood)	380 meters (1,250 feet) north

Table 2. Previously Recorded Cultural Resources Within a 1-Mile of the Proposed Project Site

Primary (P-19-)	Trinomial (CA-LAN-)	Resource Age and Type	Resource Description	NRHP/CRHR Eligibility	Recording Events	Proximity to Proposed Project Site (~)
002825	002825H	Archaeological site: Historic Period	Water well	7R: Not evaluated	2000 (R.H. Norwood)	609 meters (2,000 feet) northwest
003679	003679H	Archaeological site: Historic Period	Refuse scatter	7R: Not evaluated	2005 (Scott M. Hudlow)	914 meters (3,000 feet) west/southwest
100408	-	Archaeological Isolate: Prehistoric	Flake tool	7R: Not evaluated	2000 (R.H. Norwood)	685 meters (2,250 feet) northeast
100409	-	Archaeological Isolate: Prehistoric	Flake	7R: Not evaluated	2000 (R.H. Norwood)	838 meters (2,750 feet) north
100410	-	Archaeological Isolate: Prehistoric	Flake	7R: Not evaluated	2000 (R.H. Norwood)	685 meters (2,250 feet) north
100411	-	Archaeological Isolate: Historic Period	Bucket	7R: Not evaluated	2000 (R.H. Norwood)	838 meters (2,750 feet) north
100412	-	Archaeological isolate: Historic Period	Bucket	7R: Not evaluated	2000 (R.H. Norwood)	609 meters (2,000 feet) north
100616	-	Archaeological isolate: Historic Period	Bottle	7R: Not evaluated	2005 (Scott M. Hudlow)	762 meters (2,500 feet) southeast

Notes: ~ denotes approximate.

P-19-001819/CA-LAN-001819H

P-19-001819/CA-LAN-001819H is a historic-period archaeological site and consists of a dirt road. Based on the mapped length of the road in the CHRIS database, the northwest-southeast oriented road measures approximately 1,620 meters (approximately 5,314 feet) long at an elevation of approximately 2,315 feet amsl. Of note, the width of the road is not clearly mentioned in the record, however, it is described as two parallel tracks. Resource P-19-001819/CA-LAN-001819H is also referred to as the "5-Points" road and dates from the early 1900s and was used well into the 1930s as a means to avoid the sand and bogs while traveling between Rosamond and Lancaster. The road was originally formally recorded in 1990 by Bruce Love and William De Witt. According to the record, the road is not clearly visible through the low brush and can only be seen along the alignment of the road and there is no evidence of grading or other road improvement. This road has not been evaluated for listing on CRHR or the NRHP.

P-19-002823/CA-LAN-002823H

P-19-002823/CA-LAN-002823H is a historic-period archaeological site and consists of a refuse scatter. Based on the mapped site boundaries in the CHRIS database, the site measures approximately 640 meters east/west by approximately 20 meters north/south (approximately 2,099 feet by 65 feet) at an elevation of approximately 2,325 feet amsl. The site was formally recorded in 2000 by R. H. Norwood, who described the site as a light density refuse scatter consisting of cans and glass bottles dating between circa 1911 and 1919, observed along the perimeter of a dry wash. This site has not been evaluated for listing on CRHR or the NRHP.

P-19-002824/CA-LAN-002824H

P-19-002824/CA-LAN-002824H is a historic-period archaeological site and consists of a well drilling feature. The boundaries of the site measures approximately 8 meters east/west by 4 meters north/south (approximately 26 feet by 13 feet) at an elevation of approximately 2,325 feet amsl. The site was formally recorded in 2000 by R. H. Norwood, who interpreted the the well drilling feature to be associated with water or oil exploration. The well drilling hole is noted to measure 13 inches in diameter and extends to at least 6 feet and 7 inches in depth. Observed in close proximity to the well drilling location were cans, including a key-opened beverage can post-dating 1935, nails, wire, carriage hardware, and two approximately 6-foot long 1-inch cables. According to Norwood, the site probably dates between circa 1935 and 1950. This site has not been evaluated for listing on CRHR or the NRHP.

P-19-002825/CA-LAN-002825H

P-19-002825/CA-LAN-002825H is a historic-period archaeological site and consists of a wellhead for a water well. The boundaries of the site measures approximately 4.6 meters in diameter (approximately 15 feet) at an elevation of approximately 2,325 feet amsl. The site was formally recorded in 2000 by R. H. Norwood, who described the site as a steel casing that stands approximately 18 inches in height with “rusted-out” holes with a collar and a steel pin inserted through the collar. A railroad tie was observed adjacent to the wellhead, including an east/west trending rabbit wire fence, just south of the wellhead, though no fence posts were observed. Norwood notes that an abandoned “homesite” is located approximately one-half-mile west of the site. Although the resources within the site lacked diagnostic (datable) attributes, Norwood states that the site probably dates between circa 1915 and 1930. This site has not been evaluated for listing on CRHR or the NRHP.

P-19-003679/CA-LAN-003679H

P-19-003679/CA-LAN-003679H is a historic-period archaeological site and consists of a refuse scatter. The boundaries of the site measures approximately 18 meters east/west by 5 meters north/south (approximately 62 feet by 18 feet) at an elevation of 2,325 feet amsl. The site was formally recorded in 2005 by Scott M. Hudlow, who described the site as a light scatter of historic-period refuse across a series of low dunes and dry bed consisting of cans, glass bottles, and ceramics, situated east and south of dirt and paved roadways, respectively, and dates to the 1930s. Hudlow notes that modern refuse overlies/intermixes with the historic-period refuse and that many of the cans exhibited signs of being used for target practice. This site has not been evaluated for listing on CRHR or the NRHP.

P-19-100408

P-19-100408 is a prehistoric isolate and was formally recorded in 2000 by R. H. Norwood, who described the isolate as a flake tool with unifacial retouch made on a secondary flake of grey-white chert with black inclusions. The flake tool measures 2.6 centimeters long by 2.3 centimeters wide and was identified in an area with an elevation of 2,325 feet amsl. Norwood notes that the flake tool was collected and curated at the Lancaster Museum. P-19-100408 has not been formally evaluated for listing on the NRHP or the CRHR; however, It is standard practice that isolated artifacts are not eligible for listing in the NRHP or the CRHR.

P-19-100409

P-19-100409 is a prehistoric isolate and was formally recorded in 2000 by R. H. Norwood, who described the isolate as a large secondary flake made of dark purple rhyolite. The flake measures 4.2 centimeters long by 2.9 centimeters wide and was identified in an area with an elevation of approximately 2,325 feet amsl. Norwood notes that the flake tool was collected and curated at the Lancaster Museum. P-19-100409 has not been formally evaluated for listing on the NRHP or the CRHR; however, It is standard practice that isolated artifacts are not eligible for listing in the NRHP or the CRHR.

P-19-100410

P-19-100410 is a prehistoric isolate and was formally recorded in 2000 by R. H. Norwood, who described the isolate as a small secondary flake with the distal portion broken off and made of purple rhyolite. The flake measures 2.1 centimeters long by 1.9 centimeters wide and was identified in an area with an elevation of approximately 2,325 feet amsl. Norwood notes that the flake tool was collected and curated at the Lancaster Museum. P-19-100410 has not been formally evaluated for listing on the NRHP or the CRHR; however, It is standard practice that isolated artifacts are not eligible for listing in the NRHP or the CRHR.

P-19-100411

P-19-100411 is a historic-period archaeological isolate and was formally recorded in 2000 by R. H. Norwood, who described the isolate as a "improvised bucket made from a cut-off 5-gallon rectangular can" measuring 9.5 inches square and is 11 3/16 inches in height with a galvanized steel wire handle and embossed with a "spider-web" pattern. Although the bucket lacked diagnostic (datable) attributes, Norwood states that the bucket probably dates between circa 1910 and 1940. Of note, this bucket was not collected. P-19-100411 has not been formally evaluated for listing on the NRHP or the CRHR; however, It is standard practice that isolated artifacts are not eligible for listing in the NRHP or the CRHR.

P-19-100412

P-19-100412 is a historic-period archaeological isolate and was formally recorded in 2000 by R. H. Norwood, who described the isolate as a "improvised bucket made from a cut-off 5-gallon rectangular can" measuring 9.5 inches square and is noted to be similar to resource P-19-100411. Although the bucket lacked diagnostic (datable) attributes, Norwood states that the bucket probably dates between circa 1910 and 1940. Of note, this bucket was not collected. P-19-100412 has not been formally evaluated for listing on the NRHP or the CRHR; however, It is standard practice that isolated artifacts are not eligible for listing in the NRHP or the CRHR.

P-19-100616

P-19-100616 is a historic-period archaeological isolate and was formally recorded in 2005 by Scott M. Hudlow, who described the isolate as a small "Bayer" pill glass bottle that measures 2.5 inches in height by 1.5 inches in width and dates to the 1930s. P-19-100616 has not been formally evaluated for listing on the NRHP or the CRHR; however, It is standard practice that isolated artifacts are not eligible for listing in the NRHP or the CRHR.

Review of Historical Topographic Maps and Aerial Photographs

Dudek consulted historical topographic maps and aerial photographs through the Nationwide Environmental Title Research, LLC (NETR) to better understand any natural or human-made changes to the proposed Project site and surrounding properties over time.

Historical Topographic Maps

Historical topographic maps for the proposed Project site are available for the following years: 1930, 1933, 1949, 1959, 1960, 1966, 1975, 2012, 2015, and 2018 (NETR 2023a). 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 3, below, describes the changes of the proposed Project site and off-site improvements through the years.

Table 3. Historical Topographic Maps Review

Year	Description
1930	The proposed Project site is undeveloped within a desert landscape. West Avenue H is visible, running east to west, along the southern boundary of proposed Project site.
1933	No significant changes.
1949	No significant changes.
1959	No significant changes.
1960	No significant changes.
1966	No significant changes.
1975	No significant changes.
2012	An unimproved road extends north from West Avenue H, along the west side of proposed Project site.
2015	A small, paved road is visible in the southwest corner of proposed Project site, extending north from West Avenue H.
2018	This topographical map only shows West Avenue H, running east to west, along the southern boundary of proposed Project site.

Historical Aerial Photographs

Historical aerial photographs of the Project site are available for the following years: 1948, 1953, 1956, 1959, 1965, 1971, 1974, 1987, 1990, 1994, 2005, 2009, 2010, 2012, 2014, 2016, 2018 and 2020 (NETR 2023b). 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, below, describes the changes of the proposed Project site through the years.

Table 4. Historical Aerial Photographs Review

Year	Description
1948	The proposed Project site is undeveloped within a desert landscape. A road running east to west in the same location of present-day West Avenue H is visible, along the southern boundary of proposed Project site.
1953	No significant changes.
1956	No significant changes.
1959	No significant changes.
1965	No significant changes.
1971	No significant changes.
1974	No significant changes.
1987	A dirt road extending north from present-day West Avenue H, is visible along the western boundary of the proposed Project site, consistent with the present-day layout of the dirt road that divides the proposed Project site and the extant Michaels Distribution Center.
1990	No significant changes.
1994	No significant changes.
2005	The dirt road shown in the 1987 aerial is shown as graded and widened from West Avenue H to the northern extent of the proposed Project site's western boundary. The southern terminus of this road, near the southwest corner of the proposed Project site, is partially paved. The Michaels Distribution Center to the west of the proposed Project site is developed and appears consistent with present-day conditions. The southwest corner of the proposed Project site appears to be covered with gravel or other material that is not native soil, and appears to be associated with the widening of the dirt road to the east of the proposed Project site for the Michaels Distribution Center. This is consistent with present-day site conditions.
2009	No significant changes.
2010	No significant changes.
2012	No significant changes.
2014	No significant changes.
2016	No significant changes.
2018	No significant changes.
2020	No significant changes.

Geotechnical Report Review

The geotechnical report, *Geotechnical Investigation Proposed Warehouse, NEC of West Avenue H and 35th Street West Lancaster, California* (SoCalGeo 2022), details the results of six (6) hollow-stem auger borings (B-1 through B-6). These boring were placed at accessible locations throughout the proposed Project site, as depicted in Image 1, below.

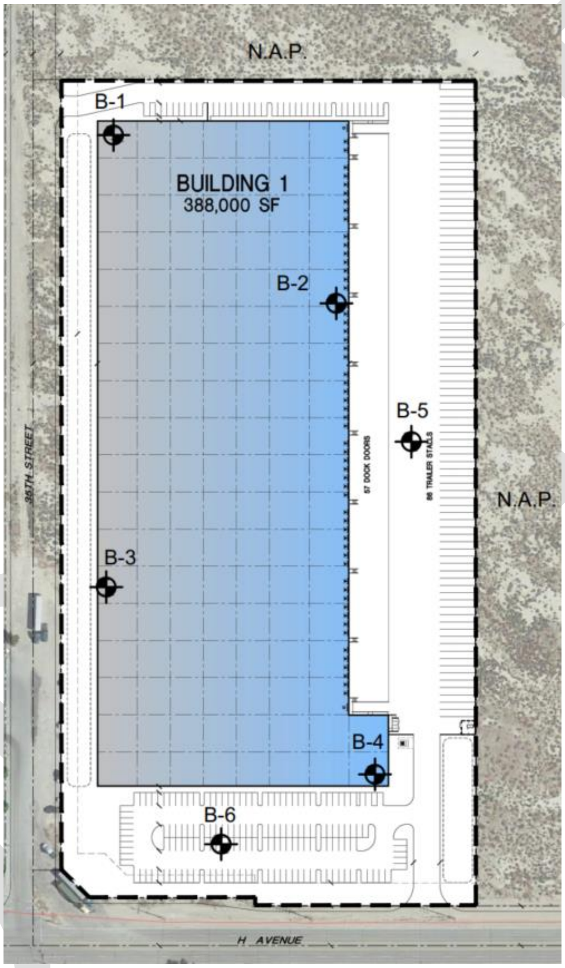


Image 1. *Boring Location Map (SoCalGeo 2022, Plate 2).*

Subsurface exploratory borings extended to a maximum depth ranging from 10 to 25 feet bgs and were completed on October 17, 2022. According to the geotechnical report, all soils encountered subsurface consists of alluvium, generally characterized as stiff to hard sandy clays and medium dense clayey sands with varying silt content, and occasional stiff silty clays and medium dense sands and silty sands. No fill soils or disturbed soils were encountered as a result of the subsurface exploratory investigations within the proposed Project site.

Field Survey

Methods

An intensive-level archaeological pedestrian survey for the proposed Project was completed on December 15, 2022, by Dudek staff archaeologists under the direction of Senior Archaeologist Heather McDaniel McDevitt, MA, RPA, using standard archaeological procedures and techniques. The intensive-level survey methods consisted of a pedestrian survey conducted in parallel transects, spaced no more than 10 meters apart (approximately 30 feet). The ground surface was inspected for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, groundstone 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 were only considered if they were observed to be within discrete deposits or determined to be from a primary depositional location. Ground disturbances such as burrows, cut banks, trails/vehicular tracks, and drainages were also visually inspected for exposed subsurface materials.

All fieldwork was documented using field notes and an Apple Generation 7 iPad (iPad) equipped with ESRI Collector and Avenza PDF Maps software with close-scale georeferenced field maps of the Project site, and aerial photographs. Location-specific photographs were taken using the iPad's 12-mega-pixel resolution camera. Cultural resources identified during this inventory within the Project site were to be recorded on DPR forms, using the Instructions for Recording Historical Resources (Office of Historic Preservation 1995). All field notes, photographs, and records related to the current study are on file at Dudek's Pasadena, California office. All field practices met the Secretary of Interior's standards and guidelines for a cultural resources inventory.

Results

The proposed Project site is comprised of undeveloped lots and unimproved dirt access roads, located within a desert landscape, immediately adjacent to the east of an extant warehouse facility. The survey addressed the two parcels that make up the proposed Project site (APNs 3107-026-077 and 3107-026-079). Careful attention was given to barren ground including at the base of bushes, washes and any subsurface soils exposed by burrowing animals. Soils observed on site consist of light grey very fine-grained silty sand and yellow brown sandy loams with abundant desert shrubs and multiple dry washes. The proposed Project site has patchy ground visibility that ranges from fair to excellent (50 to 100 percent). Ground disturbances include aeolian deposited trash, including plastics and cardboard distributed across the site, various vehicle tracks, and bioturbation activities. Recent rain left alluvial deposits across the proposed Project site, and evidence of localized flooding. No historic-period or prehistoric archaeological resources were observed as a result of the survey. All soils appear consistent with the USDA's description of Pond-Oban complex and Tray loam, slightly saline.

Sensitivity Analysis

No cultural resources were identified as a result of a review of the CHRIS database and pedestrian survey 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 historical aerials. Additionally, evidence of natural modification through wind and water erosion and depositional event was observed during the pedestrian survey. Proposed depths of ground disturbance are anticipated to extend between 3 to 5 feet across the proposed Project site and to an assumed maximum depth of 20 feet at the northeast and southeast corners as well as the western portion of the proposed Project site for the installation of the detention basins. In consideration of this study's findings relative to the proposed Project's depths of ground disturbance, the potential to find unknown cultural resources within the proposed Project site, particularly within subsurface soils, is possible during Project implementation. Therefore, Dudek recommends the following management recommendations to ensure that any inadvertent discovery of archaeological resources will be treated appropriately and in accordance with the CEQA regulations: Workers Environmental Awareness Program (WEAP) training, retention of an on-call archaeologist to conduct periodic spot monitoring and to address inadvertent discoveries, and an inadvertent discovery clause of archaeological resources and human remains implemented and included on all construction plans. These measures will ensure that potential Project impacts to archaeological resources and human remains would be less than significant.

Management Recommendations

Dudek recommends the following management considerations to ensure proper treatment of any unknown cultural resources that may be encountered as a result of Project construction. These recommendations would ensure the proper treatment of any cultural resources and human remains encountered during ground disturbing activities. With the proper implementation of these recommendations, the potential impact to cultural resources is considered to be less then significant.

Cultural Resource Monitoring and Inadvertent Discovery Plan. Prior to ground disturbance activities, the Applicant and/or subsequent responsible parties should 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 Los Angeles County preferred), to compose a Cultural Resource Monitoring and Inadvertent Discovery Plan (Plan). 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.

Workers Environmental Awareness Program (WEAP) Training. All construction personnel and monitors who are not trained archaeologists should be briefed regarding unanticipated discoveries prior to the start of construction activities. A basic presentation should be prepared and presented by a qualified archaeologist 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 archaeologist and if appropriate, Tribal representative. Necessity of training attendance should be stated on all construction plans.

On-Call and Periodic Archaeological Construction Monitoring. In consideration of the general sensitivity of the proposed Project site for cultural resources, a qualified archaeologist should be retained to conduct periodic spot monitoring as well as on call response in the case of an inadvertent discovery of archaeological resources. A qualified 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. The archaeologist should be responsible for maintaining monitoring logs. Following the completion of construction, the qualified archaeologist should provide an archaeological monitoring report to the lead agency and the SCCIC with the results of the cultural monitoring program.

Inadvertent Discovery of Archaeological Resources. In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Project, all construction work occurring within 100 feet of the find should immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, can 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 Tribal representative may be necessary.

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.

Should you have any questions relating to this report and the preliminary findings and recommendations, please do not hesitate to contact Linda Kry at lkry@dudek.com or Heather McDaniel McDevitt at hmcdevitt@dudek.com.

Sincerely,

Linda Kry, B.A., RA
Archaeologist

Heather McDaniel McDevitt
Heather McDaniel McDevitt, M.A., RPA
Archaeologist

Att.: *Appendix A: Figures*
Appendix B. (Confidential) SCCIC Records Search Information

cc: *Jennifer Sucha, Dudek*

References

City of Lancaster. 2009. *General Plan 2030 City of Lancaster*. Accessed February 2023. https://www.cityoflancasterca.org/home/showpublisheddocument/9323/635775792210230000

Google. 2023. Google Earth; desktop application; centered on the project sites. Accessed February 2023. https://www.google.com/earth/.

Loftus, Shannon L. and Robin D. Turner. 2008. *Cultural Resource And Paleontological Assessment, North Los Angeles/Kern County, Regional Recycled Water Master Plan, Los Angeles / East Kern Counties, California*. On File at the South Central Coast Information Center, California State University Fullerton. Accessed November 2022.

NETR (Nationawide Environmental Title Research). 2023a. Historical Topographic maps of Project Site, dating from 1930, 1933, 1949, 1959, 1960, 1966, 1975, 2012, 2015, and 2018. Accessed February 2023. https://www.historicaerials.com/viewer.

NETR. 2023b. Historical Aerial Photographs of Project Site, dating from 1948, 1953, 1956, 1959, 1965, 1971, 1974, 1987, 1990, 1994, 2005, 2009, 2010, 2012, 2014, 2016, 2018 and 2020. Accessed February 2023. https://www.historicaerials.com/viewer.

OHP (Office of Historic Preservation). 1995. Instructions for Recording Historical Resources. Available online October 2021. Website: http://ohp.parks.ca.gov/?page_id=1069.

SoCalGeo (Southern California Geotechnical, Inc.). 2022. Geotechnical Investigation Proposed Warehouse, NEC of West Avenue H and 35th Street West Lancaster, California. Prepared for Covington Development Partners, LLC. Newport Beach, California.

Tang, Bai “Tom”, Michael Hogan, and Josh Smallwood. 2006. *Cultural Resources Technical Report City of Lancaster General Plan Update.* On File at the South Central Coast Information Center, California State University Fullerton. Accessed November 2022.

USDA (U.S. Department of Agriculture). 2023a. Natural Resources Conservation Service Web Soil Survey. Accessed February 2023. https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

USDA. 2023b. Natural Resources Conservation Service Official Soil Series Descriptions. Accessed February 2023. https://soilseries.sc.egov.usda.gov/OSD_Docs/P/POND.html.

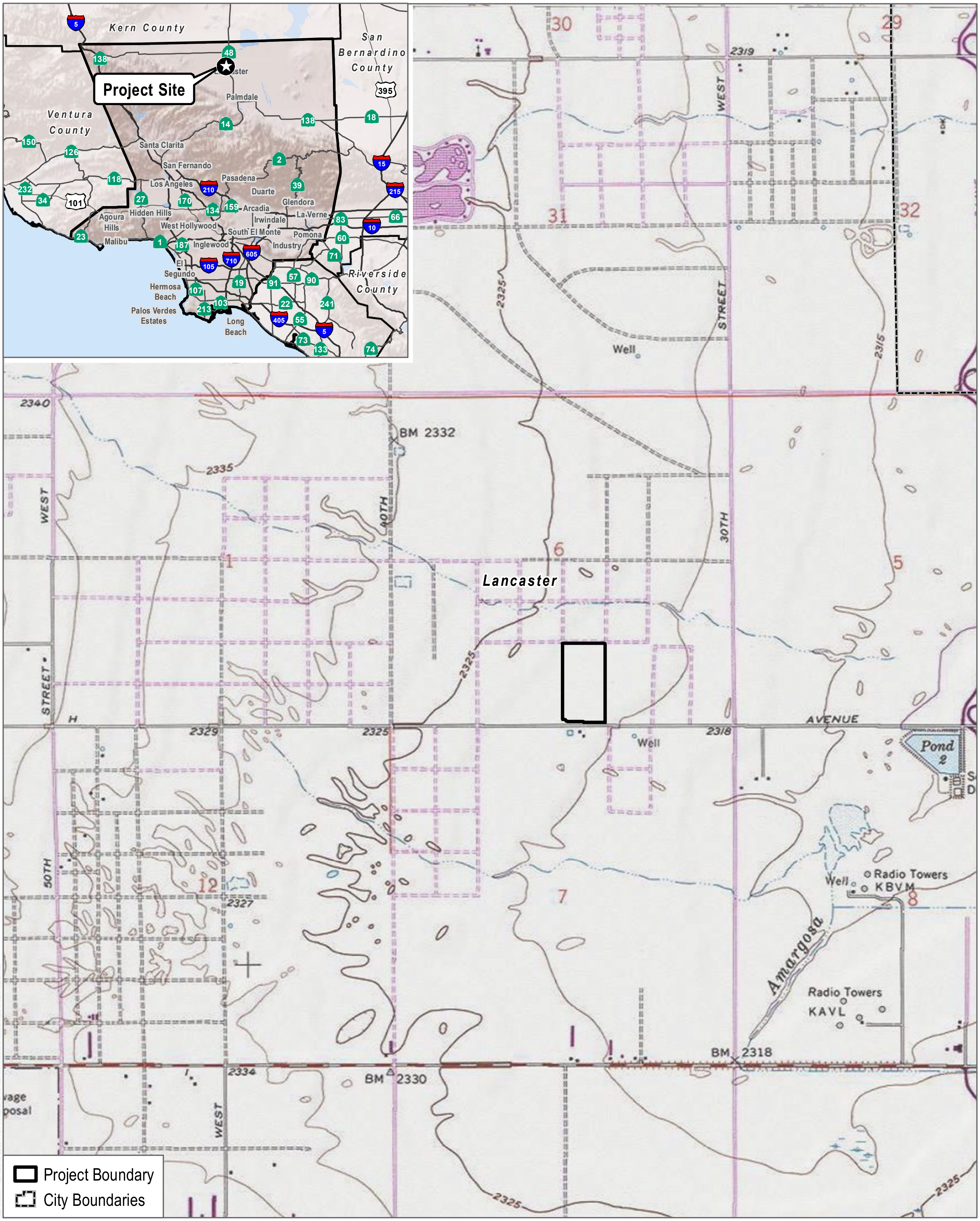
USDA. 2023c. Natural Resources Conservation Service Official Soil Series Descriptions. Accessed February 2023. https://soilseries.sc.egov.usda.gov/OSD_Docs/T/TRAY.html

USGS (United States Geological Society). 2023. Mineral Resources Online Spatial Data. Interactive maps and downloadable data for regional and global analysis. Accessed February 2023. https://mrdata.usgs.gov/

White, Robert S. 1990. *An Archaeological Assessment of an 80-acre Parcel Located Immediately Northeast of the Intersection of 40th Street West and Avenue H in Lancaster, Los Angeles County.* On File at the South Central Coast Information Center, California State University Fullerton. Accessed November 2022.

Appendix A

Figures



SOURCE: USGS 7.5-Minute Series Lancaster West Quadrangle

FIGURE 1

Project Location

35th Street and W Avenue H Warehouse Project

SOURCE: County of Los Angeles; Open Stree Map; Bing Maps

DUDEK

FIGURE 2

Project Site

35th Street and W Avenue H Warehouse Project

Appendix B

CONFIDENTIAL SCCIC Records Search Results

Appendix E

Geotechnical Investigation

GEOTECHNICAL INVESTIGATION
PROPOSED WAREHOUSE

NEC of West Avenue H and 35th Street West
Lancaster, California
for
Covington Development Partners, LLC

SoCalGeo
SOUTHERN
CALIFORNIA
GEOTECHNICAL
A California Corporation

SoCalGeo
SOUTHERN
CALIFORNIA
GEOTECHNICAL
A California Corporation

November 15, 2022

Covington Development Partners, LLC
3 Corporate Plaza, Suite 230
Newport Beach, California 92660

Attention: Mr. Michael Di Sano
Sr. Director - Entitlements

Project No.: **22G245-1**

Subject: **Geotechnical Investigation**
Proposed Warehouse
NEC of West Avenue H and 35th Street West
Lancaster, California

Mr. Di Sano:

In accordance with your request, we have conducted a geotechnical investigation at the subject site. We are pleased to present this report summarizing the conclusions and recommendations developed from our investigation.

We sincerely appreciate the opportunity to be of service on this project. We look forward to providing additional consulting services during the course of the project. If we may be of further assistance in any manner, please contact our office.

Respectfully Submitted,

SOUTHERN CALIFORNIA GEOTECHNICAL, INC.

Joseph Lozano Leon
Staff Engineer

Robert G. Trazo, M.Sc., GE 2655
Principal Engineer

REGISTERED PROFESSIONAL ENGINEER
ROBERT TRAZO
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STATE OF CALIFORNIA

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APPENDICES

1.0 EXECUTIVE SUMMARY

Presented below is a brief summary of the conclusions and recommendations of this investigation. Since this summary is not all inclusive, it should be read in complete context with the entire report.

Geotechnical Design Considerations

- Native alluvium was encountered at the ground surface at all of the boring locations. The results of laboratory testing indicate that the near-surface soils within the upper 4± feet possess a moderate potential for collapse when exposed to moisture infiltration as well as moderate consolidation when exposed to load increases in the range of those that will be exerted by the new foundations. The near-surface soils, in their present condition, are not considered suitable to support the foundation loads of the new building, and could result in excessive post-construction settlements.
- The near-surface soils, in their present condition, are not considered suitable to support the foundation loads of the new structure.
- Laboratory testing performed on a representative sample of the near-surface soils indicates that the on-site soils possess a medium expansion potential (EI = 71).

Site Preparation Recommendations

- Initial site preparation should include stripping of any surficial vegetation. The surficial vegetation, and any organic soils should be properly disposed of off-site.
- Remedial grading should be performed within the proposed building area in order to remove any soils disturbed during stripping and the upper portion of the near-surface native alluvium. The soils within the proposed building area should be overexcavated to a depth of 4 feet below existing grade and to a depth of at least 3 feet below proposed building pad subgrade elevations. Within the influence zones of the new foundations, the overexcavation should extend to a depth of at least 3 feet below proposed foundation bearing grade.
- The overexcavation areas should extend at least 5 feet beyond the building and foundation perimeters, and to an extent equal to the depth of fill placed below the foundation bearing grade, whichever is greater.
- After the overexcavation has been completed, the resulting subgrade soils should be evaluated by the geotechnical engineer to identify any additional soils that should be removed. The resulting subgrade should then be scarified to a depth of 12 inches and moisture conditioned (or air dried) to 2 to 4 percent above optimum. The previously excavated soils may then be replaced as compacted structural fill. All structural fill soils should be compacted to at least 90 percent of the ASTM D-1557 maximum dry density.
- The new pavement and flatwork subgrade soils are recommended to be scarified to a depth of 12± inches, moisture conditioned and recompacted to at least 90 percent of the ASTM D-1557 maximum dry density.
- Based on the results of corrosivity testing, the on-site soils are considered to be corrosive to ductile iron pipe.

Foundation Design Recommendations

- Spread footing foundations, supported in newly placed structural fill soils.
- Maximum, net allowable soil bearing pressure: 2,500 lbs/ft^2.

- Maximum, net allowable soil bearing pressure: 1,500 lbs/ft^2 for new footings if the full lateral extent of remedial grading cannot be achieved.
- Reinforcement consisting of at least six (6) No. 5 rebars (3 top and 3 bottom) in strip footings. Additional reinforcement may be necessary for structural considerations.

Building Floor Slab Design Recommendations

- Conventional Slab-on-Grade: minimum 6 inches thick.
- Modulus of Subgrade Reaction: k = 100 psi/in.
- Minimum slab reinforcement: No. 3 bars at 18 inches on-center, in both directions, due to the medium expansive potential of the near-surface soils. The actual thickness and reinforcement of the floor slab should be determined by the structural engineer.
- The actual thickness and reinforcement of the floor slab should be determined by the structural engineer.

Pavement Design Recommendations

ASPHALT PAVEMENTS (R=20)					
Materials	**Thickness (inches)**				
	Auto Parking and Auto Drive Lanes (TI = 4.0 to 5.0)	Truck Traffic			
		TI = 6.0	TI = 7.0	TI = 8.0	TI = 9.0
Asphalt Concrete	3	3½	4	5	5½
Aggregate Base	8	10	12	14	16
Compacted Subgrade	12	12	12	12	12

PORTLAND CEMENT CONCRETE PAVEMENTS (R = 20)				
Materials	**Thickness (inches)**			
	Autos and Light Truck Traffic (TI = 6.0)	Truck Traffic		
		TI = 7.0	TI = 8.0	TI = 9.0
PCC	5	5½	7	8½
Compacted Subgrade (95% minimum compaction)	12	12	12	12

2.0 SCOPE OF SERVICES

The scope of services performed for this project was in accordance with our Proposal No. 22P365, dated September 16, 2022. The scope of services included a visual site reconnaissance, subsurface exploration, field and laboratory testing, and geotechnical engineering analysis to provide criteria for preparing the design of the building foundations, building floor slab, and parking lot pavements along with site preparation recommendations and construction considerations for the proposed development. The evaluation of the environmental aspects of this site was beyond the scope of services for this geotechnical investigation.

3.0 SITE AND PROJECT DESCRIPTION

3.1 Site Conditions

The subject site is located at the northeast corner of West Avenue H and 35th Street West in Lancaster, California. The site is bounded to the north and east by vacant lots, to the south by West Avenue H, and to the west by the 35th Street West easement. The general location of the site is illustrated on the Site Location Map, included as Plate 1 of this report.

The site consists of a rectangular-shaped property 17.82± acres in size. The site is currently vacant and undeveloped. The ground surface consists of exposed soil with moderate native vegetation, including minor shrubs.

Detailed topographic information was not available at the time of this report. Based on the elevations obtained from Google Earth, and visual observations made at the time of the subsurface investigation, the overall site topography slopes downward to the east-southeast at a gradient of less than 1 percent.

3.2 Proposed Development

Our office was provided with a conceptual site plan, identified as Scheme A and dated August 17, 2022, which was prepared by GAA Architects. The plan indicates that the new development will consist of one (1) new warehouse, 388,000± ft² in size, located in the northwestern portion of the subject site. Dock-high doors and a truck court will be constructed on the east side of the proposed building. The new building is expected to be surrounded by asphaltic concrete (AC) pavements in the parking and drive areas, and Portland cement concrete (PCC) pavements in the loading dock area. Several landscaped planters and concrete flatwork are also expected to be included throughout the site.

Detailed structural information has not been provided. It is assumed that the new building will be a single-story structure of tilt-up concrete construction, supported on a conventional shallow foundation system with a concrete slab-on-grade floor. Based on the assumed construction, maximum column and wall loads are expected to be on the order of 100 kips and 4 to 7 kips per linear foot, respectively.

No significant amounts of below grade construction, such as basements or crawl spaces, are expected to be included in the proposed development. Based on the assumed topography, cuts and fills of up to 2 to 3± feet are expected to be necessary to achieve the proposed building pad grades. It should be noted that this estimate does not include any remedial grading recommendations which are presented in a subsequent section of this report.

4.0 SUBSURFACE EXPLORATION

4.1 Scope of Exploration/Sampling Methods

The subsurface exploration conducted for this project consisted of six (6) borings (identified as Boring Nos. B-1 through B-6) advanced to depths of 10 to 25± feet below the existing site grades. All of the borings were logged during drilling by a member of our staff.

The borings were advanced with hollow-stem augers, by a conventional truck-mounted drilling rig. Representative bulk and relatively undisturbed soil samples were taken during drilling. Relatively undisturbed soil samples were taken with a split barrel "California Sampler" containing a series of one inch long, 2.416± inch diameter brass rings. This sampling method is described in ASTM Test Method D-3550. In-situ samples were also taken using a 1.4± inch inside diameter split spoon sampler, in general accordance with ASTM D-1586. Both of these samplers are driven into the ground with successive blows of a 140-pound weight falling 30 inches. The blow counts obtained during driving are recorded for further analysis. Bulk samples were collected in plastic bags to retain their original moisture content. The relatively undisturbed ring samples were placed in molded plastic sleeves that were then sealed and transported to our laboratory.

The approximate locations of the borings are indicated on the Boring Location Plan, included as Plate 2 in Appendix A of this report. The Boring Logs, which illustrate the conditions encountered at the boring locations, as well as the results of some of the laboratory testing, are included in Appendix B.

4.2 Geotechnical Conditions

Alluvium

Native alluvium was encountered at the ground surface at all of the boring locations, extending to at least the maximum depth explored of 25± feet. The alluvium generally consists of stiff to hard sandy clays and medium dense clayey sands with varying silt content, and occasional stiff silty clays and medium dense sands and silty sands. Boring No. B-3 encountered a stratum consisting of loose clayey sands at the ground surface, extending to a depth of 3± feet. Boring No. B-3 also encountered a stratum consisting of dense silty sands at a depth of 13½± feet.

Groundwater

Free water was not encountered during the drilling of any of the borings. Based on the moisture content of the recovered soil samples and the lack of free water in the borings, the static groundwater table is at a greater depth than 25± feet below existing site grades.

As part of our research, we reviewed available groundwater data in order to determine the historic high groundwater level for the site. The primary reference used to determine the historic groundwater depths in this area is the California Geological Survey (CGS) Seismic Hazard Zone Report 095, Seismic Hazard Zone Report for the Lancaster West 7.5-Minute Quadrangle, which indicates that the historic high groundwater level for the site is approximately 85 feet below the ground surface.

In addition, recent water level data was obtained from the California Department of Water Resources Water Data Library website, https://wdl.water.ca.gov/waterdatalibrary/. The nearest monitoring well on record (identified as State Well Number: 07N12W07B002S) is located as close as 350± feet south-southwest of the project site. Water level readings within this monitoring well indicate a high groundwater level of 38± feet below the ground surface in September 1963.

5.0 LABORATORY TESTING

The soil samples recovered from the subsurface exploration were returned to our laboratory for further testing to determine selected physical and engineering properties of the soils. The tests are briefly discussed below. It should be noted that the test results are specific to the actual samples tested, and variations could be expected at other locations and depths.

Classification

All recovered soil samples were classified using the Unified Soil Classification System (USCS), in accordance with ASTM D-2488. The field identifications were then supplemented with additional visual classifications and/or by laboratory testing. The USCS classifications are shown on the Boring Logs and are periodically referenced throughout this report.

Density and Moisture Content

The density has been determined for selected relatively undisturbed ring samples. These densities were determined in general accordance with the method presented in ASTM D-2937. The results are recorded as dry unit weight in pounds per cubic foot. The moisture contents are determined in accordance with ASTM D-2216, and are expressed as a percentage of the dry weight. These test results are presented on the Boring Logs.

Consolidation

Selected soil samples were tested to determine their consolidation potential, in accordance with ASTM D-2435. The testing apparatus is designed to accept either natural or remolded samples in a one-inch high ring, approximately 2.416 inches in diameter. Each sample is then loaded incrementally in a geometric progression and the resulting deflection is recorded at selected time intervals. Porous stones are in contact with the top and bottom of the sample to permit the addition or release of pore water. The samples are typically inundated with water at an intermediate load to determine their potential for collapse or heave. The results of the consolidation testing are plotted on Plates C-1 through C-4 in Appendix C of this report.

Maximum Dry Density and Optimum Moisture Content

One representative bulk sample has been tested for its maximum dry density and optimum moisture content. The results have been obtained using the Modified Proctor procedure, per ASTM D-1557 and are presented on Plate C-5 in Appendix C of this report. This test is generally used to compare the in-situ densities of undisturbed field samples, and for later compaction testing. Additional testing of other soil types or soil mixes may be necessary at a later date.

Expansion Index

The expansion potential of the on-site soils was determined in general accordance with ASTM D-4829. The testing apparatus is designed to accept a 4-inch diameter, 1-in high, remolded sample. The sample is initially remolded to 50± 1 percent saturation and then loaded with a surcharge equivalent to 144 pounds per square foot. The sample is then inundated with water, and allowed to swell against the surcharge. The resultant swell or consolidation is recorded after a 24-hour period. The results of the EI testing are as follows:

Sample Identification	**Expansion Index**	**Expansive Potential**
B-1 @ 0 to 5 feet	71	Medium

Soluble Sulfates

Representative samples of the near-surface soils were submitted to a subcontracted analytical laboratory for determination of soluble sulfate content. Soluble sulfates are naturally present in soils, and if the concentration is high enough, can result in degradation of concrete which comes into contact with these soils. The results of the soluble sulfate testing are presented below, and are discussed further in a subsequent section of this report.

Sample Identification	**Soluble Sulfates (%)**	**Sulfate Classification**
B-1 @ 0 to 5 feet	0.002	Not Applicable (S0)
B-4 @ 0 to 5 feet	0.010	Not Applicable (S0)

Corrosivity Testing

Representative bulk samples of the near-surface soils were submitted to a subcontracted corrosion engineering laboratory for determination of electrical resistivity, pH, and chloride concentrations. The resistivity of the soils is a measure of their potential to attack buried metal improvements such as utility lines. The results of some of these tests are presented below.

Sample Identification	**Saturated Resistivity (ohm-cm)**	**pH**	**Chlorides (mg/kg)**	**Nitrates (mg/kg)**	**Sulfides (mg/kg)**	**Redox Potential (mV)**
B-1 @ o to 5 feet	2,278	9.8	35.8	2.1	1.20	141
B-4 @ o to 5 feet	1,139	9.4	453.1	22.4	2.04	162

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of our review, field exploration, laboratory testing and geotechnical analysis, the proposed development is considered feasible from a geotechnical standpoint. The recommendations contained in this report should be taken into the design, construction, and grading considerations.

The recommendations are contingent upon all grading and foundation construction activities being monitored by the geotechnical engineer of record. The recommendations are provided with the assumption that an adequate program of client consultation, construction monitoring, and testing will be performed during the final design and construction phases to verify compliance with these recommendations. Maintaining Southern California Geotechnical, Inc., (SCG) as the geotechnical consultant from the beginning to the end of the project will provide continuity of services. The geotechnical engineering firm providing testing and observation services shall assume the responsibility of Geotechnical Engineer of Record.

The Grading Guide Specifications, included as Appendix D, should be considered part of this report, and should be incorporated into the project specifications. The contractor and/or owner of the development should bring to the attention of the geotechnical engineer any conditions that differ from those stated in this report, or which may be detrimental for the development.

6.1 Seismic Design Considerations

The subject site is located in an area which is subject to strong ground motions due to earthquakes. The performance of a site-specific seismic hazards analysis was beyond the scope of this investigation. However, numerous faults capable of producing significant ground motions are located near the subject site. Due to economic considerations, it is not generally considered reasonable to design a structure that is not susceptible to earthquake damage. Therefore, significant damage to structures may be unavoidable during large earthquakes. The proposed structure should, however, be designed to resist structural collapse and thereby provide reasonable protection from serious injury, catastrophic property damage and loss of life.

Faulting and Seismicity

Research of available maps indicates that the subject site is not located within an Alquist-Priolo Earthquake Fault Zone. Furthermore, SCG did not identify any evidence of faulting during the geotechnical investigation. Therefore, the possibility of significant fault rupture on the site is considered to be low.

The potential for other geologic hazards such as seismically induced settlement, lateral spreading, tsunamis, inundation, seiches, flooding, and subsidence affecting the site is considered low.

Seismic Design Parameters

The 2019 California Building Code (CBC) provides procedures for earthquake resistant structural design that include considerations for on-site soil conditions, occupancy, and the configuration of the structure including the structural system and height. The seismic design parameters presented below are based on the soil profile and the proximity of known faults with respect to the subject site. Based on standards in place at the time of this report, the proposed development is expected to be designed in accordance with the requirements of the 2019 edition of the California Building Code (CBC), which was adopted on January 1, 2020.

The 2019 CBC Seismic Design Parameters have been generated using the SEAOC/OSHPD Seismic Design Maps Tool, a web-based software application available at the website www.seismicmaps.org. This software application calculates seismic design parameters in accordance with several building code reference documents, including ASCE 7-16, upon which the 2019 CBC is based. The application utilizes a database of risk-targeted maximum considered earthquake (MCE_R) site accelerations at 0.01-degree intervals for each of the code documents. The table below was created using data obtained from the application. The output generated from this program is included as Plate E-1 in Appendix E of this report.

The 2019 CBC requires that a site-specific ground motion study be performed in accordance with Section 11.4.8 of ASCE 7-16 for Site Class D sites with a mapped S_1 value greater than 0.2. However, Section 11.4.8 of ASCE 7-16 also indicates an exception to the requirement for a site-specific ground motion hazard analysis for certain structures on Site Class D sites. The commentary for Section 11 of ASCE 7-16 (Page 534 of Section C11 of ASCE 7-16) indicates that "In general, this exception effectively limits the requirements for site-specific hazard analysis to very tall and or flexible structures at Site Class D sites." **Based on our understanding of the proposed development, the seismic design parameters presented below were calculated assuming that the exception in Section 11.4.8 applies to the proposed structure at this site. However, the structural engineer should verify that this exception is applicable to the proposed structure.** Based on the exception, the spectral response accelerations presented below were calculated using the site coefficients (F_a and F_v) from Tables 1613.2.3(1) and 1613.2.3(2) presented in Section 16.4.4 of the 2019 CBC.

2019 CBC SEISMIC DESIGN PARAMETERS

Parameter		Value
Mapped Spectral Acceleration at 0.2 sec Period	S_S	1.500
Mapped Spectral Acceleration at 1.0 sec Period	S_1	0.600
Site Class	---	D
Site Modified Spectral Acceleration at 0.2 sec Period	S_{MS}	1.500
Site Modified Spectral Acceleration at 1.0 sec Period	S_{M1}	1.020
Design Spectral Acceleration at 0.2 sec Period	S_{DS}	1.000
Design Spectral Acceleration at 1.0 sec Period	S_{D1}	0.680

It should be noted that the site coefficient F_v and the parameters S_{M1} and S_{D1} were not included in the SEAOC/OSHPD Seismic Design Maps Tool output for the 2019 CBC. We calculated these parameters-based on Table 1613.2.3(2) in Section 16.4.4 of the 2019 CBC using the value of S_1 obtained from the Seismic Design Maps Tool, assuming that a site-specific ground motion hazards analysis is not required for the proposed building at this site.

Liquefaction

Liquefaction is the loss of strength in generally cohesionless, saturated soils when the pore-water pressure induced in the soil by a seismic event becomes equal to or exceeds the overburden pressure. The primary factors which influence the potential for liquefaction include groundwater table elevation, soil type and grain size characteristics, relative density of the soil, initial confining pressure, and intensity and duration of ground shaking. The depth within which the occurrence of liquefaction may impact surface improvements is generally identified as the upper 50 feet below the existing ground surface. Liquefaction potential is greater in saturated, loose, poorly graded fine sands with a mean (d_{50}) grain size in the range of 0.075 to 0.2 mm (Seed and Idriss, 1971). Clayey (cohesive) soils or soils which possess clay particles ($d<0.005$mm) in excess of 20 percent (Seed and Idriss, 1982) are generally not considered to be susceptible to liquefaction, nor are those soils which are above the historic static groundwater table.

Research of the map, Earthquake Zones of Required Investigation, Lancaster West Quadrangle, published by the California Geological Survey (CGS), indicates that the site is not located in a designated liquefaction hazard zone. Based on the mapping performed by the CGS and the relatively high strengths encountered at the boring locations, liquefaction is not considered to be a design concern for this project.

6.2 Geotechnical Design Considerations

General

Native alluvium was encountered at the ground surface at all of the boring locations. The results of laboratory testing indicate that the near-surface soils within the upper 4± feet possess a moderate potential for collapse when exposed to moisture infiltration as well as moderate consolidation when exposed to load increases in the range of those that will be exerted by the new foundations. The near-surface soils, in their present condition, are not considered suitable to support the foundation loads of the new building, and could result in excessive post-construction settlements. The native soils at greater depths generally will experience less influence from the new foundation loads. Therefore, remedial grading is considered warranted within the proposed building area in order to remove the upper portion of the near-surface native alluvial soils, and replace these materials as compacted structural fill soils.

Settlement

The recommended remedial grading will remove the potentially compressible and collapsible near-surface native alluvium, and replace these materials as compacted structural fill. The native soils that will remain in place below the recommended depth of overexcavation will not be subject to significant stress increases from the foundations of the new structure. Provided that the recommended remedial grading is completed, the post-construction static settlements of the proposed structure are expected to be less than 1.0 and 0.5 inches for total and differential settlements of shallow foundations, respectively.

Expansion

The near-surface soils generally consist of sandy clays and clayey sands. Laboratory testing performed on a representative sample of the near-surface soils indicates that the test sample possesses a medium expansion potential (EI = 71). Based on the presence of expansive soils at this site, care should be given to proper moisture conditioning the building pad subgrade soils to a moisture content of 2 to 4 percent above the ASTM D-1557 optimum during site grading. In addition to adequately moisture conditioning the subgrade soils and fill soils during grading, special care must be taken to maintaining moisture content of these soils at 2 to 4 percent above the optimum moisture content. This will require the contractor to frequently moisture condition these soils throughout the grading process, unless grading occurs during a period of relatively wet weather. Civil and structural design considerations are presented in Section 6.4 of this report.

Soluble Sulfates

The results of the soluble sulfate testing indicate that the selected samples of the on-site soils correspond to Class S0 with respect to the American Concrete Institute (ACI) Publication 318-05 Building Code Requirements for Structural Concrete and Commentary, Section 4.3. Therefore, specialized concrete mix designs are not considered to be necessary, with regard to sulfate protection purposes. It is, however, recommended that additional soluble sulfate testing be conducted at the completion of rough grading to verify the soluble sulfate concentrations of the soils which are present at pad grade within the building area.

Corrosion Potential

The results of laboratory testing indicate that the tested samples of the on-site soils possess saturated resistivity values of 1,139 and 2,278 ohm-cm, and pH values of 9.4 and 9.8. The soils possess redox potentials of 141 and 162 mV and only trace sulfide concentrations of less than 1 part per million. These test results have been evaluated in accordance with guidelines published by the Ductile Iron Pipe Research Association (DIPRA). The DIPRA guidelines consist of a point system by which characteristics of the soils are used to quantify the corrosivity characteristics of the site. Resistivity, pH, sulfide concentration, redox potential, and moisture content are the five factors that enter into the evaluation procedure. **Based on these factors, and utilizing the DIPRA procedure, the on-site soils are considered to be moderately corrosive to ductile iron pipe. Therefore, polyethylene protection is expected to be required for cast iron or ductile iron pipes**.

Based on American Concrete Institute (ACI) Publication 318 Building Code Requirements for Structural Concrete and Commentary, reinforced concrete that is exposed to external sources of chlorides requires corrosion protection for the steel reinforcement contained within the concrete. The ACI318-14 indicates that Exposure Classes C1 and C2 are assigned to non-prestressed and prestressed concrete members, depending on the degree of exposure to external sources of moisture and chlorides in service. Furthermore, ACI318-14, Table 19.3.1.1, indicates that Exposure Class C1 pertains to concrete exposed to moisture but not an external source of chlorides. ACI 318 defines concrete exposed to moisture and an external source of chlorides as "severe" or exposure category C2. ACI 318 does not clearly define a specific chloride concentration at which contact with the adjacent soil will constitute a "C2" or severe exposure. However, the Caltrans Memo to Designers 10-5, Protection of Reinforcement Against Corrosion Due to Chlorides, Acids and Sulfates, dated June 2010, indicates that soils possessing chloride concentrations greater than 500 mg/kg are considered to be corrosive to reinforced concrete. The results of the laboratory testing indicate chloride concentrations ranging from 35.8 to 453.1 mg/kg. Although the soils contain some chlorides, we do not expect that the chloride concentrations of the tested soils are high enough to constitute a “severe” or C2 chloride exposure. Therefore, a chloride exposure category of C1 is considered appropriate for this site.

Nitrates present in soil can be corrosive to copper tubing at concentrations greater than 50 mg/kg. The tested samples possess nitrate concentrations ranging from 2.1 to 22.4 mg/kg. Based on these test results, the on-site soils are not considered to be corrosive to copper pipe.

Since SCG does not practice in the area of corrosion engineering, we recommend that the client contact a corrosion engineer to provide a more thorough evaluation of these test results.

Shrinkage/Subsidence

Removal and recompaction of the near-surface alluvium is estimated to result in an average shrinkage of 3 to 13 percent. However, potential shrinkage for individual samples ranged locally between 1 and 17 percent. The potential shrinkage estimate is based on dry density testing performed on small-diameter samples taken at the boring locations. If a more accurate and precise shrinkage estimate is desired, SCG can perform a shrinkage study involving several excavated test-pits where in-place densities are determined using in-situ testing methods instead of laboratory density testing on small-diameter samples. Please contact SCG for details and a cost estimate regarding a shrinkage study, if desired.

Minor ground subsidence is expected to occur in the soils below the zone of removal, due to settlement and machinery working. The subsidence is estimated to be 0.15 feet.

These estimates are based on previous experience and the subsurface conditions encountered at the boring locations. The actual amount of subsidence is expected to be variable and will be dependent on the type of machinery used, repetitions of use, and dynamic effects, all of which are difficult to assess precisely.

Grading and Foundation Plan Review

Grading and foundation plans were unavailable at the time of this report. It is therefore recommended that we be provided with copies of the preliminary grading and foundation plans, when they become available, for review with regard to the conclusions, recommendations, and assumptions contained within this report.

6.3 Site Grading Recommendations

The grading recommendations presented below are based on the subsurface conditions encountered at the boring locations, and our understanding of the proposed development. We recommend that all grading activities be completed in accordance with the Grading Guide Specifications included as Appendix D of this report, unless superseded by site-specific recommendations presented below.

Site Stripping

Initial site stripping should include removal of any surficial vegetation, as well as any underlying topsoil or other organic materials. This should include any weeds, grasses, shrubs, and trees. Root systems associated with the trees should be removed in their entirety, and the resultant excavations should be backfilled with compacted structural fill soils. The actual extent of site stripping should be determined in the field by the geotechnical engineer, based on the organic content and stability of the materials encountered. These materials should be disposed of off-site.

Treatment of Existing Soils: Building Pad

Remedial grading should be performed within the proposed building area in order to remove any soils disturbed during stripping, and a portion of the near-surface native alluvium. Based on conditions encountered at the boring locations, the existing soils within the proposed building area are recommended to be overexcavated to a depth of at least 4 feet below existing grade, and to a depth of at least 3 feet below proposed building pad subgrade elevations, whichever is greater. Within the influence zones of the new foundations, the overexcavation should extend to a depth of at least 3 feet below proposed foundation bearing grade.

The overexcavation areas should extend at least 5 feet beyond the building and foundation perimeters, and to an extent equal to the depth of fill placed below the foundation bearing grade, whichever is greater. If the proposed structure incorporates any exterior columns (such as for a canopy or overhang) the area of overexcavation should also encompass these areas.

Following completion of the overexcavation, the subgrade soils within the overexcavation areas should be evaluated by the geotechnical engineer to verify their suitability to serve as the structural fill subgrade, as well as to support the foundation loads of the new structure. This evaluation should include proofrolling and probing to identify any soft, loose or otherwise unstable soils that must be removed. Some localized areas of deeper excavation may be required if fill materials or loose, porous, or low-density native soils are encountered at the base of the overexcavation.

After a suitable overexcavation subgrade has been achieved, the exposed soils should be scarified to a depth of at least 12 inches and moisture conditioned (or air dried) to achieve a moisture content of 2 to 4 percent above optimum moisture content. The subgrade soils should then be recompacted to at least 90 percent of the ASTM D-1557 maximum dry density.

The building pad area may then be raised to grade with previously excavated soils or imported, low expansive structural fill. All structural fill soils present within the proposed building area should be compacted to at least 90 percent of the ASTM D-1557 maximum dry density.

Treatment of Existing Soils: Retaining Walls and Site Walls

The existing soils within the areas of any proposed retaining walls and site walls should be overexcavated to a depth of 3 feet below foundation bearing grade and replaced as compacted structural fill as discussed above for the proposed building pad. Any undocumented fill soils or disturbed native alluvium within any of these foundation areas should be removed in their entirety. The overexcavation areas should extend at least 3 feet beyond the foundation perimeters, and to an extent equal to the depth of fill below the new foundations. Any erection pads for tilt-up concrete walls are considered to be part of the foundation system. Therefore, these overexcavation recommendations are applicable to erection pads. The overexcavation subgrade soils should be evaluated by the geotechnical engineer prior to scarifying, moisture conditioning to within 2 to 4 percent above the optimum moisture content, and recompacting the upper 12 inches of exposed subgrade soils. The previously excavated soils may then be replaced as compacted structural fill.

If the full lateral recommended remedial grading cannot be completed for the proposed retaining walls and site walls located along property lines, the foundations for those walls should be designed using a reduced allowable bearing pressure. Furthermore, the contractor should take necessary precautions to protect the adjacent improvements during rough grading. Specialized grading techniques, such as A-B-C slot cuts, will likely be required during remedial grading. The geotechnical engineer of record should be contacted if additional recommendations, such as shoring design recommendations, are required during grading.

Treatment of Existing Soils: Parking and Drive Areas

Based on economic considerations, overexcavation of the existing near-surface existing soils in the new parking and drive areas is not considered warranted, with the exception of areas where lower strength or unstable soils are identified by the geotechnical engineer during grading. Subgrade preparation in the new parking and drive areas should initially consist of removal of all soils disturbed during stripping operations.

The geotechnical engineer should then evaluate the subgrade to identify any areas of additional unsuitable soils. Any such materials should be removed to a level of firm and unyielding soil. The exposed subgrade soils should then be scarified to a depth of 12± inches, moisture conditioned to 2 to 4 percent above the optimum moisture content, and recompacted to at least 90 percent of the ASTM D-1557 maximum dry density. Based on the presence of variable strength surficial soils throughout the site, it is expected that some isolated areas of additional overexcavation may be required to remove zones of lower strength, unsuitable soils.

The grading recommendations presented above for the proposed parking and drive areas assume that the owner and/or developer can tolerate minor amounts of settlement within these areas. The grading recommendations presented above do not mitigate the extent of compressible/collapsible native alluvium in the parking and drive areas. As such, some settlement and associated pavement distress could occur. Typically, repair of such distressed areas involves significantly lower costs than completely mitigating these soils at the time of construction. If the owner cannot tolerate the risk of such settlements, the parking and drive areas should be overexcavated to a depth of 2 feet below proposed pavement subgrade elevation, with the resulting soils replaced as compacted structural fill.

Treatment of Existing Soils: Flatwork Areas

Subgrade preparation in the new flatwork areas should initially consist of removal of all soils disturbed during stripping and demolition operations. The geotechnical engineer should then evaluate the subgrade to identify any areas of additional unsuitable soils. The subgrade soils should then be scarified to a depth of 12± inches, moisture conditioned or air dried to 2 to 4 percent above optimum, and recompacted to at least 90 percent of the ASTM D-1557 maximum dry density. Based on the presence of variable strength alluvial soils throughout the subject site, it is expected that some isolated areas of additional overexcavation may be required to remove zones of lower strength, unsuitable soils.

As noted previously, the subject site is underlain by medium expansive soils. Support of new flatwork on medium expansive soils carries additional risk with respect to flatwork movement and potential distress. This report provides recommendations for moisture conditioning and additional steel reinforcement in the flatwork areas in order to minimize the potential effects of the expansive soils. However, if additional protection is desired, the client should consider the placement of a 2-foot-thick layer of non-expansive soil beneath all flatwork.

Fill Placement

- Fill soils should be placed in thin (6± inches), near-horizontal lifts, moisture conditioned to 2 to 4 percent above the optimum moisture content, and compacted.
- On-site soils may be used for fill provided they are cleaned of any debris to the satisfaction of the geotechnical engineer.
- All grading and fill placement activities should be completed in accordance with the requirements of the 2019 CBC and the grading code of the City of Lancaster and/or the County of Los Angeles.
- All fill soils should be compacted to at least 90 percent of the ASTM D-1557 maximum dry density. Fill soils should be well mixed.
- Compaction tests should be performed periodically by the geotechnical engineer as random verification of compaction and moisture content. These tests are intended to aid the contractor. Since the tests are taken at discrete locations and depths, they may not be indicative of the entire fill and therefore should not relieve the contractor of his responsibility to meet the job specifications.

Imported Structural Fill

All imported structural fill should consist of low expansive (EI < 50), well graded soils possessing at least 10 percent fines (that portion of the sample passing the No. 200 sieve). Additional specifications for structural fill are presented in the Grading Guide Specifications, included as Appendix D.

Utility Trench Backfill

In general, all utility trench backfill should be compacted to at least 90 percent of the ASTM D-1557 maximum dry density. As an alternative, a clean sand (minimum Sand Equivalent of 30) may be placed within trenches and compacted in place (jetting or flooding is not recommended). Compacted trench backfill should conform to the requirements of the local grading code, and more restrictive requirements may be indicated by the City of Lancaster and/or the County of Los Angeles. All utility trench backfills should be witnessed by the geotechnical engineer. The trench backfill soils should be compaction tested where possible; probed and visually evaluated elsewhere.

Utility trenches which parallel a footing, and extending below a 1h:1v (horizontal to vertical) plane projected from the outside edge of the footing should be backfilled with structural fill soils, compacted to at least 90 percent of the ASTM D-1557 standard. Pea gravel backfill should not be used for these trenches.

Any soils used to backfill voids around subsurface utility structures, such as manholes or vaults, should be placed as compacted structural fill. If it is not practical to place compacted fill in these areas, then such void spaces may be backfilled with lean concrete slurry. Uncompacted pea gravel or sand is not recommended for backfilling these voids since these materials have a potential to settle and thereby cause distress of pavements placed around these subterranean structures.

6.4 Construction Considerations

Moisture Sensitive Subgrade Soils

Some of the near-surface soils possess appreciable silt and clay content and may become unstable if exposed to significant moisture infiltration or disturbance by construction traffic. The base of the recommended building pad overexcavation will also be subject to subgrade instability, due the clay content of the native soils at this depth. Based on their granular content, some of the on-site soils will also be susceptible to erosion. The site should, therefore, be graded to prevent ponding of surface water and to prevent water from running into excavations.

If the construction schedule dictates that site grading will occur during a period of wet weather, allowances should be made for costs and delays associated with drying the on-site soils or import of a drier, less moisture sensitive fill material. Grading during wet or cool weather may also increase the depth of overexcavation in the pad area as well as the need for a stabilization layer.

Excavation Considerations

The near-surface soils generally consist of clayey sands and sandy clays. Some of these materials may be subject to caving within shallow excavations. Where caving occurs within shallow excavations, flattened excavation slopes may be sufficient to provide excavation stability. On a preliminary basis, the inclination of temporary slopes should not exceed 2h:1v within sandy soils. In addition, the inclination of temporary slopes should not exceed 1.5h:1v within clayey soils. Deeper excavations may require some form of external stabilization such as shoring or bracing. Maintaining adequate moisture content within the near-surface soils will improve excavation stability. All excavation activities on this site should be conducted in accordance with Cal-OSHA regulations.

Expansive Soils

The near-surface soils within the subject site have been determined to possess a medium expansion potential. Therefore, care should be given to proper moisture conditioning of all subgrade soils to a moisture content of 2 to 4 percent above the Modified Proctor optimum during site grading. All imported fill soils should have low expansive (EI < 50) characteristics. **In addition to adequately moisture conditioning the subgrade soils and fill soils during grading, special care must be taken to maintain the moisture content of these soils at 2 to 4 percent above the Modified Proctor optimum. This will require the contractor**

to frequently moisture condition these soils throughout the grading process, unless grading occurs during a period of relatively wet weather.

Due to the presence of expansive soils at this site, provisions should be made to limit the potential for surface water to penetrate the soils immediately adjacent to the new structure. These provisions should include directing surface runoff into rain gutters and area drains, reducing the extent of landscaped areas around the structure, and sloping the ground surface away from the building. Where possible, it is recommended that landscaped planters not be located immediately adjacent to the proposed building. If landscaped planters around the building are necessary, it is recommended that drought tolerant plants or a drip irrigation system be utilized, to minimize the potential for deep moisture penetration around the structure. Presented below is a list of additional soil moisture control recommendations that should be considered by the owner, developer, and civil engineer:

- Ponding and areas of low flow gradients in unpaved walkways, grass and planter areas should be avoided. In general, minimum drainage gradients of 2 percent should be maintained in unpaved areas.
- Bare soil within five feet of proposed structure should be sloped at a minimum five percent gradient away from the structure (about three inches of fall in five feet), or the same area could be paved with a minimum surface gradient of one percent. Pavement is preferable.
- Decorative gravel ground cover tends to provide a reservoir for surface water and may hide areas of ponding or poor drainage. Decorative gravel is, therefore, not recommended and should not be utilized for landscaping unless equipped with a subsurface drainage system designed by a licensed landscape architect.
- Positive drainage devices, such as graded swales, paved ditches, and catch basins should be installed at appropriate locations within the area of proposed development.
- Concrete walks and flatwork should not obstruct the free flow of surface water to the appropriate drainage devices.
- Area drains should be recessed below grade to allow free flow of water into the drain. Concrete or brick flatwork joints should be sealed with mortar or flexible mastic.
- Gutter and downspout systems should be installed to capture all discharge from roof areas. Downspouts should discharge directly into a pipe or paved surface system to be conveyed off-site.
- Enclosed planters adjoining, or in close proximity to proposed structures, should be sealed at the bottom and provided with subsurface collection systems and outlet pipes.
- Depressed planters should be raised with soil to promote runoff (minimum drainage gradient two percent or five percent, see above), and/or equipped with area drains to eliminate ponding.
- Drainage outfall locations should be selected to avoid erosion of slopes and/or properly armored to prevent erosion of graded surfaces. No drainage should be directed over or towards adjoining slopes.
- All drainage devices should be maintained on a regular basis, including frequent observations during the rainy season to keep the drains free of leaves, soil and other debris.
- Landscape irrigation should conform to the recommendations of the landscape architect and should be performed judiciously to preclude either soaking or excessive drying of the foundation soils. This should entail regular watering during the drier portions of the year and little or no irrigation during the rainy season. Automatic sprinkler systems should, therefore, be switched to manual operation during the rainy season. Good irrigation practice typically requires frequent application of limited quantities of water that are sufficient to sustain plant growth, but do not excessively wet the soils. Ponding and/or run-off of irrigation water are indications of excessive watering.

Other provisions, as determined by the landscape architect or civil engineer, may also be appropriate.

Groundwater

The static groundwater table is considered to have existed at a depth in excess of 25± feet at the time of the subsurface exploration. Therefore, groundwater is not expected to impact the grading or foundation construction activities.

6.5 Foundation Design and Construction

Based on the preceding grading recommendations, it is assumed that the new building pad will be underlain by structural fill soils used to replace the upper portion of the near-surface alluvial soils. These new structural fill soils are expected to extend to a depth of at least 3 feet below proposed foundation bearing grade, underlain by 1± foot of additional soil that has been densified and moisture conditioned in place. Based on this subsurface profile, the proposed structure may be supported on conventional shallow foundations.

Foundation Design Parameters

New square and rectangular footings may be designed as follows:

- Maximum, net allowable soil bearing pressure: 2,500 lbs/ft^2.
- Maximum, net allowable soil bearing pressure: 1,500 lbs/ft^2 if the full recommended lateral extent of remedial grading cannot be achieved, typically for new footings along the property lines.
- Minimum wall/column footing width: 14 inches/24 inches.
- Minimum longitudinal steel reinforcement within strip footings: Six (6) No. 5 rebars (3 top and 3 bottom) due to the presence of expansive soils.
- Minimum foundation embedment: 12 inches into suitable structural fill soils, and at least 18 inches below adjacent exterior grade. Interior column footings may be placed immediately beneath the floor slab.
- It is recommended that the perimeter building foundations be continuous across all exterior doorways. Any flatwork adjacent to the exterior doors should be doweled into the perimeter foundations in a manner determined by the structural engineer.

The allowable bearing pressures presented above may be increased by 1/3 when considering short duration wind or seismic loads. The minimum steel reinforcement recommended above is based on geotechnical considerations; additional reinforcement may be necessary for structural considerations. The actual design of the foundations should be determined by the structural engineer.

Foundation Construction

The foundation subgrade soils should be evaluated at the time of overexcavation, as discussed in Section 6.3 of this report. It is further recommended that the foundation subgrade soils be evaluated by the geotechnical engineer immediately prior to steel or concrete placement. Soils suitable for direct foundation support should consist of newly placed structural fill, compacted to at least 90 percent of the ASTM D-1557 maximum dry density. Any unsuitable materials should be removed to a depth of suitable bearing compacted structural fill or suitable native alluvium (where reduced bearing pressures are utilized), with the resulting excavations backfilled with compacted fill soils. As an alternative, lean concrete slurry (500 to 1,500 psi) may be used to backfill such isolated overexcavations.

The foundation subgrade soils should also be properly moisture conditioned to 2 to 4 percent above the Modified Proctor optimum, to a depth of at least 12 inches below bearing grade. Since it is typically not feasible to increase the moisture content of the floor slab and foundation subgrade soils once rough grading has been completed, care should be taken to maintain the moisture content of the building pad subgrade soils throughout the construction process.

Estimated Foundation Settlements

Post-construction total and differential settlements of shallow foundations designed and constructed in accordance with the previously presented recommendations are estimated to be less than 1.0 and 0.5 inches, respectively. Differential movements are expected to occur over a 30-foot span, thereby resulting in an angular distortion of less than 0.002 inches per inch.

Lateral Load Resistance

Lateral load resistance will be developed by a combination of friction acting at the base of foundations and the slab and the passive earth pressure developed by footings below grade. The following friction and passive pressure may be used to resist lateral forces:

- Passive Earth Pressure: 275 lbs/ft^3
- Friction Coefficient: 0.28

These are allowable values, and include a factor of safety. When combining friction and passive resistance, the passive pressure component should be reduced by one-third. These values assume that footings will be poured directly against compacted structural fill soils. The maximum allowable passive pressure is 2,500 lbs/ft^2.

6.6 Floor Slab Design and Construction

Subgrades which will support the new floor slab should be prepared in accordance with the recommendations contained in the ***Site Grading Recommendations*** section of this report. Based on the anticipated grading which will occur at this site, the floor of the proposed structure may be constructed as a conventional slab-on-grade supported on newly placed structural fill, extending to a depth of at least 3 feet below finished pad grade. Based on geotechnical considerations, the floor slab may be designed as follows:

- Minimum slab thickness: 6 inches.

- Modulus of Subgrade Reaction: k = 100 psi/in.

- Minimum slab reinforcement: No. 3 bars at 18 inches on-center, in both directions, due to the medium expansive potential of the near-surface soils. The actual floor slab reinforcement should be determined by the structural engineer, based on the imposed loading.

- Slab underlayment: If moisture sensitive floor coverings will be used then minimum slab underlayment should consist of a moisture vapor barrier constructed below the entire area of the proposed slab where such moisture sensitive floor coverings are anticipated. The moisture vapor barrier should meet or exceed the Class A rating as defined by ASTM E 1745-97 and have a permeance rating less than 0.01 perms as described in ASTM E 96-95 and ASTM E 154-88. A polyolefin material such as a 15-mil Stego® Wrap Vapor Barrier or equivalent will meet these specifications. The moisture vapor barrier should be properly constructed in accordance with all applicable manufacturer specifications. Given that a rock free subgrade is anticipated and that a capillary break is not required, sand below the barrier is not required. The need for sand and/or the amount of sand above the moisture vapor barrier should be specified by the structural engineer or concrete contractor. The selection of sand above the barrier is not a geotechnical engineering issue and hence outside our purview. Where moisture sensitive floor coverings are not anticipated, the vapor barrier may be eliminated.

- Moisture condition the floor slab subgrade soils to 2 to 4 percent above the Modified Proctor optimum moisture content, to a depth of 12 inches. The moisture content of the floor slab subgrade soils should be verified by the geotechnical engineer within 24 hours prior to concrete placement.

- Proper concrete curing techniques should be utilized to reduce the potential for slab curling or the formation of excessive shrinkage cracks.

The actual design of the floor slab should be completed by the structural engineer to verify adequate thickness and reinforcement.

6.7 Trash Enclosure Design Parameters

The proposed development may include a trash enclosure. It is expected that the trash enclosure as well as the approach slab will be subjected to relatively heavy wheel loads, imposed by trash removal equipment.

The subgrade soils in the area of the trash enclosure and the approach slab should be prepared in accordance with the recommendations for the parking areas, presented in Section 6.3 of this report. As such, it is expected that the trash enclosure will be underlain by structural fill soils, extending to a depth of 1 foot below proposed subgrade elevation. Based on geotechnical considerations, the following recommendations are provided for the design of the trash enclosure and the trash enclosure approach slab:

- The trash enclosure may consist of a 6-inch thick concrete slab incorporating a perimeter footing or a turned down edge, extending to a depth of at least 12 inches below adjacent finished grade. If the trash enclosure will incorporate rigid walls such as masonry block or tilt-up concrete, the perimeter foundations should be designed in accordance with the recommendations previously presented in Section 6.5 of this report.

- Reinforcement within the trash enclosure slab should consist of at least No. 4 bars at 18-inches on-center, in both directions.

- The trash enclosure approach slab should be constructed of Portland cement concrete, at least 6 inches in thickness. Reinforcement within the approach slab should consist of at least No. 4 bars at 18-inches on-center, in both directions.

- The trash enclosure and approach slab subgrades should be moisture conditioned to 2 to 4 percent above the optimum moisture content to a depth of 12 inches. The trash enclosure slab and the approach slab should be structurally connected, to reduce the potential for differential movement between the two slabs.

- The actual design of the trash enclosure and the trash enclosure approach slab should be completed by the structural engineer to verify adequate thickness and reinforcement.

6.8 Exterior Flatwork Design and Construction

Subgrades which will support new exterior slabs-on-grade for sidewalks, patios, and other concrete flatwork, should be prepared in accordance with the recommendations contained in the ***Grading Recommendations*** section of this report. Based on geotechnical considerations, exterior slabs on grade may be designed as follows:

- Minimum slab thickness: 4½ inches.

- Minimum slab reinforcement: No. 4 bars at 18 inches on center, in both directions.

- The flatwork at building entry areas should be structurally connected to the perimeter foundation that is recommended to span across the door opening. This recommendation is designed to reduce the potential for differential movement at this joint.

- Moisture condition the flatwork subgrade soils to 2 to 4 percent of optimum moisture content, to a depth of at least 12 inches. Adequate moisture conditioning should be verified by the geotechnical engineer 24 hours prior to concrete placement.

- Proper concrete curing techniques should be utilized to reduce the potential for slab curling or the formation of excessive shrinkage cracks.

- Control joints should be provided at a maximum spacing of 8 feet on center in two directions for slabs and at 6 feet on center for sidewalks. Control joints are intended to direct cracking. Minor cracking of exterior concrete slabs on grade should be expected.

Expansion or felt joints should be used at the interface of exterior slabs on grade and any fixed structures to permit relative movement.

6.9 Retaining Wall Design and Construction

Although not indicated on the site plans, some small (less than 6 feet in height) retaining walls may be required to facilitate the new site grades. The parameters recommended for use in the design of these walls are presented below.

Retaining Wall Design Parameters

Based on the soil conditions encountered at the boring locations, the following parameters may be used in the design of new retaining walls for this site. We have provided parameters assuming the use of clayey sands silty sands for retaining wall backfill. **The potentially expansive silty clays and sandy clays should not be used for retaining wall backfill.** Based on their composition, the on-site clayey sands and silty sands have been assigned a friction angle of 29 degrees when compacted to at least 90 percent of the ASTM D-1557 maximum dry-density.

If desired, SCG could provide design parameters for an alternative select backfill material behind the retaining walls. The use of select backfill material could result in lower lateral earth pressures. In order to use the design parameters for the imported select fill, this material must be placed within the entire active failure wedge. This wedge is defined as extending from the heel of the retaining wall upwards at an angle of approximately 60° from horizontal. If select backfill material behind the retaining wall is desired, SCG should be contacted for supplementary recommendations.

RETAINING WALL DESIGN PARAMETERS

Design Parameter		**Soil Type**
		On-site Clay Sands and Silty Sands
Internal Friction Angle (ϕ)		29°
Unit Weight		128 lbs/ft^3
Equivalent Fluid Pressure:	Active Condition (level backfill)	45 lbs/ft^3
	Active Condition (2h:1v backfill)	74 lbs/ft^3
	At-Rest Condition (level backfill)	66 lbs/ft^3

Regardless of the backfill type, the walls should be designed using a soil-footing coefficient of friction of 0.28 and an equivalent passive pressure of 275 lbs/ft^3. The structural engineer should incorporate appropriate factors of safety in the design of the retaining walls.

The active earth pressure may be used for the design of retaining walls that do not directly support structures or support soils that in turn support structures and which will be allowed to deflect. The at-rest earth pressure should be used for walls that will not be allowed to deflect such as those which will support foundation bearing soils, or which will support foundation loads directly.

Where the soils on the toe side of the retaining wall are not covered by a "hard" surface such as a structure or pavement, the upper 1 foot of soil should be neglected when calculating passive resistance due to the potential for the material to become disturbed or degraded during the life of the structure.

Seismic Lateral Earth Pressures

In accordance with the 2019 CBC, any retaining walls more than 6 feet in height must be designed for seismic lateral earth pressures. If walls 6 feet or more are required for this site, the geotechnical engineer should be contacted for supplementary seismic lateral earth pressure recommendations.

Retaining Wall Foundation Design

The retaining wall foundations should be supported within newly placed compacted structural fill, extending to a depth of at least 3 feet below the proposed bearing grade. Foundations to support new retaining walls should be designed in accordance with the general Foundation Design Parameters presented in a previous section of this report.

Backfill Material

On-site soils may be used to backfill the retaining walls, provided that they are low expansive (EI < 50) sandy soils. All backfill material placed within 3 feet of the back wall-face should have a particle size no greater than 3 inches. The retaining wall backfill materials should be well graded.

It is recommended that a minimum 1-foot thick layer of free-draining granular material (less than 5 percent passing the No. 200 sieve) be placed against the face of the retaining walls. This material should extend from the top of the retaining wall footing to within 1 foot of the ground surface on the back side of the retaining wall. This material should be approved by the geotechnical engineer. In lieu of the 1-foot thick layer of free-draining material, a properly installed prefabricated drainage composite such as the MiraDRAIN 6000XL (or approved equivalent), which is specifically designed for use behind retaining walls, may be used. If the layer of free-draining material is not covered by an impermeable surface, such as a structure or pavement, a 12-inch thick layer of a low permeability soil should be placed over the backfill to reduce surface water migration to the underlying soils. The layer of free draining granular material should be separated from the backfill soils by a suitable geotextile, approved by the geotechnical engineer.

All retaining wall backfill should be placed and compacted under engineering controlled conditions in the necessary layer thicknesses to ensure an in-place density between 90 and 93 percent of the maximum dry density as determined by the Modified Proctor test (ASTM D1557). Care should be taken to avoid over-compaction of the soils behind the retaining walls, and the use of heavy compaction equipment should be avoided.

Subsurface Drainage

As previously indicated, the retaining wall design parameters are based upon drained backfill conditions. Consequently, some form of permanent drainage system will be necessary in conjunction with the appropriate backfill material. Subsurface drainage may consist of either:

- A weep hole drainage system typically consisting of a series of 2-inch diameter holes in the wall situated slightly above the ground surface elevation on the exposed side of the wall and at an approximate 10-foot on-center spacing. Alternatively, 4-inch diameter holes at an approximate 20-foot on-center spacing can be used for this type of drainage system. In addition, the weep holes should include a 2 cubic foot pocket of open graded gravel, surrounded by an approved geotextile fabric, at each weep hole location.

- A 4-inch diameter perforated pipe surrounded by 2 cubic feet of gravel per linear foot of drain placed behind the wall, above the retaining wall footing. The gravel layer should be wrapped in a suitable geotextile fabric to reduce the potential for migration of fines. The footing drain should be extended to daylight or tied into a storm drainage system. The actual design of this type of system should be determined by the civil engineer to verify that the drainage system possesses the adequate capacity and slope for its intended use.

Weep holes or a footing drain will not be required for building stem walls.

6.10 Pavement Design Parameters

Site preparation in the pavement area should be completed as previously recommended in the ***Site Grading Recommendations*** section of this report. The subsequent pavement recommendations assume proper drainage and construction monitoring, and are based on either PCA or CALTRANS design parameters for a twenty (20) year design period. However, these designs also assume a routine pavement maintenance program to obtain the anticipated 20-year pavement service life.

Pavement Subgrades

It is anticipated that the new pavements will be primarily supported on a layer of compacted structural fill, consisting of scarified, thoroughly moisture conditioned and recompacted existing soils. The near-surface soils primarily consist of clayey sands and sandy clays. These soils are generally considered to possess fair to good pavement support characteristics with estimated R-values ranging from 20 to 35. The subsequent pavement design is therefore based upon an assumed R-value of 20. Any fill material imported to the site should have support characteristics equal to or greater than that of the on-site soils and be placed and compacted under engineering controlled conditions. It is recommended that R-value testing be performed after completion of rough grading to verify that the pavement design recommendations presented herein are valid.

Asphaltic Concrete

Presented below are the recommended thicknesses for new flexible pavement structures consisting of asphaltic concrete over a granular base. The pavement designs are based on the traffic indices (TI's) indicated. The client and/or civil engineer should verify that these TI's are representative of the anticipated traffic volumes. If the client and/or civil engineer determine that the expected traffic volume will exceed the applicable traffic index, we should be contacted for supplementary recommendations. The design traffic indices equate to the following approximate daily traffic volumes over a 20-year design life, assuming six operational traffic days per week.

Traffic Index	No. of Heavy Trucks per Day
4.0	0
5.0	1
6.0	3
7.0	11
8.0	35
9.0	93

For the purpose of the traffic volumes indicated above, a truck is defined as a 5-axle tractor trailer unit with one 8-kip axle and two 32-kip tandem axles. All of the traffic indices allow for 1,000 automobiles per day.

ASPHALT PAVEMENTS (R=20)					
Materials	**Thickness (inches)**				
	Auto Parking and Auto Drive Lanes (TI = 4.0 to 5.0)	Truck Traffic			
		TI = 6.0	TI = 7.0	TI = 8.0	TI = 9.0
Asphalt Concrete	3	3½	4	5	5½
Aggregate Base	8	10	12	14	16
Compacted Subgrade	12	12	12	12	12

The aggregate base course should be compacted to at least 95 percent of the ASTM D-1557 maximum dry density. The asphaltic concrete should be compacted to at least 95 percent of the batch plant-reported maximum density. The aggregate base course may consist of crushed aggregate base (CAB) or crushed miscellaneous base (CMB), which is a recycled gravel, asphalt and concrete material. The gradation, R-Value, Sand Equivalent, and Percentage Wear of the CAB or CMB should comply with appropriate specifications contained in the current edition of the "Greenbook" Standard Specifications for Public Works Construction.

Portland Cement Concrete

The preparation of the subgrade soils within concrete pavement areas should be performed as previously described for proposed asphalt pavement areas. The minimum recommended thicknesses for the Portland Cement Concrete pavement sections are as follows:

PORTLAND CEMENT CONCRETE PAVEMENTS (R = 20)				
Materials	**Thickness (inches)**			
	Autos and Light Truck Traffic (TI = 6.0)	Truck Traffic		
		TI = 7.0	TI = 8.0	TI = 9.0
PCC	5	5½	7	8½
Compacted Subgrade (95% minimum compaction)	12	12	12	12

The concrete should have a 28-day compressive strength of at least 3,000 psi. Any reinforcement within the PCC pavements should be determined by the project structural engineer. The maximum joint spacing within all of the PCC pavements is recommended to be equal to or less than 30 times the pavement thickness.

7.0 GENERAL COMMENTS

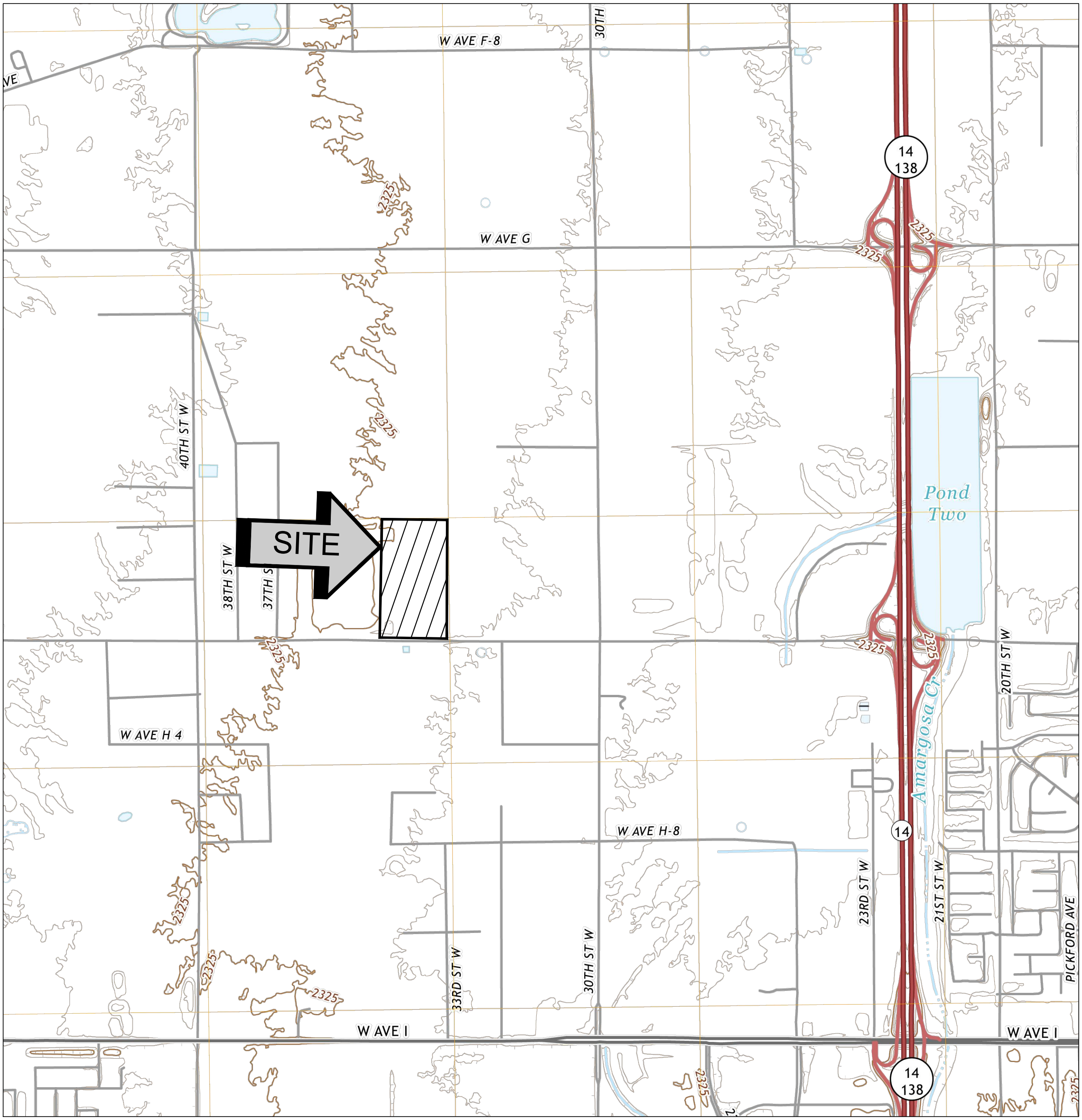
This report has been prepared as an instrument of service for use by the client, in order to aid in the evaluation of this property and to assist the architects and engineers in the design and preparation of the project plans and specifications. This report may be provided to the contractor(s) and other design consultants to disclose information relative to the project. However, this report is not intended to be utilized as a specification in and of itself, without appropriate interpretation by the project architect, civil engineer, and/or structural engineer. The reproduction and distribution of this report must be authorized by the client and Southern California Geotechnical, Inc. Furthermore, any reliance on this report by an unauthorized third party is at such party's sole risk, and we accept no responsibility for damage or loss which may occur. The client(s)' reliance upon this report is subject to the Engineering Services Agreement, incorporated into our proposal for this project.

The analysis of this site was based on a subsurface profile interpolated from limited discrete soil samples. While the materials encountered in the project area are considered to be representative of the total area, some variations should be expected between boring locations and sample depths. If the conditions encountered during construction vary significantly from those detailed herein, we should be contacted immediately to determine if the conditions alter the recommendations contained herein.

This report has been based on assumed or provided characteristics of the proposed development. It is recommended that the owner, client, architect, structural engineer, and civil engineer carefully review these assumptions to ensure that they are consistent with the characteristics of the proposed development. If discrepancies exist, they should be brought to our attention to verify that they do not affect the conclusions and recommendations contained herein. We also recommend that the project plans and specifications be submitted to our office for review to verify that our recommendations have been correctly interpreted.

The analysis, conclusions, and recommendations contained within this report have been promulgated in accordance with generally accepted professional geotechnical engineering practice. No other warranty is implied or expressed.

APPENDIX A



SOURCE: USGS TOPOGRAPHIC MAP OF THE
LANCASTER WEST QUADRANGLE, LOS ANGELES COUNTY,
CALIFORNIA, 2022

SITE LOCATION MAP

PROPOSED WAREHOUSE

LANCASTER, CALIFORNIA

SCALE: 1" = 2000'

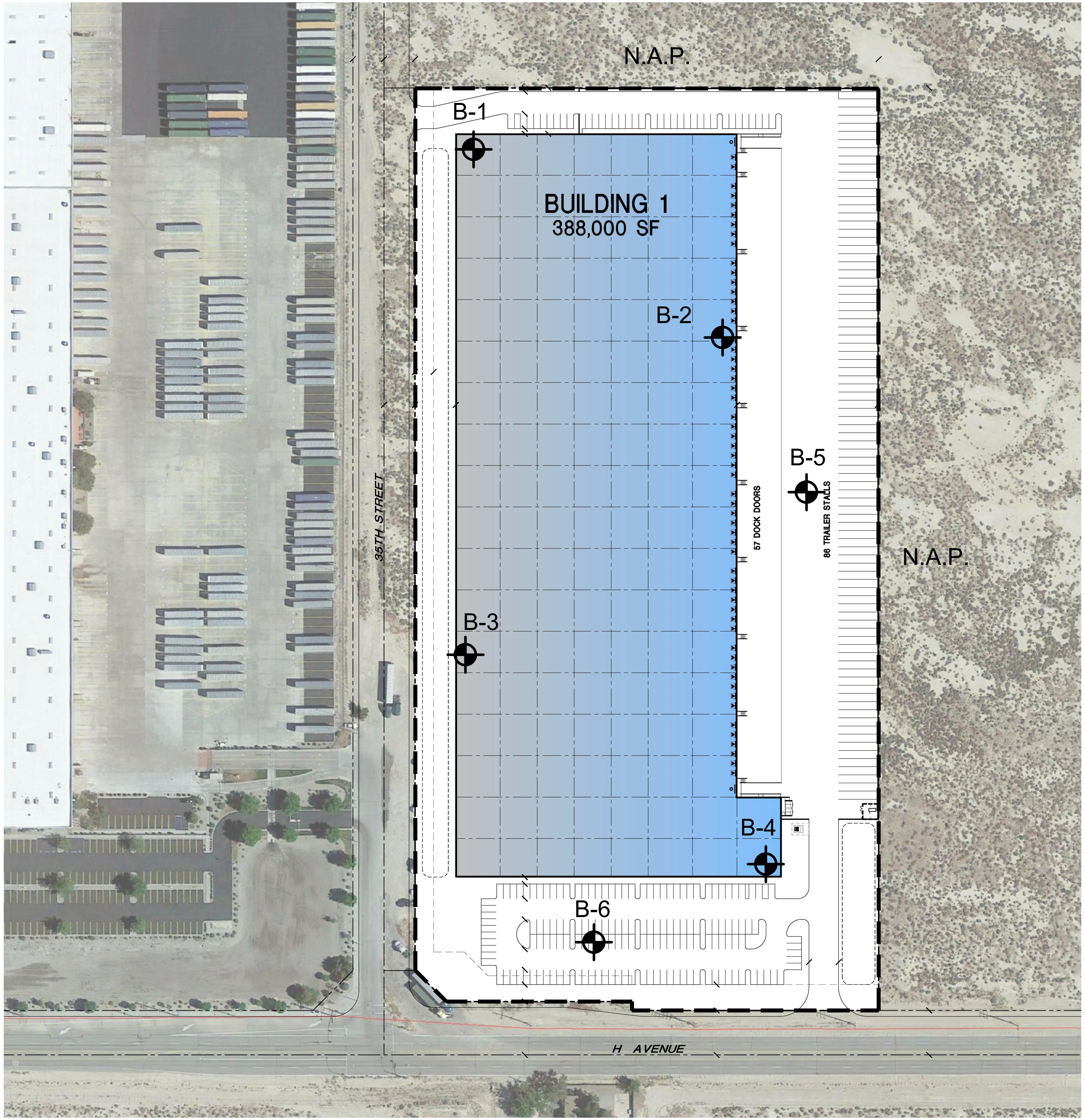
DRAWN: MK
CHKD: RGT

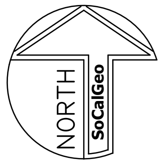
SCG PROJECT
22G245-1

PLATE 1

SoCalGeo

SOUTHERN
CALIFORNIA
GEOTECHNICAL





GEOTECHNICAL LEGEND

⌖ APPROXIMATE BORING LOCATION

NOTE: CONCEPTUAL SITE PLAN PROVIDED BY GAA ARCHITECTS.
AERIAL PHOTO OBTAINED FROM GOOGLE EARTH.

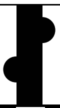
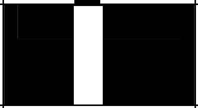
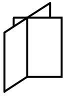
BORING LOCATION PLAN
PROPOSED WAREHOUSE
LANCASTER, CALIFORNIA

SCALE: 1" = 150'
DRAWN: MK
CHKD: RGT
SCG PROJECT
22G245-1
PLATE 2

SOUTHERN
CALIFORNIA
GEOTECHNICAL

APPENDIX B

BORING LOG LEGEND

SAMPLE TYPE	GRAPHICAL SYMBOL	SAMPLE DESCRIPTION
AUGER		SAMPLE COLLECTED FROM AUGER CUTTINGS, NO FIELD MEASUREMENT OF SOIL STRENGTH. (DISTURBED)
CORE		ROCK CORE SAMPLE: TYPICALLY TAKEN WITH A DIAMOND-TIPPED CORE BARREL. TYPICALLY USED ONLY IN HIGHLY CONSOLIDATED BEDROCK.
GRAB		SOIL SAMPLE TAKEN WITH NO SPECIALIZED EQUIPMENT, SUCH AS FROM A STOCKPILE OR THE GROUND SURFACE. (DISTURBED)
CS	⧓	CALIFORNIA SAMPLER: 2-1/2 INCH I.D. SPLIT BARREL SAMPLER, LINED WITH 1-INCH HIGH BRASS RINGS. DRIVEN WITH SPT HAMMER. (RELATIVELY UNDISTURBED)
NSR	○	NO RECOVERY: THE SAMPLING ATTEMPT DID NOT RESULT IN RECOVERY OF ANY SIGNIFICANT SOIL OR ROCK MATERIAL.
SPT	☒	STANDARD PENETRATION TEST: SAMPLER IS A 1.4 INCH INSIDE DIAMETER SPLIT BARREL, DRIVEN 18 INCHES WITH THE SPT HAMMER. (DISTURBED)
SH	■	SHELBY TUBE: TAKEN WITH A THIN WALL SAMPLE TUBE, PUSHED INTO THE SOIL AND THEN EXTRACTED. (UNDISTURBED)
VANE		VANE SHEAR TEST: SOIL STRENGTH OBTAINED USING A 4 BLADED SHEAR DEVICE. TYPICALLY USED IN SOFT CLAYS-NO SAMPLE RECOVERED.

COLUMN DESCRIPTIONS

DEPTH:	Distance in feet below the ground surface.
SAMPLE:	Sample Type as depicted above.
BLOW COUNT:	Number of blows required to advance the sampler 12 inches using a 140 lb hammer with a 30-inch drop. 50/3" indicates penetration refusal (>50 blows) at 3 inches. WH indicates that the weight of the hammer was sufficient to push the sampler 6 inches or more.
POCKET PEN.:	Approximate shear strength of a cohesive soil sample as measured by pocket penetrometer.
GRAPHIC LOG:	Graphic Soil Symbol as depicted on the following page.
DRY DENSITY:	Dry density of an undisturbed or relatively undisturbed sample in lbs/ft^3.
MOISTURE CONTENT:	Moisture content of a soil sample, expressed as a percentage of the dry weight.
LIQUID LIMIT:	The moisture content above which a soil behaves as a liquid.
PLASTIC LIMIT:	The moisture content above which a soil behaves as a plastic.
PASSING #200 SIEVE:	The percentage of the sample finer than the #200 standard sieve.
UNCONFINED SHEAR:	The shear strength of a cohesive soil sample, as measured in the unconfined state.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)	●	**GW**	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
			○	**GP**	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)	○	**GM**	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
			▨	**GC**	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)	⁘	**SW**	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
			⁘	**SP**	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	⁘	**SM**	SILTY SANDS, SAND - SILT MIXTURES
			▨	**SC**	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50	▥	**ML**	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			▨	**CL**	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			☰	**OL**	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50	▥	**MH**	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
			▨	**CH**	INORGANIC CLAYS OF HIGH PLASTICITY
			≈	**OH**	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			⁂	**PT**	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

SOUTHERN
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BORING NO. B-1

JOB NO.: 22G245-1
PROJECT: Proposed Warehouse
LOCATION: Lancaster, California

DRILLING DATE: 10/17/22
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Michelle Krizek

WATER DEPTH: Dry
CAVE DEPTH: 17 feet
READING TAKEN: Not Applicable

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					ALLUVIUM: Light Brown fine Sandy Clay, trace Silt, little Calcareous veining and nodules, stiff to very stiff-damp							
	⧓	18	3.0			108	9					EI = 71 @ 0 to 5 feet
	⧓	36	4.0			99	7					
5	⧓	39			Brown Clayey fine Sand, little Silt, trace medium to coarse Sand, trace to little Calcareous veining and nodules, trace to little Iron Oxide staining, trace fine root fibers, medium dense-damp	113	5					
	⧓	16	3.0		Gray Brown Silty Clay, trace medium to coarse Sand, little Calcareous veining and nodules, stiff to very stiff-moist to very moist	104	18					
10	⧓	21	4.5			107	16					
					Gray Brown Clayey fine Sand, trace Silt, little medium Sand, trace coarse Sand, trace Calcareous veining and nodules, trace Iron Oxide staining, medium dense-damp							
15	⊠	23					8					
					Gray Brown fine Sandy Clay, trace medium Sand, little Calcareous veining and nodules, trace Iron Oxide staining, very stiff-very moist							
20	⊠	18	4.0				23					
					Boring Terminated at 20'							

SOUTHERN
CALIFORNIA
GEOTECHNICAL
A California Corporation

BORING NO. B-2

JOB NO.: 22G245-1
PROJECT: Proposed Warehouse
LOCATION: Lancaster, California

DRILLING DATE: 10/17/22
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Michelle Krizek

WATER DEPTH: Dry
CAVE DEPTH: 11 feet
READING TAKEN: Not Applicable

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
	☒	19		▨	ALLUVIUM: Light Brown Clayey fine Sand, trace Silt, trace fine root fibers, trace medium Sand, trace to little Calcareous veining and nodules, medium dense-damp		7					
	☒	23			@ 3½ feet trace roots		7					
5												
	☒	29					5					
				░	Brown Silty fine to coarse Sand, trace fine Gravel, trace Calcareous veining and nodules, medium dense-dry to damp							
	☒	20					3					
10												
				▨	Brown fine Sandy Clay, trace medium Sand, little Iron Oxide staining, trace Calcareous veining and nodules, hard-damp							
	☒	33	4.0				9					
15					Boring Terminated at 15'							

TEST BORING LOG

BORING NO.
B-3

JOB NO.: 22G245-1
PROJECT: Proposed Warehouse
LOCATION: Lancaster, California

DRILLING DATE: 10/17/22
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Michelle Krizek

WATER DEPTH: Dry
CAVE DEPTH: 16 feet
READING TAKEN: Not Applicable

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
	☒	9		▨	ALLUVIUM: Light Brown Clayey fine Sand, trace Silt, trace fine root fibers, trace to little Calcareous veining and nodules, loose-damp to moist		11					
	☒	11		▨	Light Brown Clayey fine to medium Sand, trace Silt, trace coarse Sand, trace Calcareous veining and nodules, medium dense-moist		13					
5												
	☒	28		░	Brown Silty fine to medium Sand, trace coarse Sand, trace Calcareous veining and nodules, medium dense to dense-dry to damp		3					
	☒	20		░	@ 8½ feet Gray Brown, trace Clay		8					
10				░								
	☒	38		░			3					
15				░								
	☒	28		░	@ 8½ feet trace Clay		10					
20												
					Boring Terminated at 20'							

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BORING NO.
B-4

JOB NO.: 22G245-1	DRILLING DATE: 10/17/22	WATER DEPTH: Dry
PROJECT: Proposed Warehouse	DRILLING METHOD: Hollow Stem Auger	CAVE DEPTH: 21 feet
LOCATION: Lancaster, California	LOGGED BY: Michelle Krizek	READING TAKEN: Not Applicable

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
	⧓	19	3.0	▨	<u>ALLUVIUM:</u> Light Brown fine Sandy Clay, trace to little Silt, trace fine root fibers, trace medium Sand, trace to little Calcareous veining and nodules, stiff to very stiff-damp	105	8					
	⧓	29	3.5	▨		109	8					
5	⧓	34		∴	Light Brown fine to medium Sand, trace Silt, medium dense-dry to damp	110	2					
	⧓	20	4.5	▨	Brown fine Sandy Clay to Clayey fine Sand, trace to little Silt, trace medium to coarse Sand, trace fine Gravel, little Calcareous veining and nodules, stiff to very stiff-moist to very moist	108	17					
	⧓	36	4.5	▨		109	10					
10				▨								
				░	Brown Silty fine to medium Sand, trace coarse Sand, trace Silt, medium dense-damp to moist							
	☒	22		░			4					
15				░								
	☒	22		░			13					
			3.0	▨	Gray Brown fine Sandy Clay, little Calcareous veining and nodules, trace to little Silt, stiff to very stiff-moist to very moist							
20				▨								
	☒	10	4.0	▨			21					
25					Boring Terminated at 25'							

TEST BORING LOG

BORING NO.
B-5

JOB NO.: 22G245-1
PROJECT: Proposed Warehouse
LOCATION: Lancaster, California

DRILLING DATE: 10/17/22
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Michelle Krizek

WATER DEPTH: Dry
CAVE DEPTH: 6 feet
READING TAKEN: Not Applicable

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
	☒	18	3.0	▨	<u>ALLUVIUM:</u> Light Brown fine Sandy Clay, trace Silt, trace medium Sand, trace fine root fibers, trace Calcareous veining and nodules, very stiff-damp		7					
	☒	27		░	Light Brown Silty fine to medium Sand, little coarse Sand, trace Clay, little Calcareous veining and nodules, medium dense-damp		5					
5				░								
	☒	29		░			3					
	☒	20	4.5	▨	Gray Brown fine Sandy Clay, trace medium to coarse Sand, little Calcareous veining and nodules, very stiff-damp		8					
10					Boring Terminated at 10'							

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BORING NO.
B-6

JOB NO.: 22G245-1
PROJECT: Proposed Warehouse
LOCATION: Lancaster, California

DRILLING DATE: 10/17/22
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Michelle Krizek

WATER DEPTH: Dry
CAVE DEPTH: 6 feet
READING TAKEN: Not Applicable

FIELD RESULTS					DESCRIPTION	LABORATORY RESULTS						COMMENTS
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	
	☒	14		▨	ALLUVIUM: Light Gray Brown Clayey fine Sand, trace medium Sand, trace Silt, trace to little Calcareous veining and nodules, trace fine root fibers, medium dense-damp		7					
	☒	19		▨			8					
5	☒	30	4.5	▨	Light Brown fine Sandy Clay, trace medium to coarse Sand, trace to little Calcareous veining and nodules, trace fine root fibers, very stiff to hard-damp		5					
	☒	27		▨								@ 8½ feet, No Sample Recovery
10					Boring Terminated at 10'							

A
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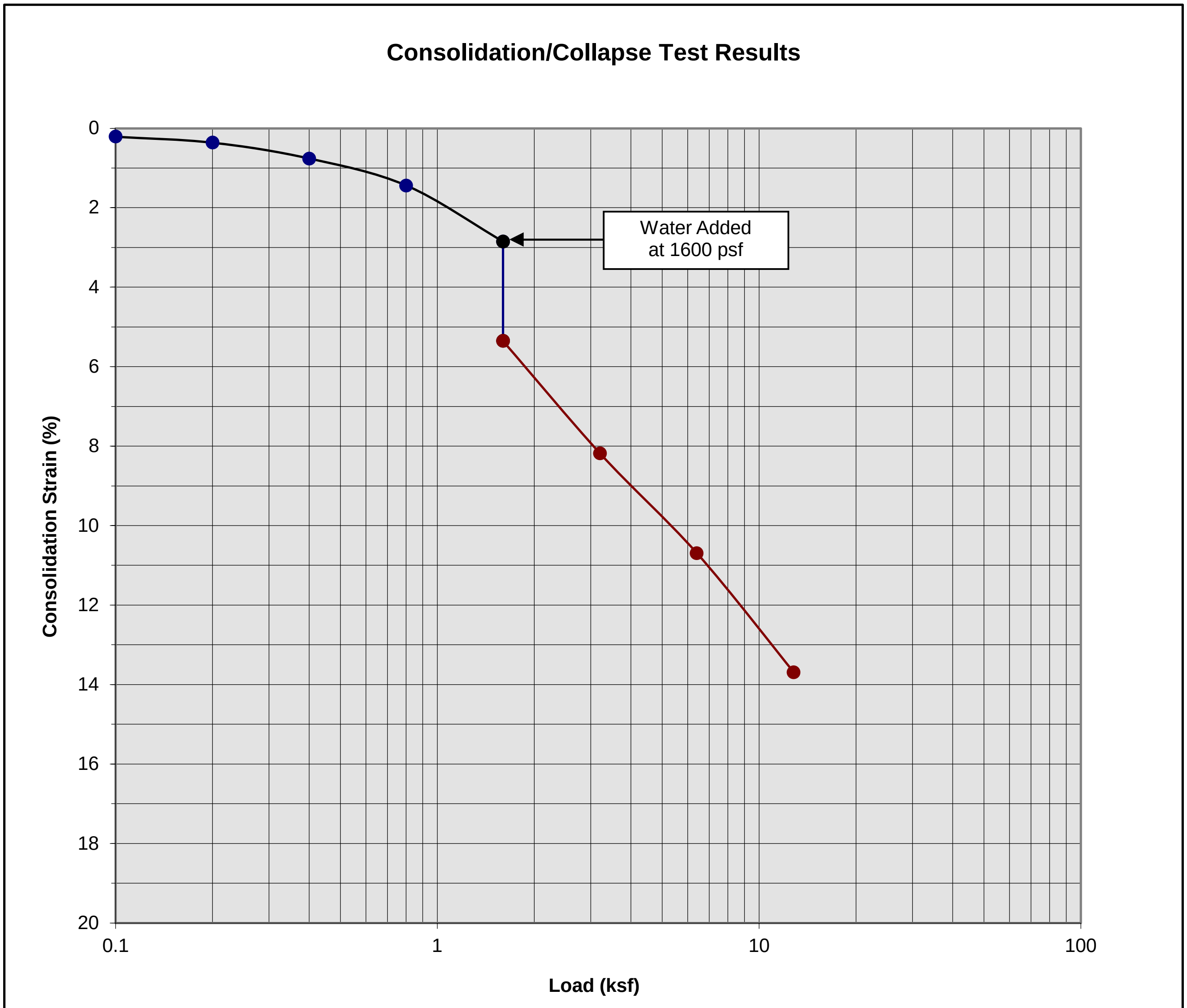
C



Classification: Light Brown fine Sandy Clay, trace Silt

Boring Number:	B-1	Initial Moisture Content (%)	9
Sample Number:	---	Final Moisture Content (%)	24
Depth (ft)	3 to 4	Initial Dry Density (pcf)	98.3
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	113.7
Specimen Thickness (in)	1.0	Percent Collapse (%)	2.50

Proposed Warehouse
Lancaster, California
Project No. 22G245-1
PLATE C- 1

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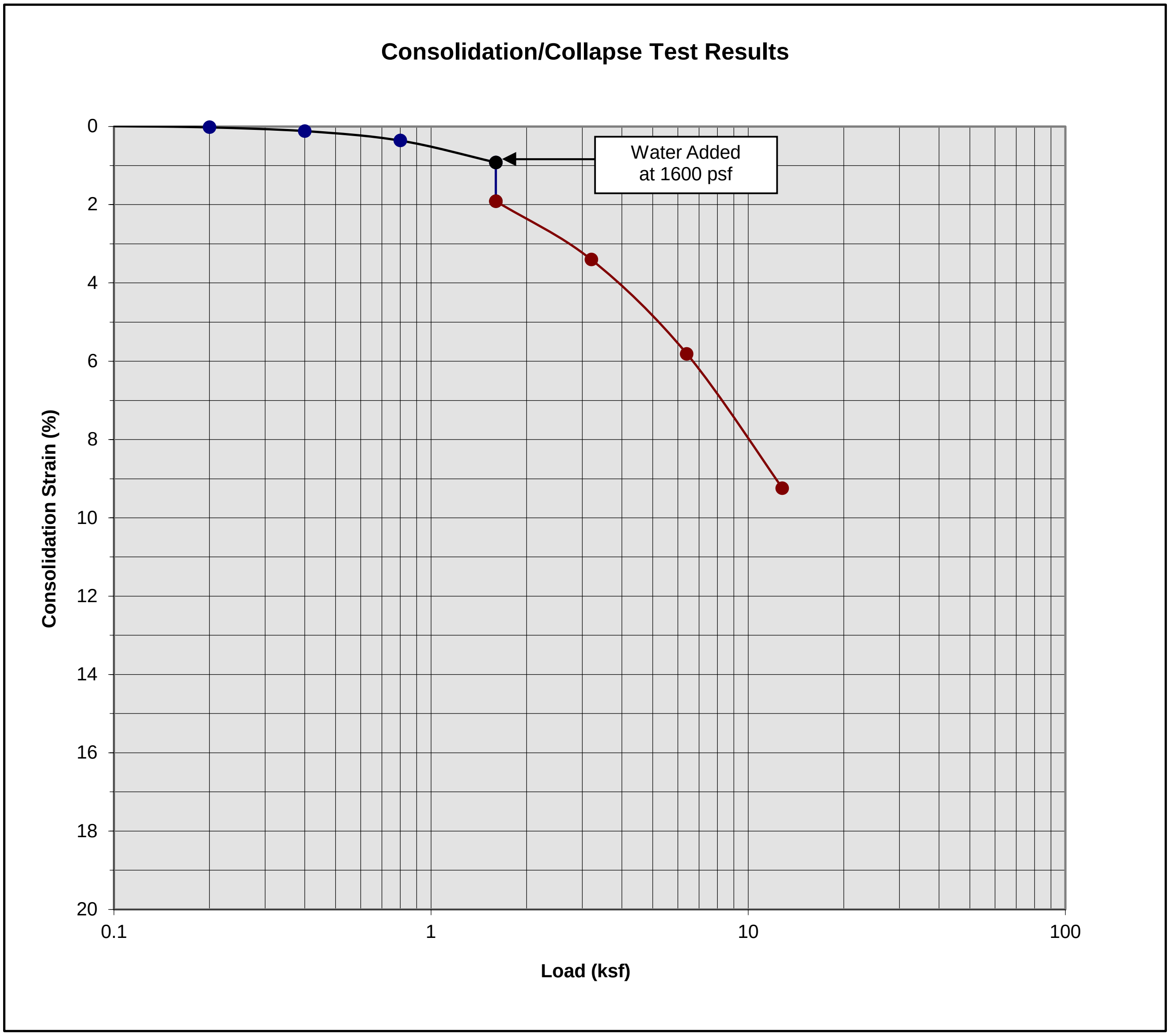

Classification: Brown Clayey fine Sand, little Silt, trace medium to coarse Sand

Boring Number:	B-1	Initial Moisture Content (%)	5
Sample Number:	---	Final Moisture Content (%)	15
Depth (ft)	5 to 6	Initial Dry Density (pcf)	112.4
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	123.3
Specimen Thickness (in)	1.0	Percent Collapse (%)	0.99

Proposed Warehouse
Lancaster, California
Project No. 22G245-1
PLATE C- 2

SoCalGeo
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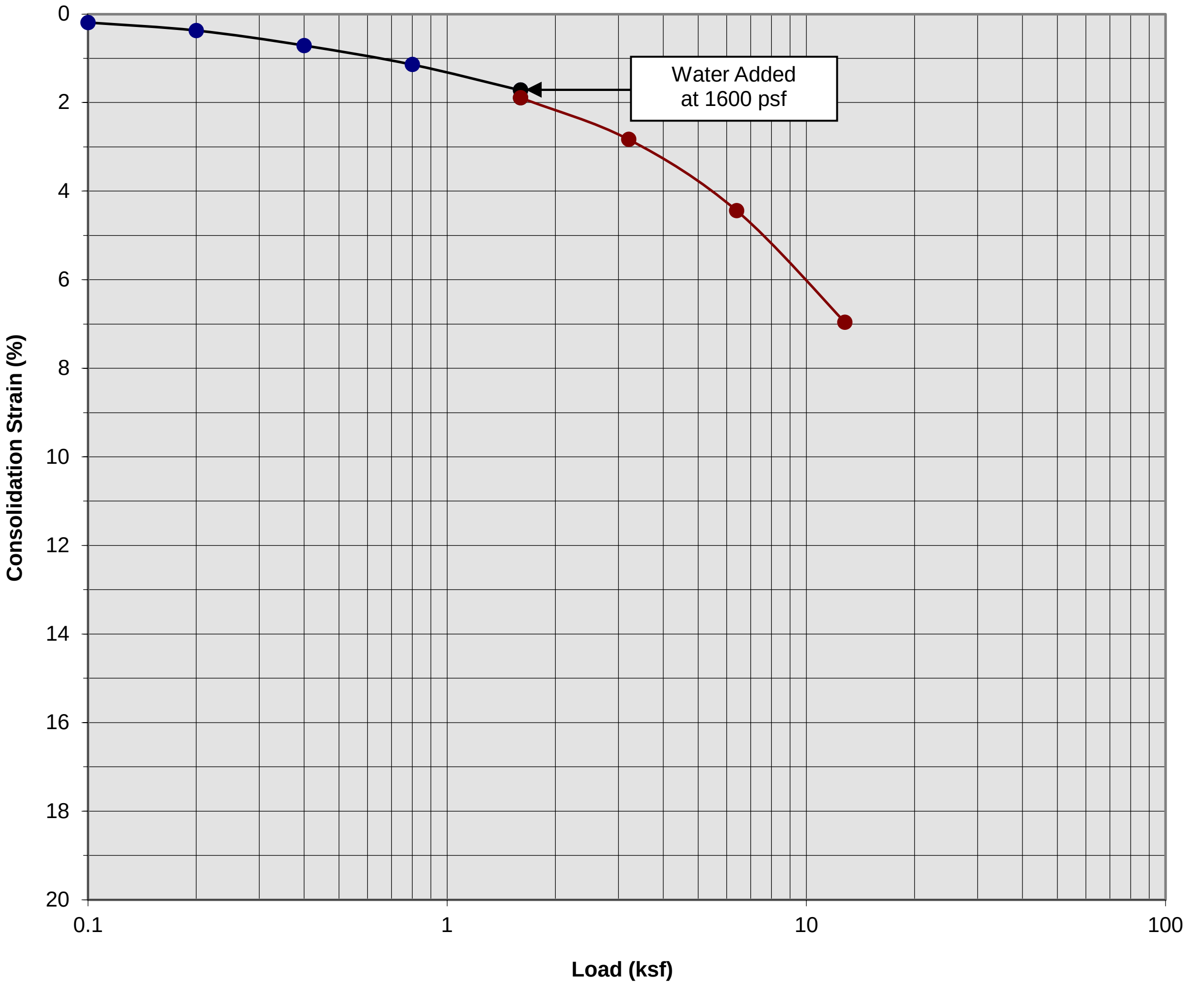
Consolidation/Collapse Test Results



Classification: Gray Brown Silty Clay, trace medium to coarse Sand

Boring Number:	B-1	Initial Moisture Content (%)	18
Sample Number:	---	Final Moisture Content (%)	21
Depth (ft)	7 to 8	Initial Dry Density (pcf)	104.0
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	111.4
Specimen Thickness (in)	1.0	Percent Collapse (%)	0.17

Proposed Warehouse
Lancaster, California
Project No. 22G245-1
PLATE C- 3

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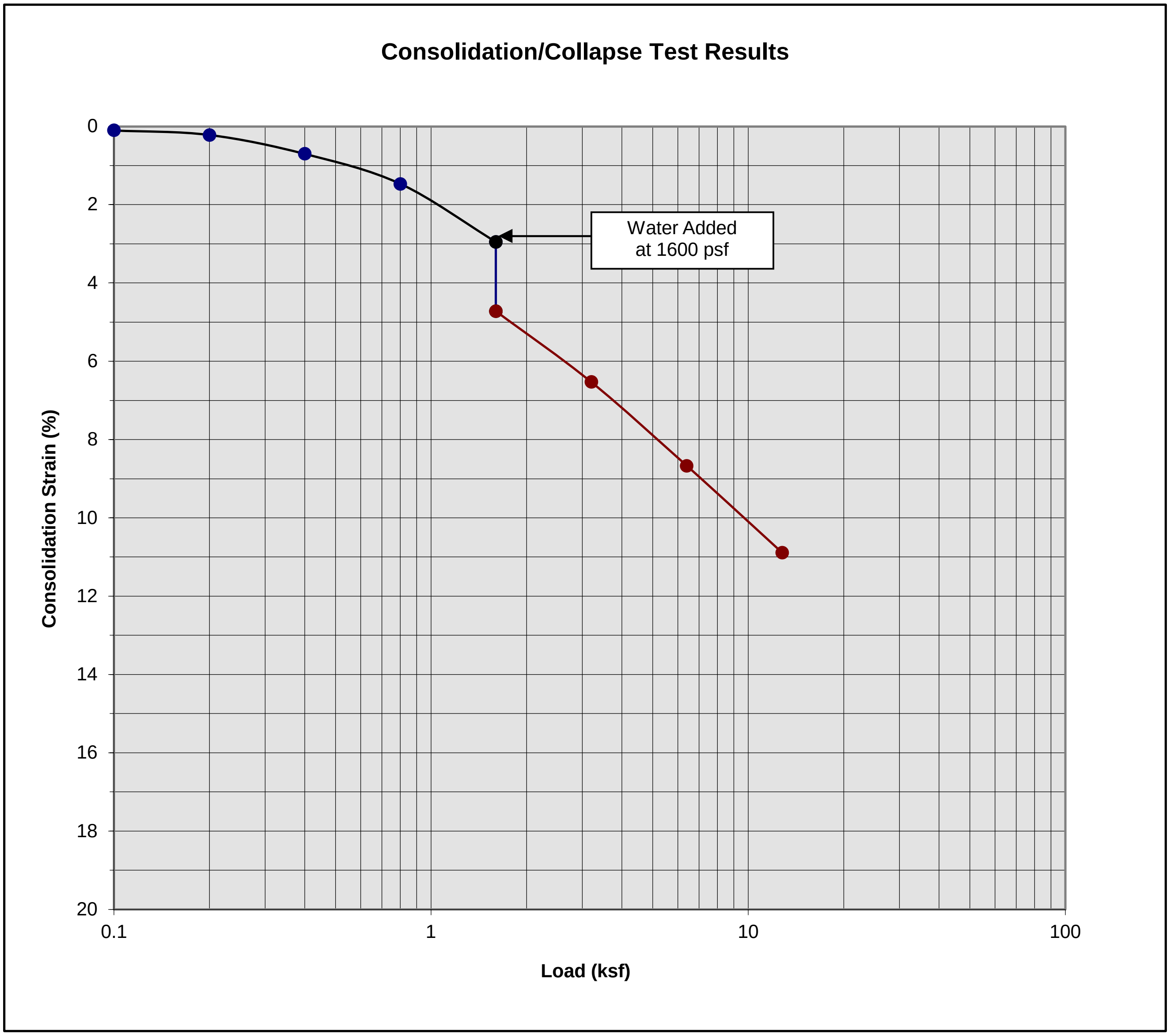
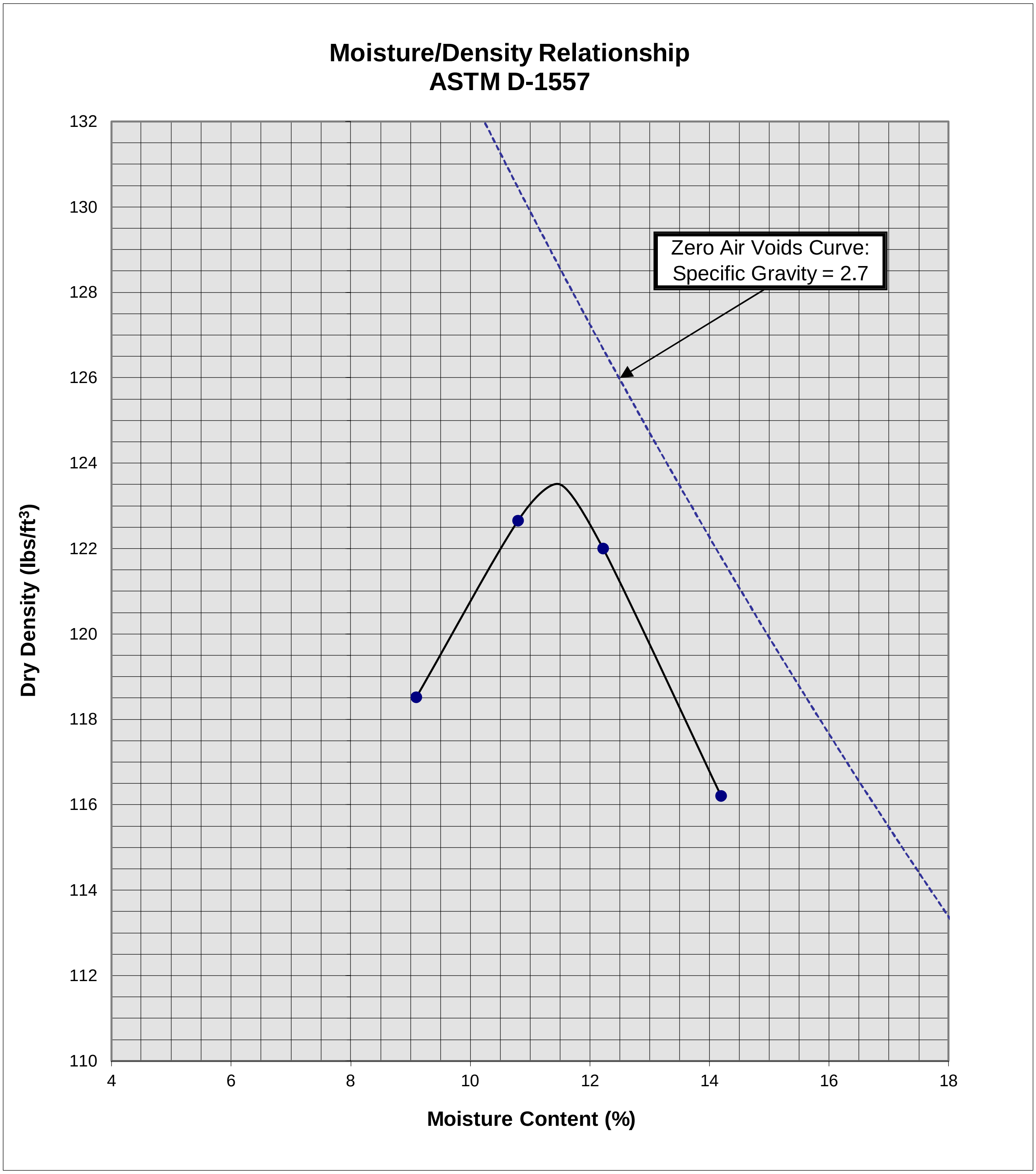


Classification: Gray Brown Silty Clay, trace medium to coarse Sand

Boring Number:	B-1	Initial Moisture Content (%)	16
Sample Number:	---	Final Moisture Content (%)	18
Depth (ft)	9 to 10	Initial Dry Density (pcf)	107.8
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	121.6
Specimen Thickness (in)	1.0	Percent Collapse (%)	1.77



Soil ID Number	B-4 @ 0-5'
Optimum Moisture (%)	11.5
Maximum Dry Density (pcf)	123.5

Soil Classification	Light Brown fine Sandy Clay, trace medium Sand, trace to little Silt

Proposed Warehouse
Lancaster, California
Project No. 22G245-1
PLATE C- 5

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APPENDIX D

GRADING GUIDE SPECIFICATIONS

These grading guide specifications are intended to provide typical procedures for grading operations. They are intended to supplement the recommendations contained in the geotechnical investigation report for this project. Should the recommendations in the geotechnical investigation report conflict with the grading guide specifications, the more site specific recommendations in the geotechnical investigation report will govern.

General

- The Earthwork Contractor is responsible for the satisfactory completion of all earthwork in accordance with the plans and geotechnical reports, and in accordance with city, county, and applicable building codes.
- The Geotechnical Engineer is the representative of the Owner/Builder for the purpose of implementing the report recommendations and guidelines. These duties are not intended to relieve the Earthwork Contractor of any responsibility to perform in a workman-like manner, nor is the Geotechnical Engineer to direct the grading equipment or personnel employed by the Contractor.
- The Earthwork Contractor is required to notify the Geotechnical Engineer of the anticipated work and schedule so that testing and inspections can be provided. If necessary, work may be stopped and redone if personnel have not been scheduled in advance.
- The Earthwork Contractor is required to have suitable and sufficient equipment on the job-site to process, moisture condition, mix and compact the amount of fill being placed to the approved compaction. In addition, suitable support equipment should be available to conform with recommendations and guidelines in this report.
- Canyon cleanouts, overexcavation areas, processed ground to receive fill, key excavations, subdrains and benches should be observed by the Geotechnical Engineer prior to placement of any fill. It is the Earthwork Contractor's responsibility to notify the Geotechnical Engineer of areas that are ready for inspection.
- Excavation, filling, and subgrade preparation should be performed in a manner and sequence that will provide drainage at all times and proper control of erosion. Precipitation, springs, and seepage water encountered shall be pumped or drained to provide a suitable working surface. The Geotechnical Engineer must be informed of springs or water seepage encountered during grading or foundation construction for possible revision to the recommended construction procedures and/or installation of subdrains.

Site Preparation

- The Earthwork Contractor is responsible for all clearing, grubbing, stripping and site preparation for the project in accordance with the recommendations of the Geotechnical Engineer.
- If any materials or areas are encountered by the Earthwork Contractor which are suspected of having toxic or environmentally sensitive contamination, the Geotechnical Engineer and Owner/Builder should be notified immediately.

- Major vegetation should be stripped and disposed of off-site. This includes trees, brush, heavy grasses and any materials considered unsuitable by the Geotechnical Engineer.

- Underground structures such as basements, cesspools or septic disposal systems, mining shafts, tunnels, wells and pipelines should be removed under the inspection of the Geotechnical Engineer and recommendations provided by the Geotechnical Engineer and/or city, county or state agencies. If such structures are known or found, the Geotechnical Engineer should be notified as soon as possible so that recommendations can be formulated.

- Any topsoil, slopewash, colluvium, alluvium and rock materials which are considered unsuitable by the Geotechnical Engineer should be removed prior to fill placement.

- Remaining voids created during site clearing caused by removal of trees, foundations basements, irrigation facilities, etc., should be excavated and filled with compacted fill.

- Subsequent to clearing and removals, areas to receive fill should be scarified to a depth of 10 to 12 inches, moisture conditioned and compacted

- The moisture condition of the processed ground should be at or slightly above the optimum moisture content as determined by the Geotechnical Engineer. Depending upon field conditions, this may require air drying or watering together with mixing and/or discing.

<u>Compacted Fills</u>

- Soil materials imported to or excavated on the property may be utilized in the fill, provided each material has been determined to be suitable in the opinion of the Geotechnical Engineer. Unless otherwise approved by the Geotechnical Engineer, all fill materials shall be free of deleterious, organic, or frozen matter, shall contain no chemicals that may result in the material being classified as "contaminated," and shall be very low to non-expansive with a maximum expansion index (EI) of 50. The top 12 inches of the compacted fill should have a maximum particle size of 3 inches, and all underlying compacted fill material a maximum 6-inch particle size, except as noted below.

- All soils should be evaluated and tested by the Geotechnical Engineer. Materials with high expansion potential, low strength, poor gradation or containing organic materials may require removal from the site or selective placement and/or mixing to the satisfaction of the Geotechnical Engineer.

- Rock fragments or rocks less than 6 inches in their largest dimensions, or as otherwise determined by the Geotechnical Engineer, may be used in compacted fill, provided the distribution and placement is satisfactory in the opinion of the Geotechnical Engineer.

- Rock fragments or rocks greater than 12 inches should be taken off-site or placed in accordance with recommendations and in areas designated as suitable by the Geotechnical Engineer. These materials should be placed in accordance with Plate D-8 of these Grading Guide Specifications and in accordance with the following recommendations:

    - Rocks 12 inches or more in diameter should be placed in rows at least 15 feet apart, 15 feet from the edge of the fill, and 10 feet or more below subgrade. Spaces should be left between each rock fragment to provide for placement and compaction of soil around the fragments.

    - Fill materials consisting of soil meeting the minimum moisture content requirements and free of oversize material should be placed between and over the rows of rock or concrete. Ample water and compactive effort should be applied to the fill materials as they are placed in order that all of the voids between each of the fragments are filled and compacted to the specified density.

  - Subsequent rows of rocks should be placed such that they are not directly above a row placed in the previous lift of fill. A minimum 5-foot offset between rows is recommended.
  - To facilitate future trenching, oversized material should not be placed within the range of foundation excavations, future utilities or other underground construction unless specifically approved by the soil engineer and the developer/owner representative.

- Fill materials approved by the Geotechnical Engineer should be placed in areas previously prepared to receive fill and in evenly placed, near horizontal layers at about 6 to 8 inches in loose thickness, or as otherwise determined by the Geotechnical Engineer for the project.
- Each layer should be moisture conditioned to optimum moisture content, or slightly above, as directed by the Geotechnical Engineer. After proper mixing and/or drying, to evenly distribute the moisture, the layers should be compacted to at least 90 percent of the maximum dry density in compliance with ASTM D-1557-78 unless otherwise indicated.
- Density and moisture content testing should be performed by the Geotechnical Engineer at random intervals and locations as determined by the Geotechnical Engineer. These tests are intended as an aid to the Earthwork Contractor, so he can evaluate his workmanship, equipment effectiveness and site conditions. The Earthwork Contractor is responsible for compaction as required by the Geotechnical Report(s) and governmental agencies.

- Fill areas unused for a period of time may require moisture conditioning, processing and recompaction prior to the start of additional filling. The Earthwork Contractor should notify the Geotechnical Engineer of his intent so that an evaluation can be made.
- Fill placed on ground sloping at a 5-to-1 inclination (horizontal-to-vertical) or steeper should be benched into bedrock or other suitable materials, as directed by the Geotechnical Engineer. Typical details of benching are illustrated on Plates D-2, D-4, and D-5.
- Cut/fill transition lots should have the cut portion overexcavated to a depth of at least 3 feet and rebuilt with fill (see Plate D-1), as determined by the Geotechnical Engineer.
- All cut lots should be inspected by the Geotechnical Engineer for fracturing and other bedrock conditions. If necessary, the pads should be overexcavated to a depth of 3 feet and rebuilt with a uniform, more cohesive soil type to impede moisture penetration.
- Cut portions of pad areas above buttresses or stabilizations should be overexcavated to a depth of 3 feet and rebuilt with uniform, more cohesive compacted fill to impede moisture penetration.
- Non-structural fill adjacent to structural fill should typically be placed in unison to provide lateral support. Backfill along walls must be placed and compacted with care to ensure that excessive unbalanced lateral pressures do not develop. The type of fill material placed adjacent to below grade walls must be properly tested and approved by the Geotechnical Engineer with consideration of the lateral earth pressure used in the design.

Foundations

- The foundation influence zone is defined as extending one foot horizontally from the outside edge of a footing, and proceeding downward at a ½ horizontal to 1 vertical (0.5:1) inclination.

- Where overexcavation beneath a footing subgrade is necessary, it should be conducted so as to encompass the entire foundation influence zone, as described above.

- Compacted fill adjacent to exterior footings should extend at least 12 inches above foundation bearing grade. Compacted fill within the interior of structures should extend to the floor subgrade elevation.

Fill Slopes

- The placement and compaction of fill described above applies to all fill slopes. Slope compaction should be accomplished by overfilling the slope, adequately compacting the fill in even layers, including the overfilled zone and cutting the slope back to expose the compacted core

- Slope compaction may also be achieved by backrolling the slope adequately every 2 to 4 vertical feet during the filling process as well as requiring the earth moving and compaction equipment to work close to the top of the slope. Upon completion of slope construction, the slope face should be compacted with a sheepsfoot connected to a sideboom and then grid rolled. This method of slope compaction should only be used if approved by the Geotechnical Engineer.

- Sandy soils lacking in adequate cohesion may be unstable for a finished slope condition and therefore should not be placed within 15 horizontal feet of the slope face.

- All fill slopes should be keyed into bedrock or other suitable material. Fill keys should be at least 15 feet wide and inclined at 2 percent into the slope. For slopes higher than 30 feet, the fill key width should be equal to one-half the height of the slope (see Plate D-5).

- All fill keys should be cleared of loose slough material prior to geotechnical inspection and should be approved by the Geotechnical Engineer and governmental agencies prior to filling.

- The cut portion of fill over cut slopes should be made first and inspected by the Geotechnical Engineer for possible stabilization requirements. The fill portion should be adequately keyed through all surficial soils and into bedrock or suitable material. Soils should be removed from the transition zone between the cut and fill portions (see Plate D-2).

Cut Slopes

- All cut slopes should be inspected by the Geotechnical Engineer to determine the need for stabilization. The Earthwork Contractor should notify the Geotechnical Engineer when slope cutting is in progress at intervals of 10 vertical feet. Failure to notify may result in a delay in recommendations.

- Cut slopes exposing loose, cohesionless sands should be reported to the Geotechnical Engineer for possible stabilization recommendations.

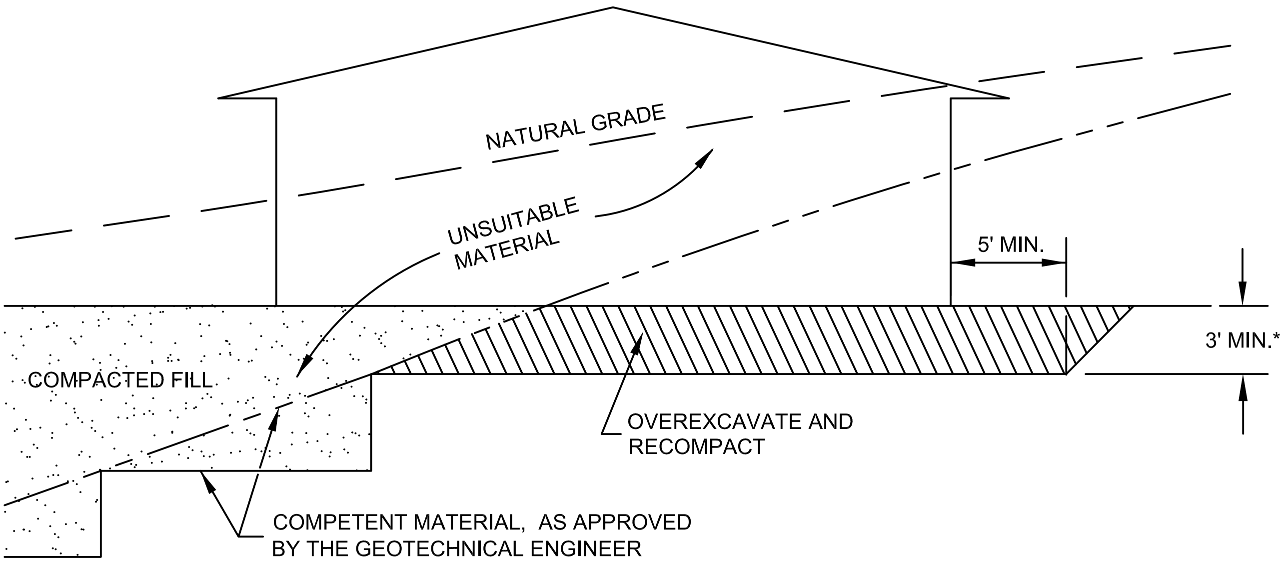
- All stabilization excavations should be cleared of loose slough material prior to geotechnical inspection. Stakes should be provided by the Civil Engineer to verify the location and dimensions of the key. A typical stabilization fill detail is shown on Plate D-5.

- Stabilization key excavations should be provided with subdrains. Typical subdrain details are shown on Plates D-6.

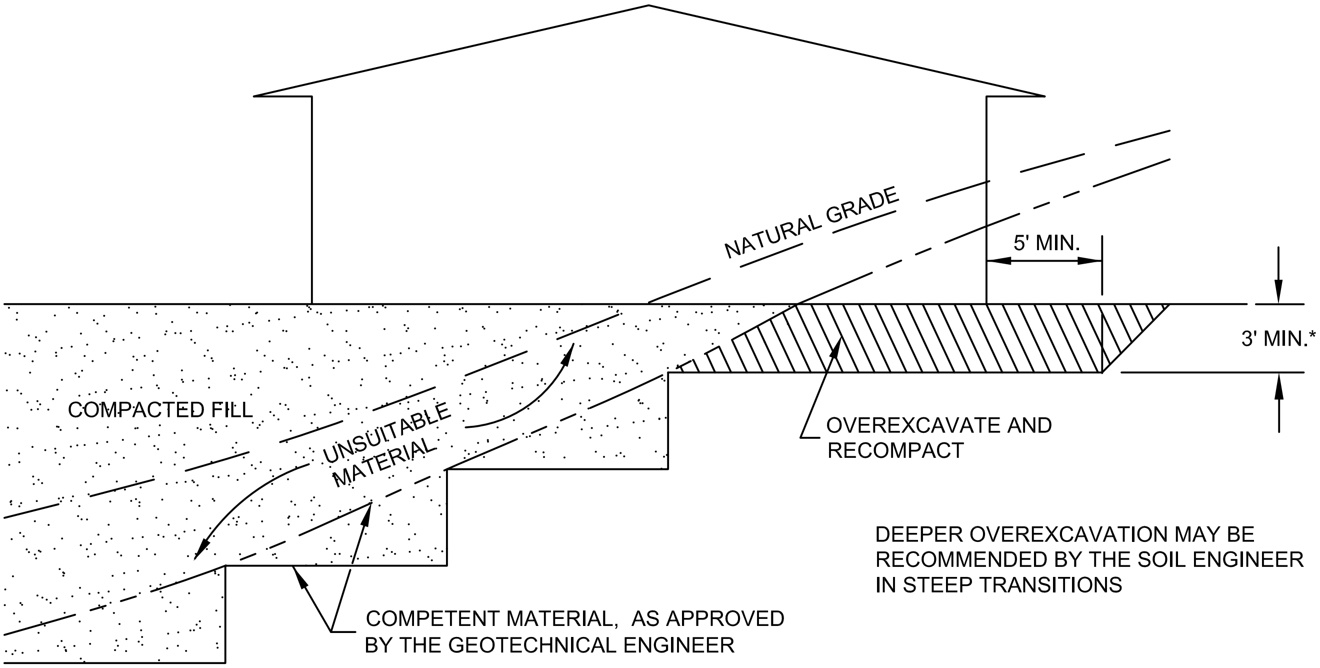
Subdrains

- Subdrains may be required in canyons and swales where fill placement is proposed. Typical subdrain details for canyons are shown on Plate D-3. Subdrains should be installed after approval of removals and before filling, as determined by the Soils Engineer.
- Plastic pipe may be used for subdrains provided it is Schedule 40 or SDR 35 or equivalent. Pipe should be protected against breakage, typically by placement in a square-cut (backhoe) trench or as recommended by the manufacturer.
- Filter material for subdrains should conform to CALTRANS Specification 68-1.025 or as approved by the Geotechnical Engineer for the specific site conditions. Clean ¾-inch crushed rock may be used provided it is wrapped in an acceptable filter cloth and approved by the Geotechnical Engineer. Pipe diameters should be 6 inches for runs up to 500 feet and 8 inches for the downstream continuations of longer runs. Four-inch diameter pipe may be used in buttress and stabilization fills.

CUT LOT



CUT/FILL LOT (TRANSITION)



DEEPER OVEREXCAVATION MAY BE RECOMMENDED BY THE SOIL ENGINEER IN STEEP TRANSITIONS

*SEE TEXT OF REPORT FOR SPECIFIC RECOMMENDATION.
ACTUAL DEPTH OF OVEREXCAVATION MAY BE GREATER.

TRANSITION LOT DETAIL

GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: JAS
CHKD: GKM

PLATE D-1

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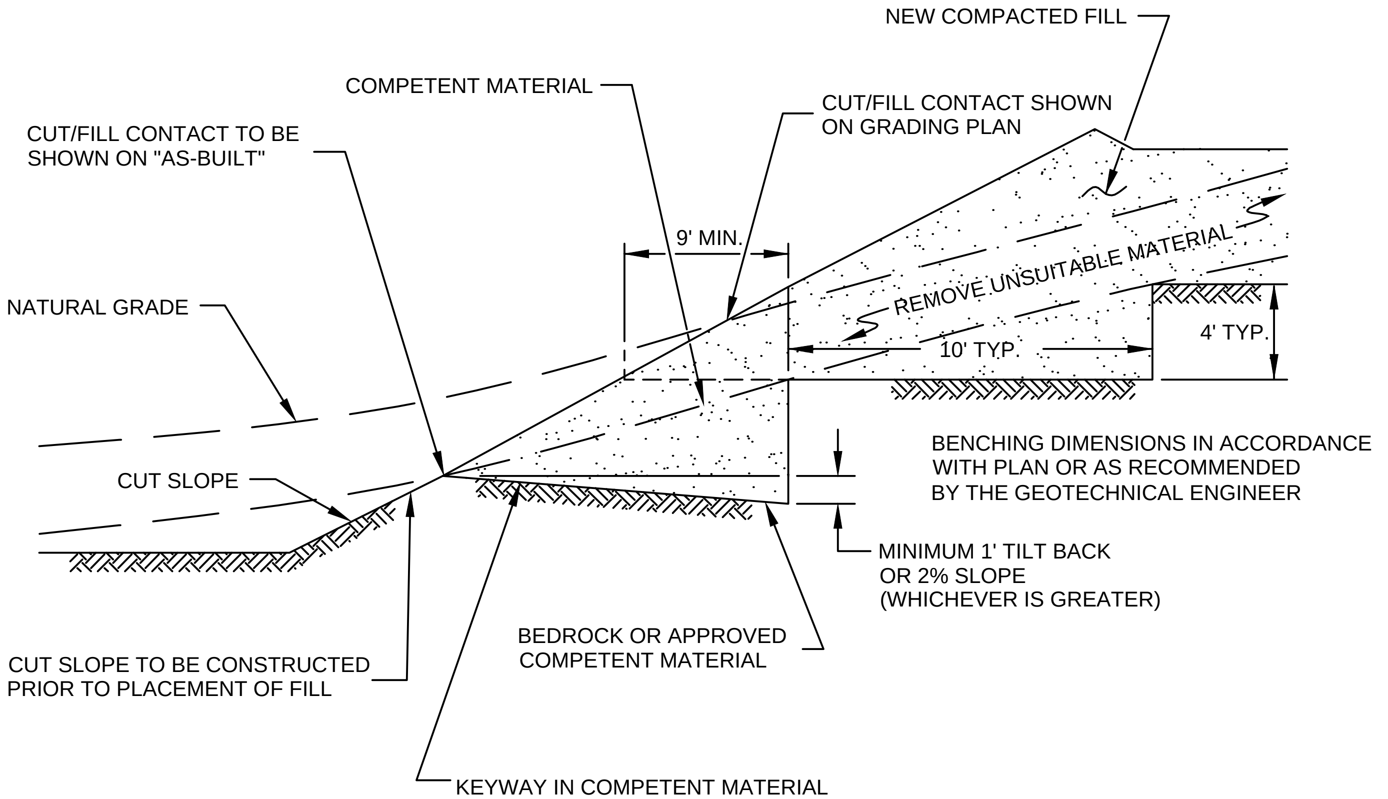

BENCHING DIMENSIONS IN ACCORDANCE WITH PLAN OR AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER

KEYWAY IN COMPETENT MATERIAL MINIMUM WIDTH OF 15 FEET OR AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER. KEYWAY MAY NOT BE REQUIRED IF FILL SLOPE IS LESS THAN 5 FEET IN HEIGHT AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.

FILL ABOVE CUT SLOPE DETAIL
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE
DRAWN: JAS
CHKD: GKM
PLATE D-2

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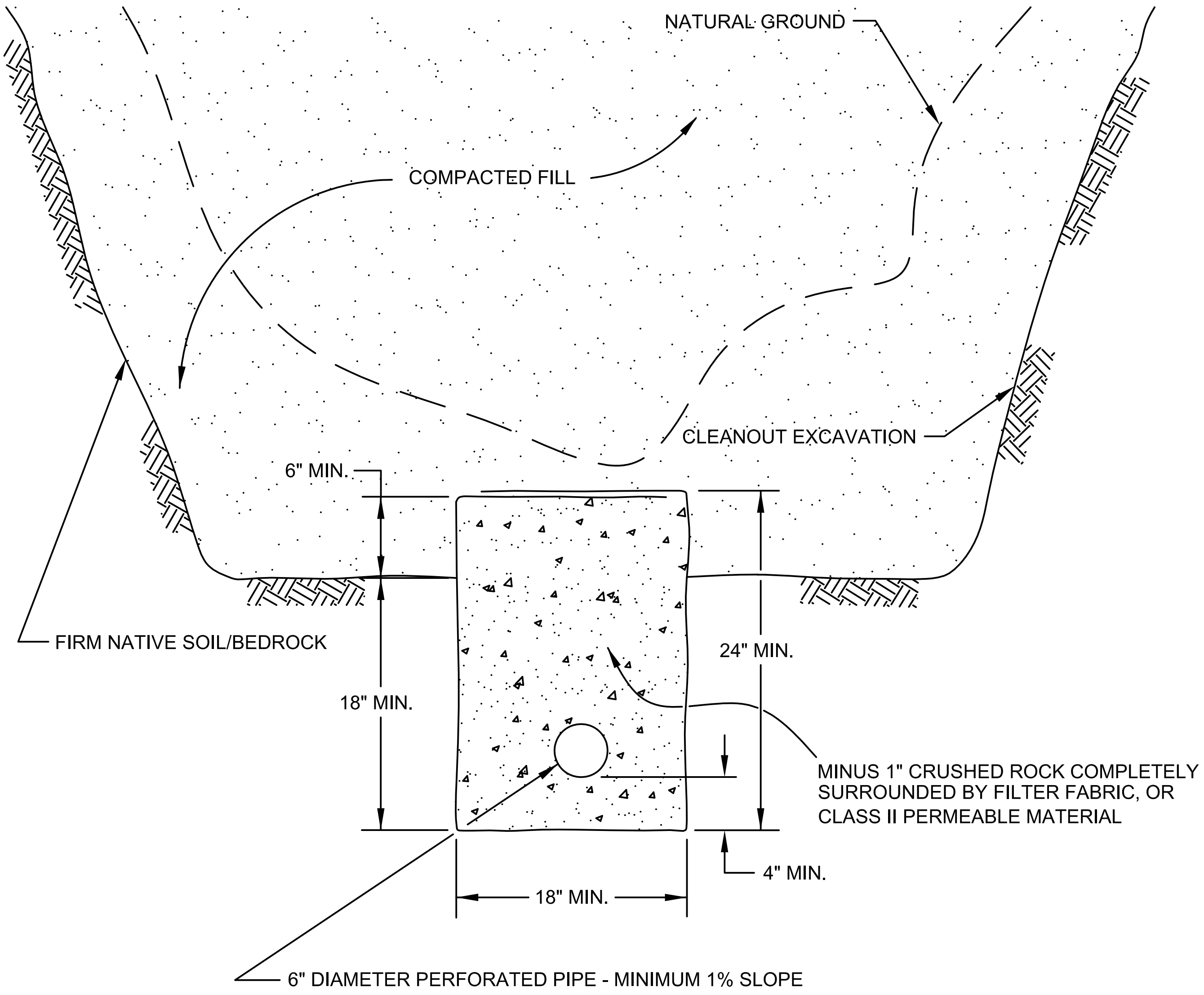

PIPE MATERIAL	DEPTH OF FILL OVER SUBDRAIN
ADS (CORRUGATED POLETHYLENE)	8
TRANSITE UNDERDRAIN	20
PVC OR ABS: SDR 35	35
SDR 21	100

SCHEMATIC ONLY
NOT TO SCALE

CANYON SUBDRAIN DETAIL
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE
DRAWN: JAS
CHKD: GKM
PLATE D-3

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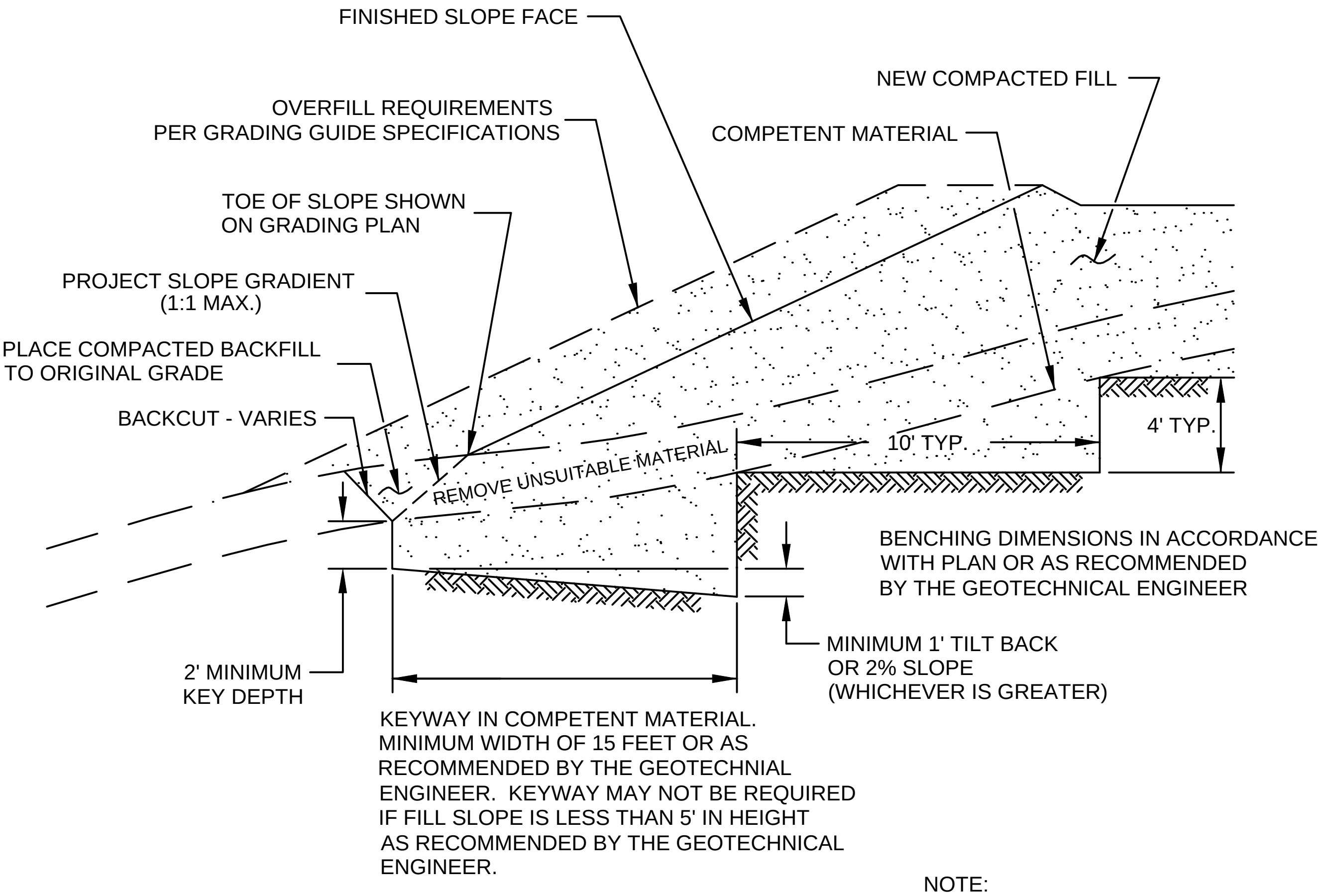
SOUTHERN
CALIFORNIA
GEOTECHNICAL



BENCHING DIMENSIONS IN ACCORDANCE WITH PLAN OR AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER

KEYWAY IN COMPETENT MATERIAL. MINIMUM WIDTH OF 15 FEET OR AS RECOMMENDED BY THE GEOTECHNIAL ENGINEER. KEYWAY MAY NOT BE REQUIRED IF FILL SLOPE IS LESS THAN 5' IN HEIGHT AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.

NOTE:
BENCHING SHALL BE REQUIRED WHEN NATURAL SLOPES ARE EQUAL TO OR STEEPER THAN 5:1 OR WHEN RECOMMENDED BY THE GEOTECHNICAL ENGINEER.

FILL ABOVE NATURAL SLOPE DETAIL
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE
DRAWN: JAS
CHKD: GKM
PLATE D-4

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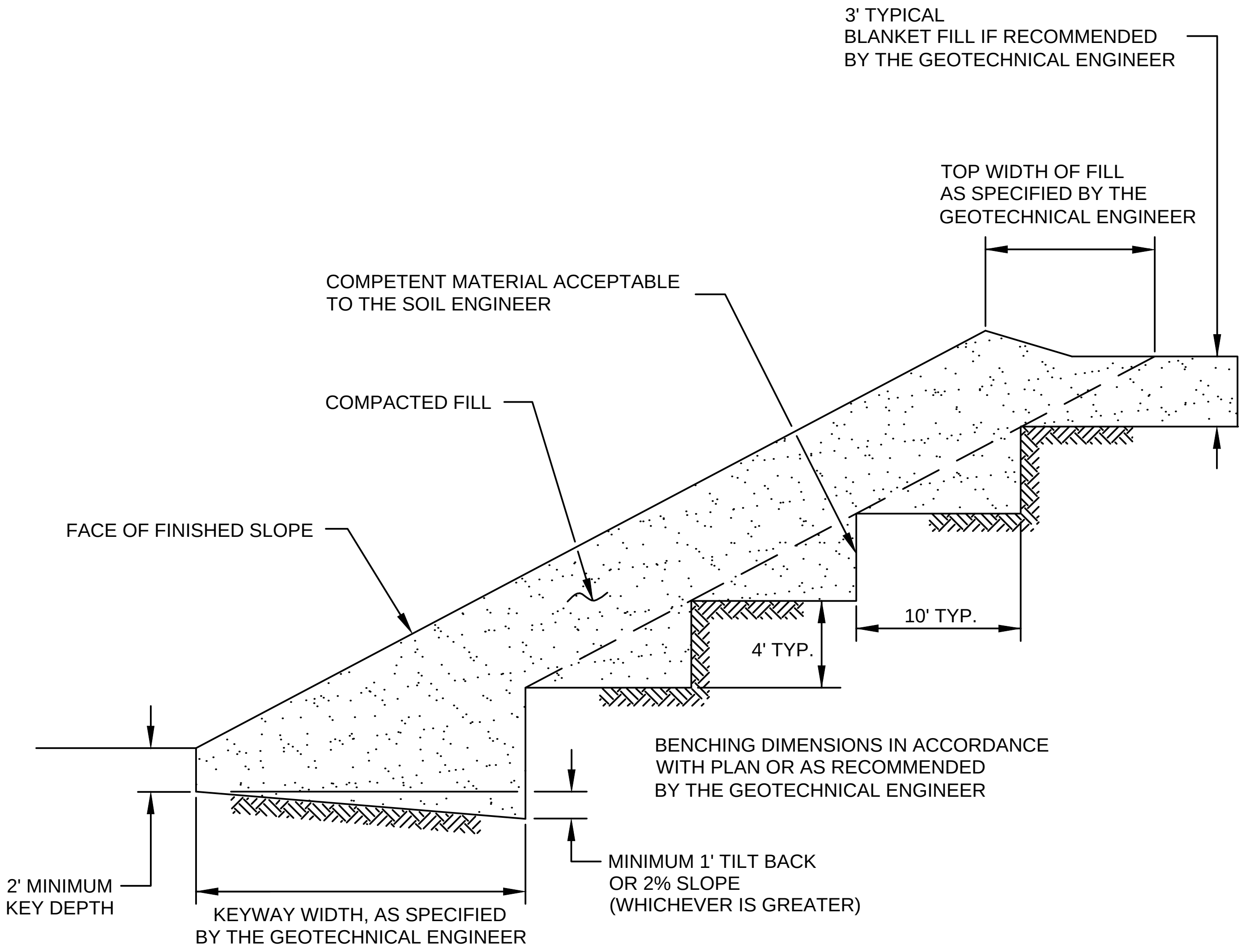


STABILIZATION FILL DETAIL

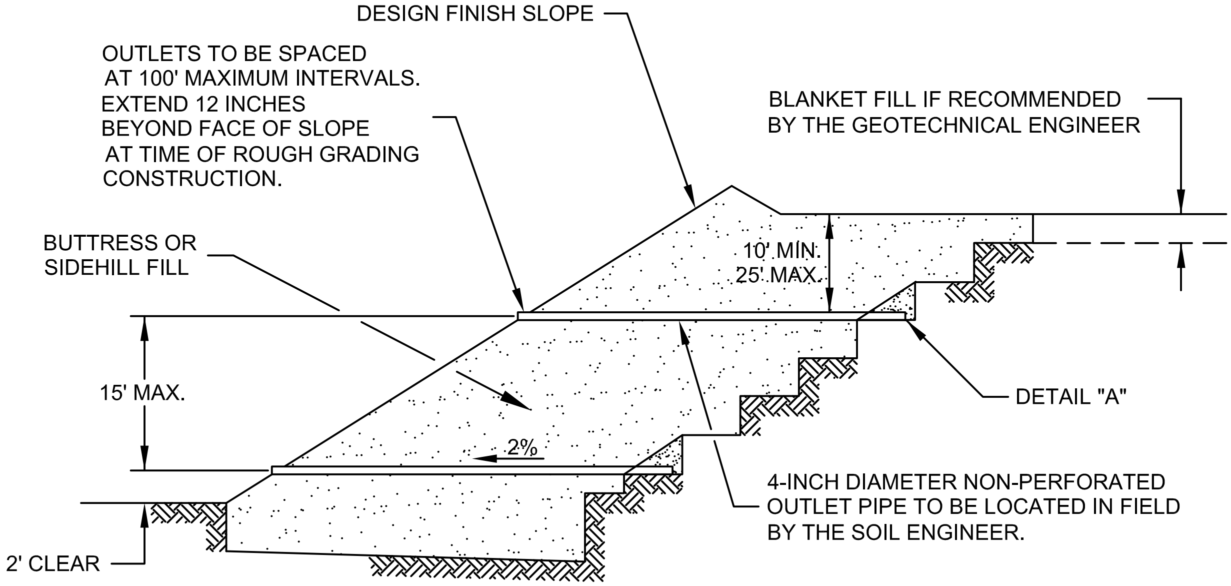
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: JAS
CHKD: GKM

PLATE D-5

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL



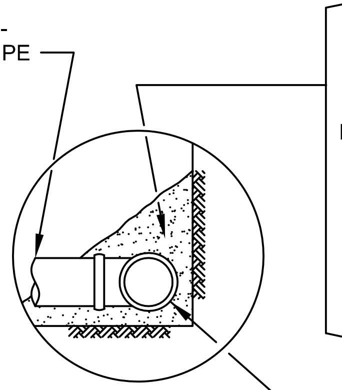
"FILTER MATERIAL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT: (CONFORMS TO EMA STD. PLAN 323)

SIEVE SIZE	PERCENTAGE PASSING
1"	100
3/4"	90-100
3/8"	40-100
NO. 4	25-40
NO. 8	18-33
NO. 30	5-15
NO. 50	0-7
NO. 200	0-3

"GRAVEL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT:

SIEVE SIZE	MAXIMUM PERCENTAGE PASSING
1 1/2"	100
NO. 4	50
NO. 200	8

SAND EQUIVALENT = MINIMUM OF 50



OUTLET PIPE TO BE CONNECTED TO SUBDRAIN PIPE WITH TEE OR ELBOW

FILTER MATERIAL - MINIMUM OF FIVE CUBIC FEET PER FOOT OF PIPE. SEE ABOVE FOR FILTER MATERIAL SPECIFICATION.

ALTERNATIVE: IN LIEU OF FILTER MATERIAL FIVE CUBIC FEET OF GRAVEL PER FOOT OF PIPE MAY BE ENCASED IN FILTER FABRIC. SEE ABOVE FOR GRAVEL SPECIFICATION.

FILTER FABRIC SHALL BE MIRAFI 140 OR EQUIVALENT. FILTER FABRIC SHALL BE LAPPED A MINIMUM OF 12 INCHES ON ALL JOINTS.

MINIMUM 4-INCH DIAMETER PVC SCH 40 OR ABS CLASS SDR 35 WITH A CRUSHING STRENGTH OF AT LEAST 1,000 POUNDS, WITH A MINIMUM OF 8 UNIFORMLY SPACED PERFORATIONS PER FOOT OF PIPE INSTALLED WITH PERFORATIONS ON BOTTOM OF PIPE. PROVIDE CAP AT UPSTREAM END OF PIPE. SLOPE AT 2 PERCENT TO OUTLET PIPE.

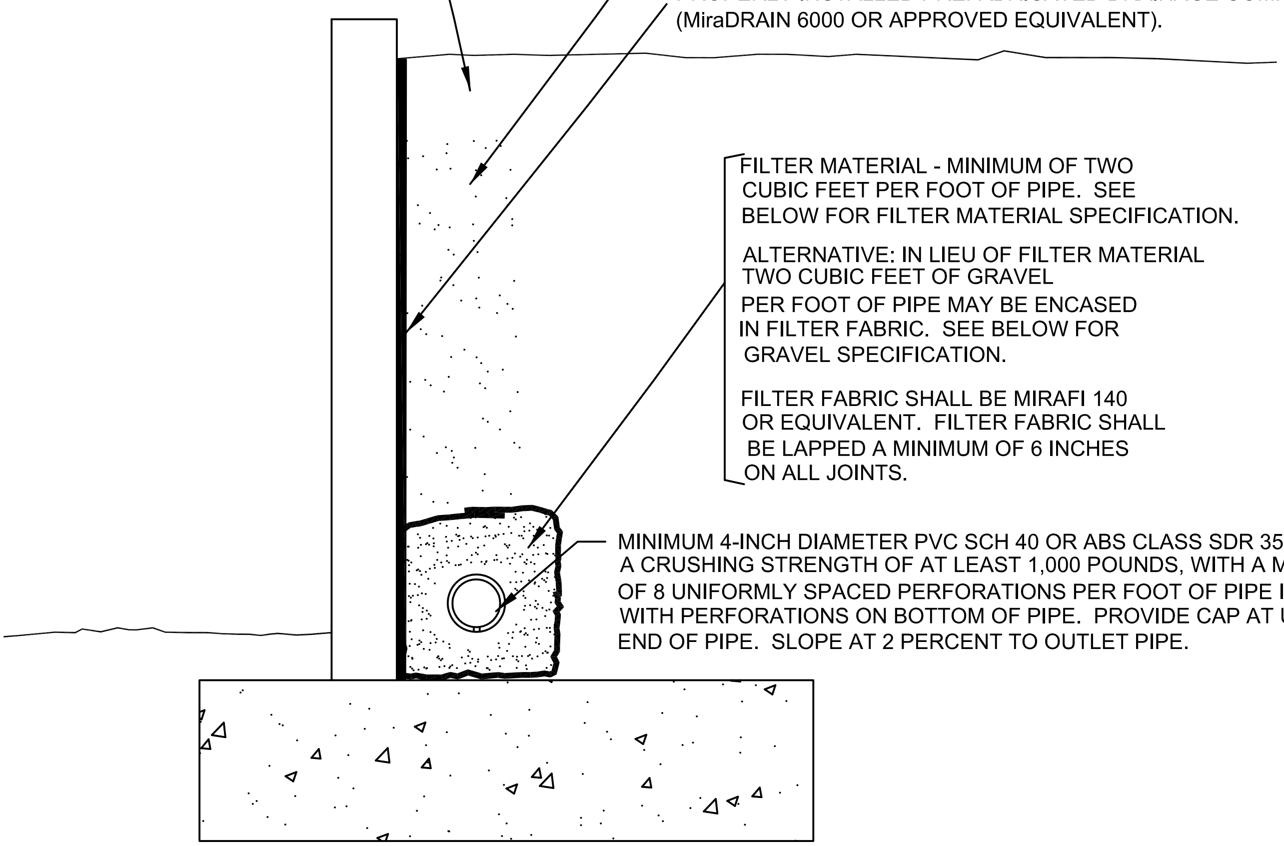
<u>DETAIL "A"</u>

NOTES:
1. TRENCH FOR OUTLET PIPES TO BE BACKFILLED WITH ON-SITE SOIL.

SLOPE FILL SUBDRAINS
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE
DRAWN: JAS
CHKD: GKM
PLATE D-6

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL



MINIMUM ONE FOOT THICK LAYER OF
LOW PERMEABLILITY SOIL IF NOT
COVERED WITH AN IMPERMEABLE SURFACE

MINIMUM ONE FOOT WIDE LAYER OF
FREE DRAINING MATERIAL
(LESS THAN 5% PASSING THE #200 SIEVE)
<u>OR</u>
PROPERLY INSTALLED PREFABRICATED DRAINAGE COMPOSITE
(MiraDRAIN 6000 OR APPROVED EQUIVALENT).

FILTER MATERIAL - MINIMUM OF TWO CUBIC FEET PER FOOT OF PIPE. SEE BELOW FOR FILTER MATERIAL SPECIFICATION.

ALTERNATIVE: IN LIEU OF FILTER MATERIAL TWO CUBIC FEET OF GRAVEL PER FOOT OF PIPE MAY BE ENCASED IN FILTER FABRIC. SEE BELOW FOR GRAVEL SPECIFICATION.

FILTER FABRIC SHALL BE MIRAFI 140 OR EQUIVALENT. FILTER FABRIC SHALL BE LAPPED A MINIMUM OF 6 INCHES ON ALL JOINTS.

MINIMUM 4-INCH DIAMETER PVC SCH 40 OR ABS CLASS SDR 35 WITH A CRUSHING STRENGTH OF AT LEAST 1,000 POUNDS, WITH A MINIMUM OF 8 UNIFORMLY SPACED PERFORATIONS PER FOOT OF PIPE INSTALLED WITH PERFORATIONS ON BOTTOM OF PIPE. PROVIDE CAP AT UPSTREAM END OF PIPE. SLOPE AT 2 PERCENT TO OUTLET PIPE.

"FILTER MATERIAL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT: (CONFORMS TO EMA STD. PLAN 323)

SIEVE SIZE	PERCENTAGE PASSING
1"	100
3/4"	90-100
3/8"	40-100
NO. 4	25-40
NO. 8	18-33
NO. 30	5-15
NO. 50	0-7
NO. 200	0-3

"GRAVEL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT:

SIEVE SIZE	MAXIMUM PERCENTAGE PASSING
1 1/2"	100
NO. 4	50
NO. 200	8

SAND EQUIVALENT = MINIMUM OF 50

RETAINING WALL BACKDRAINS

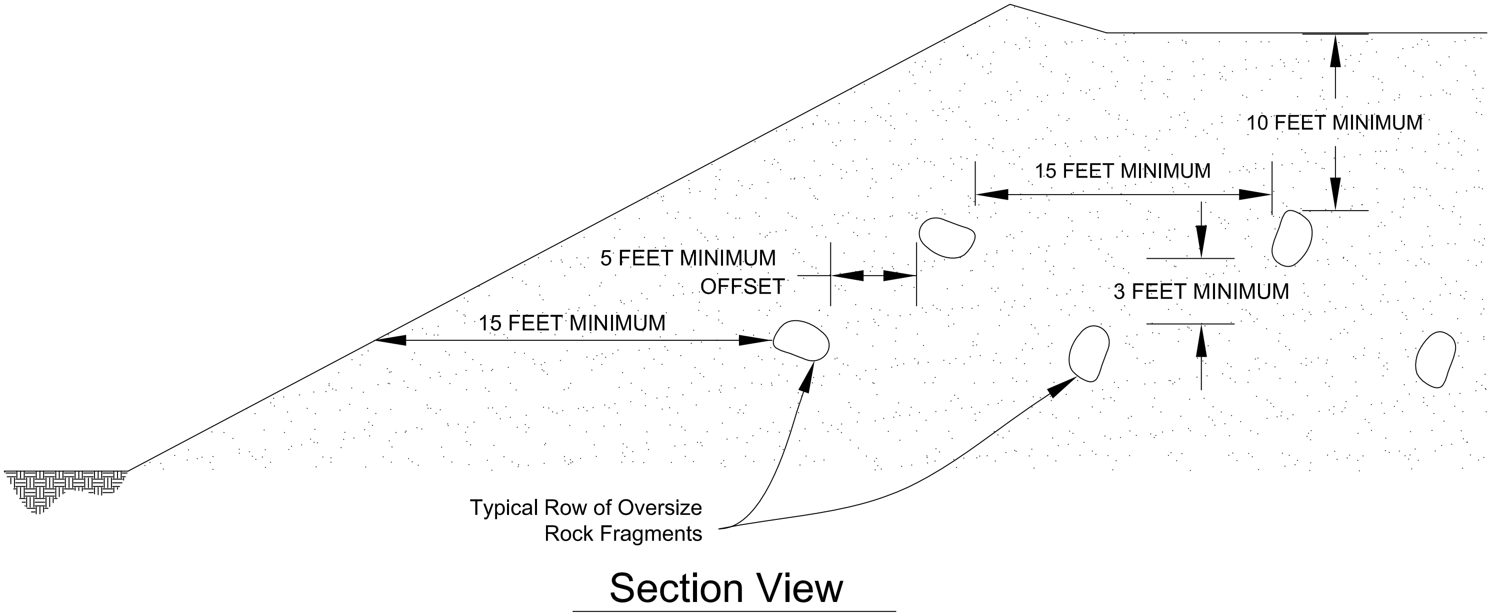
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

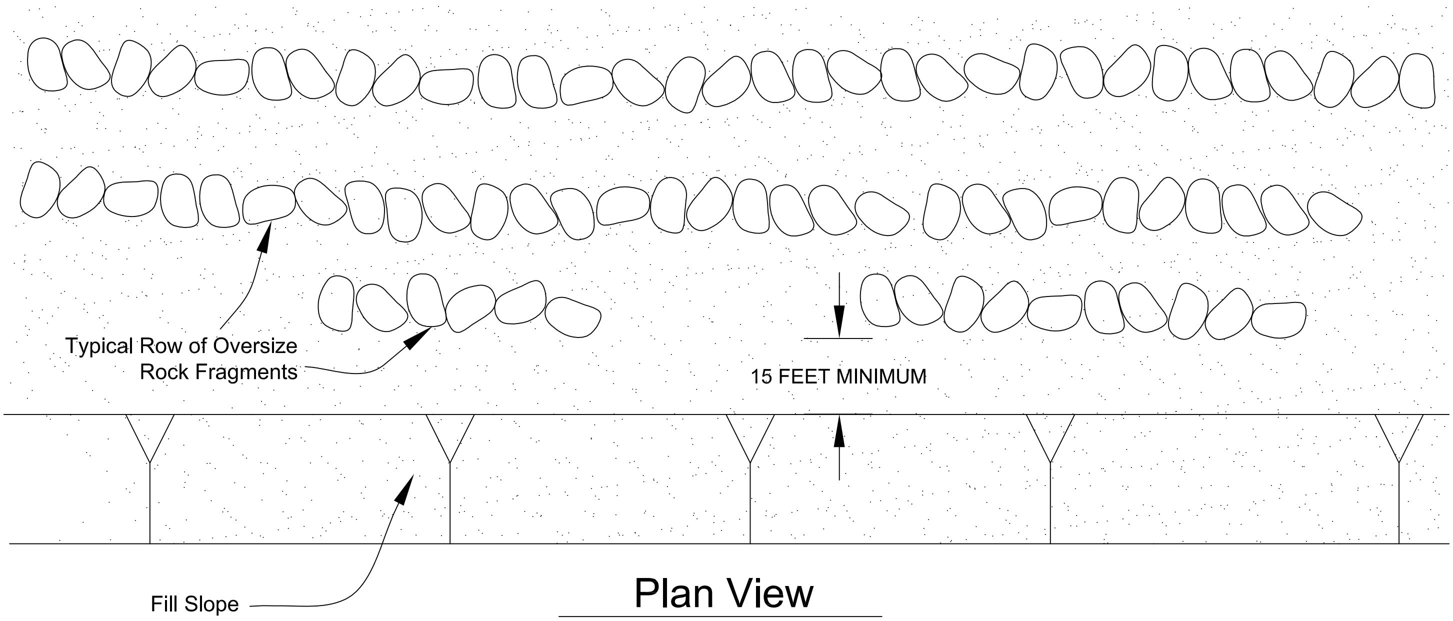
DRAWN: JAS
CHKD: GKM

PLATE D-7

SoCalGeo
SOUTHERN
CALIFORNIA
GEOTECHNICAL



Section View



Plan View

PLACEMENT OF OVERSIZED MATERIAL

GRADING GUIDE SPECIFICATIONS

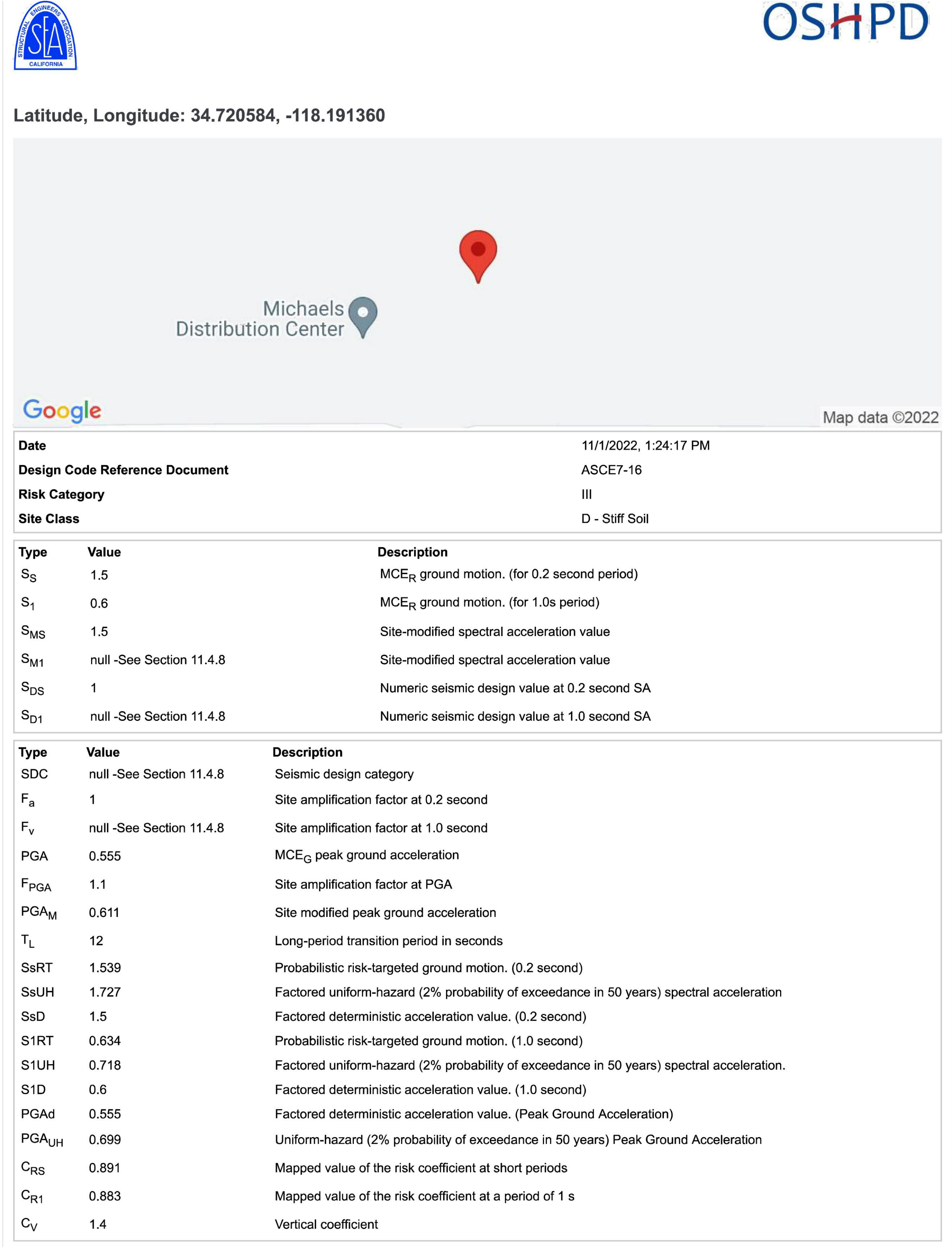
NOT TO SCALE

DRAWN: PM
CHKD: GKM

PLATE D-8

SoCalGeo
SOUTHERN
CALIFORNIA
GEOTECHNICAL

APPENDIX E



Latitude, Longitude: 34.720584, -118.191360

Date	11/1/2022, 1:24:17 PM
Design Code Reference Document	ASCE7-16
Risk Category	III
Site Class	D - Stiff Soil

Type	Value	Description
S_S	1.5	MCE_R ground motion. (for 0.2 second period)
S_1	0.6	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.5	Site-modified spectral acceleration value
S_{M1}	null -See Section 11.4.8	Site-modified spectral acceleration value
S_{DS}	1	Numeric seismic design value at 0.2 second SA
S_{D1}	null -See Section 11.4.8	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	null -See Section 11.4.8	Seismic design category
F_a	1	Site amplification factor at 0.2 second
F_v	null -See Section 11.4.8	Site amplification factor at 1.0 second
PGA	0.555	MCE_G peak ground acceleration
F_{PGA}	1.1	Site amplification factor at PGA
PGA_M	0.611	Site modified peak ground acceleration
T_L	12	Long-period transition period in seconds
SsRT	1.539	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	1.727	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
S1RT	0.634	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.718	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.6	Factored deterministic acceleration value. (1.0 second)
PGAd	0.555	Factored deterministic acceleration value. (Peak Ground Acceleration)
PGA_{UH}	0.699	Uniform-hazard (2% probability of exceedance in 50 years) Peak Ground Acceleration
C_{RS}	0.891	Mapped value of the risk coefficient at short periods
C_{R1}	0.883	Mapped value of the risk coefficient at a period of 1 s
C_V	1.4	Vertical coefficient

SOURCE: SEAOC/OSHPD Seismic Design Maps Tool
<https://seismicmaps.org/>

SEISMIC DESIGN PARAMETERS - 2019 CBC
PROPOSED WAREHOUSE
LANCASTER, CALIFORNIA

DRAWN: MK
CHKD: RGT
SCG PROJECT
22G245-1
PLATE E-1

SoCalGeo
SOUTHERN
CALIFORNIA
GEOTECHNICAL

Appendix F

Paleontological Resources Records Search (Confidential)

Appendix G

Phase I Environmental Site Assessment

PHASE I ENVIRONMENTAL SITE ASSESSMENT

PERFORMED ON:

19.09 ACRE TRACT (UNDEVELOPED)

WEST AVENUE H
LANCASTER, LOS ANGELES COUNTY, CALIFORNIA 93536
CCG PROJECT #: CCG-5273

PREPARED FOR:

COVINGTON DEVELOPMENT PARTNERS, LLC
3 CORPORATE PLAZA, SUITE 230
NEWPORT BEACH, CALIFORNIA 92660

PREPARED BY:

CONSOLIDATED CONSULTING GROUP, LLC
6215 COLLEYVILLE BOULEVARD
COLLEYVILLE, TEXAS 76034
(817) 424-9085 / (817) 488-1853 FAX
WWW.CONSOLIDATEDCONSULTING.COM

ISSUE DATE: SEPTEMBER 1, 2022

ROSS MACNAMES
PROJECT MANAGER

Jude Havens

JUDE HAVENS
PROJECT DIRECTOR

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Executive Summary

Subject Property Name:	19.09 Acre Tract (Undeveloped)
Address:	West Avenue H Lancaster, Los Angeles County, California 93536
Site Location Intersection:	~0.38-mile west of the intersection of West Avenue H and 30th Street West
Site Acreage:	19.09 acres - According to the Los Angeles County Assessor's Office
Current Property Use:	The subject property is currently undeveloped.
Number of Buildings/Stories:	N/A
Number of Tenant Spaces:	N/A
Approximate Square Footage:	N/A
Current Occupancy:	N/A
Construction Year:	N/A
Historic Property Use:	1928 - Present: Undeveloped land

Consolidated Consulting Group, LLC (CCG) has performed a Phase I Environmental Site Assessment (ESA) in general conformance with the scope and limitations of ASTM Practice E-1527-13, on the 19.09 Acre Tract (Undeveloped) property located at West Avenue H, in Lancaster, Los Angeles County, California 93536 (herein referred to as the "subject property"). Any exceptions to, or deletions from, this practice are described in Section 1.4 "Investigation Requirements Not Satisfied".

A historical recognized environmental condition (HREC) is defined under ASTM E1527-13 as "a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls." ***This assessment has revealed no evidence of HRECs in connection with the subject property.***

A controlled recognized environmental condition (CREC) is defined under ASTM E1527-13 as "a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls." ***This assessment has revealed no evidence of CRECs in connection with the subject property.***

A recognized environmental condition (REC) is defined under ASTM E1527-13 as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment." ***This assessment has revealed no evidence of RECs in connection with the subject property.***

A business environmental risk (BER) is defined under ATSM E1527-13 as "a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in this practice." ***This assessment has revealed no evidence of BERs in connection with the subject property.***

A de minimis condition is defined under ASTM E1527-13 as "a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies." ***This assessment has revealed the following evidence of de minimis conditions in connection with the subject property:***

- CCG did not observe any evidence of current or historic landfills on the subject property. However, several debris piles / dump sites and scattered windblown debris were observed throughout the subject property, with the most concentrated area of debris / waste being observed on the western portion of the subject property near the truck and trailer parking area utilized by the adjoining Michaels warehouse. Observed debris generally consisted of municipal waste (paper, plastic, etc.) and construction debris (lumber, concrete, asphalt / gravel, etc.); however, several scrap tires were also observed. No staining or other obvious evidence of petroleum product / hazardous substance releases was observed in or around the debris. CCG considers the observed debris (including scrap tires) to represent a de minimis condition in connection with the subject property.

  Recommendation: CCG recommends that the observed debris / wastes be removed from the subject property, and properly disposed of in accordance with all applicable local, state and federal guidelines. If during future development activities visually impacted soils are identified, impacted soils should be excavated, removed and properly disposed of. Confirmatory soil samples should be collected during excavation to ensure that the extent of impacted soils has been removed.

This assessment has revealed the following evidence of Noteworthy Issues in connection with the subject property:

- A review of the Flood Insurance Rate Map (FIRM), published by the Federal Emergency Management Agency (FEMA), was performed by CCG. According to Community Panel, Map Number 06037C0405F, dated September 26, 2008, the subject property is located entirely within Flood Zone X (shaded). Flood Zone X (shaded) is defined as "Areas of 1% annual chance flood with average depth of less than one foot or with drainage areas of less than one square mile".

  Recommendation: CCG recommends that prior to initiating activities which may disturb or impact the identified flood zone, that an evaluation of local, state and federal regulatory requirements be conducted. If development of the subject property occurs in the future, flood insurance may be necessary.

- Federally-listed threatened and endangered species and their habitats are protected under the Endangered Species Act of 1973, as amended. Individuals of state-listed species are protected under state law, although their habitats are not currently given regulatory protection. A review of endangered species on or in the vicinity of the subject property is beyond the scope of this investigation. However, according to the California Department of Fish & Wildlife there are multiple rare, threatened or endangered species listed for Los Angeles County.

  Recommendation: If future development will disturb the undeveloped portions of the subject property, an evaluation for Threatened or Endangered Species may be required.

1.2 Purpose

The purpose of this investigation is to conduct a Phase I Environmental Site Assessment (ESA), in general conformance with ASTM 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process on a parcel of commercial real estate (subject property) with respect to the range of contaminants within the scope of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601). This assessment is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA liability: that is, the practice that constitutes "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice" as defined at 42 U.S.C. §9601 (35) (B).

The purpose of a Phase I ESA is to evaluate environmental issues which may have a financial or liability impact on the owners of a parcel of property. The goal of this process is to identify the presence or likely presence of any hazardous substances or petroleum products on the property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property.

CCG understands this assessment of the subject property was performed as part of a pending financial transaction.

1.3 Scope of Work

Consolidated Consulting Group, LLC was retained to perform a Phase I Environmental Site Assessment on the subject property in general conformance with ASTM 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment.

The following scope of services summarizes the activities performed by Consolidated Consulting Group, LLC:

- Survey the subject property and observe the adjacent and surrounding properties for the purposes of identifying land use and activities that may potentially affect the environmental integrity of the subject property.
- Interview available present and past owners and occupants of the subject property to identify current/historic subject property uses.
- Review available historic information for the subject property from first developed use to present.
- Interview accessible local, city, parish and state personnel to solicit pertinent environmental information regarding the subject property.
- Review available federal, state and local regulatory database information as prescribed in ASTM 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.
- Provide findings, conclusions and recommendations to the Client as a result of the information gathered.

ASTM 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process does not specifically call for the Phase I ESA report to address business environmental risks (BERs) or additional services. Business environmental risk is defined in the standard as "*a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in this practice. Consideration of business environmental risk issues may involve addressing one or more non-scope considerations, some of which are identified in Section 13 (*of the standard)*"*. In order to better serve the Client, CCG has included a consideration of business environmental risks in the relevant section of this report and the additional services listed in Section 5.4 "Additional Services" as a part of this investigation.

In preparing this report, Consolidated Consulting Group, LLC has relied upon and presumed accurate, certain information (or the absence thereof) about the subject property and adjacent properties provided by governmental officials and agencies, the Client and others identified herein. The accuracy of the results of the regulatory agency database searches are constrained and limited by the level of care and professional skill exercised by the subcontractors retained by Consolidated Consulting Group, LLC to perform these tasks. Except as otherwise stated in this report, Consolidated Consulting Group, LLC has not attempted to verify the accuracy or completeness of such information.

The conclusions and recommendations contained in this report/assessment are based upon professional opinions with regard to the subject matter. These opinions have been formulated in accordance with currently accepted industry standards and practices. The data reported and the findings, observations, and conclusions expressed in the report contain all of the limitations inherent in the methodologies referred to in ASTM 1527-13. Because of these limitations, the findings, observations, and conclusions expressed by CCG in this report are not, and should not be considered, an opinion concerning the compliance of any past or present owner or operator of the site with any federal, state or local law or regulations. No warranty or guarantee, whether expressed or implied, is made with respect to the data reported. Furthermore, the results of this Phase I Environmental Site Assessment as reported herein are in no way intended to represent a guarantee that the subject property is free from the presence of past, present, or future contamination from hazardous substances; rather, it only represents that a reasonable inquiry has been conducted to ascertain the likelihood of such contamination under current applicable law.

Consolidated Consulting Group, LLC derived the data in this report primarily from visual inspections, examination of records in the public domain and interviews with individuals knowledgeable with the Site history. The passage of time, manifestation of latent conditions or occurrence of future events may require further exploration at the subject property, analysis of the data and reevaluation of the findings, observations, conclusions and recommendations expressed in this report. Conclusions and recommendations are based solely upon conditions in existence at the subject property at the time of the investigation.

1.4 Investigation Requirements Not Satisfied

This Phase I ESA substantially complies with ASTM 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, except for the following exceptions and/or limiting conditions.

- CCG was unescorted during the site inspection.

- CCG provided interview questionnaires to the *User* of this report, the Property Owner Representative and the Key Site Manager regarding issues of environmental concern relating to the subject property. At the time of writing, the interview questionnaires had not been returned to CCG. However, it is the Environmental Professional's opinion that sufficient information regarding the current and historic use of the subject property was obtained through other sources that the lack of the interview questionnaires will not alter the conclusions of this report.

- ASTM E 1527-13 "Standard for Environmental Site Assessments" suggests historical usage for a property be determined back to 1940 or the property's first developed use, whichever is earliest. CCG reviewed Aerial Photographs back to 1928, Topographic Maps back to 1930 and City Directories back to 1975, but was not able to research the site history at 5-year intervals. No additional historical sources that were deemed reasonably ascertainable and likely to be sufficiently useful were identified at the time of the assessment. However, it is the Environmental Professional's opinion that this limitation would not alter the conclusions of this report.

- CCG contacted the Los Angeles County Fire Department, Building Department and Environmental Health Department for information regarding hazardous material spills, permits for water wells, grease traps, septic systems, ASTs/USTs and general information regarding environmental issues/complaints associated with the subject property. At the time of writing, a response from these departments has not been received. Any pertinent information will be forwarded to the Client upon receipt. However, it is the Environmental Professional's opinion that this limitation would not alter the conclusions of this report.

There were no other unmet requirements of the ASTM 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

It is the Environmental Professional's opinion that these limitations, data gaps and/or data failures would not alter the conclusions of this report. No other exceptions, limitations, data gaps and/or data failures were encountered during the course of this investigation.

2.0 USER PROVIDED INFORMATION

The purpose of this section is to summarize and evaluate information provided by the *User* that may assist in the identification of recognized environmental conditions and business environmental risks in connection with the subject property.

2.1 Title Records

Title records can be reviewed to identify potential environmentally suspect historic owners of the subject property.

The *User* did not provide CCG with any title records for review.

2.2 Environmental Liens / Activity and Use Limitations

Reasonably ascertainable recorded land title records and lien records that are filed under federal, tribal, state, or local law can be reviewed to identify environmental liens or activity and use limitations (AULs), if any, that are currently recorded against the subject property.

The *User* did not inform CCG of any environmental liens, AULs, institutional controls or engineering control restrictions imposed on the subject property.

2.3 Specialized Knowledge

If the *User* is aware of any specialized knowledge or experience that is material to recognized environmental conditions or business environmental risk in connection with the subject property, it is the *User's* responsibility to communicate any information based on such specialized knowledge or experience to the environmental professional. The *User* should do so before the environmental professional conducts the site reconnaissance.

The *User* did not inform CCG of any specialized knowledge or experience that is material to recognized environmental conditions or business environmental risk in connection with the subject property.

2.4 Commonly Known or Reasonably Ascertainable Information

If the *User* is aware of any commonly known or reasonably ascertainable information within the local community about the subject property that is material to recognized environmental conditions or business environmental risk in connection with the subject property, it is the *User's* responsibility to communicate such information to the environmental professional. The *User* should do so before the environmental professional conducts the site reconnaissance.

The *User* did not inform CCG of any commonly known or reasonably ascertainable information within the local community about the subject property that is material to recognized environmental conditions or business environmental risk in connection with the subject property.

2.5 Valuation Reduction for Environmental Issues

If the *User* is aware that the sales price or valuation of the subject property has been reduced due to identified or potential environmental issues relating to the subject property, it is the *User's* responsibility to communicate such information to the environmental professional. The *User* should do so before the environmental professional conducts the site reconnaissance.

The *User* did not inform CCG of any valuation reductions for the subject property based on environmental issues.

2.6 Identification of the Key Site Manager

As the subject property is currently undeveloped, a Key Site Manager was not identified.

3.0 SITE DESCRIPTION

3.1 Site Name and Address

Subject Property Name:	19.09 Acre Tract (Undeveloped)
Street Address:	West Avenue H
City:	Lancaster (inside the Corporate City Limits)
County:	Los Angeles County
State:	California
Zip Code:	93536

3.2 Legal Description

Central Appraisal District (CAD) Account No:	3107-026-077 & 3107-026-079
Current Owner:	H AVE 168 LLC c/o Clinton Tung
Abbreviated Legal Description:	Please refer to Section 7.2.1 “General Public Records” for the legal description of the subject property.
Number of Parcels:	Two (2)

3.3 Site and Vicinity General Characteristics

Site Location Intersection:	~0.38-mile west of the intersection of West Avenue H and 30th Street West
Site Access:	West Avenue H to the south
Site Acreage:	19.09 acres - According to the Los Angeles County Assessor’s Office
Development of Surrounding Areas:	Please refer to Section 4.3 “Properties and Areas Surrounding the Site” for information regarding the development of the surrounding areas.

3.4 Site Description

General Information

Number of Buildings/stories:	N/A
Number of Tenant Spaces:	N/A
Net Rentable Square Footage:	N/A
Gross Square Footage:	N/A
Construction Year:	N/A
Amenities:	N/A

Structural/Finish-out

Exterior Façade:	N/A
Roof Type:	N/A
Interior Wall Coverings:	N/A
Ceiling Type:	N/A
Floor Coverings:	N/A
Interior Lighting:	N/A

Mechanical Systems

HVAC Type:	Please refer to Section 5.0 “Site Reconnaissance and Investigation” for a discussion of the HVAC Systems.
Hot Water Source:	Please refer to Section 5.0 “Site Reconnaissance and Investigation” for a discussion of the Hot Water Source.

Site Paving/Landscaping

Paving:

☐ Concrete
☐ Asphalt
☐ Pavers
☐ Gravel
☒ Other: Dirt / Gravel

Landscaping:

☐ Grass Turf
☒ Native Grasses
☒ Shrubs
☐ Heavily Wooded
☐ Decorative Trees
☐ Agricultural Fields
☐ Mature Trees
☐ Other:

Please refer to Section 5.2.8 “Landfills” for additional information regarding the debris / dumping observed on the subject property.

Utility Providers

Please refer to Section 5.0 “Site Reconnaissance and Investigation” for a discussion of the individual utility providers.

Special Utility Structures

Please refer to Section 5.0 “Site Reconnaissance and Investigation” for a discussion of special utility structures on the subject property.

3.5 Current Uses of the Site

Current Property Use:

☐ Retail/Commercial
☐ Office/Commercial
☐ Flex Warehouse
☐ Industrial
☐ Automotive/Gas Station
☐ Multi-family Residential
☐ Agricultural Land
☐ Vacant Land
☒ Undeveloped Land
☐ Other:

Current Occupancy: N/A

Comments: No environmental concerns regarding the current owners or occupants of the subject property were identified during the course of this investigation.

3.6 Owners and Occupants of the Site

Current Owner: H AVE 168 LLC c/o Clinton Tung

Current Tenants: The subject property is currently undeveloped.

Comments: With the exception of the debris / dumping observed on the property, no environmental concerns regarding the current use of the subject property were identified during the course of this investigation. Please refer to Section 5.2.8 “Landfills” for additional information.

3.7 Recorded Land Title Records

Please refer to Section 2.2 “Environmental Liens / Activity and Use Limitations” for additional information.

4.0 RECORDS REVIEW

The purpose of this section is to summarize and evaluate information from general public and government environmental records with regard to the physical setting, historical use, current use and environmental listings for the subject property and surroundings. Copies of all maps, public records and non-copyright protected documents are appended to this report in Section 7.0 "Appendices".

4.1 Physical Setting Sources

4.1.1 Topography

Topo Quad:	Lancaster West, CA
Topo Date:	1930, 1933, 1959, 1960, 1966, 1975, 2012, 2015, 2018 & 2022
Subject Property Elevation:	~2,320 feet above Mean Sea Level
On-site Slope:	Generally flat
Slope based on topo contours:	East
Comments:	Based on a review of topographic conditions, the adjacent properties to the west appear to be located topographically upgradient of the subject property. A copy of the most recent USGS topographic map is included in Appendix 7.1.4 "Topographical Maps".

4.1.2 Nearest Surface Water

Nearest Surface Water Name:	Pond 2 (impoundment of Amargosa Creek)
Distance / Direction:	~1.18-miles east
Comments:	None

4.1.3 Wetlands & Jurisdictional Waters

On-site Suspect Wetlands or Jurisdictional Waters Observed:	None Observed
Adjacent Suspect Wetlands or Jurisdictional Waters Observed:	None Observed
Documented Wetlands Identified:	Yes – The man-made detention pond located south of the adjoining west Michaels warehouse is identified as a PUSJx (Palustrine, Unconsolidated Bottom, Intermittently Flooded, Excavated) wetland area. Review of historic aerial photographs indicates this detention pond was constructed on "dry land" during the commercial development of the adjoining property.
Source:	Lancaster West, CA Topographic Map, dated 1930, 1933, 1959, 1960, 1966, 1975, 2012, 2015, 2018 & 2022;U.S. Fish & Wildlife Service, Geospatial Wetlands Digital Data website
Comments:	Based on CCG's desktop review of soil information, FEMA Flood Zone Maps, NWI maps, topographic maps and observations made during site reconnaissance, no potential wetland indicators were identified.

4.1.4 Floodplain

FEMA Community Panel	06037C0405F
Date:	September 26, 2008
Flood Zone	X (shaded)
Description:	0.2% Annual Chance Flood Hazard. Areas of 1% annual chance flood with average depth of less than one foot or with drainage areas of less than one square mile.
Comments:	A review of the Flood Insurance Rate Map (FIRM), published by the Federal Emergency Management Agency (FEMA), was performed by CCG. According to Community Panel, Map Number 06037C0405F, dated September 26, 2008, the subject property is located entirely within Flood Zone X (shaded). Flood Zone X (shaded) is defined as "Areas of 1% annual chance flood with average depth of less than one foot or with drainage areas of less than one square mile".

4.1.5 Soils

Source:	United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) website (http://websoilsurvey.nrcs.usda.gov)
Soil Type:	Px – Pond-Oban complex Tw – Tray loam, saline-alkali
Soil Description:	Please refer to the National Resource Conservation Services (NRCS) Soil Map included in Appendix 7.1.7 "Other Maps & Data" for additional information.

4.1.6 Geology

Source:	Groundwater Atlas of the United States – Segment 1
Description:	The structural deformation that produced the system of basins and ranges generally began in Tertiary time with block faulting along steeply dipping normal faults. Crustal extension produced horst and graben blocks in some places and tilted blocks in others. The downthrown parts of the blocks became basins; the upthrown parts became mountain ranges. Vertical displacement across the fault zones exceeded 10,000 feet in some areas. Many of the resulting basins are asymmetrical because the grabens are not centered in the valleys. As the mountain blocks were uplifted and eroded, sediment was carried by streams into the basins, and alluvial fans were formed. The fans coalesced to produce broad surfaces that sloped gently to the center of the basins, where fine grained sediments were deposited in lakes and playas. Coarse-grained sediments tended to be deposited near the steeper margins of basins. Fault movement resulting from continuing deformation offset some of these older sediments. Deformation and sedimentation occurred at different rates through the area; as a result, the thickness, areal extent, and grain size of the basin fill are highly varied.

Basin fill primarily consists of unconsolidated to moderately consolidated, well- to poorly sorted beds of gravel, sand, silt, and clay deposited on alluvial fans, pediments, flood plains, and playas. More cemented or compact sediments in the older basin fill and finer grained sediments near the center of the basin are less permeable than the coarser grained sediments near the margins of the basins. Evaporites, such as gypsum, anhydrite (calcium sulfate), and halite (rock salt) are present in the deeper fine-grained sediments of the central parts of some basins. Extrusive volcanic rocks also are interspersed with basin fill in some basins; volcanic rocks overlie basin fill in a few areas. The thickness of the basin fill is not well known in some basins but ranges from about 1,000 to 5,000 feet in many basins and may exceed 10,000 in a few deep basins in Utah and south-central Arizona.

4.1.7 Hydrology

Source: Groundwater Atlas of the United States – Segment 1

Description: The Basin and Range aquifers are located in an area that comprises most of Nevada and the southern California desert. The water-yielding materials in this area are in valleys and basins, and consist primarily of unconsolidated alluvial-fan deposits, although locally flood plain and lacustrine (lake) beach deposits may yield water to wells. Also, the consolidated volcanic and carbonate rocks that underlie the unconsolidated alluvium are a source of water if the consolidated rocks are sufficiently fractured or have solution openings. Many of these valleys and basins are internally drained; that is, water from precipitation that falls within the basin recharges the aquifer and ultimately discharges to the land surface and evaporates within the basin. Ground water is generally under unconfined, or water-table, conditions at the margins of the basins, but as the unconsolidated deposits become finer grained toward the centers of the basins, the water becomes confined. Rarely, basins might be hydraulically connected in the subsurface by fractures or solution openings in the underlying bedrock. These multiple-basin systems end in a terminal discharge area, or sink, from which water leaves the flow system by evaporation. Also, several basins or valleys may develop surface-water drainage that hydraulically connects the basins, and ground water flows between the basins, mostly through the unconsolidated alluvial stream/flood plain sediments

4.1.8 Depth to Groundwater

Site Specific Depth to Groundwater: Unknown

General Depth of Regional Groundwater: Based on a review of surface water features and topographic conditions in the subject property area, perched tables are anticipated to be encountered at depths >100 feet below ground surface.

4.1.9 Groundwater Utilization

On-site Water Wells:	None Observed or Reported
Comments:	According to the subject property management, groundwater is not currently utilized on the subject property.

4.1.10 Groundwater Direction

Site Specific:	Unknown
Regional:	East
Comments:	In order to determine actual groundwater flow beneath a site it is necessary to install a network of at least three permanent groundwater monitoring wells and perform a relative elevation survey. However, general groundwater flow can be inferred based on the natural slope of the land surface in the area of the subject property.

4.1.11 Oil and Gas Exploration/Distribution

Current On-site/Adjacent Oil or Gas Exploration:	None Observed
Historic On-site/Adjacent Oil or Gas Exploration:	None Identified
Current On-site/Adjacent Pipeline:	None Observed
Historic On-site/Adjacent Pipeline:	None Identified
Source:	Site reconnaissance, U.S. DOT National Pipeline Mapping System Website, historical USGS Lancaster West, CA topographical maps and historical aerial photographs
Comments:	None

4.2 Historical Use Information

4.2.1 Prior Uses of the Subject Property

Historic Sources Researched:	Historic aerial photographs, city directories, topographic maps and interviews with City/County officials and other individuals familiar with the history of the subject property
Earliest Date Researched:	1928 - Aerial Photograph.
Historic Use of the Subject Property & Date Range:	1928 - Present: Undeveloped land
Development Date of Current Improvements:	N/A – The subject property is currently undeveloped.
Environmental Concerns Associated with Historic Use of the subject property:	☐ Historic Industrial Use ☐ Historic Agricultural Use ☐ Historic Dry Cleaner ☐ Historic Sand/Gravel Mining ☐ Historic Gas Station ☐ Other: ☒ No Environmental Concerns Associated with Historic Use of the Subject Property
Comments:	No concerns regarding the historic use of the subject property were identified during the course of this investigation:
Historic Data Gaps:	Yes - See below
Historic Data Failure:	No
Comments:	ASTM E 1527-13 “Standard for Environmental Site Assessments” suggests historical usage for a property be determined back to 1940 or the property’s first developed use, whichever is earliest. CCG reviewed Aerial Photographs back to 1928, Topographic Maps back to 1930 and City Directories back to 1975, but was not able to research the site history at 5-year intervals. No additional historical sources that were deemed reasonably ascertainable and likely to be sufficiently useful were identified at the time of the assessment. However, it is the Environmental Professional’s opinion that this limitation would not alter the conclusions of this report.

4.2.2 Summary of Prior Phase I ESA, Environmental Checklists & Helpful Documents

CCG requested information from the User, Property Owner and Property Manager regarding the following documents/reports:

- Prior environmental compliance audit reports
- Environmental permits (i.e. solid waste disposal permits, hazardous waste disposal permits, waste water permits, NPDES permits, underground injection permits)
- Registrations for underground and above-ground storage tanks
- Safety data sheets
- Community Right to Know plans
- Safety Plans, preparedness and prevention plans; spill prevention, countermeasure and control plans; etc.
- Hydrogeologic reports
- Notice of violations
- Environmental liens
- Hazardous waste generator notices or reports
- Geotechnical studies
- Risk assessments
- Recorded activity and use limitations
- Any prior, current or pending proceedings involving the subject property relevant to hazardous substances or petroleum products

None of the requested documents were provided.

4.2.3 Aerial Photographs

Source:	Environmental Risk Information Services (ERIS)
Years Reviewed:	1928, 1948, 1956, 1968, 1974, 1980, 1989, 1994, 2004, 2005, 2009, 2010, 2012, 2014, 2016, 2018 & 2020
On-Site Concerns Identified:	☐ Yes ☒ No
Off-Site Concerns Identified:	☒ Yes ☐ No
Comments:	Please refer to Section 4.4.1 “Mapped Database Records Search – Off-Site Facilities of Potential Concern” for additional information regarding the adjoining Michaels distribution warehouse. Copies of the aerial photographs reviewed for this assessment are included in Appendix 7.1.3 “Aerial Photographs”.
Aerial Photographs Reviewed in Prior Report:	☐ Yes ☐ No ☒ Not Applicable ☐ Generally consistent with CCG’s findings

4.2.4 Fire Insurance Maps

Fire Insurance Maps can be reviewed for information regarding historic property use. Historical use information was obtained using ASTM approved standard historical sources which did not include the review of Fire Insurance Maps.

Source:	Not Applicable
Years Reviewed:	Not Applicable
On-Site Concerns Identified:	☐ Yes ☐ No ☒ Not Applicable
Off-Site Concerns Identified:	☐ Yes ☐ No ☒ Not Applicable
Comments:	Not Applicable
Fire Insurance Maps Reviewed in Prior Report:	☐ Yes ☐ No ☒ Not Applicable ☐ Generally consistent with CCG's findings

4.2.5 City Directories

Source:	ERIS City Directory Report
City Directory Type:	Haines and Digital Business Directories
Years Reviewed:	Various years between 1975 - 2020 at approximately 5-year intervals
Address Listings Reviewed:	CCG reviewed the following address listings in the historical city directories: Subject Property: West Avenue H Surrounding Properties: 2800 – 4300 West Avenue H
On-Site Concerns Identified:	☐ Yes ☒ No
Off-Site Concerns Identified:	☒ Yes ☐ No
Comments:	Please refer to Section 4.4.1 "Mapped Database Records Search – Off-Site Facilities of Potential Concern" for additional information regarding the adjoining Michaels distribution warehouse. A copy of the ERIS City Directory Report is included in Appendix 7.1.6 "City Directories".
City Directories Reviewed in Prior Report:	☐ Yes ☐ No ☒ Not Applicable ☐ Generally consistent with CCG's findings

4.2.6 Other Maps

Historical USGS topographic maps can be reviewed to identify improvements and other historical conditions for the subject property and surrounding sites.

Source:	United States Geological Survey (USGS) 7.5-minute Topographic Quadrangle Map for Lancaster West, CA
Map Date(s):	1930, 1933, 1959, 1960, 1966, 1975, 2012, 2015, 2018 & 2022
On-Site Concerns Identified:	☐ Yes ☒ No
Off-Site Concerns Identified:	☐ Yes ☒ No
Comments:	A copy of the most recent USGS topographic map is included in Appendix 7.1.4 “Topographical Maps”.
Other Maps Reviewed in Prior Report:	☐ Yes ☐ No ☒ Not Applicable ☐ Generally consistent with CCG’s findings

4.2.7 Title Records / Property Tax Files

Title records and property tax files can be reviewed to identify potential environmentally suspect historic owners of the subject property, as well as AULs filed against the subject property.

Documents Reviewed:	Please refer to Sections 2.1 “Title Records” and 2.2 “Environmental Liens / Activity and Use Limitations” for additional information.

4.2.8 Zoning/Land Use Records

Source:	Not Applicable
Description:	Not Applicable
Comments:	Zoning and land use records can be reviewed for information regarding historic zoning designations and land uses for the subject property. Historical use information was obtained using ASTM approved standard historical sources which did not include the review of historical zoning and land use records.

4.2.9 Other Historical Sources

Source:	Not Applicable
Description:	Not Applicable
Comments:	No other sources were reviewed to determine the historic use of the subject property.

4.2.10 Personal Interviews

Source:	See Below
Description:	See Below
Comments:	CCG interviewed multiple individuals regarding the historic use of the subject property. Please refer to Section 5.3 “Interviews” for information regarding personal interviews performed as a part of this investigation.

4.3 Properties and Areas Surrounding the Site

4.3.1 Current Use of Adjacent Properties

CURRENT ADJACENT PROPERTIES	
North:	Undeveloped land
East:	Undeveloped land
South:	West Avenue H followed by undeveloped land and a single-family residence
West:	A distribution warehouse (Michaels)

Comments: The following environmental concerns were identified associated with the current adjacent properties:

- Please refer to Section 4.4.1 “Mapped Database Records Search – Off-Site Facilities of Potential Concern” for additional information regarding the adjoining Michaels distribution warehouse.

A site plan of the subject property was prepared by CCG personnel and is included in Appendix 7.1, “Site Background Attachments”.

4.3.2 Past Use of Adjacent Properties

PAST ADJACENT PROPERTIES		
North:	1928 – Present:	Undeveloped land
East:	1928 – Present:	Undeveloped land
South:	1928 – 1948:	West Avenue H followed by undeveloped land
	1956 – Present:	West Avenue H followed by undeveloped land and a single-family residence
West:	1928 – 1994:	Undeveloped land
	2004 – Present:	A distribution warehouse

Comments: No environmental concerns were identified associated with the past adjacent properties.

4.3.3 Current Uses of Surrounding Areas

Development in the area surrounding the subject property consists primarily of:

☒ Undeveloped land
☐ Vacant land
☐ Agricultural land
☒ Single-family residences
☐ Multi-family residences
☐ School(s)
☐ Retail/Commercial development
☐ Commercial office development
☐ Medical office development
☒ Warehouse/flex space facilities
☐ Light industrial facilities
☐ Other:

Comments: No environmental concerns were identified associated with the current use of the surrounding areas.

4.3.4 Past Uses of Surrounding Areas

Past development in the areas surrounding the subject property consisted primarily of:

☒ Undeveloped land
☐ Vacant land
☐ Agricultural land
☐ Single-family residences
☐ Multi-family residences
☐ School(s)
☐ Retail/Commercial development
☐ Commercial office development
☐ Medical office development
☐ Warehouse/flex space facilities
☐ Light industrial facilities
☐ Other:

Comments: No environmental concerns were identified associated with the past use of the surrounding areas.

4.4 Environmental Records Reviews and Interviews

4.4.1 Mapped Database Records Search

CCG's regulatory search for the subject property included a review of U.S. EPA and State of California databases. The information was compiled through a Regulatory Database Report prepared by Environmental Risk Information Services (ERIS). The database searches were performed for various radii, in accordance with ASTM standards. Descriptions of the State and Federal databases reviewed are contained in the Regulatory Database Report which is included in Appendix 7.2 "Governmental Agency Records Attachments".

CCG has not attempted to verify the accuracy or completeness of all the information provided. Any data search information, which potentially impacts the environmental integrity of the subject property, is investigated further if necessary. The following table summarizes the number of sites on the respective databases as identified by the Regulatory Database Report.

REGULATORY DATABASE SUMMARY TABLE

Databases Reviewed	Minimum Search Area	Sites Within Search Area
FEDERAL DATABASES		
Federal NPL list	1-mile radius	**-**
Federal PNPL list	1-mile radius	**-**
Federal DNPL list	1-mile radius	**-**
Federal SEMS list	½-mile radius	**-**
Federal SEMS ARCHIVE list	½-mile radius	**-**
Federal ODI list	½-mile radius	**-**
Federal IODI list	½-mile radius	**-**
Federal CERCLIS list	½-mile radius	**-**
Federal CERCLIS NFRAP list	½-mile radius	**-**
Federal CERCLIS LIENS list	Subject Property	**-**
Federal RCRA CORRACTS facilities list	1-mile radius	**-**
Federal RCRA TSD facilities list	½-mile radius	**-**
Federal RCRA LQG/SQG/CESQG generators list	¼-mile radius	**-**
Federal RCRA NON-GEN list	¼-mile radius	**1**
Federal ENG/INST controls list	½-mile radius	**-**
Federal ERNS list	Subject Property	**-**
Federal BROWNFIELDS list	½-mile radius	**-**
Federal FEMA UST list	¼-mile radius	**-**
Federal REFN list	¼-mile radius	**-**
Federal BULK TERMINAL list	¼-mile radius	**-**
Federal SEMS LIEN list	Subject Property	**-**
Federal SUPERFUND ROD list	1-mile radius	**-**
STATE DATABASES		
State RESPONSE list	1-mile radius	**-**
State ENVIROSTOR list	1-mile radius	**1**
State SWF/LF list	½-mile radius	**-**
State LUST list	½-mile radius	**-**
State UST/AST/PST list	¼-mile radius	**-**
State HHSS list	¼-mile radius	**-**
State AUL list	½-mile radius	**-**
State VCP site	½-mile radius	**-**
State CLEANUP SITES list	½-mile radius	**-**
State BROWNFIELDS list	½-mile radius	**-**
ADDITIONAL ENVIRONMENTAL RECORDS		
Various	Various	**1**

Orphan Sites

No “orphan” (location unknown/unplottable) sites were identified on the Regulatory Database Report.

Regulatory Database Listings for the Subject Property

The Regulatory Database Report did not identify any federal or state regulatory listings for the subject property.

Off-Site Facilities of Potential Concern

The following table summarizes nearby facilities of potential concern based on CCG’s review of the Regulatory Database Report:

REGULATORY DATABASE SUMMARY TABLE

Facility Name & Address	*Distance (miles), Direction, Gradient*	*Applicable Databases*	*Current Status*	*Concern?*
Michael Regional Distribution Center 3501 West Avenue H	Adjacent* West Upgradient	RCRA	**RCRA –** Inactive listing, last updated in 2010. No waste products, violations or releases reported.	No, based on facility type (distribution) and current regulatory status (no reported releases)

* Field Verified

Other Listed Facilities

No other properties that were identified on the Regulatory Database Report within the ASTM-designated search radii are considered by CCG to pose a potential risk of impacting the subject property based on their regulatory information, distance and/or topographic direction from the subject property.

Vapor Encroachment Condition (VEC)

No RECs, CRECs or HRECs were identified in connection with the subject property. Based on a review of the regulatory database report, no facilities were identified which CCG considers a VEC concern to the subject property.

4.4.2 Additional Regulatory Agency Information

City/County Department of Health/Environmental Division

Information Requested:	Any information regarding hazardous material spills, permits for water wells, grease traps, septic systems, ASTs/USTs and general information regarding environmental issues/complaints associated with the subject property.
Response:	At the time of writing, a response from the department has not been received. Any pertinent information will be forwarded to the Client upon receipt.

Fire Department

Information Requested:	Any information regarding records of ASTs/USTs or hazardous material spills associated with the subject property.
Response:	At the time of writing, a response from the department has not been received. Any pertinent information will be forwarded to the Client upon receipt.

Planning and Zoning Department

Information Requested: Information regarding the current and historic zoning designations for the subject property.

Current Zoning Designation: Specific Plan (SP)

Historic Zoning Designation: No information regarding historic zoning designations was provided.

Building Permit/Inspection Department

Information Requested: Any information regarding demolition permits, the construction/remodel year of the subject property and records of permits for ASTs/USTs.

Response: At the time of writing, a response from the department has not been received. Any pertinent information will be forwarded to the Client upon receipt.

Local/Regional Pollution Control Agency

Information Reviewed: CCG reviewed various State and Federal Databases for information regarding hazardous material spills or identified contamination associated with the subject property.

Response: The subject property is not listed on any of the state or federal databases searched in conjunction with this Phase I ESA.

Appraisal District

Information Reviewed: No information regarding environmental liens or activity and use limitations (i.e. deed restrictions or institutional/engineering controls) was identified based upon a review of the assessor's office information. Please refer to Section 2.2 "Environmental Liens/Activity and Use Limitations" for additional information regarding environmental liens and activity and use limitations for the subject property.

5.0 SITE RECONNAISSANCE AND INVESTIGATION

The site inspection was conducted in accordance with the methodologies referred to in ASTM 1527-13 Section 9 (Site Reconnaissance) and the Client Scope of Work. Visual observations of the exterior of the subject property and all improvements were made during the site inspection. When necessary, large tracts of undeveloped/unimproved areas were inspected by walking or driving a grid pattern. Accessible common areas, maintenance, mechanical and repair areas and a representative sampling of occupant spaces were also inspected.

Site Inspector:	Andrea Pulsipher
Inspection Date:	August 26, 2022
Inspection Time:	8:00am
Site Escort:	N/A – CCG was unescorted during the site inspection
Units Inspected:	CCG inspected the subject property by walking and/or driving the perimeter of the subject property and any unimproved dirt roads. The interior of the subject property was inspected by walking a grid pattern.
Weather Conditions:	The weather conditions during the site inspection were clear with air temperatures in the 70s (degrees Fahrenheit).
Limitations to Site Inspection:	The following limitations to the site inspection were encountered during the course of this investigation. • CCG was unescorted during the site inspection No other limitations to the site inspection methodology were encountered during the course of this assessment
Comments:	It is the Environmental Professional's opinion that this limitation would not alter the conclusions of this report.

5.1 General Site Characteristics

5.1.1 Solid Waste Disposal

Collection Points:	None
Disposal Contractor:	N/A
Comments:	Please refer to Section 5.2.8 "Landfills" for additional information regarding the debris / dumping observed on the subject property.

5.1.2 Sanitary Sewage Discharge and Disposal

Floor Drains:	None Observed
Trench Drains:	None Observed
Grease Traps:	None Observed
Oil Water Separators:	None Observed
Sand Traps:	None Observed
Septic Systems:	None Observed
Utility Provider:	N/A
Comments:	None

5.1.3 Surface Water Drainage and Natural Surface Water Features

Surface flow to adjacent properties & streets:	Yes
On-site Storm Drains:	None Observed
Dry-wells:	None Observed
Drainage Ditches:	None Observed
Retention Pond:	None Observed
Detention Pond:	None Observed
Natural Surface Water Features (ponds, streams, lagoons, etc.):	None Observed
Storm Water Utility Provider:	City of Lancaster
Comments:	CCG did not observe any evidence of hazardous chemical/waste or petroleum product releases or disposal activities, such as significant surface stains in the area of the on-site surface water drainage features.

5.1.4 Heating and Cooling Systems

HVAC Type:	None Observed
Hot Water Source:	None Observed
Comments:	None

5.1.5 Water Wells, Cisterns and Springs

On-site Water Wells:	None Observed
On-site Monitoring Wells:	None Observed
On-site Cisterns:	None Observed
On-site Springs:	None Observed
Comments:	None

5.1.6 Potable Water

On-site Domestic Water Source:	None Observed
Comments:	None

5.1.7 Wastewater

Sanitary Wastewater Discharges:	None Observed
Process Wastewater Discharges:	None Observed
Other Wastewater Discharges:	None Observed
Comments:	None

5.1.8 Additional Property Impacts

Comments:	With the exception of those discussed throughout the body of this report, no other conditions of concern were identified on the subject property.

5.2 Potential Environmental Hazards

5.2.1 Hazardous Substances & Petroleum Products Used or Stored on the Subject Property

CCG did not observe any sizable quantities (containers greater than 5-gallons) of hazardous chemicals or petroleum products stored on the subject property. Please refer to Section 5.2.8 "Landfills" for additional information regarding the debris and waste dumping observed on the subject property.

5.2.1.1 Labeled Containers and Drums

Comments:	CCG did not observe any containers or drums labeled as containing hazardous materials and/or petroleum products stored on the subject property. Please refer to Section 5.2.8 "Landfills" for additional information regarding the debris and waste dumping observed on the subject property.

5.2.1.2 Unlabeled Containers and Drums

Comments:	CCG did not observe any unlabeled containers or drums on the subject property. Please refer to Section 5.2.8 "Landfills" for additional information regarding the debris and waste dumping observed on the subject property.

5.2.1.3 Disposal Locations of Regulated / Hazardous Wastes

Comments:	CCG did not observe any regulated/hazardous waste disposal locations on the subject property.

5.2.2 Evidence of Releases or Disposal of Hazardous Substances & Petroleum Products

Comments:	CCG did not observe any evidence of hazardous chemical or petroleum product releases or disposal activities, such as significant surface stains or distressed vegetation.

5.2.3 Polychlorinated Biphenyls (PCBs)

PCBs often are found in electrical equipment such as transformers, ballasts in fluorescent lighting, circuit breakers and switchgears, and hydraulic fluids. PCBs contain toxic compounds that attach to human fat tissue and may act as possible carcinogens if ingested.

Transformers Present On-site:	☒ Yes ☐ No
Transformer Locations On-site:	One (1) transformer was observed along the southern property boundary.
Transformer Type:	Pole-mounted
Evidence of leaks or spills:	None observed
Transformer Owner:	Lancaster Energy (LE)
Comments:	According to LE, if a transformer leak or spill occurs, it is LE policy to remediate the area in accordance with EPA mandates. No leaks or stains were observed on the surface beneath the transformer.
Hydraulic Elevators Present On-site:	☐ Yes ☒ No
Elevator Locations On-site:	N/A
Comments:	None
Hydraulic Lifts Present On-site:	☐ Yes ☒ No
Hydraulic Lift Locations On-site:	N/A
Comments:	None
Other PCB Equipment:	No other potential PCB-containing equipment, such as hydraulic lifts/systems, was identified on the subject property.

5.2.4 Asbestos-Containing Materials

Comments:	In accordance with the Client scope of work and given current property use (undeveloped land), asbestos sampling was not conducted as a part of this investigation.

5.2.5 Radon

EPA Radon Zone:	Zone 2
Radon Zone Definition:	Areas that have an average predicted indoor radon screening potential of between 2.0 and 4.0 pCi/L (picocuries per liter of air) for radon gas. The EPA and Surgeon General strongly recommend taking action when radon test results are 4.0 pCi/L or greater.
Comments:	In accordance with the Client scope of work, radon sampling was not conducted as a part of this investigation.

5.2.6 Lead-Based Paint

Comments: In accordance with the Client scope of work and given current property use (undeveloped land), lead-based paint sampling was not conducted as a part of this investigation.

5.2.7 Lead in Drinking Water

Comments: In accordance with the Client scope of work and given current property use (undeveloped land), lead in drinking water sampling was not conducted as a part of this investigation.

5.2.8 Landfills

Comments: CCG did not observe any evidence of current or historic landfills on the subject property. However, several debris piles / dump sites and scattered windblown debris were observed throughout the subject property, with the most concentrated area of debris / waste being observed on the western portion of the subject property near the truck and trailer parking area utilized by the adjoining Michaels warehouse. Observed debris generally consisted of municipal waste (paper, plastic, etc.) and construction debris (lumber, concrete, asphalt / gravel, etc.); however, several scrap tires were also observed. No staining or other obvious evidence of petroleum product / hazardous substance releases was observed in or around the debris. CCG considers the observed debris (including scrap tires) to represent a de minimis condition in connection with the subject property.

5.2.9 Pits, Sumps, Dry Wells and Catch Basins

Comments: CCG did not observe any evidence of pits, sumps or catch basins on the subject property.

5.2.10 On-Site Aboveground and Underground Storage Tanks

Current On-site ASTs: None Observed

Historic On-site ASTs: None Identified

Current On-site USTs: None Observed

Historic On-site USTs: None Identified

Comments: No evidence of current or historic aboveground or underground storage tanks was observed on the subject property.

5.2.11 Radiological Hazards

Comments: CCG did not observe any evidence of radiological hazards associated with the subject property.

5.2.12 Suspect Microbial Growth (SMG)

Visual Evidence of SMG:	N/A
Visual Evidence of Water Damage:	N/A
Visual Evidence of Roof, Sidewall or Window Leaks:	N/A
Visual Evidence of HVAC/Plumbing Leaks:	N/A
Property Management Reports of Current or Past SMG:	N/A
High Humidity Levels Inside Building:	N/A
Comments:	In accordance with the Scope of Work and given current property use (undeveloped land), mold sampling was not conducted at the subject property.

5.2.13 Additional Hazard Observations

5.2.13.1 Electro-Magnetic Fields (EMFs)

Comments: No high voltage electrical transmission lines are located on or adjacent to the subject property, therefore EMFs are not considered an environmental concern to the subject property.

5.2.13.2 Urea Formaldehyde

Comments: In accordance with the Scope of Work and based on current property use (undeveloped land), destructive testing for urea formaldehyde insulation was not performed.

5.2.13.3 Other Concerns

Comments: With the exception of those noted in previous sections, no additional hazards were observed.

5.3 Interviews

5.3.1 User

Individual Interviewed:	Covington Development Partners, LLC
Relationship to Subject Property:	*User* of the report
Interview Form Completed:	☐ Yes ☒ No
Interview Results:	N/A – No specific individual interviewed
Comments:	At the time of writing, the interview questionnaire had not been returned to CCG. It is the Environmental Professional's opinion that sufficient information regarding the current and historic use of the subject property was obtained through other sources and that completion of the interview questionnaire is not necessary to form an opinion regarding RECs, CRECs, HRECs or business environmental risks relating to the subject property.

5.3.2 Property Owner Representative

Individual Interviewed:	H AVE 168 LLC c/o Clinton Tung
Relationship to Subject Property:	Property Owner
Interview Form Completed:	☐ Yes ☒ No
Interview Results:	N/A – No specific individual interviewed
Comments:	The property owner was not made available for interview as part of this assessment.

5.3.3 Key Site Manager

Individual Interviewed:	N/A
Relationship to Subject Property:	N/A
Interview Form Completed:	N/A
Interview Results:	N/A
Comments:	As the subject property is currently vacant / unimproved, a Key Site Manager was not identified.

5.3.4 Occupants

Individual Interviewed:	N/A
Relationship to Subject Property:	N/A
Interview Form Completed:	N/A
Interview Results:	N/A
Comments:	The subject property is currently vacant / unimproved.

5.3.5 Past Owners, Operators and Occupants

Individual Interviewed:	N/A
Relationship to Subject Property:	N/A
Interview Form Completed:	N/A
Interview Results:	N/A
Comments:	No past owners, operators or occupants of the subject property were interviewed during the course of this investigation. It is the Environmental Professional's opinion that sufficient information regarding the current and historic use of the subject property was obtained through other sources that interviews of these individuals were not necessary to form an opinion regarding RECs, CRECs, HRECs or business environmental risks relating to the subject property.

5.3.6 Adjacent Property Owners, Operators and Occupants

Individual Interviewed:	N/A
Relationship to Subject Property:	N/A
Interview Form Completed:	N/A
Interview Results:	N/A
Comments:	No adjacent property owners, operators or occupants were interviewed regarding the subject property during the course of this investigation. It is the Environmental Professional's opinion that sufficient information regarding the current and historic use of the subject property was obtained through other sources and that interviews of these individuals were not necessary to form an opinion regarding RECs, CRECs, HRECs or business environmental risks relating to the subject property.

5.3.7 State and/or Local Government Officials

Comments: CCG interviewed multiple state and local governmental agencies for information regarding the subject property. These agencies included:

- City/County Environmental Protection Division
- City/County Fire Marshal
- City/County Planning Department
- Local/Regional Pollution Control Agency
- County Central Appraisal District
- Local/Regional Water Quality Agency

Please refer to Section 4.4.2 "Additional Regulatory Agency Information" and Appendix 7.3 "Interview Record Attachments" regarding information obtained as a result of these interviews.

5.4 Additional Services

According to ASTM E1527-2013 Standard Practice for Environmental Site Assessments, *"There may be environmental issues or conditions at a property that parties may wish to assess in connection with commercial real estate that are outside the scope of this practice (the non-scope considerations). As noted by the legal analysis in Appendix X1 of this practice, some substances may be present on a property in quantities and under conditions that may lead to contamination of the property or of nearby properties but are not included in CERCLA's definition of hazardous substances (42 USC 9601(14)) or do not otherwise present potential CERCLA liability…"*

These "non-scope considerations" may pose a business environmental risk to the property and are classified as "Additional Services". Other than those previously discussed in the body of this report, the following are several additional non-scope considerations identified by ASTM that may be assessed in connection with commercial real estate. According to ASTM *"…No implication is intended as to the relative importance of inquiry into such non-scope considerations and this list of non-scope considerations is not intended to be all inclusive"*.

5.4.1 Regulatory Compliance

Comments: A regulatory compliance review is beyond the scope of this investigation. However, based on CCG's general observations during the site reconnaissance, no areas of gross non-compliance were observed.

5.4.2 Cultural and Historic Designations

Comments: A review of cultural and/or historical designations for the subject property is beyond the scope of this investigation.

5.4.3 Coastal Development Zone

Comments: Based upon the location of the subject property, it is unlikely regulations regarding coastal development zones would represent a concern to current operations or future development of the subject property.

5.4.4 Endangered Species

Comments:	Federally-listed threatened and endangered species and their habitats are protected under the Endangered Species Act of 1973, as amended. Individuals of state-listed species are protected under state law, although their habitats are not currently given regulatory protection. A review of endangered species on or in the vicinity of the subject property is beyond the scope of this investigation. However, according to the California Department of Fish & Wildlife there are multiple rare, threatened or endangered species listed for Los Angeles County.

5.4.5 Indoor Air Quality

Comments:	A review of indoor air quality on or in the vicinity of the subject property is beyond the scope of this investigation.

5.4.6 Biological Agents

Comments:	An evaluation of biological agents on the subject property is beyond the scope of this investigation. However, based on CCG's general observations during the site reconnaissance, no specific concerns regarding biological agents were observed.

5.4.7 Compliance with Activity & Use Limitations

Comments:	Parties who wish to qualify for one of the CERCLA "Land Owner Liability Protections" (LLPs) must comply with activity and use limitations (AULs), including land use restrictions that were relied upon in connection with a response action for a subject property. The *User* did not inform CCG of any AULs, imposed on the subject property. Please refer to Section 2.2 "Environmental Liens / Activity and Use Limitations" for additional information.

6.0 CONSULTANT INFORMATION

6.1 Project Personnel

The following individuals performed this ESA, including inspectors, research assistants, project managers, senior reviewers, etc.:

Andrea Pulsipher, Site Inspector
Ross MacNames, Project Manager
Jude Havens, Environmental Professional

This Phase I ESA was prepared by Ross MacNames, project manager, and was conducted under the direct supervision of Jude Havens, an environmental professional, who has reviewed and approved the Report. In addition, the methods and procedures employed in the development of the Report conform to minimum industry standards.

6.2 Report Certification

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in § 312.10 of 40 CFR 312.

I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Jude Havens

Jude Havens
Environmental Professional

6.3 Certification/Licensing

The Contractor and all subcontractors are properly licensed and/or certified to do the work described herein where required.

6.4 Report Reliance

This Phase I Environmental Site Assessment was conducted in general accordance with ASTM Standard Practices for Environmental Site Assessments (E-1527-13) for the exclusive benefit of Covington Investments, LLC, its successors and/or assigns. It is based, in part, upon documents, writings, and information owned, possessed, or secured by Consolidated Consulting Group, LLC. Neither this report, nor any information contained herein shall be used or relied upon for any purpose by any other person or entity without the express written permission of Consolidated Consulting Group, LLC.

7.0 APPENDICES

7.1 Site Background Attachments

Category	Attached	Not Applicable
7.1.1 Photographs	X	
7.1.2 Site Drawing	X	
7.1.3 Aerial Photographs	X	
7.1.4 Topographic Map	X	
7.1.5 Fire Insurance Maps		X
7.1.6 City Directories	X	
7.1.7 Other Maps & Data	X	
7.1.8 Title Search Records		X
7.1.9 References	X	


Representative view of subject property (undeveloped land)


Representative view of subject property (undeveloped land)


Representative view of subject property (undeveloped land)


View of representative dumping / debris observed on the northwest portion of the subject property


View of representative dumping / debris observed on the northwest portion of the subject property


View of representative dumping / debris observed on the northwest portion of the subject property

View of representative dumping / debris observed on the northwest portion of the subject property

View of representative dumping / debris observed on the northwest portion of the subject property

Adjacent North: Undeveloped land

Adjacent East: Undeveloped land

Adjacent South: W Avenue H followed by undeveloped land and a single-family residence

Adjacent West: Michaels distribution warehouse

Project Name: 19.09 Acres (Undeveloped)
Address: West Avenue H
Lancaster, CA 95356
Project #: CCG-5273
Date: September 2022

Legend:

Ⓣ =Transformer

N

Drawing Not
to Scale

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SITE PLAN

ERIS

HISTORICAL
AERIALS

Project Property: 19 Acres Vacant Land
W Avenue H and 35th Street W Lancaster
California 93535 CA 93535

Project No: CCG-5273

Requested By: Consolidated Consulting Group, LLC

Order No: 22082203725

Date Completed: August 23,2022

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Date	**Source**	**Scale**	Comments
2020	United States Department of Agriculture	1" = 500'	
2018	United States Department of Agriculture	1" = 500'	
2016	United States Department of Agriculture	1" = 500'	
2014	United States Department of Agriculture	1" = 500'	
2012	United States Department of Agriculture	1" = 500'	
2010	United States Department of Agriculture	1" = 500'	
2009	United States Department of Agriculture	1" = 500'	
2005	United States Department of Agriculture	1" = 500'	
2004	United States Department of Agriculture	1" = 500'	
1994	United States Geological Survey	1" = 500'	
1989	United States Geological Survey	1" = 500'	
1980	United States Department of Agriculture	1" = 500'	
1974	United States Geological Survey	1" = 500'	
1968	Teledyne	1" = 500'	
1956	United States Geological Survey	1" = 500'	
1948	United States Geological Survey	1" = 500'	
1928	FAIRCHILD	1" = 500'	

Year: 2020
Source: USDA
Scale: 1" = 500'
Comment:

Address: W Avenue H and 35th Street W Lancaster, California 93535, CA
Approx Center: -118.19156983,34.72062119

Order No: 22082203725

ERIS

Year: 2018
Source: USDA
Scale: 1" = 500'
Comment:

Address: W Avenue H and 35th Street W Lancaster,
California 93535, CA
Approx Center: -118.19156983,34.72062119

Order No: 22082203725

ERIS

Year: 2016
Source: USDA
Scale: 1" = 500'
Comment:

Address: W Avenue H and 35th Street W Lancaster,
California 93535, CA
Approx Center: -118.19156983,34.72062119

Order No: 22082203725

Year: 2014
Source: USDA
Scale: 1" = 500'
Comment:

Address: W Avenue H and 35th Street W Lancaster,
California 93535, CA
Approx Center: -118.19156983,34.72062119

Order No: 22082203725

ERIS

Year: 2012
Source: USDA
Scale: 1" = 500'
Comment:

Address: W Avenue H and 35th Street W Lancaster,
California 93535, CA
Approx Center: -118.19156983,34.72062119

Order No: 22082203725

Year: 2010
Source: USDA
Scale: 1" = 500'
Comment:

Address: W Avenue H and 35th Street W Lancaster,
California 93535, CA
Approx Center: -118.19156983,34.72062119

Order No: 22082203725

ERIS

Year: 2009
Source: USDA
Scale: 1" = 500'
Comment:

Address: W Avenue H and 35th Street W Lancaster,
California 93535, CA
Approx Center: -118.19156983,34.72062119

Order No: 22082203725

Year: 2005
Source: USDA
Scale: 1" = 500'
Comment:

Address: W Avenue H and 35th Street W Lancaster, California 93535, CA
Approx Center: -118.19156983,34.72062119

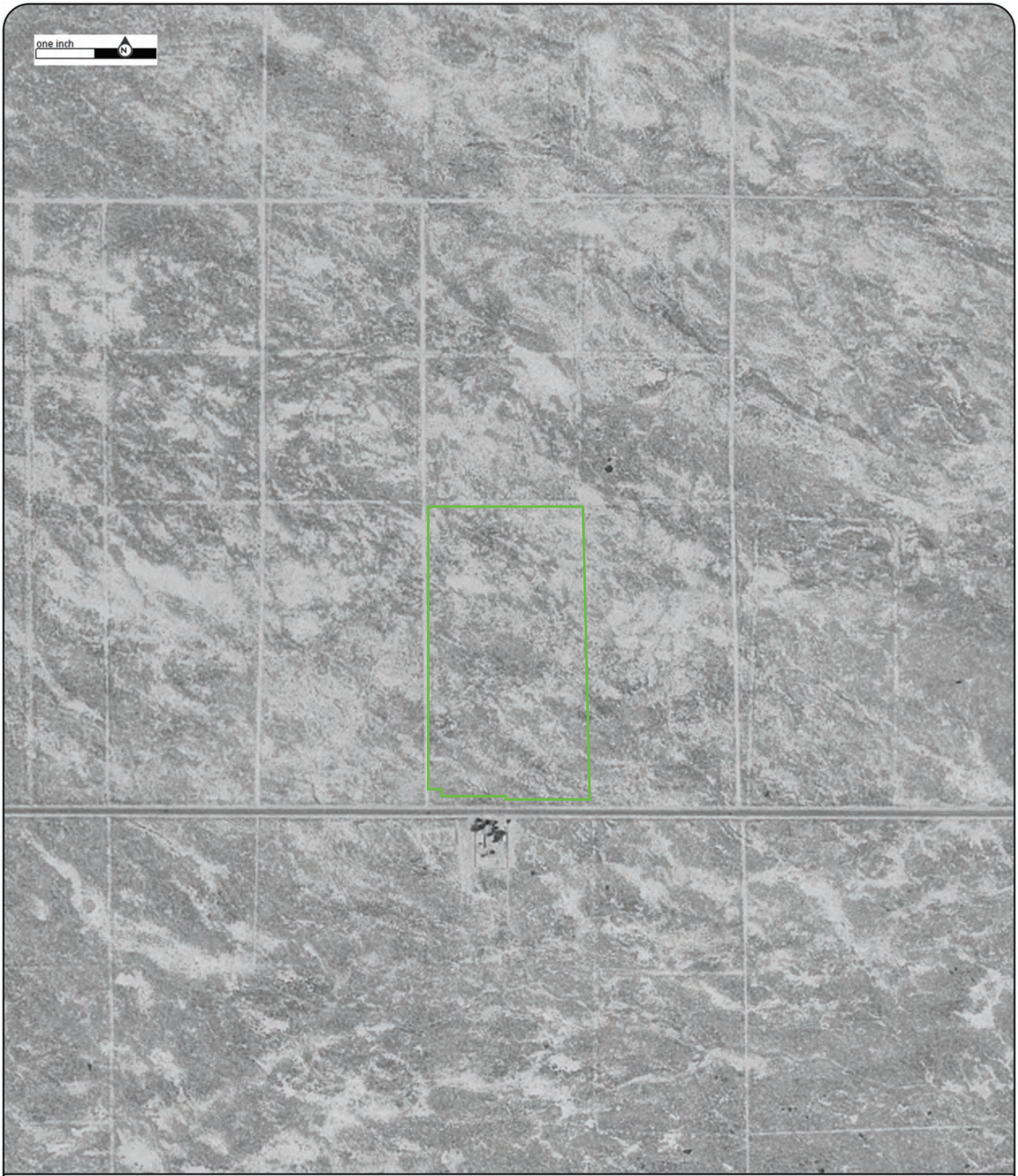
Order No: 22082203725

Year: 2004
Source: USDA
Scale: 1" = 500'
Comment:

Address: W Avenue H and 35th Street W Lancaster,
California 93535, CA
Approx Center: -118.19156983,34.72062119

Order No: 22082203725

ERIS



Year: 1994
Source: USGS
Scale: 1" = 500'
Comment:

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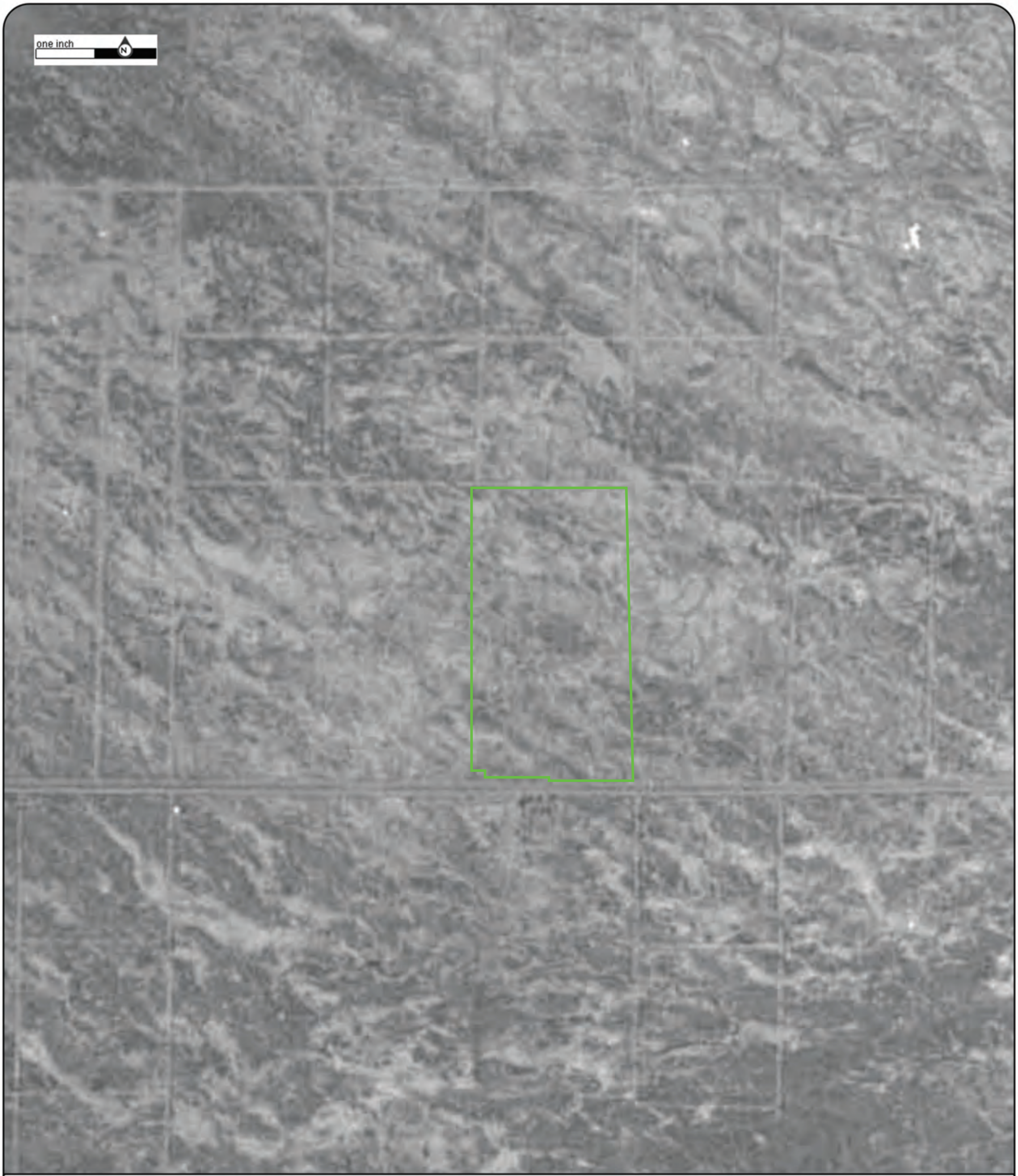
California 93535, CA
Approx Center: -118.19156983,34.72062119

Order No: 22082203725

Year: 1989
Source: USGS
Scale: 1" = 500'
Comment:

Address: W Avenue H and 35th Street W Lancaster,
California 93535, CA
Approx Center: -118.19156983,34.72062119

Order No: 22082203725



Year: 1980
Source: USDA
Scale: 1" = 500'
Comment:

Address: W Avenue H and 35th Street W Lancaster, California 93535, CA
Approx Center: -118.19156983,34.72062119

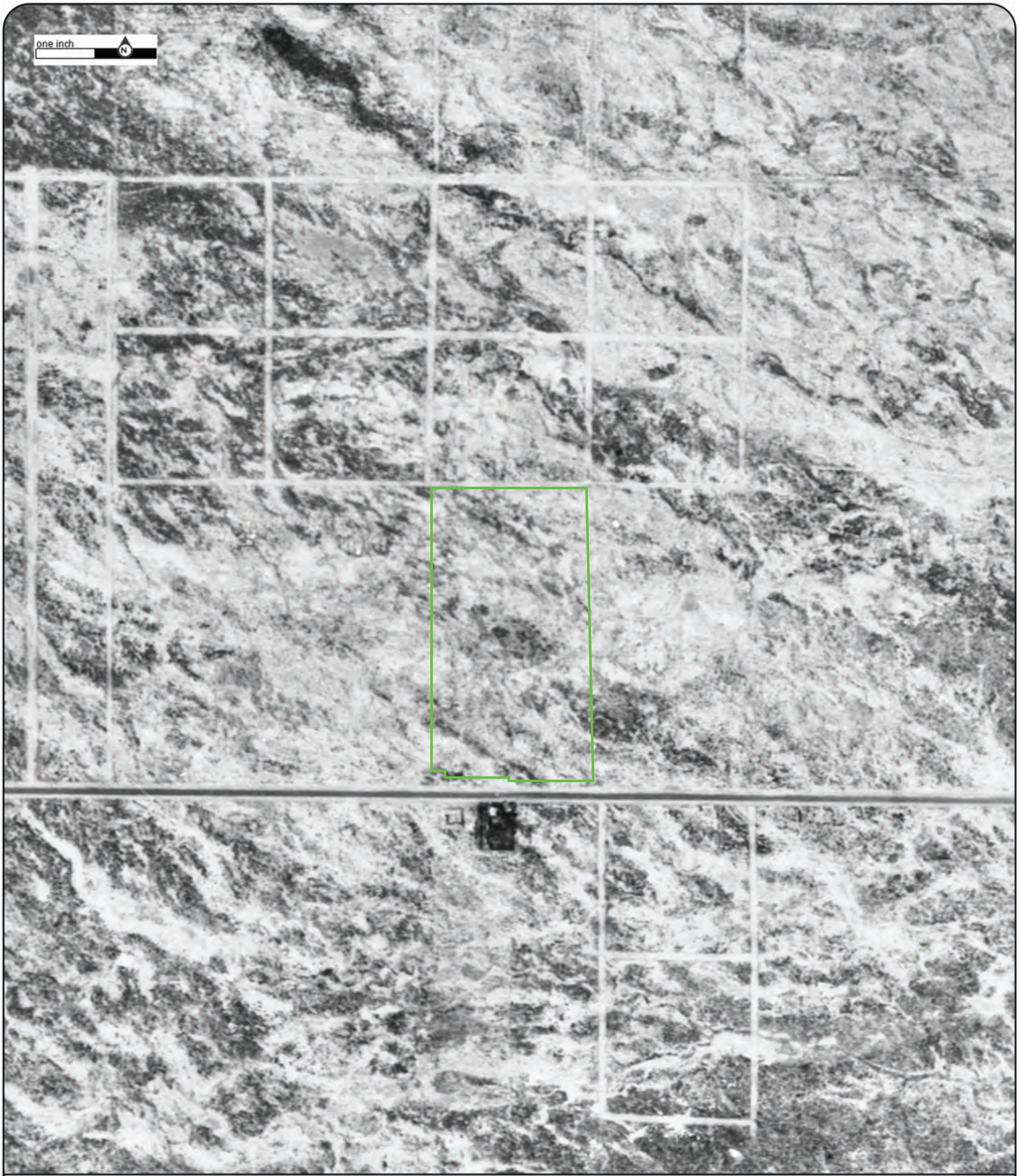
Order No: 22082203725

Year: 1974
Source: USGS
Scale: 1" = 500'
Comment:

Address: W Avenue H and 35th Street W Lancaster,
California 93535, CA
Approx Center: -118.19156983,34.72062119

Order No: 22082203725

ERIS



Year: 1968
Source: TG
Scale: 1" = 500'
Comment:

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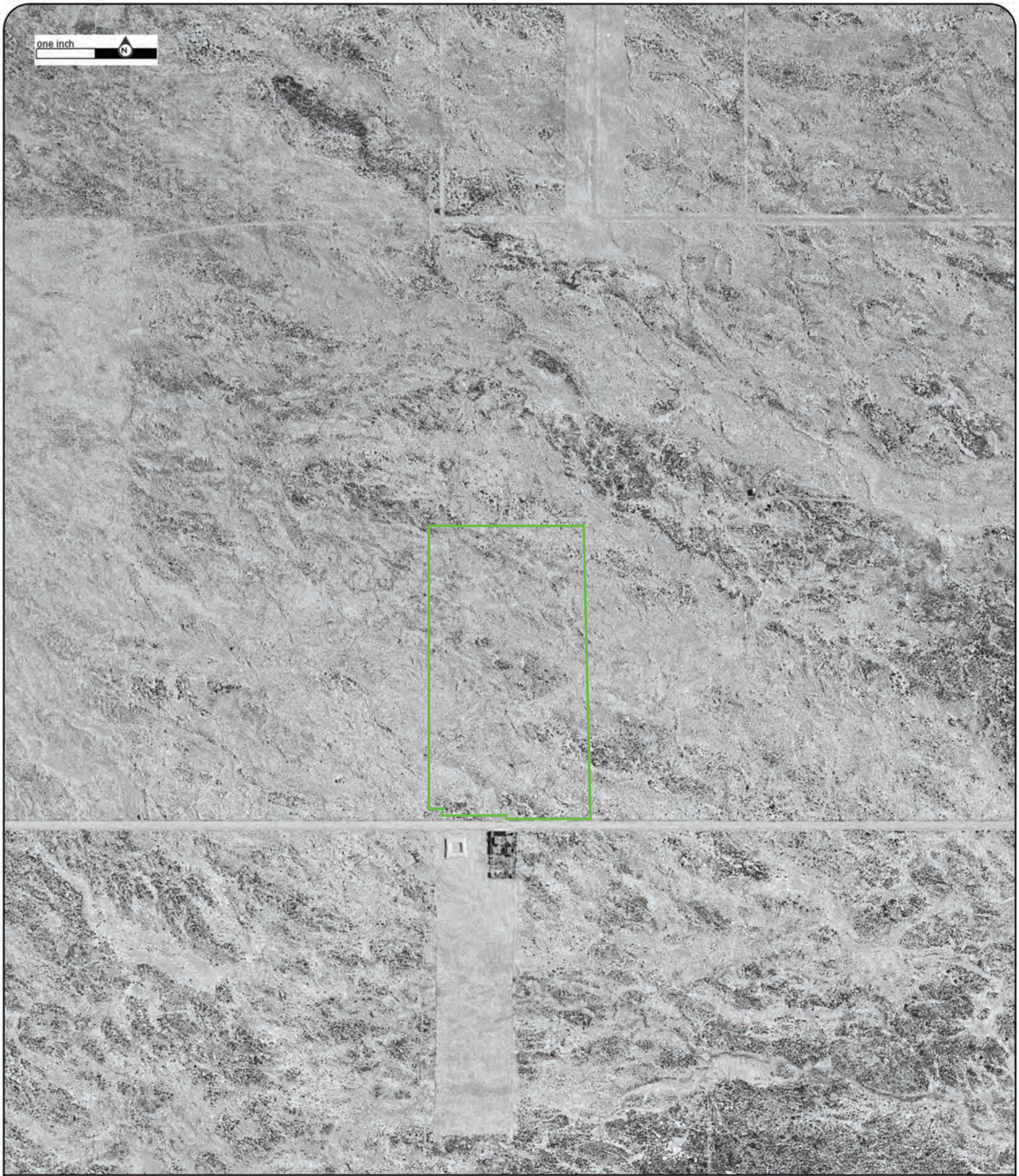
Approx Center: -118.19156983,34.72062119

Order No: 22082203725

ERIS



Year: 1956
Source: USGS
Scale: 1" = 500'
Comment:

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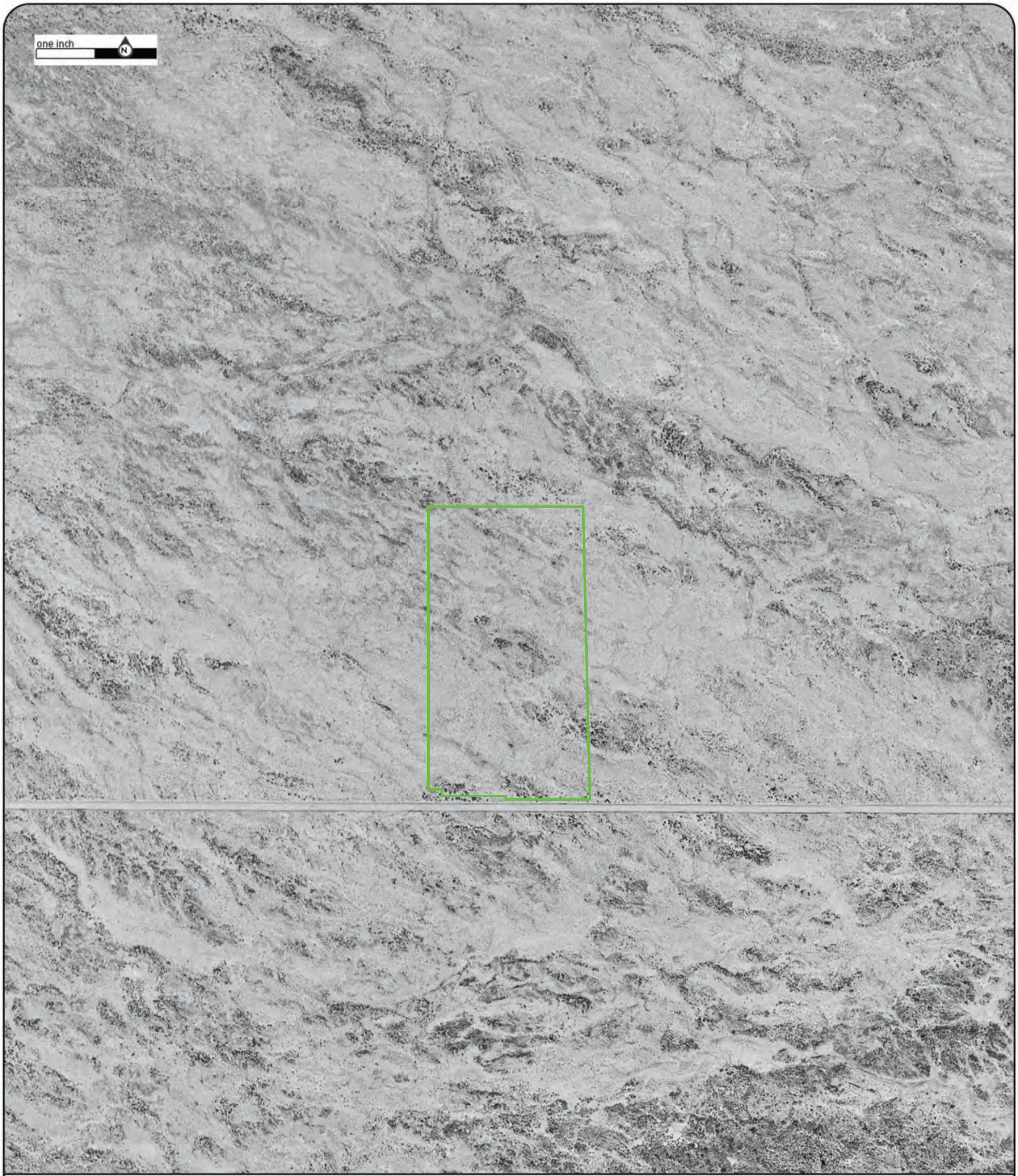
California 93535, CA
Approx Center: -118.19156983,34.72062119

Order No: 22082203725

ERIS



Year: 1948
Source: USGS
Scale: 1" = 500'
Comment:

Address: W Avenue H and 35th Street W Lancaster,
California 93535, CA
Approx Center: -118.19156983,34.72062119

Order No: 22082203725

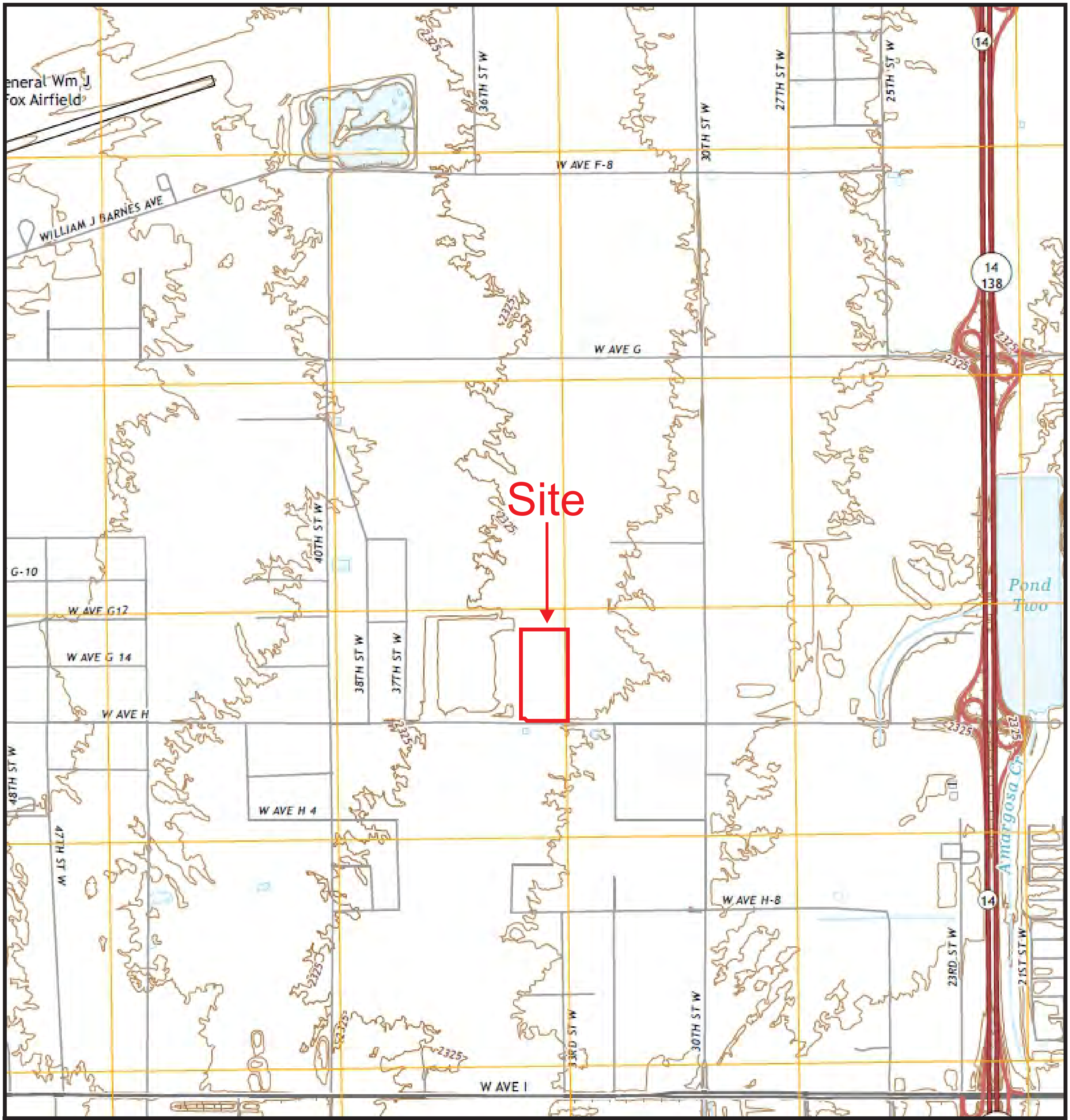
ERIS

Year: 1928
Source: FAIRCHILD
Scale: 1" = 500'
Comment:

Address: W Avenue H and 35th Street W Lancaster,
California 93535, CA
Approx Center: -118.19156983,34.72062119

Order No: 22082203725

ERIS



Project Name: 19.09 Acres (Undeveloped)
Address: West Avenue H
Lancaster, CA 95356
Project #: CCG-5273
Date: September 2022

Map Name: Lancaster West, CA
Map Date: 2022

N

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USGS TOPOGRAPHIC MAP

ERIS

CITY DIRECTORY

Project Property: *19 Acres Vacant Land*
W Avenue H and 35th Street W Lancaster
California 93535,CA 93535

Project No: *CCG-5273*

Requested By: *Consolidated Consulting Group, LLC*

Order No: *22082203725*

Date Completed: *August 24, 2022*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

August 24, 2022
RE: CITY DIRECTORY RESEARCH
W Avenue H and 35th Street W Lancaster
California 93535,CA 93535

Thank you for contacting ERIS for an City Directory Search for the site described above. Our staff has conducted a reverse listing City Directory search to determine prior occupants of the subject site and adjacent properties. We have provided the nearest addresses(s) when adjacent addresses are not listed. If we have searched a range of addresses, all addresses in that range found in the Directory are included.

Note: Reverse Listing Directories generally are focused on more highly developed areas. Newly developed areas may be covered in the more recent years, but the older directories will tend to cover only the "central" parts of the city. To complete the search, we have either utilized the ACPL, Library of Congress, State Archives, and/or a regional library or history center as well as multiple digitized directories. These do not claim to be a complete collection of all reverse listing city directories produced.

ERIS has made every effort to provide accurate and complete information but shall not be held liable for missing, incomplete or inaccurate information. To complete this search we used the general range(s) below to search for relevant findings. If you believe there are additional addresses or streets that require searching please contact us at 866-517-5204.

Search Criteria:
2800-4300 of Ave H W
Search Notes:

Search Results Summary

Date	Source	Comment
2020	DIGITAL BUSINESS DIRECTORY	
2016	DIGITAL BUSINESS DIRECTORY	
2012	DIGITAL BUSINESS DIRECTORY	
2008	DIGITAL BUSINESS DIRECTORY	
2003	DIGITAL BUSINESS DIRECTORY	
2000	HAINES	
1995	HAINES	
1991-92	HAINES	
1987	HAINES	
1981	HAINES	
1975	HAINES	

2020 AVE H W

SOURCE: DIGITAL BUSINESS DIRECTORY

2801 **RITE AID CUSTOMER SUPPORT CTR...***FEDERAL GOVERNMENT CONTRACTORS*
2801 **RITE AID CUSTOMER SUPPORT CTR...***AUTOMOBILE PARTS & SUPPLIESRETAILNEW*
2801 **RITE AID CUSTOMER SUPPORT CTR...***DISTRIBUTION CENTERS (WHLS)*
2801 **RITE AID CUSTOMER SUPPORT CTR...***PUBLIC RELATIONS COUNSELORS*
2801 **STILL WATERS CATERING CO...***CATERERS*
2801 **STILL WATERS CATERING CO...***FOOD SERVICE-MANAGEMENT*
2801 **STILL WATERS CATERING CO...***ECOMMERCE*
2801 **STILL WATERS CATERING CO...***FOOD FACILITIES (WHLS)*
2801 **STILLWATERS FOOD SVC INC...***FOOD PRODUCTS (WHLS)*
3336 **EARL MILBOURNE...***RESIDENTIAL*
3501 **MICHAELS DISTRIBUTION CTR...***DISTRIBUTION SERVICES*
3501 **WAREHOUSE...***WAREHOUSES-MERCHANDISE & SELF STORAGE*

2016 AVE H W

SOURCE: DIGITAL BUSINESS DIRECTORY

2801 **RITE AID CUSTOMER SUPPORT CTR...***PUBLIC RELATIONS COUNSELORS*
2801 **RITE AID CUSTOMER SUPPORT CTR...***DISTRIBUTION CENTERS (WHLS)*
2801 **STILL WATERS CATERING CO...***FOOD SERVICE-MANAGEMENT*
2801 **STILL WATERS CATERING CO...***FOOD FACILITIES (WHLS)*
2801 **STILLWATER FOOD SVC INC...***FOOD PRODUCTS (WHLS)*
3336 **EARL MILBOURNE...***RESIDENTIAL*
3501 **MICHAELS STORES PROCUREMENT CO...***CONSULTANTS-BUSINESS NEC*
3501 **WAREHOUSE...***WAREHOUSES-MERCHANDISE & SELF STORAGE*

2012 AVE H W

SOURCE: DIGITAL BUSINESS DIRECTORY

2801	**RITE AID CUSTOMER SUPPORT CTR**...*PUBLIC RELATIONS COUNSELORS*
2801	**STILL WATERS CATERING CO**...*CATERERS*
2801	**STILLWATER FOOD SVC INC**...*FOOD PRODUCTS (WHLS)*
3336	**EARL MILBOURNE**...*RESIDENTIAL*

2008 AVE H W

SOURCE: DIGITAL BUSINESS DIRECTORY

2801	**CORESTAFF**...*EMPLOYMENT CONTRACTORS-TEMPORARY HELP*
2801	**CORESTAFF SERVICES INC**...*MANAGEMENT CONSULTING SERVICES*
2801	**RITE AID PHARMACY**...*WHOL DRUGS/SUNDRIES*
2801	**RITE-AID PHARMACY**...*DRUG,PROPRIETARY STR*
3336	**EARL F MILBOURNE**...*RESIDENTIAL*
3501	**MICHAELS ARTS & CRAFTS STORE**...*CRAFTS*
3501	**MICHAELS STORES**...*HOBBY,TOY, GAME STR*
3501	**WAREHOUSE**...*WHOL NONDURABLE GOODS GENERAL WAREHOUSE/STORAGE*

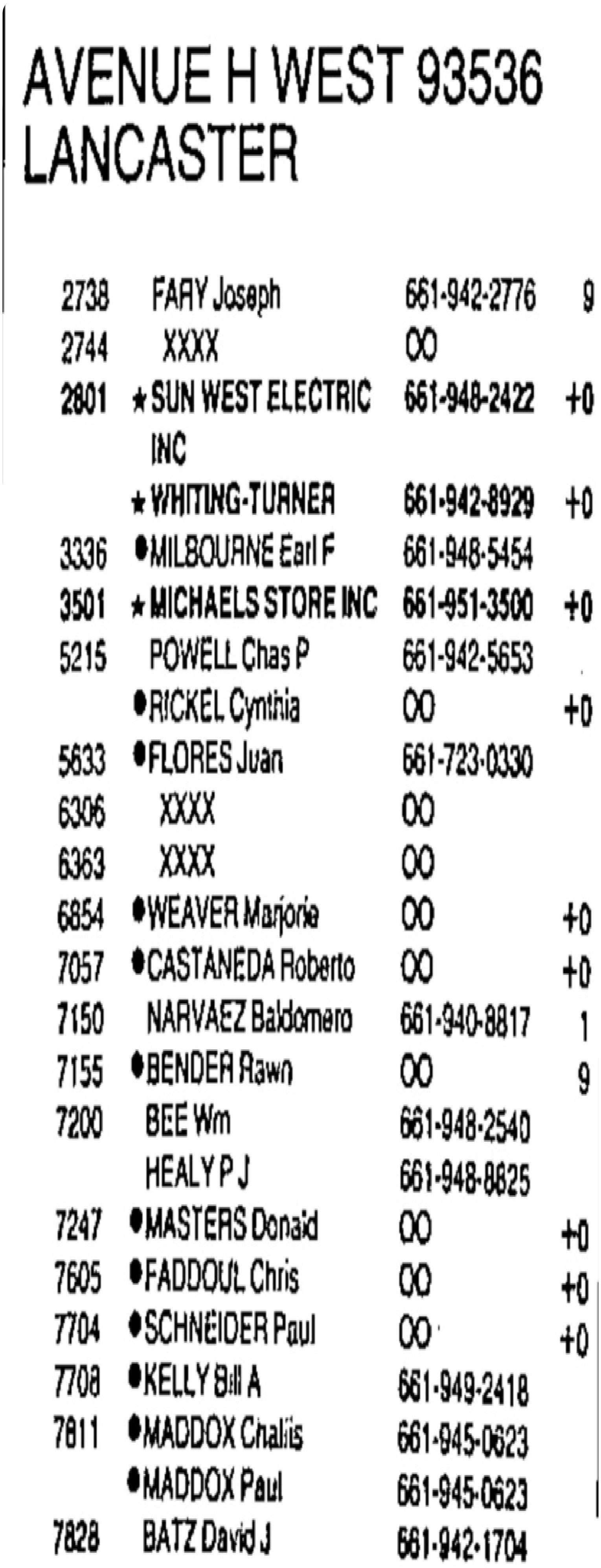
2003 AVE H W

SOURCE: DIGITAL BUSINESS DIRECTORY

2801	**CORESTAFF**
2801	**RITE AID CORP**
3336	**EARL F MILBOURNE**...*RESIDENTIAL*
3501	**MICHAELS ARTS & CRAFTS STORE**...*HOBBY AND CRAFT SUPPLIES*

2000 AVE H W

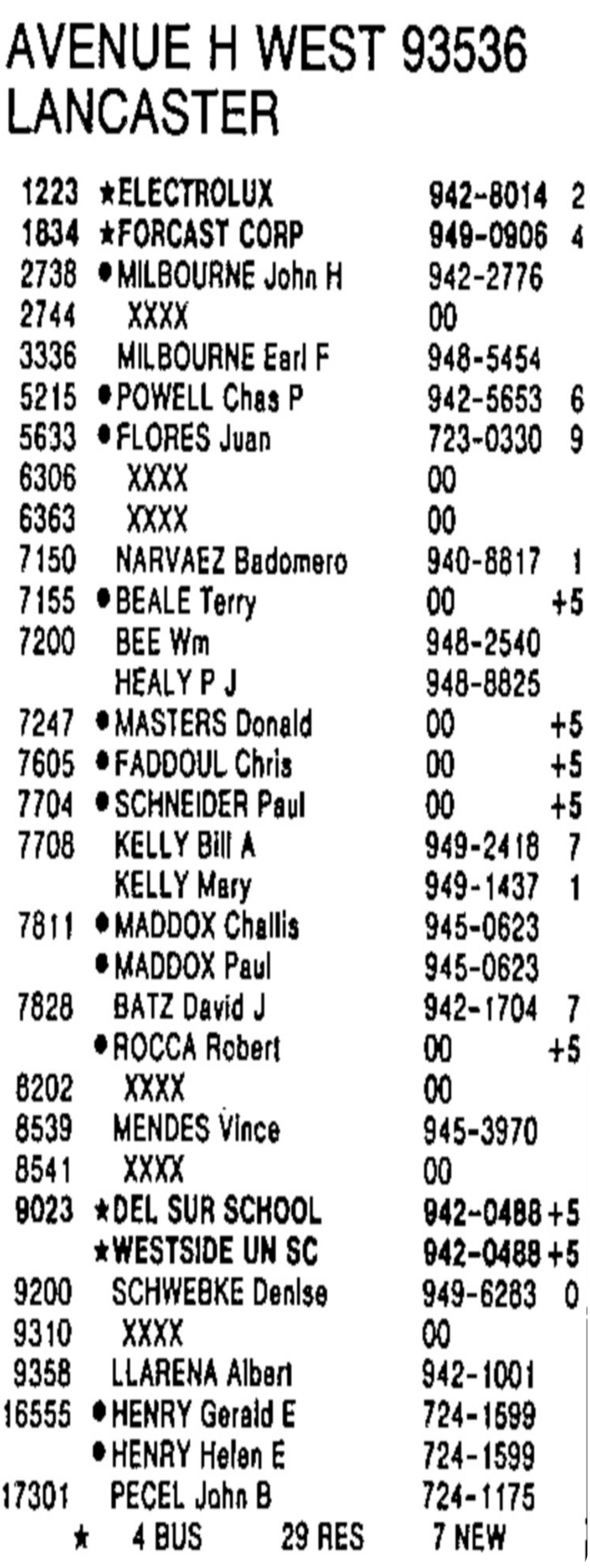
SOURCE: HAINES



AVENUE H WEST 93536
LANCASTER

2738	FARY Joseph	661-942-2776	9
2744	XXXX	00	
2801	★**SUN WEST ELECTRIC INC**	661-948-2422	+0
	★**WHITING-TURNER**	661-942-8929	+0
3336	●MILBOURNE Earl F	661-948-5454	
3501	★**MICHAELS STORE INC**	661-951-3500	+0
5215	POWELL Chas P	661-942-5653	
	●RICKEL Cynthia	00	+0
5633	●FLORES Juan	661-723-0330	
6306	XXXX	00	
6363	XXXX	00	
6854	●WEAVER Marjorie	00	+0
7057	●CASTANEDA Roberto	00	+0
7150	NARVAEZ Baldomero	661-940-8817	1
7155	●BENDER Rawn	00	9
7200	BEE Wm	661-948-2540	
	HEALY P J	661-948-8825	
7247	●MASTERS Donald	00	+0
7605	●FADDOUL Chris	00	+0
7704	●SCHNEIDER Paul	00	+0
7708	●KELLY Bill A	661-949-2418	
7811	●MADDOX Chalis	661-945-0623	
	●MADDOX Paul	661-945-0623	
7828	BATZ David J	661-942-1704	

1995 AVE H W
SOURCE: HAINES

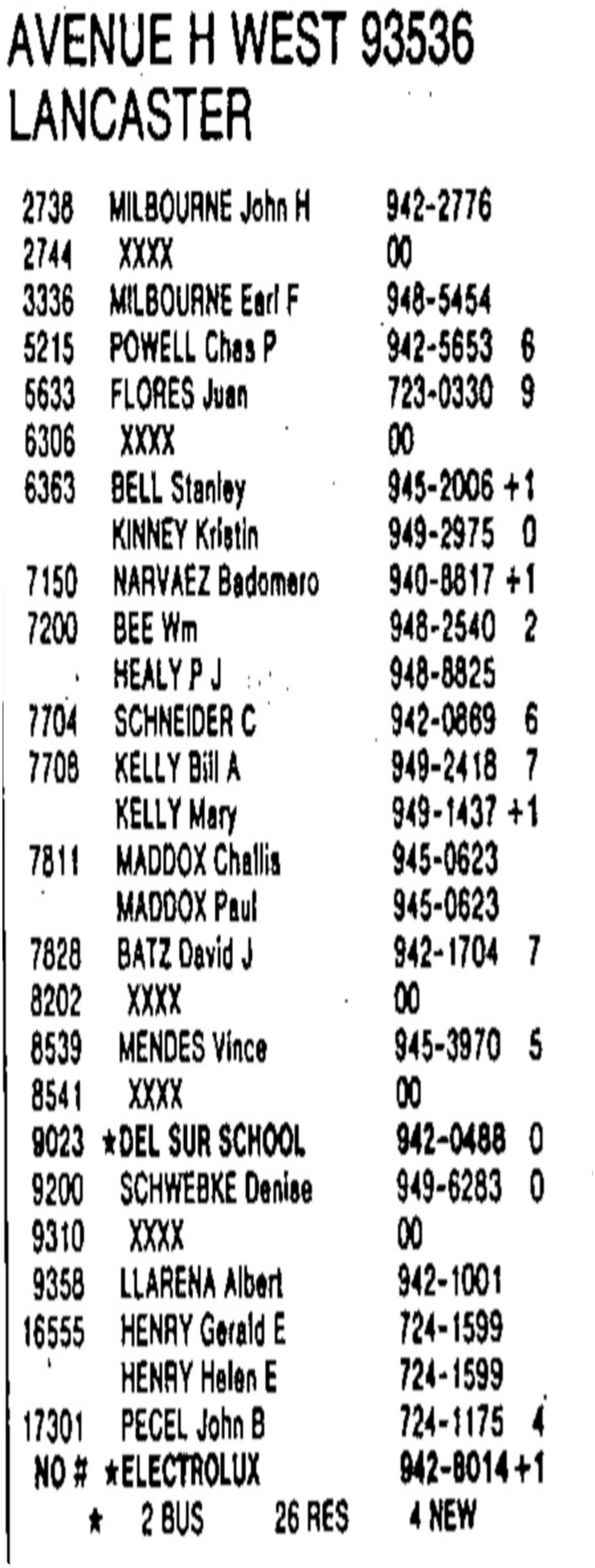


AVENUE H WEST 93536 LANCASTER

1223	★ELECTROLUX	942-8014	2
1834	★FORCAST CORP	949-0906	4
2738	●MILBOURNE John H	942-2776	
2744	XXXX	00	
3336	MILBOURNE Earl F	948-5454	
5215	●POWELL Chas P	942-5653	6
5633	●FLORES Juan	723-0330	9
6306	XXXX	00	
6363	XXXX	00	
7150	NARVAEZ Badomero	940-8817	1
7155	●BEALE Terry	00	+5
7200	BEE Wm	948-2540	
	HEALY P J	948-8825	
7247	●MASTERS Donald	00	+5
7605	●FADDOUL Chris	00	+5
7704	●SCHNEIDER Paul	00	+5
7708	KELLY Bill A	949-2418	7
	KELLY Mary	949-1437	1
7811	●MADDOX Challis	945-0623	
	●MADDOX Paul	945-0623	
7828	BATZ David J	942-1704	7
	●ROCCA Robert	00	+5
8202	XXXX	00	
8539	MENDES Vince	945-3970	
8541	XXXX	00	
9023	★DEL SUR SCHOOL	942-0488	+5
	★WESTSIDE UN SC	942-0488	+5
9200	SCHWEBKE Denise	949-6283	0
9310	XXXX	00	
9358	LLARENA Albert	942-1001	
16555	●HENRY Gerald E	724-1599	
	●HENRY Helen E	724-1599	
17301	PECEL John B	724-1175	

★ 4 BUS 29 RES 7 NEW

1991-92 AVE H W
SOURCE: HAINES



AVENUE H WEST 93536 LANCASTER

2738	MILBOURNE John H	942-2776	
2744	XXXX	00	
3336	MILBOURNE Earl F	948-5454	
5215	POWELL Chas P	942-5653	6
5633	FLORES Juan	723-0330	9
6306	XXXX	00	
6363	BELL Stanley	945-2006	+1
	KINNEY Kristin	949-2975	0
7150	NARVAEZ Badomero	940-8817	+1
7200	BEE Wm	948-2540	2
	HEALY P J	948-8825	
7704	SCHNEIDER C	942-0869	6
7708	KELLY Bill A	949-2418	7
	KELLY Mary	949-1437	+1
7811	MADDOX Challis	945-0623	
	MADDOX Paul	945-0623	
7828	BATZ David J	942-1704	7
8202	XXXX	00	
8539	MENDES Vince	945-3970	5
8541	XXXX	00	
9023	★DEL SUR SCHOOL	942-0488	0
9200	SCHWEBKE Denise	949-6283	0
9310	XXXX	00	
9358	LLARENA Albert	942-1001	
16555	HENRY Gerald E	724-1599	
	HENRY Helen E	724-1599	
17301	PECEL John B	724-1175	4
NO #	★ELECTROLUX	942-8014	+1

★ 2 BUS 26 RES 4 NEW

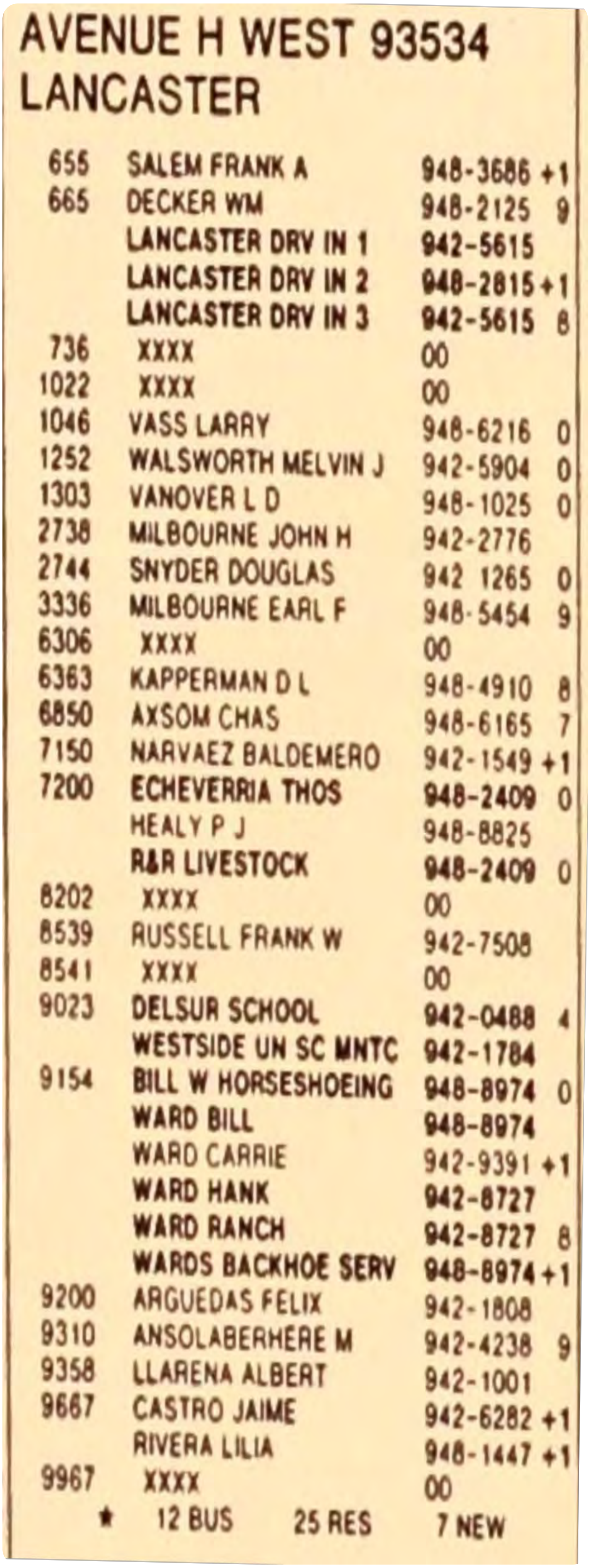
1987 AVE H W
SOURCE: HAINES

AVENUE H WEST 93536
LANCASTER

2738	MILBOURNE John H	942-2776	
2744	XXXX	00	
3336	MILBOURNE Earl F	948-5454	9
5215	POWELL Chas P	942-5653	6
5748	STOKES Wayne	949-2499	+7
6306	XXXX	00	
6363	MITCHELL Don	948-1535	2
7200	BEE Wm	948-2540	2
	★ECHEVERRIA THOS	948-2409	0
	HEALY P J	948-8825	
	★R&R LIVESTOCK	948-2409	0
7704	SCHNEIDER C	942-0869	6
7708	KELLY Bill A	949-2418	+7
7828	BATZ David J	942-1704	+7
8539	MENDES Vince	945-3970	5
8541	XXXX	00	
9023	★DELSUR SCHOOL	942-0488	
	★WESTSIDE SC MNTNC	942-1784	
9154	WARD Hank	942-8727	
	★WARD RANCH	942-8727	
9200	XXXX	00	
9310	XXXX	00	
9358	LLARENA Albert	942-1001	
9667	BENNETT Ronald E	949-1894	+7
	INDART J L	945-2871	6
	STOKES Wayne	949-0748	+7
16555	HALL Jerry W	724-1105	2
17301	PECEL John B	724-1175	4

★ 5 BUS 23 RES 5 NEW

1981 AVE H W
SOURCE: HAINES



AVENUE H WEST 93534
LANCASTER

655	SALEM FRANK A	948-3686	+1
665	DECKER WM	948-2125	9
	LANCASTER DRV IN 1	942-5615	
	LANCASTER DRV IN 2	948-2815	+1
	LANCASTER DRV IN 3	942-5615	8
736	XXXX	00	
1022	XXXX	00	
1046	VASS LARRY	948-6216	0
1252	WALSWORTH MELVIN J	942-5904	0
1303	VANOVER L D	948-1025	0
2738	MILBOURNE JOHN H	942-2776	
2744	SNYDER DOUGLAS	942 1265	0
3336	MILBOURNE EARL F	948-5454	9
6306	XXXX	00	
6363	KAPPERMAN D L	948-4910	8
6850	AXSOM CHAS	948-6165	7
7150	NARVAEZ BALDEMERO	942-1549	+1
7200	ECHEVERRIA THOS	948-2409	0
	HEALY P J	948-8825	
	R&R LIVESTOCK	948-2409	0
8202	XXXX	00	
8539	RUSSELL FRANK W	942-7508	
8541	XXXX	00	
9023	DELSUR SCHOOL	942-0488	4
	WESTSIDE UN SC MNTC	942-1784	
9154	BILL W HORSESHOEING	948-8974	0
	WARD BILL	948-8974	
	WARD CARRIE	942-9391	+1
	WARD HANK	942-8727	
	WARD RANCH	942-8727	8
	WARDS BACKHOE SERV	948-8974	+1
9200	ARGUEDAS FELIX	942-1808	
9310	ANSOLABERHERE M	942-4238	9
9358	LLARENA ALBERT	942-1001	
9667	CASTRO JAIME	942-6282	+1
	RIVERA LILIA	948-1447	+1
9967	XXXX	00	

★ 12 BUS 25 RES 7 NEW

1975 AVE H W

SOURCE: HAINES

RANGE NOT LISTED

National Flood Hazard Layer FIRMette

FEMA

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/25/2022 at 10:33 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

CONSOLIDATED CONSULTING GROUP

ENVIRONMENTAL, BUILDING & LAND SURVEY CONSULTING

WWW.CONSOLIDATEDCONSULTING.COM

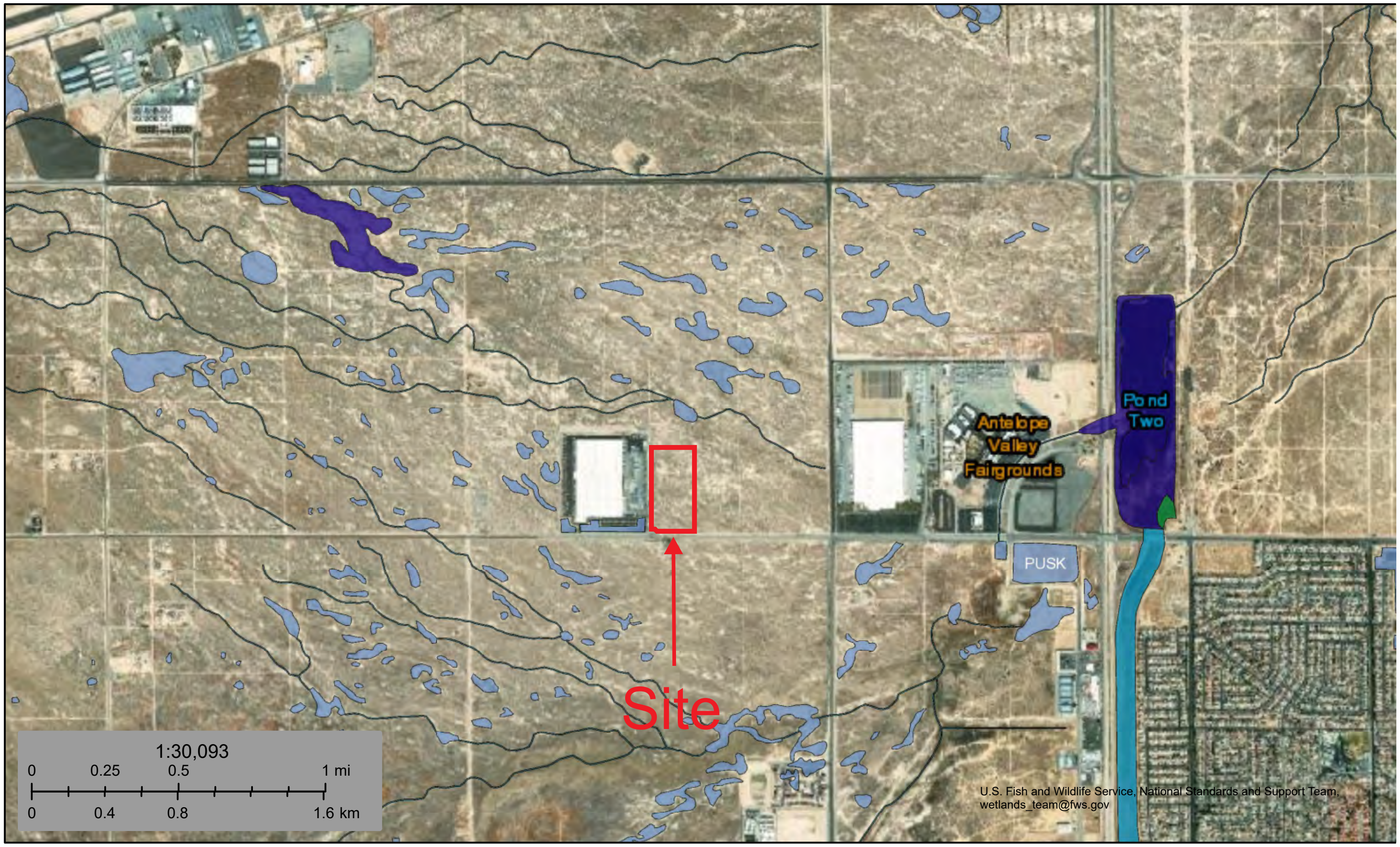
Project Name: 19.09 Acres (Undeveloped)
Address: West Avenue H
Lancaster, CA 95356
Project #: CCG-5273
Date: September 2022

FLOOD MAP

U.S. Fish and Wildlife Service

National Wetlands Inventory

CCG-5273



U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov

August 26, 2022

Wetlands

- 🟦 Estuarine and Marine Deepwater
- 🟩 Estuarine and Marine Wetland
- 🟩 Freshwater Emergent Wetland
- 🟩 Freshwater Forested/Shrub Wetland
- 🟦 Freshwater Pond
- 🟪 Lake
- 🟫 Other
- 🟦 Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

CONSOLIDATED CONSULTING GROUP

ENVIRONMENTAL, BUILDING & LAND SURVEY CONSULTING

WWW.CONSOLIDATEDCONSULTING.COM

Project Name: 19.09 Acres (Undeveloped)
Address: West Avenue H
Lancaster, CA 95356
Project #: CCG-5273
Date: September 2022

WETLANDS MAP

Soil Map

Map Scale: 1:2,200 if printed on A portrait (8.5" x 11") sheet.

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Antelope Valley Area, California
Survey Area Data: Version 14, Sep 13, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 14, 2022—Apr 23, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Px	Pond-Oban complex	9.2	44.6%
Tw	Tray loam, saline-alkali	11.5	55.4%
Totals for Area of Interest		**20.7**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Antelope Valley Area, California

Px—Pond-Oban complex

Map Unit Setting

National map unit symbol: hcgg
Elevation: 40 to 2,600 feet
Mean annual precipitation: 5 to 6 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 230 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Pond and similar soils: 50 percent
Oban and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pond

Setting

Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 4 inches: fine sandy loam
H2 - 4 to 24 inches: clay loam
H3 - 24 to 72 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Strongly saline (16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Ecological site: R030XG020CA - ALKALI FLATS 4-9"
Hydric soil rating: Yes

Description of Oban

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 4 inches: fine sandy loam
H2 - 4 to 25 inches: clay loam
H3 - 25 to 31 inches: loam
H4 - 31 to 53 inches: stratified gravelly coarse sand to gravelly coarse sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Moderately saline to strongly saline (8.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Low (about 3.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Ecological site: R030XG020CA - ALKALI FLATS 4-9"
Hydric soil rating: No

Minor Components

Tray

Percent of map unit: 10 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 10 percent
Hydric soil rating: No

Tw—Tray loam, saline-alkali

Map Unit Setting

National map unit symbol: hchv
Elevation: 2,300 to 2,400 feet
Mean annual precipitation: 7 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 240 to 260 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Tray and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tray

Setting

Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 32 inches: sandy loam
H3 - 32 to 70 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Slightly saline to strongly saline (4.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water supply, 0 to 60 inches: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B

Ecological site: R030XG020CA - ALKALI FLATS 4-9"
Hydric soil rating: No

Minor Components

Pond
Percent of map unit: 5 percent
Hydric soil rating: No

Rosamond
Percent of map unit: 5 percent
Hydric soil rating: No

Unnamed
Percent of map unit: 4 percent
Hydric soil rating: No

Unnamed
Percent of map unit: 1 percent
Landform: Playas
Hydric soil rating: Yes

REFERENCES:

American Society for Testing and Materials, Standard Practice for Phase I Environmental Site Assessments, Phase I Environmental Site Assessment Process (ASTM 1527-13)

American Society for Testing and Materials, Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transaction (ASTM E2600-15).

City/County/State Offices including:
- City/County Environmental Protection Division
- City/County Fire Marshal
- City/County Planning Department
- Local/Regional Pollution Control Agency
- County Central Appraisal District
- Local/Regional Water Quality Agency

Environmental Risk Information Services (ERIS), Aerial Photograph Package, Prints dated; 1928, 1948, 1956, 1968, 1974, 1980, 1989, 1994, 2004, 2005, 2009, 2010, 2012, 2014, 2016, 2018 & 2020

Environmental Risk Information Services (ERIS), City Directory Report, Number: 22082203725, Report dated August 24, 2022

Environmental Risk Information Services (ERIS), Database Report, Order Number: 22082203725, Report dated August 24, 2022

Federal Emergency Management Agency, Flood Insurance Rate Map, Los Angeles County, California and Incorporated Areas, Community Panel Map Number 06037C0405F, Map Revised: September 26, 2008

Groundwater Atlas of the United States – Segment 1

United States Department of Agriculture, Natural Resource Conservation Service, Soil Survey of Los Angeles County, California from website http://websoilsurvey.nrcs.usda.gov/app,

United States Department of the Interior, U.S. Geological Survey, 7.5-Minute Series Topographic Quadrangle Map (Lancaster West, CA), dated 1930, 1933, 1959, 1960, 1966, 1975, 2012, 2015, 2018 & 2022.

United States Department of Transportation, Pipeline and Hazardous Materials Safety Administration, National Pipeline Mapping System website (http://www.npms.phmsa.dot.gov/)

United States Fish & Wildlife Service, National Wetlands Inventory, Geospatial Wetlands Digital Data. (http://www.fws.gov/wetlands/Data/index.html)

7.2 Governmental Agency Records Attachments

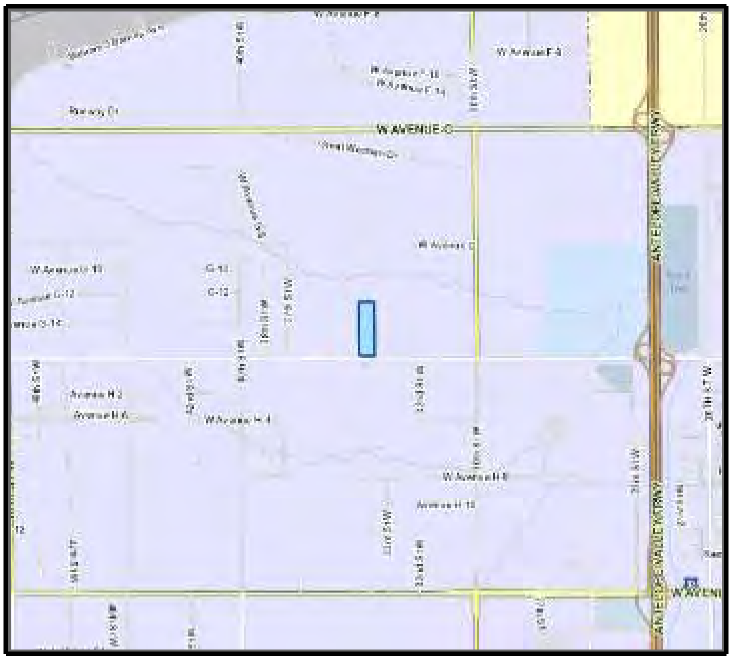
Category	Attached	Not Applicable
7.2.1 General Public Records	**X**	
7.2.2 Mapped Database Report	**X**	
7.2.3 Regulatory Agency Records		**X**

Parcel Profile Report

Report date: 8/16/2022 1:10:36 PM

APN: 3107-026-077

Address: VAC/AVE H/VIC 35TH STW LANCASTER CA 93536



Address: VAC/AVE H/VIC 35TH STW

City: LANCASTER CA

Owner:

Mailing Address:

Mailing City:

Lot Size Sq Ft: 412669

Lot Size Acres: 9.47

Legal Description:

W 1/2 OF W 1/2 OF SW 1/4 OF SE 1/4 EX OF ST OF SEC 6 T7N R12W

Use Code: 300V

Use Description: Industrial

Tax Rate Area: 10218

Transfer Date:

Last Sale Date:

Last Sale Amount:

Building 1

Design Type:

Bedrooms:

Quality Class Shape:

Baths:

Year Built:

Bldg Sq Ft:

Units:

Effective Yr:

NOTE: The information and materials contained herein are provided as a public service to provide planning and zoning information for the unincorporated areas of Los Angeles County. Parcel information shown on this page is from the Assessor's Office. The County has made every reasonable effort to ensure the accuracy of the information and materials contained within.

APN: 3107-026-077

Address: VAC/AVE H/VIC 35TH STW LANCASTER CA 93536

General

Census Tract 2010

TRACT: 900900

TOT_POP: 3813

City and Community

City Name: LANCASTER

Type:

Community Name:

Jurisdiction: INCORPORATED CITY

Community Standards District

No Results Found

CSD Area Specific Boundary

No Results Found

DRP Field Office Service Area

No Results Found

DRP Service Area

Name: North Service Area

Equestrian District

No Results Found

Historic Resources

No Results Found

Leased Parcel (Marina del Rey)

No Results Found

LUP Community/Area Plan

No Results Found

LUP General Plan

No Results Found

Rural Outdoor Lighting District (Dark Skies)

No Results Found

SB9 Eligibility

No Results Found

Significant Ecological Area (SEA)

No Results Found

Significant Ridgeline

No Results Found

Supervisorial District

Name: 5TH SUP. DISTRICT

Supervisor Name: 5TH DISTRICT: KATHRYN BARGER

District: 5

Transit Oriented District

No Results Found

Watershed

Name: ANTELOPE VALLEY

Zoned District

No Results Found

Zoning (Boundary)

No Results Found

Zoning Map Grid

No Results Found

APN: 3107-026-077

Address: VAC/AVE H/VIC 35TH STW LANCASTER CA 93536

View Looking North

View Looking South

View Looking West

View Looking East

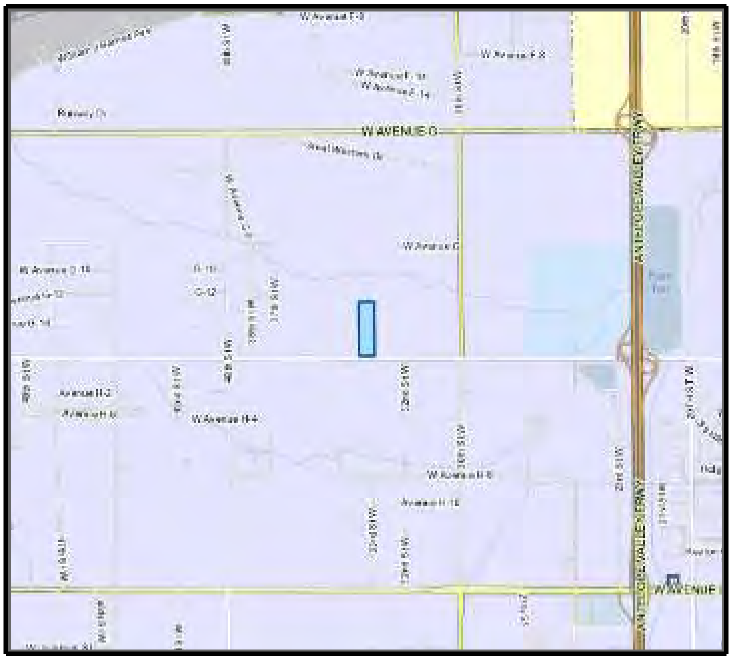
Parcel Profile Report

Report date: 8/16/2022 1:12:10 PM

LA COUNTY PLANNING

APN: 3107-026-079

Address: VAC/AVE H/VIC 35TH STW LANCASTER CA 93536



Address: VAC/AVE H/VIC 35TH STW

City: LANCASTER CA

Owner:

Mailing Address:

Mailing City:

Lot Size Sq Ft: 418941

Lot Size Acres: 9.62

Legal Description:

E 1/2 OF W 1/2 OF SW 1/4 OF SE 1/4 EX OF ST OF SEC 6 T 7N R 12W

Use Code: 300V

Use Description: Industrial

Tax Rate Area: 10218

Transfer Date:

Last Sale Date:

Last Sale Amount:

Building 1

Design Type:

Bedrooms:

Quality Class Shape:

Baths:

Year Built:

Bldg Sq Ft:

Units:

Effective Yr:

NOTE: The information and materials contained herein are provided as a public service to provide planning and zoning information for the unincorporated areas of Los Angeles County. Parcel information shown on this page is from the Assessor's Office. The County has made every reasonable effort to ensure the accuracy of the information and materials contained within.

APN: 3107-026-079

Address: VAC/AVE H/VIC 35TH STW LANCASTER CA 93536

General

Census Tract 2010

TRACT: 900900

TOT_POP: 3813

City and Community

City Name: LANCASTER

Type:

Community Name:

Jurisdiction: INCORPORATED CITY

Community Standards District

No Results Found

CSD Area Specific Boundary

No Results Found

DRP Field Office Service Area

No Results Found

DRP Service Area

Name: North Service Area

Equestrian District

No Results Found

Historic Resources

No Results Found

Leased Parcel (Marina del Rey)

No Results Found

LUP Community/Area Plan

No Results Found

LUP General Plan

No Results Found

Rural Outdoor Lighting District (Dark Skies)

No Results Found

SB9 Eligibility

No Results Found

Significant Ecological Area (SEA)

No Results Found

Significant Ridgeline

No Results Found

Supervisorial District

Name: 5TH SUP. DISTRICT

Supervisor Name: 5TH DISTRICT: KATHRYN BARGER

District: 5

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No Results Found

Watershed

Name: ANTELOPE VALLEY

Zoned District

No Results Found

Zoning (Boundary)

No Results Found

Zoning Map Grid

No Results Found

NOTE: The information and materials contained herein are provided as a public service to provide planning and zoning information for the unincorporated areas of Los Angeles County. Parcel information shown on this page is from the Assessor's Office. The County has made every reasonable effort to ensure the accuracy of the information and materials contained within.

APN: 3107-026-079

Address: VAC/AVE H/VIC 35TH STW LANCASTER CA 93536

View Looking North

View Looking South

View Looking West

View Looking East

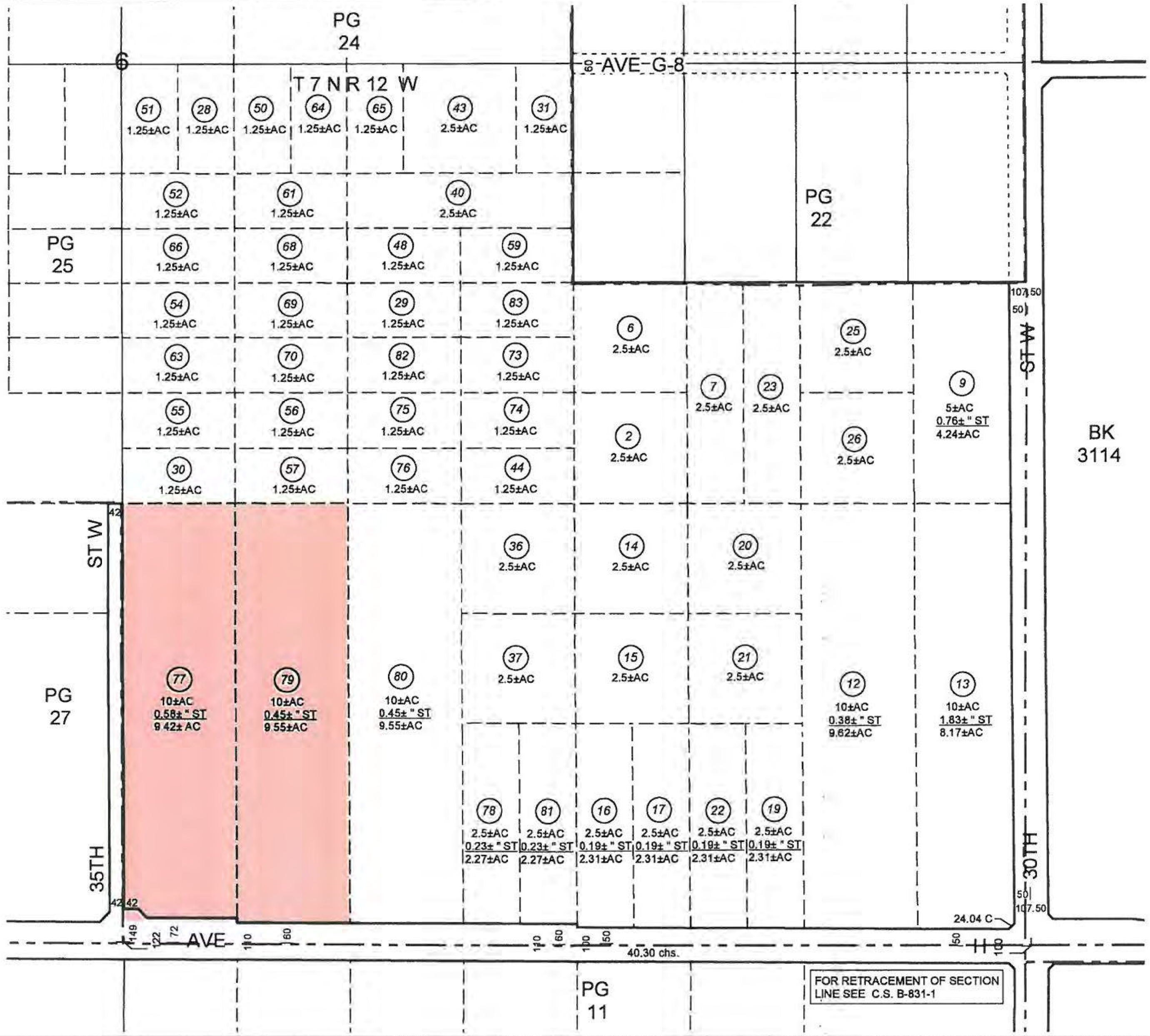
NOTE: The information and materials contained herein are provided as a public service to provide planning and zoning information for the unincorporated areas of Los Angeles County. Parcel information shown on this page is from the Assessor's Office. The County has made every reasonable effort to ensure the accuracy of the information and materials contained within.

3107	26 SHEET	P. A. 3107 - 26	TRA 10218	REVISED 2001101208001001-A1 2002030511002001-A1	2003102704004001-A1 2005103108012001-A1 2012050202-24	2020032402-24 2020032402038001-24			SEARCH NO		OFFICE OF THE ASSESSOR COUNTY OF LOS ANGELES COPYRIGHT © 2002

Site 3 Parcel Map

MAPPING AND GIS
SERVICES
SCALE 1" = 300'

2020



ERIS

DATABASE REPORT

Project Property:	*19 Acres Vacant Land W Avenue H and 35th Street W Lancaster California 93535 CA 93535*
Project No:	*CCG-5273*
Report Type:	*Database Report*
Order No:	*22082203725*
Requested by:	*Consolidated Consulting Group, LLC*
Date Completed:	*August 24, 2022*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Table of Contents

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Executive Summary

Property Information:

Project Property:	*19 Acres Vacant Land* *W Avenue H and 35th Street W Lancaster California 93535 CA 93535*
Project No:	*CCG-5273*

Coordinates:

Latitude:	*34.72062119*
Longitude:	*-118.19156983*
UTM Northing:	*3,842,707.97*
UTM Easting:	*390,896.22*
UTM Zone:	*11S*

Elevation:	*2,325 FT*

Order Information:

Order No:	*22082203725*
Date Requested:	*August 22, 2022*
Requested by:	*Consolidated Consulting Group, LLC*
Report Type:	*Database Report*

Historicals/Products:

Aerial Photographs	*Historical Aerials (with Project Boundaries)*
City Directory Search	*CD - 1 Street Search*
ERIS Xplorer	*ERIS Xplorer*
Excel Add-On	*Excel Add-On*

Executive Summary: Report Summary

Database	*Searched*	*Search Radius*	*Project Property*	*Within 0.12mi*	*0.125mi to 0.25mi*	*0.25mi to 0.50mi*	*0.50mi to 1.00mi*	*Total*
Standard Environmental Records								
Federal								
DOE FUSRAP	*Y*	*1*	*0*	*0*	*0*	*0*	*0*	*0*
NPL	*Y*	*1*	*0*	*0*	*0*	*0*	*0*	*0*
PROPOSED NPL	*Y*	*1*	*0*	*0*	*0*	*0*	*0*	*0*
DELETED NPL	*Y*	*0.5*	*0*	*0*	*0*	*0*	*-*	*0*
SEMS	*Y*	*0.5*	*0*	*0*	*0*	*0*	*-*	*0*
ODI	*Y*	*0.5*	*0*	*0*	*0*	*0*	*-*	*0*
SEMS ARCHIVE	*Y*	*0.5*	*0*	*0*	*0*	*0*	*-*	*0*
CERCLIS	*Y*	*0.5*	*0*	*0*	*0*	*0*	*-*	*0*
IODI	*Y*	*0.5*	*0*	*0*	*0*	*0*	*-*	*0*
CERCLIS NFRAP	*Y*	*0.5*	*0*	*0*	*0*	*0*	*-*	*0*
CERCLIS LIENS	*Y*	*PO*	*0*	*-*	*-*	*-*	*-*	*0*
RCRA CORRACTS	*Y*	*1*	*0*	*0*	*0*	*0*	*0*	*0*
RCRA TSD	*Y*	*0.5*	*0*	*0*	*0*	*0*	*-*	*0*
RCRA LQG	*Y*	*0.25*	*0*	*0*	*0*	*-*	*-*	*0*
RCRA SQG	*Y*	*0.25*	*0*	*0*	*0*	*-*	*-*	*0*
RCRA VSQG	*Y*	*0.25*	*0*	*0*	*0*	*-*	*-*	*0*
RCRA NON GEN	*Y*	*0.25*	*0*	***1***	*0*	*-*	*-*	***1***
RCRA CONTROLS	*Y*	*0.5*	*0*	*0*	*0*	*0*	*-*	*0*
FED ENG	*Y*	*0.5*	*0*	*0*	*0*	*0*	*-*	*0*
FED INST	*Y*	*0.5*	*0*	*0*	*0*	*0*	*-*	*0*
LUCIS	*Y*	*0.5*	*0*	*0*	*0*	*0*	*-*	*0*
NPL IC	*Y*	*0.5*	*0*	*0*	*0*	*0*	*-*	*0*
ERNS 1982 TO 1986	*Y*	*PO*	*0*	*-*	*-*	*-*	*-*	*0*
ERNS 1987 TO 1989	*Y*	*PO*	*0*	*-*	*-*	*-*	*-*	*0*
ERNS	*Y*	*PO*	*0*	*-*	*-*	*-*	*-*	*0*
FED BROWNFIELDS	*Y*	*0.5*	*0*	*0*	*0*	*0*	*-*	*0*
FEMA UST	*Y*	*0.25*	*0*	*0*	*0*	*-*	*-*	*0*

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
FRP	Y	0.25	0	0	0	-	-	0
DELISTED FRP	Y	0.25	0	0	0	-	-	0
HIST GAS STATIONS	Y	0.25	0	0	0	-	-	0
REFN	Y	0.25	0	0	0	-	-	0
BULK TERMINAL	Y	0.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0
State								
RESPONSE	Y	1	0	0	0	0	0	0
ENVIROSTOR	Y	1	0	0	0	0	**1**	**1**
DELISTED ENVS	Y	1	0	0	0	0	0	0
SWF/LF	Y	0.5	0	0	0	0	-	0
SWRCB SWF	Y	0.5	0	0	0	0	-	0
WMUD	Y	0.5	0	0	0	0	-	0
HWP	Y	1	0	0	0	0	0	0
SWAT	Y	0.5	0	0	0	0	-	0
C&D DEBRIS RECY	Y	0.5	0	0	0	0	-	0
RECYCLING	Y	0.5	0	0	0	0	-	0
PROCESSORS	Y	0.5	0	0	0	0	-	0
CONTAINER RECY	Y	0.5	0	0	0	0	-	0
LDS	Y	0.5	0	0	0	0	-	0
LUST	Y	0.5	0	0	0	0	-	0
DELISTED LST	Y	0.5	0	0	0	0	-	0
UST	Y	0.25	0	0	0	-	-	0
UST CLOSURE	Y	0.5	0	0	0	0	-	0
HHSS	Y	0.25	0	0	0	-	-	0
UST SWEEPS	Y	0.25	0	0	0	-	-	0
AST	Y	0.25	0	0	0	-	-	0
AST SWRCB	Y	0.25	0	0	0	-	-	0
TANK OIL GAS	Y	0.25	0	0	0	-	-	0
DELISTED TNK	Y	0.25	0	0	0	-	-	0
CERS TANK	Y	0.25	0	0	0	-	-	0
DELISTED CTNK	Y	0.25	0	0	0	-	-	0
HIST TANK	Y	0.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
LUR	Y	0.5	0	0	0	0	-	0
CALSITES	Y	0.5	0	0	0	0	-	0
HLUR	Y	0.5	0	0	0	0	-	0
DEED	Y	0.5	0	0	0	0	-	0
VCP	Y	0.5	0	0	0	0	-	0
CLEANUP SITES	Y	0.5	0	0	0	0	-	0
DELISTED CLEANUP	Y	0.5	0	0	0	0	-	0
DELISTED COUNTY	Y	0.25	0	0	0	-	-	0

Tribal

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
INDIAN LUST	Y	0.5	0	0	0	0	-	0
INDIAN UST	Y	0.25	0	0	0	-	-	0
DELISTED ILST	Y	0.5	0	0	0	0	-	0
DELISTED IUST	Y	0.25	0	0	0	-	-	0

County

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
SML LA	Y	0.5	0	0	0	0	-	0
SWF LA COUNTY	Y	0.5	0	0	0	0	-	0
CUPA LA COUNTY	Y	0.25	0	0	0	-	-	0
HMS LA	Y	0.25	0	0	0	-	-	0
UST SANTAFESP	Y	0.25	0	0	0	-	-	0
UST LONGB	Y	0.25	0	0	0	-	-	0
CUPA BURBANK	Y	0.25	0	0	0	-	-	0
UST ELSEGUNDO	Y	0.25	0	0	0	-	-	0
UST SANTA MONICA	Y	0.25	0	0	0	-	-	0
AST SANTAMON	Y	0.25	0	0	0	-	-	0
CUPA SANTAMON	Y	0.25	0	0	0	-	-	0
UST TORRANCE	Y	0.25	0	0	0	-	-	0
UST VERNON	Y	0.25	0	0	0	-	-	0
CUPA VERNON	Y	0.25	0	0	0	-	-	0
UST LA CITY	Y	0.25	0	0	0	-	-	0
AST LA CITY	Y	0.25	0	0	0	-	-	0
HAZMAT LA CITY	Y	0.125	0	0	-	-	-	0

Additional Environmental Records

Federal

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
FINDS/FRS	Y	PO	0	-	-	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
TRIS	Y	PO	0	-	-	-	-	0
PFAS TRI	Y	0.5	0	0	0	0	-	0
PFAS NPL	Y	0.5	0	0	0	0	-	0
PFAS WATER	Y	0.5	0	0	0	0	-	0
PFAS SSEHRI	Y	0.5	0	0	0	0	-	0
ERNS PFAS	Y	0.5	0	0	0	0	-	0
HMIRS	Y	0.125	0	0	-	-	-	0
NCDL	Y	0.125	0	0	-	-	-	0
TSCA	Y	0.125	0	0	-	-	-	0
HIST TSCA	Y	0.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	0.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED FED DRY	Y	0.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
FORMER NIKE	Y	1	0	0	0	0	0	0
PIPELINE INCIDENT	Y	PO	0	-	-	-	-	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	0.25	0	0	0	-	-	0
SMCRA	Y	1	0	0	0	0	0	0
MRDS	Y	1	0	0	0	0	0	0
URANIUM	Y	1	0	0	0	0	0	0
ALT FUELS	Y	0.25	0	0	0	-	-	0
CONSENT DECREES	Y	0.25	0	0	0	-	-	0
AFS	Y	PO	0	-	-	-	-	0
SSTS	Y	0.25	0	0	0	-	-	0
PCBT	Y	0.5	0	0	0	0	-	0
PCB	Y	0.5	0	0	0	0	-	0
State								
DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED DRYCLEANERS	Y	0.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
DRYC GRANT	Y	0.25	0	0	0	-	-	0
PFAS	Y	0.5	0	0	0	0	-	0
PFAS GW	Y	0.5	0	0	0	0	-	0
HWSS CLEANUP	Y	0.5	0	0	0	0	-	0
TOXIC PITS	Y	1	0	0	0	0	0	0
DTSC HWF	Y	0.5	0	0	0	0	-	0
INSP COMP ENF	Y	1	0	0	0	0	0	0
SCH	Y	1	0	0	0	0	**1**	**1**
CHMIRS	Y	PO	0	-	-	-	-	0
HIST CHMIRS	Y	PO	0	-	-	-	-	0
HAZNET	Y	PO	0	-	-	-	-	0
HAZ GEN	Y	PO	0	-	-	-	-	0
HAZ TSD	Y	0.5	0	0	0	0	-	0
HIST MANIFEST	Y	PO	0	-	-	-	-	0
HW TRANSPORT	Y	0.125	0	0	-	-	-	0
WASTE TIRE	Y	PO	0	-	-	-	-	0
MEDICAL WASTE	Y	0.25	0	0	0	-	-	0
HIST CORTESE	Y	0.5	0	0	0	0	-	0
CDO/CAO	Y	0.5	0	0	0	0	-	0
CERS HAZ	Y	0.125	0	0	-	-	-	0
DELISTED HAZ	Y	0.5	0	0	0	0	-	0
GEOTRACKER	Y	0.125	0	0	-	-	-	0
MINE	Y	1	0	0	0	0	0	0
LIEN	Y	PO	0	-	-	-	-	0
WASTE DISCHG	Y	0.25	0	0	0	-	-	0
EMISSIONS	Y	0.25	0	0	0	-	-	0
CDL	Y	0.125	0	0	-	-	-	0
Tribal	***No Tribal additional environmental record sources available for this State.***							
County								
HAZMAT SANTAMON	Y	0.125	0	0	-	-	-	0
HAZ WST SANTAMON	Y	0.125	0	0	-	-	-	0
	Total:		0	**1**	0	0	**2**	**3**

**** PO – Property Only***
**** 'Property and adjoining properties' database search radii are set at 0.25 miles.***

Executive Summary: Site Report Summary - Project Property

Map Key	***DB***	***Company/Site Name***	***Address***	***Direction***	***Distance (mi/ft)***	***Elev Diff (ft)***	***Page Number***

No records found in the selected databases for the project property.

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
1	RCRA NON GEN	MICHAEL REGIONAL DISTRIBUTION CENTER	3501 W AVENUE H LANCASTER CA 93536-8341 ***EPA Handler ID:*** CAL000351899	W	0.08 / 437.69	1	17
2	SCH	MIDDLE SCHOOL SITE NO. 24	AVENUE H-8/40TH STREET WEST LANCASTER CA 93536 ***Estor/EPA ID | Cleanup Status:*** 19650038 | NO ACTION REQUIRED AS OF 3/25/2004	WSW	0.81 / 4,264.25	3	18
2	ENVIROSTOR	MIDDLE SCHOOL SITE NO. 24	AVENUE H-8/40TH STREET WEST LANCASTER CA 93536 ***Estor/EPA ID | Cleanup Status:*** 19650038 | NO ACTION REQUIRED AS OF 3/25/2004	WSW	0.81 / 4,264.25	3	19

Executive Summary: Summary by Data Source

Standard

Federal

RCRA NON GEN - RCRA Non-Generators

A search of the RCRA NON GEN database, dated Jun 27, 2022 has found that there are 1 RCRA NON GEN site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
MICHAEL REGIONAL DISTRIBUTION CENTER	3501 W AVENUE H LANCASTER CA 93536-8341	W	0.08 / 437.69	1
	EPA Handler ID: *CAL000351899*			

State

ENVIROSTOR - EnviroStor Database

A search of the ENVIROSTOR database, dated May 30, 2022 has found that there are 1 ENVIROSTOR site(s) within approximately 1.00 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
MIDDLE SCHOOL SITE NO. 24	AVENUE H-8/40TH STREET WEST LANCASTER CA 93536	WSW	0.81 / 4,264.25	2
	Estor/EPA ID | Cleanup Status: *19650038 | NO ACTION REQUIRED AS OF 3/25/2004*			

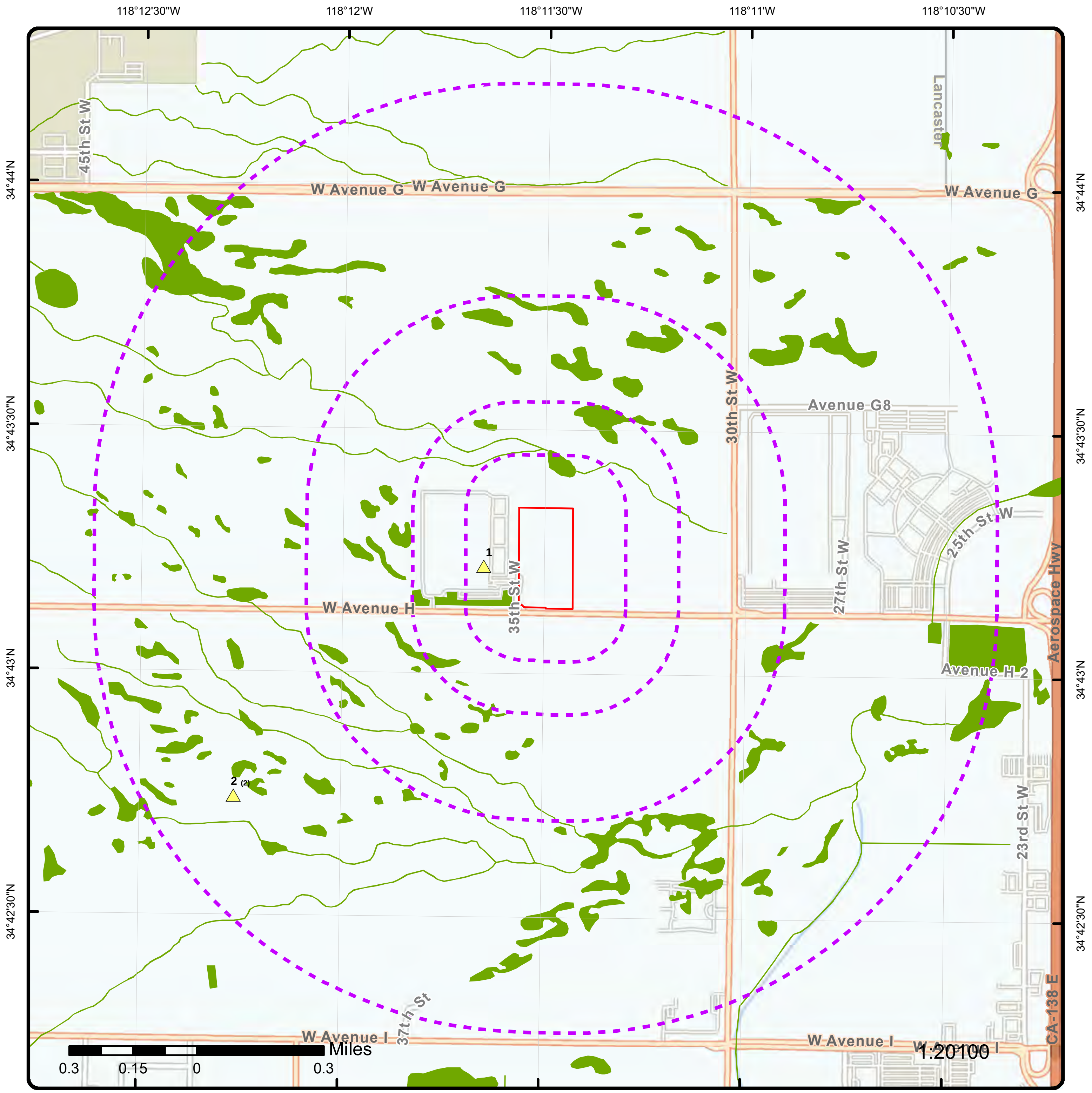
Non Standard

State

SCH - School Property Evaluation Program Sites

A search of the SCH database, dated May 30, 2022 has found that there are 1 SCH site(s) within approximately 1.00 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
MIDDLE SCHOOL SITE NO. 24	AVENUE H-8/40TH STREET WEST LANCASTER CA 93536	WSW	0.81 / 4,264.25	2
	Estor/EPA ID | Cleanup Status: *19650038 | NO ACTION REQUIRED AS OF 3/25/2004*			



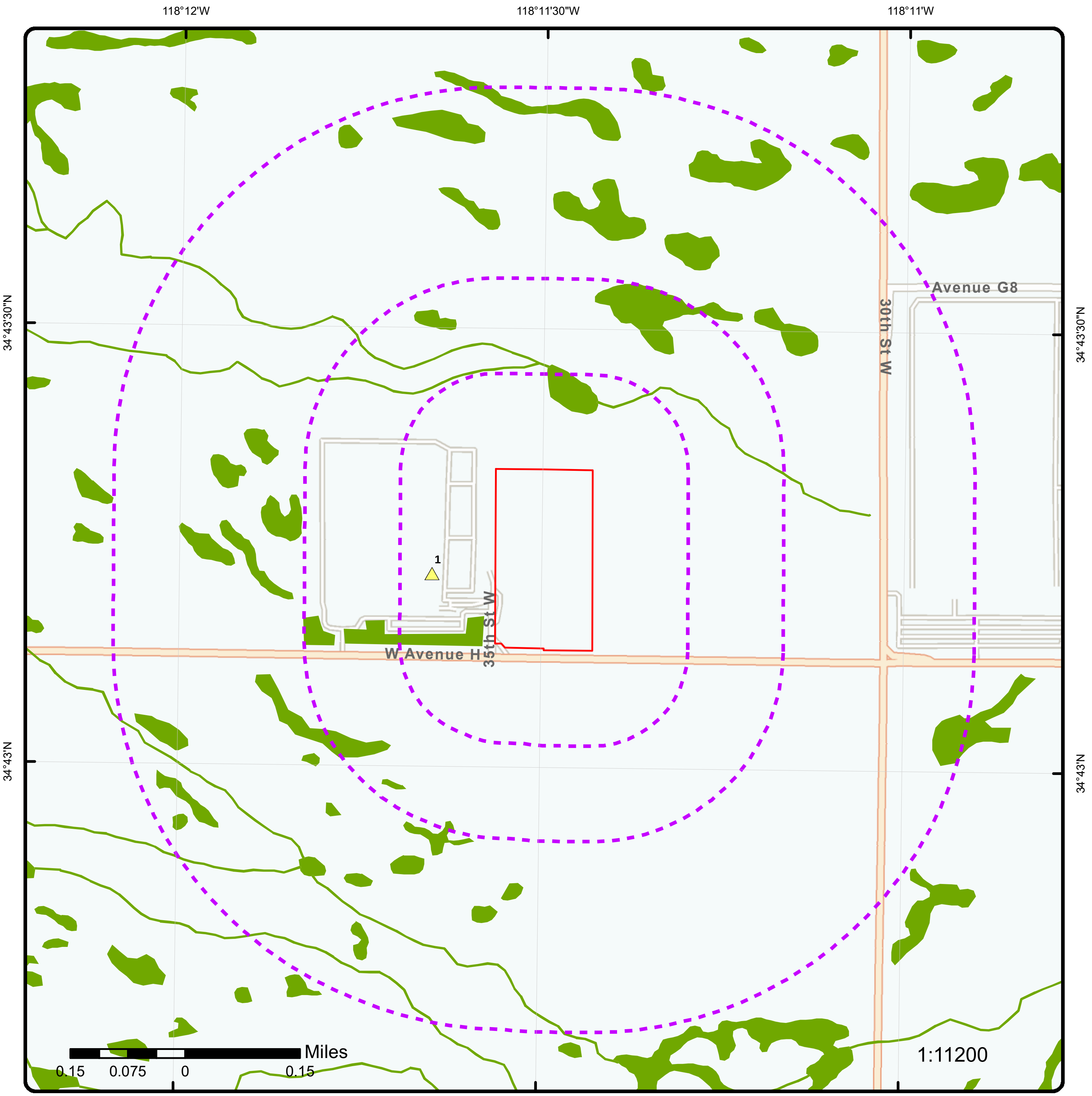
Map: 1.0 Mile Radius

Order Number: 22082203725

Address: W Avenue H and 35th Street W Lancaster, California 93535, CA

- ▭ Project Property
- ▭ Buffer Outline
- △ Eris Sites with Higher Elevation
- ■ Eris Sites with Same Elevation
- ▼ Eris Sites with Lower Elevation
- ○ Eris Sites with Unknown Elevation
- ▭ Eris Areas with Higher Elevation
- ▭ Eris Areas with Same Elevation
- ▭ Eris Areas with Lower Elevation
- ▭ Eris Areas with Unknown Elevation
- ▬ Freeways; Highways
- ▬ Traffic Circle; Ramp
- ▬ Major & Minor Arterial
- ▬ Traffic Circle; Ramp
- ▬ Local Road
- ┼ Rail
- ▬ State
- ▬ Country
- ■ National Wetland
- ▨ Indian Reserve Land
- ▨ Plume
- ▨ 100 Year Flood Zone
- ▨ 500 Year Flood Zone
- ▩ FWS Special Designation Areas

Source: © 2021 ESRI StreetMap Premium

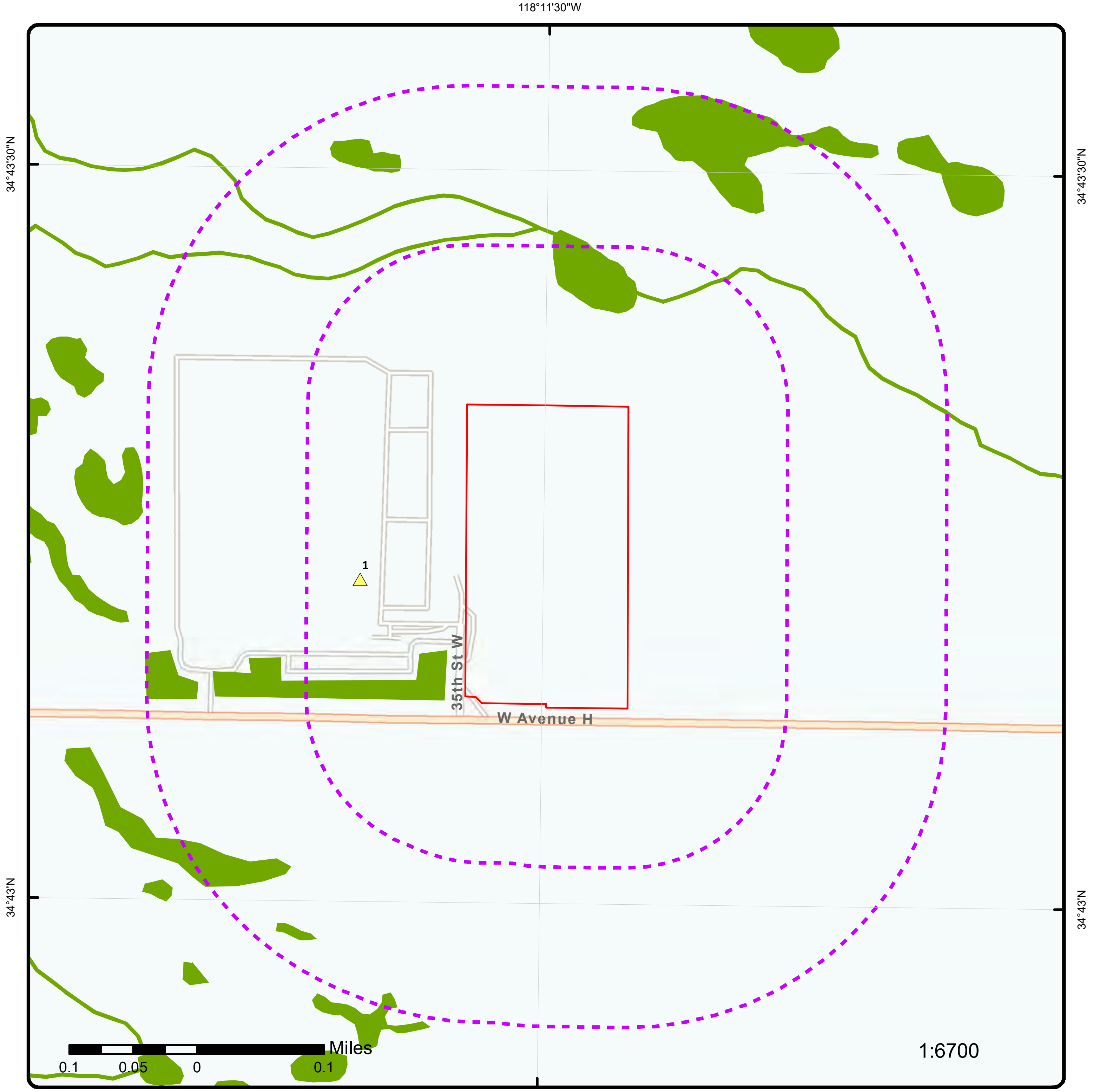


Map: 0.5 Mile Radius

Order Number: 22082203725
Address: W Avenue H and 35th Street W Lancaster, California 93535, CA

- ▭ Project Property
- ⬚ Buffer Outline
- △ Eris Sites with Higher Elevation
- ■ Eris Sites with Same Elevation
- ▼ Eris Sites with Lower Elevation
- ○ Eris Sites with Unknown Elevation
- ▭ Eris Areas with Higher Elevation
- ▭ Eris Areas with Same Elevation
- ▭ Eris Areas with Lower Elevation
- ▭ Eris Areas with Unknown Elevation
- ▬ Freeways; Highways
- ▬ Traffic Circle; Ramp
- ▬ Major & Minor Arterial
- ▬ Traffic Circle; Ramp
- ▭ Local Road
- ┼ Rail
- ▬ State
- ▬ Country
- 🟩 National Wetland
- ▨ Indian Reserve Land
- ▨ Plume
- ▨ 100 Year Flood Zone
- ▨ 500 Year Flood Zone
- ▨ FWS Special Designation Areas

Source: © 2021 ESRI StreetMap Premium



Map: 0.25 Mile Radius

Order Number: 22082203725

Address: W Avenue H and 35th Street W Lancaster, California 93535, CA

▭ Project Property ⬚ Buffer Outline

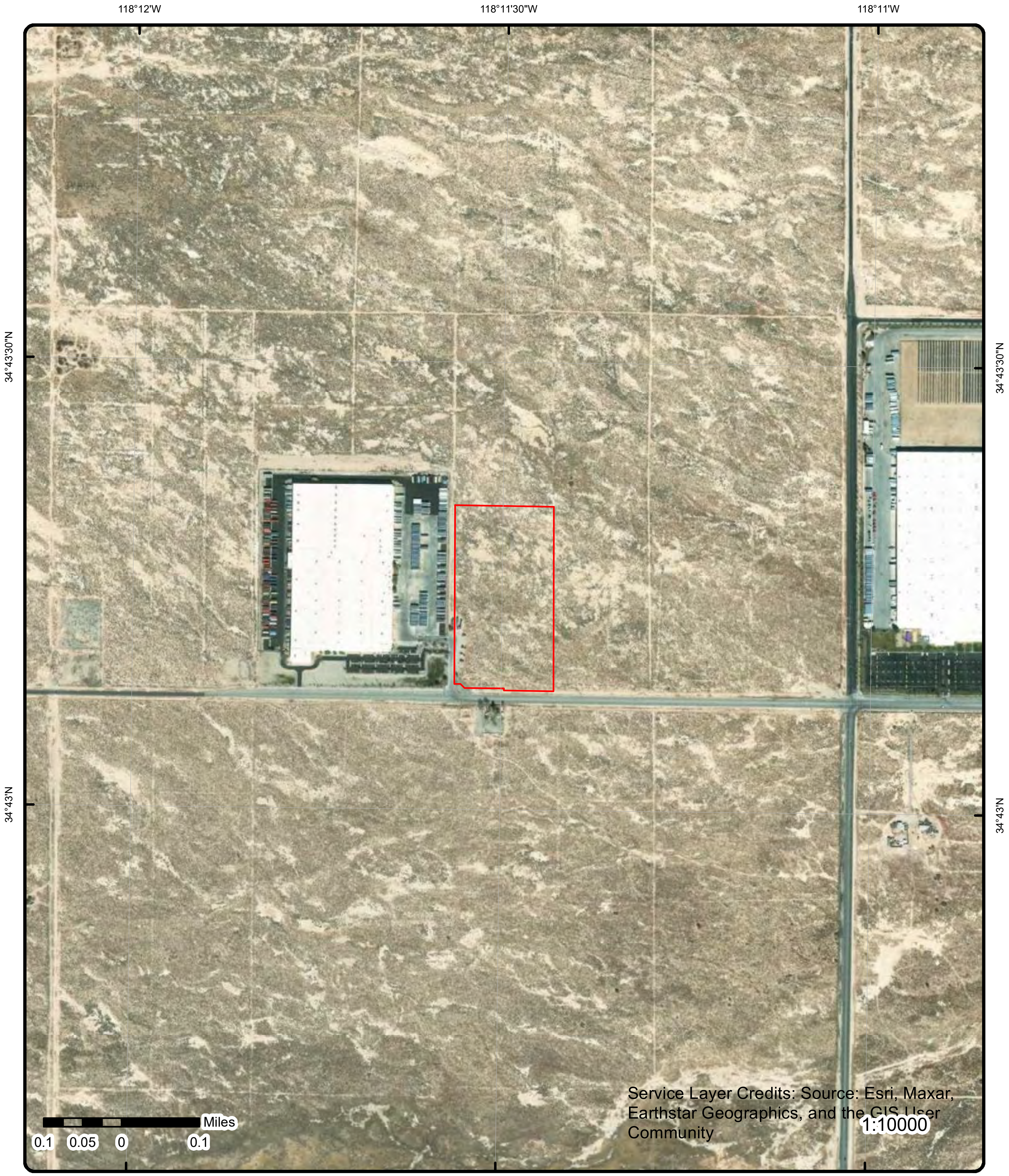
△ Eris Sites with Higher Elevation
■ Eris Sites with Same Elevation
▼ Eris Sites with Lower Elevation
○ Eris Sites with Unknown Elevation
▭ Eris Areas with Higher Elevation
▭ Eris Areas with Same Elevation
▭ Eris Areas with Lower Elevation
▭ Eris Areas with Unknown Elevation

━ Freeways; Highways
━ Traffic Circle; Ramp
━ Major & Minor Arterial
━ Traffic Circle; Ramp
━ Local Road
┼ Rail

━ State
━ Country
🟩 National Wetland
▨ Indian Reserve Land
▨ Plume
▨ 100 Year Flood Zone
▨ 500 Year Flood Zone

▩ FWS Special Designation Areas

Source: © 2021 ESRI StreetMap Premium



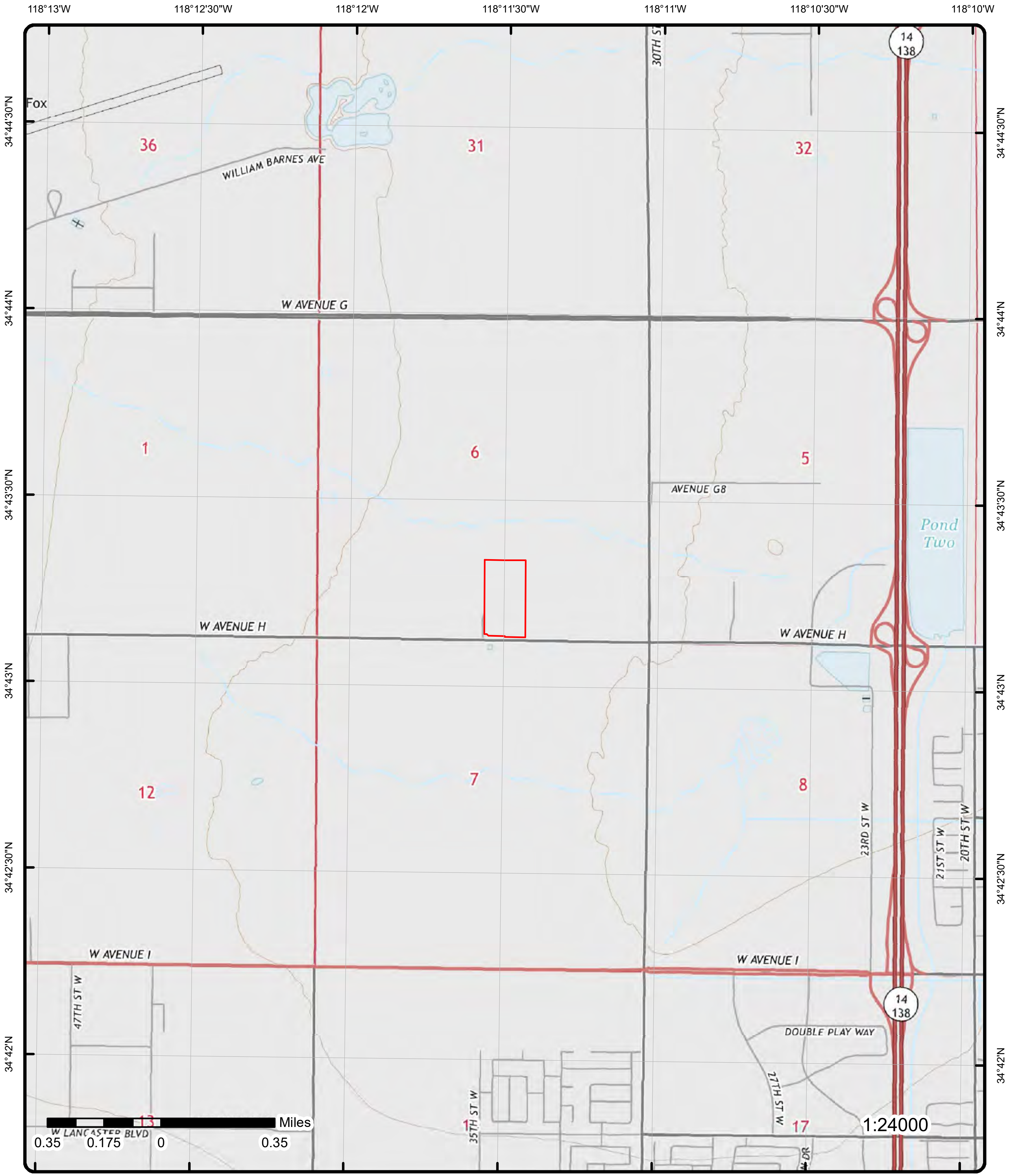
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Aerial **Year: 2021**

Order Number: 22082203725

Address: W Avenue H and 35th Street W Lancaster, California 93535, CA

Source: ESRI World Imagery



Topographic Map

Year: 2018

Order Number: 22082203725

Address: W Avenue H and 35th Street W Lancaster, CA

Quadrangle(s): Rosamond, CA; Lancaster West, CA

Source: USGS Topographic Map

Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	1 of 1	W	0.08 / 437.69	2,325.97 / 1	MICHAEL REGIONAL DISTRIBUTION CENTER 3501 W AVENUE H LANCASTER CA 93536-8341	RCRA NON GEN

EPA Handler ID:	CAL000351899
Gen Status Universe:	No Report
Contact Name:	BRIGHAM ROBERTS
Contact Address:	3501 W AVE H , , LANCASTER , CA, 93536 ,
Contact Phone No and Ext:	661-951-3504
Contact Email:	ROBER403@MICHAELS.COM
Contact Country:	
County Name:	LOS ANGELES
EPA Region:	09
Land Type:	
Receive Date:	20100421
Location Latitude:	34.720614
Location Longitude:	-118.195016

Violation/Evaluation Summary

Note:	NO RECORDS: As of Jun 2022, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20100421
Handler Name:	MICHAEL REGIONAL DISTRIBUTION CENTER
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	8000 BENT BRANCH DR

Name:	MICHAEL STORES INC	***Street 2:***	
Date Became Current:		***City:***	IRVING
Date Ended Current:		***State:***	TX
Phone:	972-409-1300	***Country:***	
Source Type:	Implementer	***Zip Code:***	75063-0000

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Other	***Street 1:***	3501 W AVE H
Name:	BRIGHAM ROBERTS	***Street 2:***	
Date Became Current:		***City:***	LANCASTER
Date Ended Current:		***State:***	CA
Phone:	661-951-3504	***Country:***	
Source Type:	Implementer	***Zip Code:***	93536

Map Key	*Number of Records*	*Direction*	*Distance (mi/ft)*	*Elev/Diff (ft)*	*Site*	*DB*
2	*1 of 2*	*WSW*	*0.81 / 4,264.25*	*2,327.92 / 3*	*MIDDLE SCHOOL SITE NO. 24 AVENUE H-8/40TH STREET WEST LANCASTER CA 93536*	*SCH*

Estor/EPA ID:	19650038	***Permit Renewal Lead:***	
Site Code:	304443	***Project Manager:***	
Nat Priority List:	NO	***Supervisor:***	JAVIER HINOJOSA
Acres:	20 ACRES	***Public Partici Spclst:***	
Special Program:		***Census Tract:***	6037900900
Funding:	SCHOOL DISTRICT	***County:***	LOS ANGELES
Assembly District:	36	***Latitude:***	34.712399
Senate District:	21	***Longitude:***	-118.204399

School District:	LANCASTER ELEMENTARY SCHOOL DISTRICT
APN:	NONE SPECIFIED
Cleanup Status:	NO ACTION REQUIRED AS OF 3/25/2004
Cleanup Oversight Agencies:	DTSC - LEAD AGENCY
Site Type:	SCHOOL
Office:	SOUTHERN CALIFORNIA SCHOOLS & BROWNFIELDS OUTREACH
Past Use that Caused Contam:	NONE
Potential Media Affected:	NO MEDIA AFFECTED
SITE HISTORY:	

The property consists of vacant undeveloped land. No roads, buildings, utilities, wells, or other such improvements are located on the property. Aerial photographs and topographic maps indicate that the property historically consisted of vacant undeveloped land vegetated with native desert vegetation from at least 1952 to 1994. Surrounding properties consist of vacant land.

Potential Contamin of Concern:

NO CONTAMINANTS FOUND

Status:	NO ACTION REQUIRED
Program Type:	SCHOOL EVALUATION
CalEnviroScreen Score:	45-50%
Summary Link:	https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=19650038

<u>Completed Activities</u>

Title:	Phase 1
Title Link:	https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=19650038&doc_id=6001584
Area Name:	
Area Link:	
Sub Area:	
Sub Area Link:	
Document Type:	Phase 1
Date Completed:	3/25/2004
Comments:	

Title:	* Site Visit - Site Inspections/visit
Title Link:	
Area Name:	
Area Link:	
Sub Area:	

Sub Area Link:
Document Type: Site Inspections/Visit (Non LUR)
Date Completed: 3/18/2004
Comments:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	2 of 2	WSW	0.81 / 4,264.25	2,327.92 / 3	MIDDLE SCHOOL SITE NO. 24 AVENUE H-8/40TH STREET WEST LANCASTER CA 93536	ENVIROSTOR

Estor/EPA ID:	19650038	**Assembly District:**	36
Site Code:	304443	**Senate District:**	21
Nat Priority List:	NO	**Permit Renewal Lead:**	
APN:	NONE SPECIFIED	**Public Partici Spclst:**	
Census Tract:	6037900900	**Project Manager:**	
Site Type:	SCHOOL	**County:**	LOS ANGELES
Address Description:	AVENUE H-8/40TH STREET WEST	**Latitude:**	34.712399
Office:	SOUTHERN CALIFORNIA SCHOOLS & BROWNFIELDS OUTREACH	**Longitude:**	-118.204399
Special Program:		**Acres:**	20 ACRES
Funding:	SCHOOL DISTRICT	**Supervisor:**	JAVIER HINOJOSA

Cleanup Status: NO ACTION REQUIRED AS OF 3/25/2004
Cleanup Oversight Agencies: DTSC - LEAD AGENCY
School District: LANCASTER ELEMENTARY SCHOOL DISTRICT
Past Use that Caused Contam: NONE
Potential Media Affected: NO MEDIA AFFECTED
Potential Contamin of Concern:

NO CONTAMINANTS FOUND

Site History:

The property consists of vacant undeveloped land. No roads, buildings, utilities, wells, or other such improvements are located on the property. Aerial photographs and topographic maps indicate that the property historically consisted of vacant undeveloped land vegetated with native desert vegetation from at least 1952 to 1994. Surrounding properties consist of vacant land.

Status: NO ACTION REQUIRED
Program Type: SCHOOL EVALUATION
CalEnviroScreen Score: 45-50%
Summary Link: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=19650038

Completed Activities

Title: * Site Visit - Site Inspections/visit
Title Link:
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Site Inspections/Visit (Non LUR)
Date Completed: 3/18/2004
Comments:

Title: Phase 1
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=19650038&doc_id=6001584
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Phase 1
Date Completed: 3/25/2004
Comments:

Unplottable Summary

Total: 0 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID

No unplottable records were found that may be relevant for the search criteria.

Unplottable Report

No unplottable records were found that may be relevant for the search criteria.

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13 and E1527-21, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

Formerly Utilized Sites Remedial Action Program:

DOE FUSRAP

The U.S. Department of Energy (DOE) established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from the Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations. The DOE Office of Legacy Management (LM) established long-term surveillance and maintenance (LTS&M) requirements for remediated FUSRAP sites. DOE evaluates the final site conditions of a remediated site on the basis of risk for different future uses. DOE then confirms that LTS&M requirements will maintain protectiveness.

Government Publication Date: Mar 4, 2017

National Priority List:

NPL

Sites on the United States Environmental Protection Agency (EPA)'s National Priorities List of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: May 25, 2022

National Priority List - Proposed:

PROPOSED NPL

Sites proposed - by the EPA, the state agency, or concerned citizens - for addition to the NPL due to contamination by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: May 25, 2022

Deleted NPL:

DELETED NPL

Sites deleted from the United States Environmental Protection Agency (EPA)'s National Priorities List. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: May 25, 2022

SEMS List 8R Active Site Inventory:

SEMS

The Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted.

Government Publication Date: Jun 30, 2022

Inventory of Open Dumps, June 1985:

ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

SEMS List 8R Archive Sites:

SEMS ARCHIVE

The Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

Government Publication Date: Jun 30, 2022

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS:

CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

EPA Report on the Status of Open Dumps on Indian Lands:

IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

CERCLIS - No Further Remedial Action Planned:

CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens:

CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA). This database was provided by the United States Environmental Protection Agency (EPA). Refer to SEMS LIEN as the current data source for Superfund Liens.

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action:

RCRA CORRACTS

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Jun 27, 2022

RCRA non-CORRACTS TSD Facilities: RCRA TSD

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Government Publication Date: Jun 27, 2022

RCRA Generator List: RCRA LQG

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Jun 27, 2022

RCRA Small Quantity Generators List: RCRA SQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Jun 27, 2022

RCRA Very Small Quantity Generators List: RCRA VSQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Very Small Quantity Generators (VSQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

Government Publication Date: Jun 27, 2022

RCRA Non-Generators: RCRA NON GEN

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Jun 27, 2022

RCRA Sites with Controls: RCRA CONTROLS

List of Resource Conservation and Recovery Act (RCRA) facilities with institutional controls in place. RCRA gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

Government Publication Date: Jun 27, 2022

Federal Engineering Controls-ECs: FED ENG

Engineering controls (ECs) encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: May 25, 2022

Federal Institutional Controls- ICs: FED INST

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's (United States Environmental Protection Agency) expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site.

Government Publication Date: May 25, 2022

Land Use Control Information System: LUCIS

The LUCIS database is maintained by the U.S. Department of the Navy and contains information for former Base Realignment and Closure (BRAC) properties across the United States.

Government Publication Date: Sep 1, 2006

Institutional Control Boundaries at NPL sites: NPL IC

Boundaries of Institutional Control areas at sites on the United States Environmental Protection Agency (EPA)'s National Priorities List, or Proposed or Deleted, made available by the EPA's Shared Enterprise Geodata and Services (SEGS). United States Environmental Protection Agency (EPA)'s National Priorities List of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. Institutional controls are non-engineered instruments such as administrative and legal controls that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy.

Government Publication Date: May 25, 2022

Emergency Response Notification System: ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System: ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System: ERNS

Database of oil and hazardous substances spill reports made available by the United States Coast Guard National Response Center (NRC). The NRC fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. These data contain initial incident data that has not been validated or investigated by a federal/state response agency.

Government Publication Date: Jun 5, 2022

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database: FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Aug 20, 2021

FEMA Underground Storage Tank Listing: FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Facility Response Plan: FRP

List of facilities that have submitted Facility Response Plans (FRP) to EPA. Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit Facility Response Plans (FRPs). Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments.

Government Publication Date: Dec 31, 2021

Delisted Facility Response Plans: DELISTED FRP

Facilities that once appeared in - and have since been removed from - the list of facilities that have submitted Facility Response Plans (FRP) to EPA. Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit Facility Response Plans (FRPs). Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments.

Government Publication Date: Dec 31, 2021

Historical Gas Stations: HIST GAS STATIONS

This historic directory of service stations is provided by the Cities Service Company. The directory includes Cities Service filling stations that were located throughout the United States in 1930.

Government Publication Date: Jul 1, 1930

Petroleum Refineries: REFN

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

Government Publication Date: Feb 4, 2022

Petroleum Product and Crude Oil Rail Terminals: BULK TERMINAL

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

Government Publication Date: Feb 4, 2022

LIEN on Property: SEMS LIEN

The EPA Superfund Enterprise Management System (SEMS) provides LIEN information on properties under the EPA Superfund Program.

Government Publication Date: Jun 30, 2022

Superfund Decision Documents: SUPERFUND ROD

This database contains a listing of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD), along with other associated memos and files. This information is maintained and made available by the US EPA (Environmental Protection Agency).

Government Publication Date: May 3, 2022

State

State Response Sites: RESPONSE

A list of identified confirmed release sites where the Department of Toxic Substances Control (DTSC) is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk. This database is state equivalent NPL.

Government Publication Date: May 30, 2022

EnviroStor Database: ENVIROSTOR

The EnviroStor Data Management System is made available by the Department of Toxic Substances Control (DTSC). Includes Corrective Action sites, Tiered Permit sites, Historical Sites and Evaluation/Investigation sites. This database is state equivalent CERCLIS.

Government Publication Date: May 30, 2022

Delisted State Response Sites: DELISTED ENVS

Sites removed from the list of State Response Sites made available by the EnviroStor Data Management System, Department of Toxic Substances Control (DTSC).

Government Publication Date: May 30, 2022

Solid Waste Information System (SWIS): SWF/LF

The Solid Waste Information System (SWIS) database made available by the Department of Resources Recycling and Recovery (CalRecycle) contains information on solid waste facilities, operations, and disposal sites throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

Government Publication Date: Aug 3, 2022

Solid Waste Disposal Sites with Waste Constituents Above Hazardous Waste Levels: SWRCB SWF

This is a list of solid waste disposal sites identified by California State Water Resources Control Board with waste constituents above hazardous waste levels outside the waste management unit.

Government Publication Date: Sep 20, 2006

__Waste Management Unit Database:__ WMUD

The Waste Management Unit Database System tracks and inventories waste management units. CCR Title 27 contains criteria stating that Waste Management Units are classified according to their ability to contain wastes. Containment shall be determined by geology, hydrology, topography, climatology, and other factors relating to the ability of the Unit to protect water quality. Water Code Section 13273.1 requires that operators submit a water quality solid waste assessment test (SWAT) report to address leak status. The WMUDS was last updated by the State Water Resources control board in 2000.

Government Publication Date: Jan 1, 2000

__EnviroStor Hazardous Waste Facilities:__ HWP

A list of hazardous waste facilities including permitted, post-closure and historical facilities found in the Department of Toxic Substances Control (DTSC) EnviroStor database.

Government Publication Date: May 30, 2022

__Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report:__ SWAT

In a 1993 Memorandum of Understanding, the State Water Resources Control Board (SWRCB) agreed to submit a comprehensive report on the Solid Waste Assessment Test (SWAT) Program to the California Integrated Waste Management Board (CIWMB). This report summarizes the work completed to date on the SWAT Program, and addresses both the impacts that leakage from solid waste disposal sites (SWDS) may have upon waters of the State and the actions taken to address such leakage.

Government Publication Date: Dec 31, 1995

__Construction and Demolition Debris Recyclers:__ C&D DEBRIS RECY

This listing of Construction and Demolition Debris Recyclers is maintained by the California Intergrated Waste Management Board-common C&D materials include lumber, drywall, metals, masonry (brick, concrete, etc.), carpet, plastic, pipe, rocks, dirt, paper, cardboard, or green waste related to land development.

Government Publication Date: Jun 20, 2018

__Recycling Centers:__ RECYCLING

This list of Certified Recycling Centers that are operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

Government Publication Date: Jul 12, 2022

__Listing of Certified Processors:__ PROCESSORS

This list of Certified Processors that are operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

Government Publication Date: Jul 12, 2022

__Listing of Certified Dropoff, Collection, and Community Service Programs:__ CONTAINER RECY

This list of Certified Dropoff, Collection, and Community Service Programs (non-buyback) operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

Government Publication Date: Jul 12, 2022

__Land Disposal Sites:__ LDS

Land Disposal Sites in GeoTracker, the State Water Resources Control Board (SWRCB)'s data management system. The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units. Waste management units include waste piles, surface impoundments, and landfills.

Government Publication Date: Feb 15, 2022

__Leaking Underground Fuel Tank Reports:__ LUST

List of Leaking Underground Storage Tanks within the Cleanup Sites data in GeoTracker database. GeoTracker is the State Water Resources Control Board's (SWRCB) data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense and Site Cleanup Program) as well as permitted facilities such as operating Underground Storage Tanks. The Leak Prevention Program that overlooks LUST sites is the SWRCB in California's Environmental Protection Agency.

Government Publication Date: Feb 15, 2022

__Delisted Leaking Storage Tanks:__ DELISTED LST

List of Leaking Underground Storage Tanks (LUST) cleanup sites removed from GeoTracker, the State Water Resources Control Board (SWRCB)'s database system, as well as sites removed from the SWRCB's list of UST Case closures.

Government Publication Date: Feb 15, 2022

Permitted Underground Storage Tank (UST) in GeoTracker: UST

List of Permitted Underground Storage Tank (UST) sites made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA).

Government Publication Date: Jul 20, 2022

Proposed Closure of Underground Storage Tank Cases: UST CLOSURE

List of UST cases that are being considered for closure by either the California Environmental Protection Agency, State Water Resources Control Board or the Executive Director that have been posted for a 60-day public comment period.

Government Publication Date: May 5, 2021

Historical Hazardous Substance Storage Information Database: HHSS

The Historical Hazardous Substance Storage database contains information collected in the 1980s from facilities that stored hazardous substances. The information was originally collected on paper forms, was later transferred to microfiche, and recently indexed as a searchable database. When using this database, please be aware that it is based upon self-reported information submitted by facilities which has not been independently verified. It is unlikely that every facility responded to the survey and the database should not be expected to be a complete inventory of all facilities that were operating at that time. This database is maintained by the California State Water Resources Control Board's (SWRCB) Geotracker.

Government Publication Date: Aug 27, 2015

Statewide Environmental Evaluation and Planning System: UST SWEEPS

The Statewide Environmental Evaluation and Planning System (SWEEPS) is a historical listing of active and inactive underground storage tanks made available by the California State Water Resources Control Board (SWRCB).

Government Publication Date: Oct 1, 1994

Aboveground Storage Tanks: AST

A statewide list from 2009 of aboveground storage tanks (ASTs) made available by the Cal FIRE Office of the State Fire Marshal (OSFM). This list is no longer maintained or updated by the Cal FIRE OSFM.

Government Publication Date: Aug 31, 2009

SWRCB Historical Aboveground Storage Tanks: AST SWRCB

A list of aboveground storage tanks made available by the California State Water Resources Control Board (SWRCB). Effective January 1, 2008, the Certified Unified Program Agencies (CUPAs) are vested with the responsibility and authority to implement the Aboveground Petroleum Storage Act (APSA).

Government Publication Date: Dec 1, 2007

Oil and Gas Facility Tanks: TANK OIL GAS

Locations of oil and gas tanks that fall under the jurisdiction of the Geologic Energy Management Division of the California Department of Conservation (CalGEM) (CCR 1760). CalGEM was formerly the Division of Oil, Gas, and Geothermal Resources (DOGGR).

Government Publication Date: Jul 6, 2022

Delisted Storage Tanks: DELISTED TNK

This database contains a list of storage tank sites that were removed by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA) and the Cal FIRE Office of State Fire Marshal (OSFM).

Government Publication Date: Jul 20, 2022

California Environmental Reporting System (CERS) Tanks: CERS TANK

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: Jul 7, 2022

Delisted California Environmental Reporting System (CERS) Tanks: DELISTED CTNK

This database contains a list of Aboveground Petroleum Storage and Underground Storage Tank sites that were removed from in the California Environmental Protection Agency (CalEPA) Regulated Site Portal.

Government Publication Date: Jul 7, 2022

Historical Hazardous Substance Storage Container Information - Facility Summary: HIST TANK

The State Water Resources Control Board maintained the Hazardous Substance Storage Containers listing and inventory in th 1980s. This facility summary lists historic tank sites where the following container types were present: farm motor vehicle fuel tanks; waste tanks; sumps; pits, ponds, lagoons, and others; and all other product tanks. This set, published in May 1988, lists facility and owner information, as well as the number of containers. This data is historic and will not be updated.

Government Publication Date: May 27, 1988

Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions: LUR

The Department of Toxic Substances Control (DTSC) Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents land use restrictions that are active. Some sites have multiple land use restrictions.

Government Publication Date: May 30, 2022

CALSITES Database: CALSITES

This historical database was maintained by the Department of Toxic Substance Control (DTSC) for more than a decade. CALSITES contains information on Brownfield properties with confirmed or potential hazardous contamination. In 2006, DTSC introduced EnviroStor as the latest Brownfields site database.

Government Publication Date: May 1, 2004

Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions: HLUR

The Department of Toxic Substances Control (DTSC) Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Government Publication Date: Feb 18, 2021

Deed Restrictions and Land Use Restrictions: DEED

List of Deed Restrictions, Land Use Restrictions and Covenants in GeoTracker made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency. A deed restriction (land use covenant) may be required to facilitate the remediation of past environmental contamination and to protect human health and the environment by reducing the risk of exposure to residual hazardous materials.

Government Publication Date: Feb 15, 2022

Voluntary Cleanup Program: VCP

List of sites in the Voluntary Cleanup Program made available by the Department of Toxic Substances and Control (DTSC). The Voluntary Cleanup Program was designed to respond to lower priority sites. Under the Voluntary Cleanup Program, DTSC enters site-specific agreements with project proponents for DTSC oversight of site assessment, investigation, and/or removal or remediation activities, and the project proponents agree to pay DTSC's reasonable costs for those services.

Government Publication Date: May 30, 2022

GeoTracker Cleanup Program Sites: CLEANUP SITES

A list of Cleanup Program sites in the state of California made available by The State Water Resources Control Board (SWRCB) of the California Environmental Protection Agency (EPA). SWRCB tracks leaking underground storage tank cleanups as well as other water board cleanups.

Government Publication Date: Feb 15, 2022

Delisted Cleanup Program Sites: DELISTED CLEANUP

A list of Cleanup Program sites which were once included - and have since been removed from - the list of Cleanup Program Sites in GeoTracker. GeoTracker is the State Water Resource Control Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Government Publication Date: Feb 15, 2022

Delisted County Records: DELISTED COUNTY

Records removed from county or CUPA databases. Records may be removed from the county lists made available by the respective county departments because they are inactive, or because they have been deemed to be below reportable thresholds.

Government Publication Date: Aug 8, 2022

Tribal

Leaking Underground Storage Tanks (LUSTs) on Indian Lands: INDIAN LUST

LUSTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Apr 8, 2022

Underground Storage Tanks (USTs) on Indian Lands: INDIAN UST

USTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Apr 8, 2022

Delisted Tribal Leaking Storage Tanks: DELISTED ILST

Leaking Underground Storage Tank facilities which have been removed from the Regional Tribal LUST lists made available by the EPA.

Government Publication Date: Apr 20, 2022

Delisted Tribal Underground Storage Tanks: DELISTED IUST

Underground Storage Tank facilities which have been removed from the Regional Tribal UST lists made available by the EPA.

Government Publication Date: Apr 20, 2022

County

Los Angeles County - Site Mitigation List: SML LA

A Site Mitigation List in the County of Los Angeles. The list is made available by Los Angeles County Fire Department. Site mitigation is handled by the Site Mitigation Unit (SMU) which facilitates completion of site clean-up projects of contaminated sites in an expeditious manner in all cities of the Los Angeles County except El Segundo, Glendale, Long Beach, Santa Fe Springs, and Vernon.

Government Publication Date: May 26, 2021

Los Angeles County - Solid Waste Sites: SWF LA COUNTY

List of permitted solid waste facilities, closed landfills, historical dumpsites and other solid waste sites in Los Angeles County, made available by the Department of Public Works in Los Angeles County.

Government Publication Date: Aug 5, 2022

Los Angeles County - CUPA Program Records: CUPA LA COUNTY

A list of inspection and enforcement records for active and inactive CUPA Program facilities, made available by the Health Hazardous Materials Division (HHMD) of the County of Los Angeles Fire Department. Includes Hazardous Materials Business Plan (HMBP), California Accidental Release Prevention Plan (CalARP), Hazardous Waste Generator (HWG), and the Aboveground Petroleum Storage Act Programs (APSA). Inactive programs include facilities that are out of business or no longer regulated by the HHMD.

Government Publication Date: Mar 25, 2020

Los Angeles County - HMS List: HMS LA

List of sites in the Los Angeles County Department of Public Works Hazardous Materials System (HMS) Database which have or have had permits for Industrial Waste, Underground Storage Tanks, or Stormwater in the county of Los Angeles.

Government Publication Date: Nov 5, 2020

Los Angeles County - Santa Fe Springs Underground Storage Tank: UST SANTAFESP

A list of registered active Underground Storage Tanks (USTs) in the City of Santa Fe Springs. This list is made available by Santa Fe Springs Department of Fire-Rescue.

Government Publication Date: Feb 11, 2022

Los Angeles County - Long Beach UST List: UST LONGB

List of registered Underground Storage Tanks (USTs) in the City of Long Beach, Los Angeles County, made available by the Long Beach Certified Unified Program Agency (CUPA). The Long Beach CUPA operates under oversight shared by the Long Beach Fire Department and Health Department.

Government Publication Date: Jul 9, 2018

Los Angeles County - Burbank City CUPA List: CUPA BURBANK

A list of facilities associated with various Certified Unified Program Agency (CUPA) programs in the City of Burbank. This list is made available by the City of Burbank Fire Department.

Government Publication Date: Aug 21, 2019

Los Angeles County - El Segundo City Underground Storage Tanks List: UST ELSEGUNDO

List of registered Underground Storage Tanks (USTs) in the City of El Segundo of Los Angeles County, made available by El Segundo City Fire Department.

Government Publication Date: Jan 17, 2017

Los Angeles County - Santa Monica City Underground Storage Tank List: UST SANTA MONICA

A list of registered active Underground Storage Tanks (USTs) in the City of Santa Monica made available by Santa Monica Fire Prevention Division.

Government Publication Date: Dec 3, 2020

Los Angeles County - Santa Monica City Aboveground Storage Tank List: AST SANTAMON

List of registered Aboveground Storage Tanks (ASTs) made available by the Santa Monica Fire Department in the City of Santa Monica of Los Angeles County, California.

Government Publication Date: Jan 14, 2022

Los Angeles County - Santa Monica City CUPA Facilities List: CUPA SANTAMON

The Santa Monica Fire Department's office maintains a list of CUPA Facilities located in Santa Monica city.

Government Publication Date: Jan 14, 2022

Los Angeles County - Torrance City Underground Storage Tanks: UST TORRANCE

A list of registered Underground Storage Tank (UST) sites in Torrance City of Los Angeles County. This list is made available by Torrance City Office of Clerk.

Government Publication Date: Apr 20, 2022

Los Angeles County - Vernon City UST List: UST VERNON

A list of Underground Storage Tanks (UST) in Vernon City provided by the Vernon City Fire Department.

Government Publication Date: May 26, 2022

Los Angeles County - Vernon City CUPA List: CUPA VERNON

The Vernon City Fire Department's office maintains a list of CUPA Facilities located in Vernon city.

Government Publication Date: May 26, 2022

Los Angeles County - City of Los Angeles UST List: UST LA CITY

A list of active and inactive underground storage tank facilities made available by the Los Angeles Fire Department CUPA.

Government Publication Date: Jan 13, 2022

Los Angeles County - City of Los Angeles AST List: AST LA CITY

A list of active and inactive above ground petroleum storage tanks made available by the Los Angeles Fire Department CUPA.

Government Publication Date: Jun 1, 2019

Los Angeles County - City of Los Angeles Hazardous Materials Facilities: HAZMAT LA CITY

A list of active and inactive hazardous materials facilities made available by the Los Angeles Fire Department CUPA.

Government Publication Date: Jun 1, 2019

Additional Environmental Record Sources

Federal

Facility Registry Service/Facility Index: FINDS/FRS

The Facility Registry Service (FRS) is a centrally managed database that identifies facilities, sites, or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, and data collected from EPA's Central Data Exchange registrations and data management personnel. This list is made available by the Environmental Protection Agency (US EPA).

Government Publication Date: Nov 2, 2020

Toxics Release Inventory (TRI) Program: TRIS

The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U. S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

Government Publication Date: Aug 24, 2021

Perfluorinated Alkyl Substances (PFAS) Releases: PFAS TRI

List of Toxics Release Inventory (TRI) facilities at which the reported chemical is a Per- or polyfluorinated alkyl substance (PFAS) included in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances. The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment.

Government Publication Date: Aug 24, 2021

PFOA/PFOS Contaminated Sites: PFAS NPL

List of National Priorities List (NPL) and related Superfund Alternative Agreement (SAA) sites where PFOA or PFOS contaminants have been found in water and/or soil. The site listing is provided by the Federal Environmental Protection Agency (EPA).

Government Publication Date: Jul 18, 2022

Perfluorinated Alkyl Substances (PFAS) Water Quality: PFAS WATER

The Water Quality Portal (WQP) is a cooperative service sponsored by the United States Geological Survey (USGS), the Environmental Protection Agency (EPA), and the National Water Quality Monitoring Council (NWQMC). This listing includes records from the Water Quality Portal where the characteristic (environmental measurement) is in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances.

Government Publication Date: Jul 20, 2020

SSEHRI PFAS Contamination Sites: PFAS SSEHRI

This PFAS Contamination Site Tracker database is compiled by the Social Science Environmental Health Research Institute (SSEHRI) at Northeastern University. According to the SSEHRI, the database records qualitative and quantitative data from each known site of PFAS contamination, including timeline of discovery, sources, levels, health impacts, community response, and government response. The goal of this database is to compile information and support public understanding of the rapidly unfolding issue of PFAS contamination. All data presented was extracted from government websites, news articles, or publicly available documents, and this is cited in the tracker. Disclaimer: The source conveys this database undergoes regular updates as new information becomes available, some sites may be missing and/or contain information that is incorrect or outdated, as well as their information represents all contamination sites SSEHRI is aware of, not all possible contamination sites. This data is not intended to be used for legal purposes. Limited location details are available with this data. Access the following for the most current informations https://pfasproject.com/pfas-contamination-site-tr acker/

Government Publication Date: Dec 12, 2019

National Response Center PFAS Spills: ERNS PFAS

National Response Center (NRC) calls from 1990 to the most recent complete calendar year where there is indication of Aqueous Film Forming Foam (AFFF) usage. NRC calls may reference AFFF usage in the "Material Involved" or "Incident Description" fields. Data made available by the US Environmental Protection Agency (EPA). Disclaimer: dataset may include initial or misidentified incident data not yet validated or investigated by a federal/state response agency.

Government Publication Date: Feb 23, 2022

Hazardous Materials Information Reporting System: HMIRS

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

Government Publication Date: Sep 1, 2020

National Clandestine Drug Labs: NCDL

The U.S. Department of Justice ("the Department") provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Apr 30, 2022

Toxic Substances Control Act: TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.
The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).

Government Publication Date: Apr 11, 2019

Hist TSCA:

HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.
The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.

Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing:

FTTS ADMIN

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing:

FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List:

PRP

Early in the cleanup process, the Environmental Protection Agency (EPA) conducts a search to find the potentially responsible parties (PRPs). EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site.

Government Publication Date: May 25, 2022

State Coalition for Remediation of Drycleaners Listing:

SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin. Since 2017, the SCRD no longer maintains this data, refer to applicable state source data where available.

Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS):

ICIS

The Integrated Compliance Information System (ICIS) is a system that provides information for the Federal Enforcement and Compliance (FE&C) and the National Pollutant Discharge Elimination System (NPDES) programs. The FE&C component supports the Environmental Protection Agency's (EPA) Civil Enforcement and Compliance program activities. These activities include Compliance Assistance, Compliance Monitoring and Enforcement. The NPDES program supports tracking of NPDES permits, limits, discharge monitoring data and other program reports.

Government Publication Date: Apr 30, 2022

Drycleaner Facilities:

FED DRYCLEANERS

A list of drycleaner facilities from Enforcement and Compliance History Online (ECHO) online search. The Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: Jun 25, 2022

Delisted Drycleaner Facilities:

DELISTED FED DRY

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

Government Publication Date: Jun 25, 2022

Formerly Used Defense Sites: FUDS

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DoD) is responsible for an environmental restoration. This list is published by the U.S. Army Corps of Engineers.

Government Publication Date: May 26, 2021

Former Military Nike Missile Sites: FORMER NIKE

This information was taken from report DRXTH-AS-IA-83A016 (Historical Overview of the Nike Missile System, 12/1984) which was performed by Environmental Science and Engineering, Inc. for the U.S. Army Toxic and Hazardous Materials Agency Assessment Division. The Nike system was deployed between 1954 and the mid-1970's. Among the substances used or stored on Nike sites were liquid missile fuel (JP-4); starter fluids (UDKH, aniline, and furfuryl alcohol); oxidizer (IRFNA); hydrocarbons (motor oil, hydraulic fluid, diesel fuel, gasoline, heating oil); solvents (carbon tetrachloride, trichloroethylene, trichloroethane, stoddard solvent); and battery electrolyte. The quantities of material a disposed of and procedures for disposal are not documented in published reports. Virtually all information concerning the potential for contamination at Nike sites is confined to personnel who were assigned to Nike sites. During deactivation most hardware was shipped to depot-level supply points. There were reportedly instances where excess materials were disposed of on or near the site itself at closure. There was reportedly no routine site decontamination.

Government Publication Date: Dec 2, 1984

PHMSA Pipeline Safety Flagged Incidents: PIPELINE INCIDENT

A list of flagged pipeline incidents made available by the U.S. Department of Transportation (US DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA). PHMSA regulations require incident and accident reports for five different pipeline system types.

Government Publication Date: Jul 7, 2020

Material Licensing Tracking System (MLTS): MLTS

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: May 11, 2021

Historic Material Licensing Tracking System (MLTS) sites: HIST MLTS

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File: MINES

The Master Index File (MIF) contains mine identification numbers issued by the Department of Labor Mine Safety and Health Administration (MSHA) for mines active or opened since 1971. Note that addresses may or may not correspond with the physical location of the mine itself.

Government Publication Date: Feb 1, 2022

Surface Mining Control and Reclamation Act Sites: SMCRA

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by the Office of Surface Mining Reclamation and Enforcement (OSMRE) to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of Abandoned Mine Land (AML) impacts, as well as information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Government Publication Date: Feb 22, 2022

Mineral Resource Data System: MRDS

The Mineral Resource Data System (MRDS) is a collection of reports describing metallic and nonmetallic mineral resources throughout the world. Included are deposit name, location, commodity, deposit description, geologic characteristics, production, reserves, resources, and references. This database contains the records previously provided in the Mineral Resource Data System (MRDS) of USGS and the Mineral Availability System/Mineral Industry Locator System (MAS/MILS) originated in the U.S. Bureau of Mines, which is now part of USGS. The USGS has ceased systematic updates of the MRDS database with their focus more recently on deposits of critical minerals while providing a well-documented baseline of historical mine locations from USGS topographic maps.

Government Publication Date: Mar 15, 2016

Uranium Mill Tailings Radiation Control Act Sites: URANIUM

The Legacy Management Office of the Department of Energy (DOE) manages radioactive and chemical waste, environmental contamination, and hazardous material at over 100 sites across the U.S. The L.M. Office manages this database of sites registered under the Uranium Mill Tailings Control Act (UMTRCA).

Government Publication Date: Mar 4, 2017

Alternative Fueling Stations: ALT FUELS

List of alternative fueling stations made available by the US Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Biodiesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE). The National Renewable Energy Laboratory (NREL) obtains information about new stations from trade media, Clean Cities coordinators, a Submit New Station form on the Station Locator website, and through collaborating with infrastructure equipment and fuel providers, original equipment manufacturers (OEMs), and industry groups.

Government Publication Date: Aug 1, 2022

Superfunds Consent Decrees: CONSENT DECREES

A list of Superfund consent decrees made available by the Department of Justice, Environment & Natural Resources Division (ENRD).

Government Publication Date: May 18, 2022

Air Facility System: AFS

This EPA retired Air Facility System (AFS) dataset contains emissions, compliance, and enforcement data on stationary sources of air pollution. Regulated sources cover a wide spectrum; from large industrial facilities to relatively small operations such as dry cleaners. AFS does not contain data on facilities that are solely asbestos demolition and/or renovation contractors, or landfills. ECHO Clean Air Act data from AFS are frozen and reflect data as of October 17, 2014; the EPA retired this system for Clean Air Act stationary sources and transitioned to ICIS-Air.

Government Publication Date: Oct 17, 2014

Registered Pesticide Establishments: SSTS

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

Government Publication Date: Mar 30, 2022

Polychlorinated Biphenyl (PCB) Transformers: PCBT

Locations of Transformers Containing Polychlorinated Biphenyls (PCBs) registered with the United States Environmental Protection Agency. PCB transformer owners must register their transformer(s) with EPA. Although not required, PCB transformer owners who have removed and properly disposed of a registered PCB transformer may notify EPA to have their PCB transformer de-registered. Data made available by EPA.

Government Publication Date: Oct 15, 2019

Polychlorinated Biphenyl (PCB) Notifiers: PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Jul 28, 2022

State

Dry Cleaning Facilities: DRYCLEANERS

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial, linen supply, commercial laundry, dry cleaning and pressing machines - Coin Operated Laundry and Dry Cleaning. This is provided by the Department of Toxic Substance Control.

Government Publication Date: Dec 20, 2021

Delisted Drycleaners: DELISTED DRYCLEANERS

Sites removed from the list of drycleaner related facilities that have EPA ID numbers, made available by the California Department of Toxic Substance Control.

Government Publication Date: Feb 28, 2020

Non-Toxic Dry Cleaning Incentive Program: DRYC GRANT

A list of grant recipients of the Non-Toxic Dry Cleaning Incentive Program made available by the California Air Resources Board (CARB). The program provides grants to eligible dry cleaning businesses to assist them in transitioning away from PERC machines to alternative non-toxic and non-smog forming technologies.

Government Publication Date: Feb 28, 2020

Per- and Polyfluoroalkyl Substances (PFAS):

PFAS

List of sites from the State Water Resources Control Board (SWRCB)'s GeoTracker at which one or more of the potential contaminants of concern are in the PFAS Master List of PFAS Substances made available by the Environmental Protection Agency (US EPA).

Government Publication Date: Feb 15, 2022

PFOA/PFOS Groundwater:

PFAS GW

A list of water wells from the Groundwater Ambient Monitoring and Assessment Program (GAMA) Groundwater Information System with the groundwater chemical perfluorooctanoic acid (PFOA) (NL = 0.014 UG/L) or perfluorooctanoic sulfonate (PFOS) (NL = 0.013 UG/L). The GAMA Groundwater Information System search is made available by California Water Boards.

Government Publication Date: Jun 29, 2022

Hazardous Waste and Substances Site List - Site Cleanup:

HWSS CLEANUP

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. This list is published by California Department of Toxic Substance Control.

Government Publication Date: May 20, 2021

Toxic Pit Cleanup Act Sites:

TOXIC PITS

The Toxic Pits Cleanup Act (TPCA) list identifies sites suspected of containing hazardous substances where cleanup has not yet been completed. This list was maintained by the State Water Resources Control Board (SWRCB), is not longer maintained, and updates are not planned.

Government Publication Date: Jul 1, 1995

List of Hazardous Waste Facilities Subject to Corrective Action:

DTSC HWF

This is a list of hazardous waste facilities identified in Health and Safety Code (HSC) § 25187.5. These facilities are those where Department of Toxic Substances Control (DTSC) has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under HSC § 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment.

Government Publication Date: Jul 18, 2016

EnviroStor Inspection, Compliance, and Enforcement:

INSP COMP ENF

A list of permitted facilities with inspections and enforcements tracked in the Department of Toxic Substance Control (DTSC) EnviroStor.

Government Publication Date: Apr 29, 2021

School Property Evaluation Program Sites:

SCH

A list of sites registered with The Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup (SPEC) Division. SPEC is responsible for assessing, investigating and cleaning up proposed school sites. The Division ensures that selected properties are free of contamination or, if the properties were previously contaminated, that they have been cleaned up to a level that protects the students and staff who will occupy the new school.

Government Publication Date: May 30, 2022

California Hazardous Material Incident Report System (CHMIRS):

CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS). This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: May 31, 2022

Historical California Hazardous Material Incident Report System (CHMIRS):

HIST CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS) prior to 1993. This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Jan 1, 1993

Handlers from Hazardous Waste Manifest Data:

HAZNET

A list of handlers not otherwise classified as Treatment, Storage, Disposal facilities (TSDF) or generators from the facilities and manifests data made available by the California Department of Toxic Substances Control (DTSC) in their Hazardous Waste Tracking System (HWTS).

Government Publication Date: Oct 24, 2016

Generators from Hazardous Waste Manifest Data:

HAZ GEN

List of handlers listed as having generated waste from the facilities and manifests data made available by the California Department of Toxic Substances Control (DTSC) in their Hazardous Waste Tracking System (HWTS).
Government Publication Date: Dec 31, 2017

TSDF from Hazardous Waste Manifest Data: HAZ TSD
List of Treatment, Storage, and Disposal Facilities (TSDFs) from the facilities and manifests data made available by the California Department of Toxic Substances Control (DTSC) in their Hazardous Waste Tracking System (HWTS).
Government Publication Date: Dec 31, 2017

Historical Hazardous Waste Manifest Data: HIST MANIFEST
A list of historic hazardous waste manifests received by the Department of Toxic Substances Control (DTSC) from year the 1980 to 1992. The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.
Government Publication Date: Dec 31, 1992

DTSC Registered Hazardous Waste Transporters: HW TRANSPORT
The California Department of Toxic Substances Control (DTSC) maintains this list of Registered Hazardous Waste Transporters.
Government Publication Date: Jun 13, 2022

Registered Waste Tire Haulers: WASTE TIRE
This list of registered waste tire haulers is maintained by the California Department of Resources Recycling and Recovery.
Government Publication Date: Jul 12, 2022

California Medical Waste Management Program Facility List: MEDICAL WASTE
This list of Medical Waste Management Program Facilities is maintained by the California Department of Public Health. The Medical Waste Management Program (MWMP) regulates the generation, handling, storage, treatment, and disposal of medical waste by providing oversight for the implementation of the Medical Waste Management Act (MWMA). The MWMP permits and inspects all medical waste off-site treatment facilities, medical waste transporters, and medical waste transfer stations. This list contains transporters, treatment, and transfer facilities.
Government Publication Date: Aug 8, 2022

Historical Cortese List: HIST CORTESE
List of sites which were once included on the Cortese list. The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements for providing information about the location of hazardous sites.
Government Publication Date: Nov 13, 2008

Cease and Desist Orders and Cleanup and Abatement Orders: CDO/CAO
The California Environment Protection Agency "Cortese List" of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO). This list contains many CDOs and CAOs that do NOT concern the discharge of wastes that are hazardous materials. Many of the listed orders concern, as examples, discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials, but the Water Boards' database does not distinguish between these types of orders.
Government Publication Date: Dec 6, 2021

California Environmental Reporting System (CERS) Hazardous Waste Sites: CERS HAZ
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.
Government Publication Date: Jul 7, 2022

Delisted Environmental Reporting System (CERS) Hazardous Waste Sites: DELISTED HAZ
This database contains a list of sites that were removed from the California Environmental Protection Agency (CalEPA) in the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator.
Government Publication Date: Nov 29, 2018

Sites in GeoTracker: GEOTRACKER

GeoTracker is the State Water Resource Control Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. This is a list of sites in GeoTracker that aren't otherwise categorized as LUST, Land Disposal Sites (LDS), Cleanup Sites, or sites having Waste Discharge Requirements (WDR). This listing includes program types such as Underground Injection Control (UIC), Confined Animal Facilities (CAF), Irrigated Lands Regulatory Program, plans, and non-case information.

Government Publication Date: Feb 15, 2022

Mines Listing: MINE

This list includes mine site locations extracted from the Mines Online database, maintained by the California Department of Conservation. Mines Online (MOL) is an interactive web map designed with GIS features that provide information such as the mine name, mine status, commodity sold, location, and other mine specific data. Please note: Mine location information is provided to assist experts in determining the location of mine operators in accordance with California Civil Code section 1103.4 and reflects information reported by mine operators in annual reports provided under Public Resources Code section 2207. While the Division of Mine Reclamation (DMR) attempts to populate MOL with accurate location information, the DMR cannot guarantee the accuracy of operator reported location information.

Government Publication Date: Jun 23, 2022

Recorded Environmental Cleanup Liens: LIEN

The California Department of Toxic Substance Control (DTSC) maintains this list of liens placed upon real properties. A lien is utilized by the DTSC to obtain reimbursement from responsible parties for costs associated with the remediation of contaminated properties.

Government Publication Date: Aug 3, 2022

Waste Discharge Requirements: WASTE DISCHG

List of sites in California State Water Resources Control Board (SWRCB) Waste Discharge Requirements (WDRs) Program in California, made available by the SWRCB via GeoTracker. The WDR program regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Government Publication Date: Feb 15, 2022

Toxic Pollutant Emissions Facilities: EMISSIONS

A list of criteria and toxic pollutant emissions data for facilities in California made available by the California Environmental Protection Agency - Air Resources Board (ARB). Risk data may be based on previous inventory submittals. The toxics data are submitted to the ARB by the local air districts as requirement of the Air Toxics "Hot Spots" Program. This program requires emission inventory updates every four years.

Government Publication Date: Dec 31, 2020

Clandestine Drug Lab Sites: CDL

The Department of Toxic Substances Control (DTSC) maintains a listing of drug lab sites. DTSC is responsible for removal and disposal of hazardous substances discovered by law enforcement officials while investigating illegal/clandestine drug laboratories.

Government Publication Date: Jan 19, 2021

Tribal

No Tribal additional environmental record sources available for this State.

County

Los Angeles County - Santa Monica City Hazardous Materials Facilities: HAZMAT SANTAMON

A list of Hazardous Materials Facilities in the City of Santa Monica, Los Angeles county. This list is made available by Santa Monica Fire Prevention Division which has been designated as the CUPA for the City.

Government Publication Date: Dec 17, 2021

Los Angeles County - Santa Monica City Hazardous Waste Facilities: HAZ WST SANTAMON

A list of Hazardous Waste Facilities in Los Angeles County, City of Santa Monica. This list is made available by Santa Monica Fire Prevention Division.

Government Publication Date: Jan 14, 2022

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

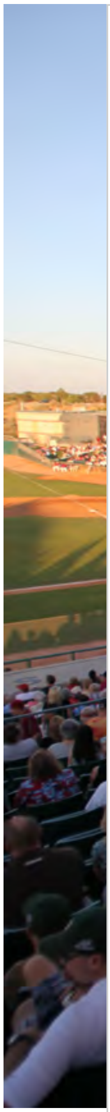
'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

7.3 Interview Record Attachments – Records of Communication



Date Submitted

8/22/2022

City of Lancaster

PUBLIC RECORDS REQUEST

****Be Advised – the City of Lancaster is not responsible for birth, death, marriage or court records; please contact the Los Angeles County Registrar/Recorder and/or the appropriate Courthouse to request those types of records.**

Pursuant to the Public Records Act, upon receiving a request for public records, the City "shall, within 10 days from receipt of the request, determine whether the request, in whole or in part, seeks copies of disclosable public records."

Preferred Method of Delivery *

Email

Please be advised if records are requested to be printed and picked up and/or mailed, copy costs and postage charges will apply.

Requester Contact Information

First Name *	**Last Name** *
Jaqueline	Mora

Company

Address

Street Address:

6215 Colleyville Blvd

City:	State:
Colleyville	Texas

Zip Code:

76034

Email *	**Confirm Email** *
jmora@consolidatedconsulting.com	jmora@consolidatedconsulting.com

Telephone *

817-424-9085

Record Information

Records Requested *

Please be specific in the records being sought. Use of 'any and all' is strongly discouraged and may require clarification in order to process your request, thus delaying delivery of the requested records.***Do not provide your social security number or date of birth when requesting records.**

19 Acres Vacant Land
NEC of Avenue H and 35th Street
Lancaster, California 93536

see attached documents for more specified details.

Upload Additional Details

5273 - ROC Information Request.pdf	110.78KB
5273- CAD.pdf	871.69KB

Jaqueline Mora
6215 Colleyville Boulevard
Colleyville, TX 76034
817-424-9085
jmora@consolidatedconsulting.com

Consolidated Consulting Group (CCG) is in the process of preparing a Property Condition Assessment and Phase I Environmental Site Assessment as a part of a pending real estate transaction for the following property.

19 Acres Vacant Land
NEC of Avenue H and 35th Street
Lancaster, California 93536

As a part of our investigation we require the following information:

Zoning Department

- What is the zoning designation for the subject property?
- Are there any historic zoning designations for the subject property?
- Are there any outstanding zoning violations on file for the subject property?

Building Department:

- What was the original construction date of the property?
- Are there any demolition permits on file for the subject property?
- Are there any records of aboveground storage tanks/underground storage tanks on file for the subject property?

Fire Department

- Are there any records of aboveground storage tanks/underground storage tanks on file for the subject property?
- Any records of hazardous materials spills on file for the subject property?

Environmental Health Department

- Are there any records of aboveground storage tanks/underground storage tanks on file for the subject property?
- Any records of hazardous materials spills on file for the subject property?
- Are there any records of water wells or septic systems on file for the subject property?

If any of these departments have any questions or comments, please do not hesitate to contact Ms. Jaqueline Mora of CCG at 817-424-9085. At this point, CCG does not require copies of any records relating to these questions. A letter form response from the individual departments is acceptable.

Record of Communication

Property Name	19.09 Acre Tract (Undeveloped)
Street Address	West Avenue H Lancaster, Los Angeles County, California 93536

Assessor's Office	
Account #	See attached property information
Legal Description	
Current Owners	
Comments:	

Zoning Department	
Contact Method:	☐ Telephone ☒ Online Open Records Request/Email ☒ Online Research Website: https://www.cityoflancasterca.org/Home/ShowDocument?id=10749
Contact Name/ Email Address:	ORR submitted, response pending…
Phone:	ORR submitted, response pending…
Zoning Designation	Specific Plan (SP)
Outstanding Zoning Violations	☐ Yes ☐ No ☒ Response Pending ☐ Not Applicable
Acceptable Use	☐ Yes ☐ No ☒ Response Pending ☐ Not Applicable
What is the required Parking Ratio	N/A
Comments:	ORR submitted, response pending…

Building Department	
Contact Method:	☐ Telephone ☒ Online Open Records Request/Email ☐ Online Research
Contact Name/ Email Address:	ORR submitted, response pending…
Phone:	ORR submitted, response pending…
Construction Year:	ORR submitted, response pending…
Building(s) have a valid Certificate of Occupancy?	☐ Yes ☐ No ☒ Response Pending ☐ Not Applicable
Open Permits or Outstanding Violations	☐ Yes ☐ No ☒ Response Pending ☐ Not Applicable
Demolition Permits:	☐ Yes ☐ No ☒ Response Pending ☐ Not Applicable
Permits for AST/UST:	☐ Yes ☐ No ☒ Response Pending ☐ Not Applicable
Permits for Septic Systems:	☐ Yes ☐ No ☒ Response Pending ☐ Not Applicable
Comments:	ORR submitted, response pending…

Fire Dept.	
Contact Method:	☐ Telephone ☒ Online Open Records Request/Email ☐ Online Research
Contact Name/ Email Address:	ORR submitted, response pending…
Phone:	ORR submitted, response pending…
Records of ASTs/USTs	☐ Yes ☐ No ☒ Response Pending ☐ Not Applicable
Records of Hazardous Materials	☐ Yes ☐ No ☒ Response Pending ☐ Not Applicable
Records of Spills	☐ Yes ☐ No ☒ Response Pending ☐ Not Applicable
Department Inspector Name:	N/A
Date of Last Inspection	N/A
Outstanding Code Violations	☐ Yes ☐ No ☐ Response Pending ☒ Not Applicable
Comments:	No responsive records reported.

Envt'l Services Dept.	
Contact Method:	☐ Telephone ☒ Online Open Records Request/Email ☐ Online Research
Contact Name/ Email Address:	ORR submitted, response pending…
Phone:	ORR submitted, response pending…
Records of Water Wells	☐ Yes ☐ No ☒ Response Pending ☐ Not Applicable
Records of AST/UST	☐ Yes ☐ No ☒ Response Pending ☐ Not Applicable
Record of Septic Systems	☐ Yes ☐ No ☒ Response Pending ☐ Not Applicable
Records of Spills	☐ Yes ☐ No ☒ Response Pending ☐ Not Applicable
Comments:	ORR submitted, response pending…

Water Dept.	
Contact Method:	☐ Telephone ☐ Online Open Records Request/Email ☒ Online Research Website: https://www.calwater.com/ccrs/av-lan-2019/
Contact Name/ Email Address:	N/A
Phone:	N/A
Water Supply Source	N/A
Within EPA guidelines?	N/A
Comments:	None

Electric Utility	
Contact Method:	☐ Telephone ☐ Online Open Records Request/Email ☒ Online Research Website: http://lancasterenergy.com/
Contact Name/ Email Address:	N/A
Phone:	N/A
PCB Content of On-site Transformers:	☐ PCB ☐ Non-PCB ☒ Unknown
Records of Spills:	☐ Yes ☐ None recorded ☒ Unknown
Corp. Policy for Spills	☒ Standard EPA cleanup guidelines ☐ Other:
Comments:	None

7.4 Site Reconnaissance & Investigation

Category	Attached	Not Applicable
7.4.1 Reporting/Notification Forms		X
7.4.2 Permits		X
7.4.3 Asbestos Survey Results		X
7.4.4 Lead-Based Paint Survey Results		X
7.4.5 Radon Survey Results		X
7.4.6 Lead in Drinking Water Survey Results		X
7.4.7 UST Test		X
7.4.8 Correction Action Plans		X
7.4.9 Reference Documents		X
7.4.10 Other Information (prior ESAs)		X

7.5 Certifications

Category	Attached	Not Applicable
7.5.1 Certification/Qualifications	**X**	
7.5.2 Sampling/Testing Certifications		**X**

Ross P. MacNames, P.G.

Education	B.S. Bioenvironmental Sciences, Texas A&M University, 2014 Graduate Certificate, Environmental Geology, University of Kansas, 2021
Professional Licenses:	Licensed Professional Geologist (PG), State of Texas, 2021
Registrations	40-Hour Hazardous Waste Site Training (OSHA 29 CFR 1910.120), Current AHERA Accredited Asbestos Building Inspector, Current ASTM Training on Property Condition Assessments, 2019 38-Hour USACE Wetland Delineation and Management, 2017 EPA Method 9 Visible Emissions Observer, 2016
Experience	8 Years
Areas of Specialization	Environmental Site Assessments Property Condition Assessments Phase II Subsurface Investigations & Site Remediation Quarterly Groundwater Monitoring Asbestos/Radon Surveys Wetlands Determinations Regulatory Compliance Audits Zoning Analytical Reports Project Coordination Interface with State and Local Government

Jude Havens

Education	B.A. Environmental Studies, University of Kansas, 1994 Postgraduate work in Wildlife Management
Registration	Certified Environmental Inspector, Environmental Assessment Association, 1997 AHERA Accredited Asbestos Building Inspector, 1997-Current Federally Certified, Level IV Wildlife Rehabilitation
Experience	20 Years
Areas of Specialization	
	Environmental Site Assessments Phase II Subsurface Investigations Property Condition Reports Gasoline Station & Dry-cleaner Compliance Audits Wildlife Management/Endangered Species Project Coordination Sales and Marketing Expert Witness Testimony

Appendix H

Hydrology Report

HYDROLOGY STUDY

FOR:

Lancaster Industrial Park
(Avenue “H” and 35th Street W)

IN THE CITY OF LANCASTER,
LOS ANGELES COUNTY

PREPARED BY:

SIKAND ENGINEERING ASSOCIATES
15230 Burbank Boulevard, Suite 100
Van Nuys, California 91411
818-787-8550

Doug Farmer, Civil Engineer

Submittal Date: 01-11-2023

<u>ENGINEER’S CERTIFICATION</u>
THE REGISTERED PROFESSIONAL ENGINEER CERTIFIES THAT THE FLOOD AND STORM FACILITIES HAVE BEEN DESIGNED IN ACCORDANCE WITH THE CITY OF LANCASTER ENGINEERING DESIGN GUIDELINES POLICIES & PROCEDURES AND LOS ANGELES COUNTY STANDARDS

TABLE OF CONTENTS

Appendices

1.0 Introduction

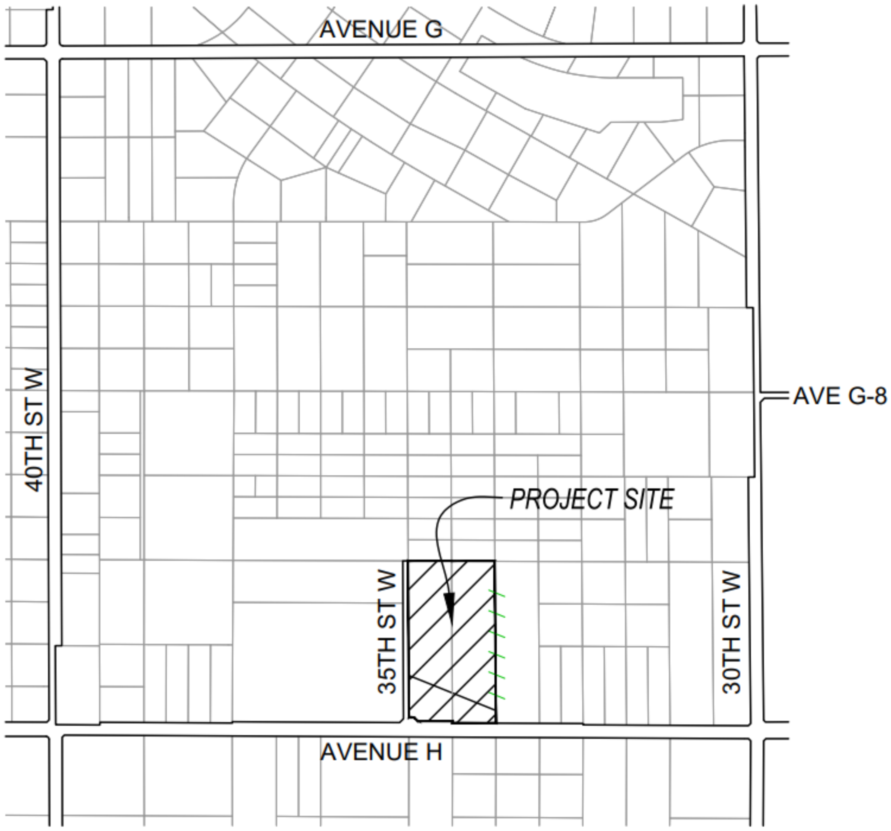


Figure 1 - Vicinity Map

The project site is a 19.09 -acre undeveloped land with minor vegetation, bordered by Ave H on the south and 35th Street West on the west, and vacant lots on the east and north. The existing drainage pattern is sheet-flow and generally drains to a south-easterly direction, at an average slope of about 0.3%. Site drainage ultimately reaches Avenue H and carried away in the drainage channel running on the north side of the street.

The proposed development is an industrial park with a large building and parking lot that will occupy most of the available area. Access will be from 35th Street and Avenue H. On-site runoff will be collected in retention basins for infiltration. Excess flow would be spilled over onto nearby streets through parkway culverts.

Hydrology Maps for the existing and proposed condition of the site are attached to this report.

2.0 Hydrologic Calculations.

2.1 Parameters

See Appendix A for the relevant figures and charts.

```
Soil type number = 120
50-year Isohyet = 2.6”
Imperviousness = 1% undeveloped; 91% developed
Basin Name = Antelope Valley
Infiltration Rate = 0.5 in/hr
```

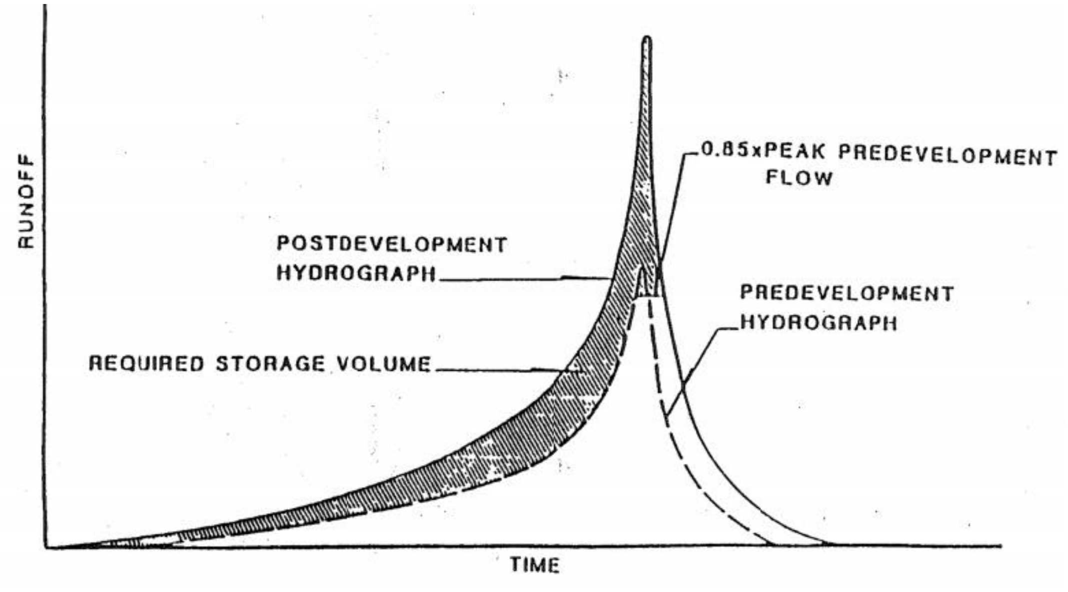
2.2 Design Criteria

In the Engineering Design Guidelines of the City of Lancaster, the following criteria is set forth:

Storm Frequency of design:

- 50-year for calculating minimum finish floor elevations
- 25-year for developed areas, for storm drain design
- 10-year for offsite street dry lane calculations
- 25-, 10-, and 2-year for basin calculations.

The detention volume criterium is depicted on Figure 2 below, extracted from the Engineering Guideline.



RETARDING BASIN MINIMUM STORAGE REQUIREMENTS
FIGURE 3.8.1

Figure 2 - Storage Requirement

Time of concentration and runoff calculations were done by using LA County's HydroCalc program. The HydroCalc program produces a runoff hydrograph. Said hydrograph was imported into a spreadsheet for calculating the required storage volume. An abbreviated print of the output of this calculation is included in this report, truncated for brevity in Appendix C, but the spreadsheet containing the entire hydrograph is attached to the submitted report.

2.3 Time of Concentration and Peak Runoff

LA County's Hydrocalc program is used for Time of Concentration, and peak runoff calculations for the 2, 10, and 25-year runoff. Results are shown in Appendix B

Table 1 - Runoff Summary

		Peak Runoff (cfs)	
Frequency	**Existing (burned)**	**Existing (clear)**	**Proposed**
2-year	0.87	0.53	4.09
10-year	1.73	0.98	7.54
25-year	2.18	1.21	9.92

2.4 Required Retention Volume

LA County's HydroCalc program is used to generate runoff hydrographs. Said hydrographs are saved in a comma separated file that can be imported into a spreadsheet for processing.

The project site is divided into three, separate drainage areas and the runoff from each area is captured in three separate retention basins. These basins are sized to accommodate the runoff from their corresponding drainage area, therefore the basins need not be connected to each-other.

The results of the required storage volume calculations are shown in Table 2.

Table 2- Required Storage Volume

Basin	Required Volume, Ft^3	Basin Volume, Ft^3
West	32,294	33,056
North	17.459	17,545
South	37,968	38,056

An abbreviated printout of the results of the required volume calculations are shown in Appendix C.

2.5 Infiltration

Appendix E includes the Geotechnical Report for the infiltration test results. Based on this report, the design infiltration rate used in the calculation is 0.5 in/hr.

The retained storm runoff is required to be infiltrated in less than 7 days (168 hours) per criteria. See Appendix D for the calculations. The results are summarized in Table 3.

Table 3 - Infiltration Calculation Results

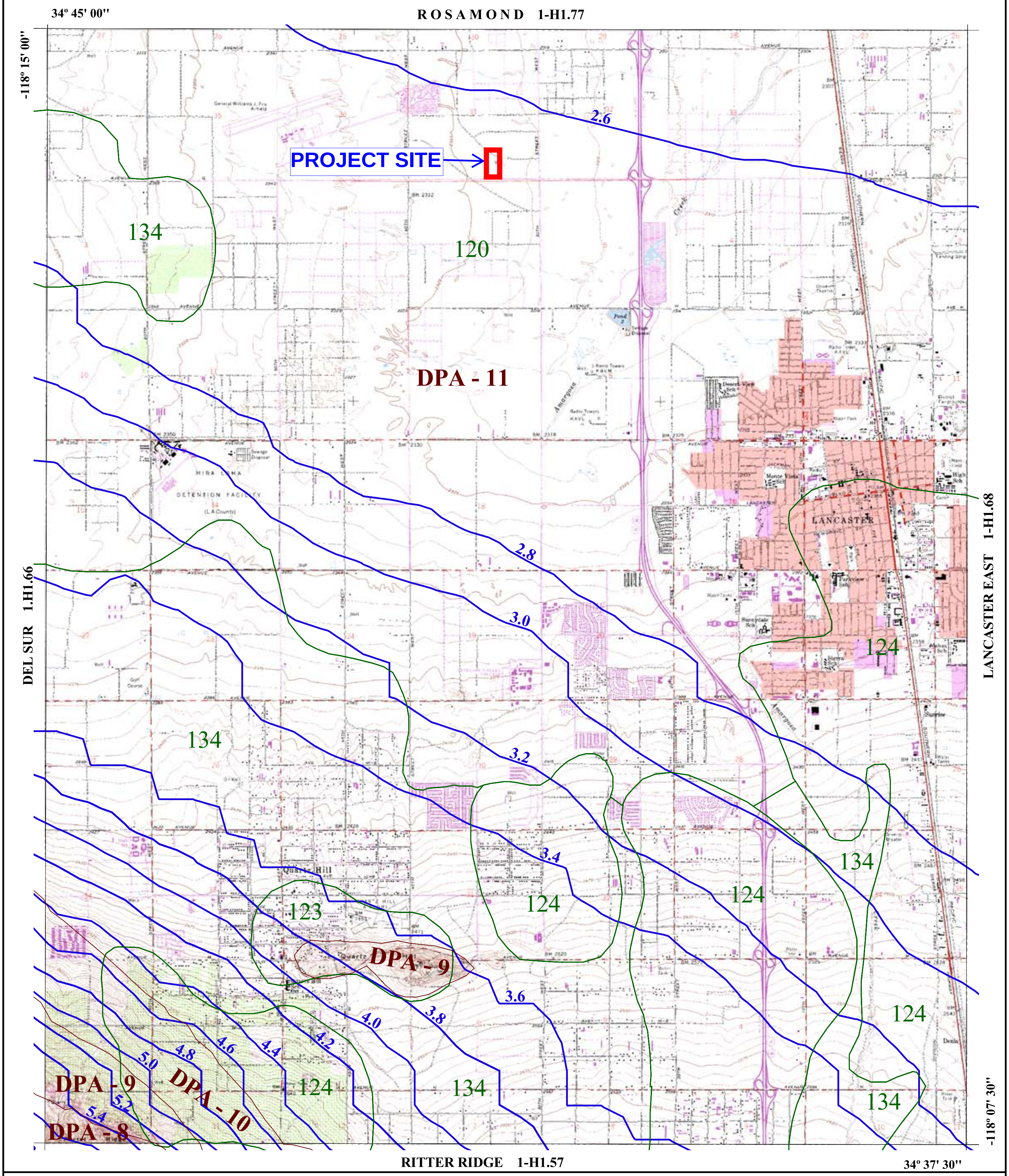
Basin	Required Infiltration Area, Ft^2	Basin Effective Infiltration Area, Ft^2
West	4,613	25,428
North	2,494	3,509
South	5,424	7,462

2.6 Spillway

All three basins will include a spillway to convey 125% of the peak 25-year runoff out of the basin, in the event when the basins are full during the time when the peak runoff occurs. Calculations for the required spillway dimensions are shown in Appendix D.

Appendix A

Design Requirements and Parameters



016 SOIL CLASSIFICATION AREA

7.2 INCHES OF RAINFALL

DPA - 6 DEBRIS POTENTIAL AREA

1 0 1 2 Miles

25-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.878
10-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.714

LANCASTER WEST
50-YEAR 24-HOUR ISOHYET

1-H1.67

LOS ANGELES COUNTY PUBLIC WORKS Public Service That Works

Proportion Impervious Data

Code	Land Use Description	% Impervious
1111	High-Density Single Family Residential	42
1112	Low-Density Single Family Residential	21
1121	Mixed Multi-Family Residential	74
1122	Duplexes, Triplexes and 2-or 3-Unit Condominiums and Townhouses	55
1123	Low-Rise Apartments, Condominiums, and Townhouses	86
1124	Medium-Rise Apartments and Condominiums	86
1125	High-Rise Apartments and Condominiums	90
1131	Trailer Parks and Mobile Home Courts, High-Density	91
1132	Mobile Home Courts and Subdivisions, Low-Density	42
1140	Mixed Residential	59
1151	Rural Residential, High-Density	15
1152	Rural Residential, Low-Density	10
1211	Low- and Medium-Rise Major Office Use	91
1212	High-Rise Major Office Use	91
1213	Skyscrapers	91
1221	Regional Shopping Center	95
1222	Retail Centers (Non-Strip With Contiguous Interconnected Off-Street	96
1223	Modern Strip Development	96
1224	Older Strip Development	97
1231	Commercial Storage	90
1232	Commercial Recreation	90
1233	Hotels and Motels	96
1234	Attended Pay Public Parking Facilities	91
1241	Government Offices	91
1242	Police and Sheriff Stations	91
1243	Fire Stations	91
1244	Major Medical Health Care Facilities	74
1245	Religious Facilities	82
1246	Other Public Facilities	91
1247	Non-Attended Public Parking Facilities	91
1251	Correctional Facilities	91
1252	Special Care Facilities	74
1253	Other Special Use Facilities	86
1261	Pre-Schools/Day Care Centers	68
1262	Elementary Schools	82
1263	Junior or Intermediate High Schools	82
1264	Senior High Schools	82
1265	Colleges and Universities	47
1266	Trade Schools and Professional Training Facilities	91
1271	Base (Built-up Area)	65
1271.01	Base High-Density Single Family Residential	42
1271.02	Base Duplexes, Triplexes and 2-or 3-Unit Condominiums and T	55

Code	Land Use Description	% Impervious
1271.03	Base Government Offices	91
1271.04	Base Fire Stations	91
1271.05	Base Non-Attended Public Parking Facilities	91
1271.06	Base Air Field	45
1271.07	Base Petroleum Refining and Processing	91
1271.08	Base Mineral Extraction - Oil and Gas	10
1271.09	Base Harbor Facilities	91
1271.10	Base Navigation Aids	47
1271.11	Base Developed Local Parks and Recreation	10
1271.12	Base Vacant Undifferentiated	1
1272	Vacant Area	2
1273	Air Field	45
1274	Former Base (Built-up Area)	65
1275	Former Base Vacant Area	2
1276	Former Base Air Field	91
1311	Manufacturing, Assembly, and Industrial Services	91
1312	Motion Picture and Television Studio Lots	82
1313	Packing Houses and Grain Elevators	96
1314	Research and Development	91
1321	Manufacturing	91
1322	Petroleum Refining and Processing	91
1323	Open Storage	66
1324	Major Metal Processing	91
1325	Chemical Processing	91
1331	Mineral Extraction - Other Than Oil and Gas	10
1332	Mineral Extraction - Oil and Gas	10
1340	Wholesaling and Warehousing	91
1411	Airports	91
1411.01	Airstrip	10
1412	Railroads	15
1412.01	Railroads-Attended Pay Public Parking Facilities	91
1412.02	Railroads-Non-Attended Public Parking Facilities	91
1412.03	Railroads-Manufacturing, Assembly, and Industrial Services	91
1412.04	Railroads-Petroleum Refining and Processing	91
1412.05	Railroads-Open Storage	66
1412.06	Railroads-Truck Terminals	91
1413	Freeways and Major Roads	91
1414	Park-and-Ride Lots	91
1415	Bus Terminals and Yards	91
1416	Truck Terminals	91
1417	Harbor Facilities	91
1418	Navigation Aids	47
1420	Communication Facilities	82
1420.01	Communication Facilities-Antenna	2

use for post-dev't

Code	Land Use Description	% Impervious
1431	Electrical Power Facilities	47
1431.01	Electrical Power Facilities-Powerlines (Urban)	2
1431.02	Electrical Power Facilities-Powerlines (Rural)	1
1432	Solid Waste Disposal Facilities	15
1433	Liquid Waste Disposal Facilities	96
1434	Water Storage Facilities	91
1435	Natural Gas and Petroleum Facilities	91
1435.01	Natural Gas and Petroleum Facilities-Manufacturing, Assembly, and In	91
1435.02	Natural Gas and Petroleum Facilities-Petroleum Refining and Processing	91
1435.03	Natural Gas and Petroleum Facilities-Mineral Extraction – Oil and Gas	10
1435.04	Natural Gas and Petroleum Facilities-Vacant Undifferentiated	1
1436	Water Transfer Facilities	96
1437	Improved Flood Waterways and Structures	100
1440	Maintenance Yards	91
1450	Mixed Transportation	90
1460	Mixed Transportation and Utility	91
1460.01	Mixed Utility and Transportation-Improved Flood Waterways and Structures	100
1460.02	Mixed Utility and Transportation-Railroads	15
1460.03	Mixed Utility and Transportation-Freeways and Major Roads	91
1500	Mixed Commercial and Industrial	91
1600	Mixed Urban	89
1700	Under Construction (Use appropriate value)	91
1810	Golf Courses	3
1821	Developed Local Parks and Recreation	10
1822	Undeveloped Local Parks and Recreation	2
1831	Developed Regional Parks and Recreation	2
1832	Undeveloped Regional Parks and Recreation	1
1840	Cemeteries	10
1850	Wildlife Preserves and Sanctuaries	2
1850.01	Wildlife-Commercial Recreation	90
1850.02	Wildlife-Other Special Use Facilities	86
1850.03	Wildlife-Developed Local Parks and Recreation	10
1860	Specimen Gardens and Arboreta	15
1870	Beach Parks	10
1880	Other Open Space and Recreation	10
2110	Irrigated Cropland and Improved Pasture Land	2
2120	Non-Irrigated Cropland and Improved Pasture Land	2
2200	Orchards and Vineyards	2
2300	Nurseries	15
2400	Dairy, Intensive Livestock, and Associated Facilities	42
2500	Poultry Operations	62
2600	Other Agriculture	42
2700	Horse Ranches	42

Code	Land Use Description	% Impervious
3100	Vacant Undifferentiated	1
3200	Abandoned Orchards and Vineyards	2
3300	Vacant With Limited Improvements (Use appropriate value)	42
3400	Beaches (Vacant)	1
4100	Water, Undifferentiated	100
4200	Harbor Water Facilities	100
4300	Marina Water Facilities	100
4400	Water Within a Military Installation	100

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pre-dev't

Appendix B

HydroCalc Results

Runoff Calculations for the Entire Site for Existing and Proposed Conditions

Peak Flow Hydrologic Analysis

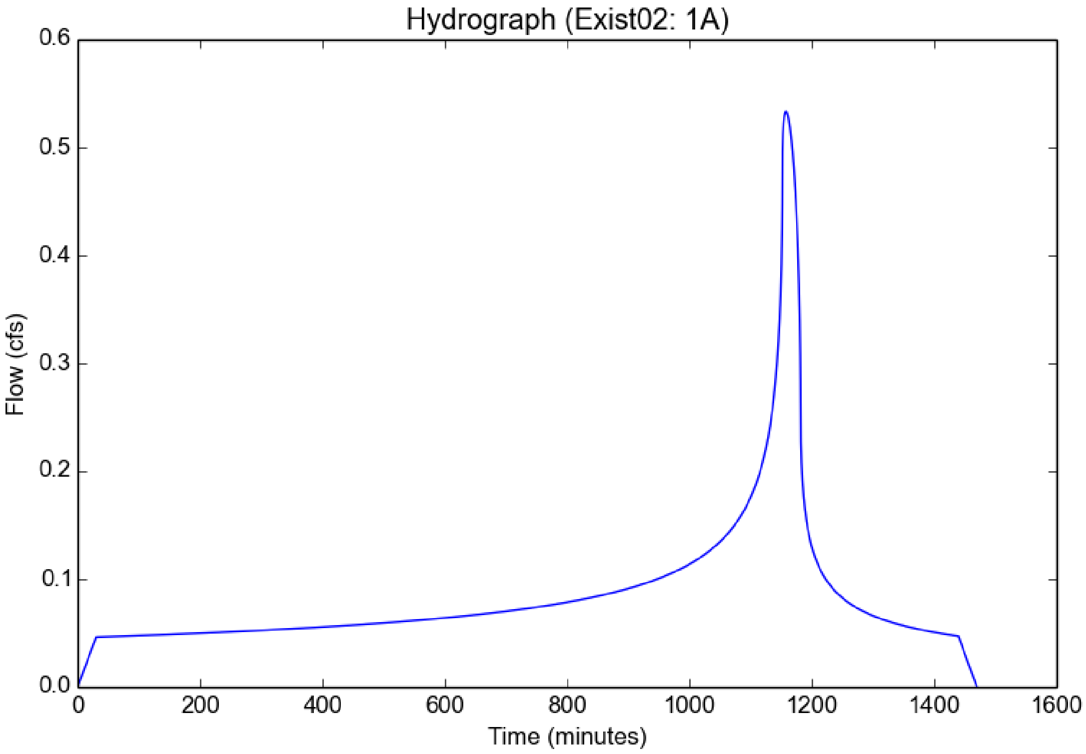
File location: X:/Civil3D/5122-028/Storm/Hydrology/Exist02-1A.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Exist02
Subarea ID	1A
Area (ac)	19.09
Flow Path Length (ft)	721.0
Flow Path Slope (vft/hft)	0.0028
50-yr Rainfall Depth (in)	2.6
Percent Impervious	0.01
Soil Type	120
Design Storm Frequency	2-yr
Fire Factor	0.34
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	1.0062
Peak Intensity (in/hr)	0.2586
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.108
Time of Concentration (min)	30.0
Clear Peak Flow Rate (cfs)	0.5332
Burned Peak Flow Rate (cfs)	0.8669
24-Hr Clear Runoff Volume (ac-ft)	0.1714
24-Hr Clear Runoff Volume (cu-ft)	7468.2953



Peak Flow Hydrologic Analysis

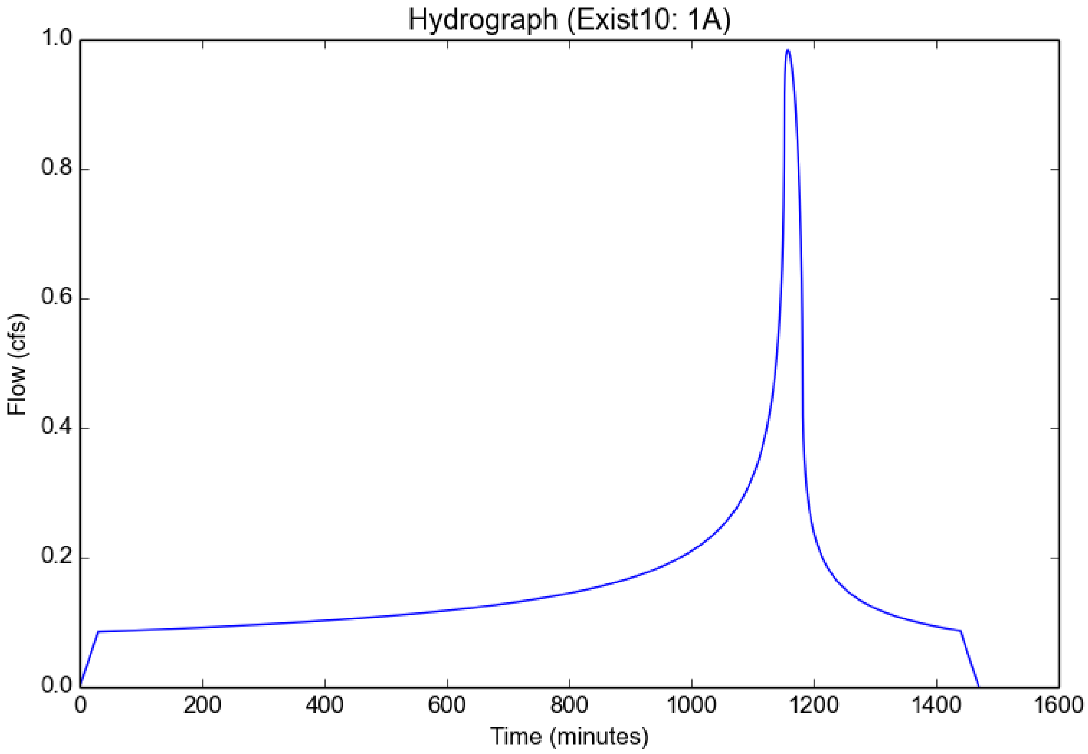
File location: X:/Civil3D/5122-028/Storm/Hydrology/Exist10-1A.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Exist10
Subarea ID	1A
Area (ac)	19.09
Flow Path Length (ft)	721.0
Flow Path Slope (vft/hft)	0.0028
50-yr Rainfall Depth (in)	2.6
Percent Impervious	0.01
Soil Type	120
Design Storm Frequency	10-yr
Fire Factor	0.34
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	1.8564
Peak Intensity (in/hr)	0.4771
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.108
Time of Concentration (min)	30.0
Clear Peak Flow Rate (cfs)	0.9837
Burned Peak Flow Rate (cfs)	1.7294
24-Hr Clear Runoff Volume (ac-ft)	0.3163
24-Hr Clear Runoff Volume (cu-ft)	13778.7154



Peak Flow Hydrologic Analysis

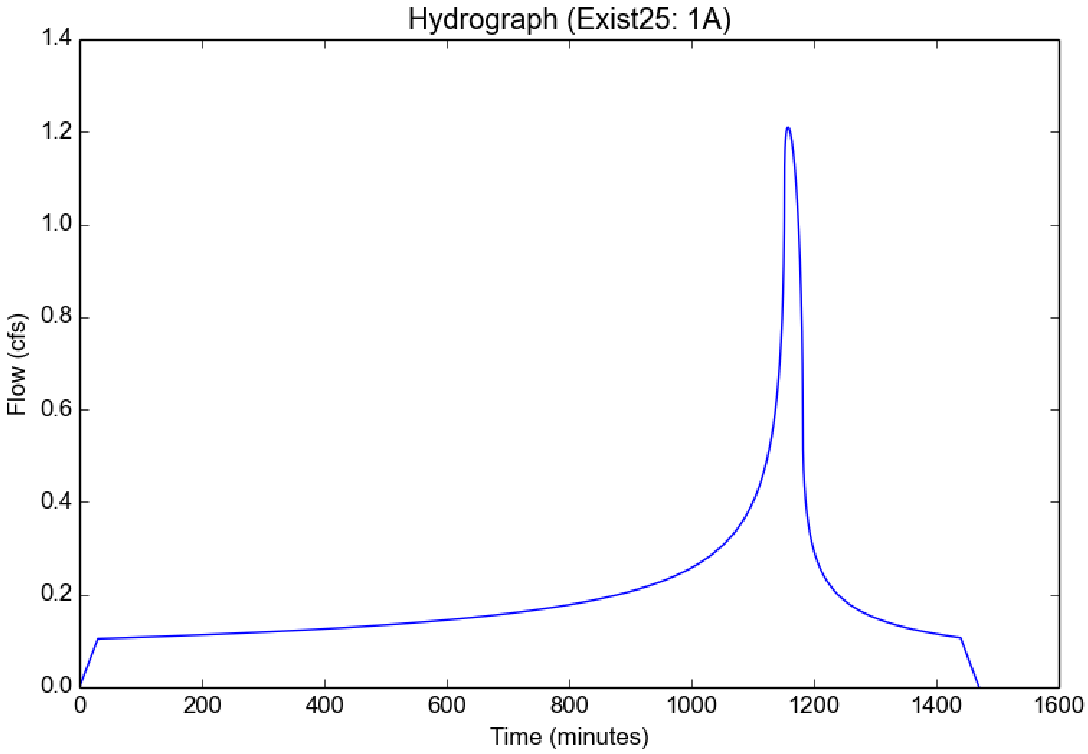
File location: X:/Civil3D/5122-028/Storm/Hydrology/Exist25-1A.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Exist25
Subarea ID	1A
Area (ac)	19.09
Flow Path Length (ft)	721.0
Flow Path Slope (vft/hft)	0.0028
50-yr Rainfall Depth (in)	2.6
Percent Impervious	0.01
Soil Type	120
Design Storm Frequency	25-yr
Fire Factor	0.34
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	2.2828
Peak Intensity (in/hr)	0.5867
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.108
Time of Concentration (min)	30.0
Clear Peak Flow Rate (cfs)	1.2097
Burned Peak Flow Rate (cfs)	2.1784
24-Hr Clear Runoff Volume (ac-ft)	0.389
24-Hr Clear Runoff Volume (cu-ft)	16943.5744



Peak Flow Hydrologic Analysis

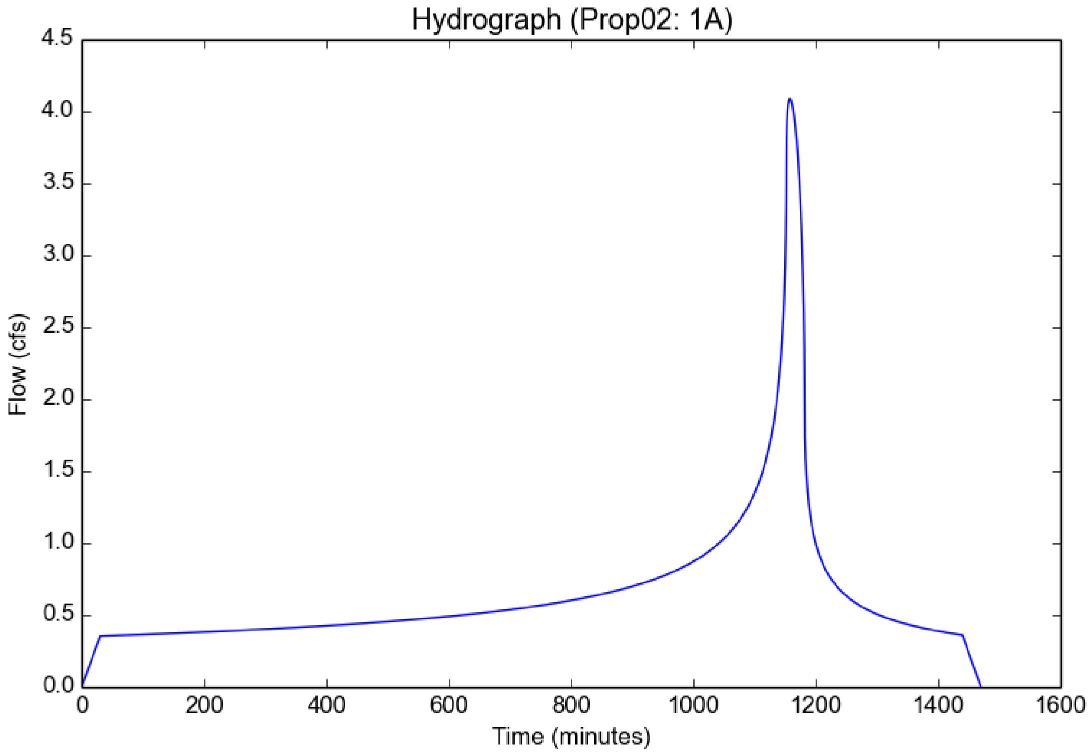
File location: X:/Civil3D/5122-028/Storm/Hydrology/Prop02-1A.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Prop02
Subarea ID	1A
Area (ac)	19.09
Flow Path Length (ft)	1100.0
Flow Path Slope (vft/hft)	0.005
50-yr Rainfall Depth (in)	2.6
Percent Impervious	0.91
Soil Type	120
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	1.0062
Peak Intensity (in/hr)	0.2586
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.828
Time of Concentration (min)	30.0
Clear Peak Flow Rate (cfs)	4.0878
Burned Peak Flow Rate (cfs)	4.0878
24-Hr Clear Runoff Volume (ac-ft)	1.3144
24-Hr Clear Runoff Volume (cu-ft)	57256.9309



Peak Flow Hydrologic Analysis

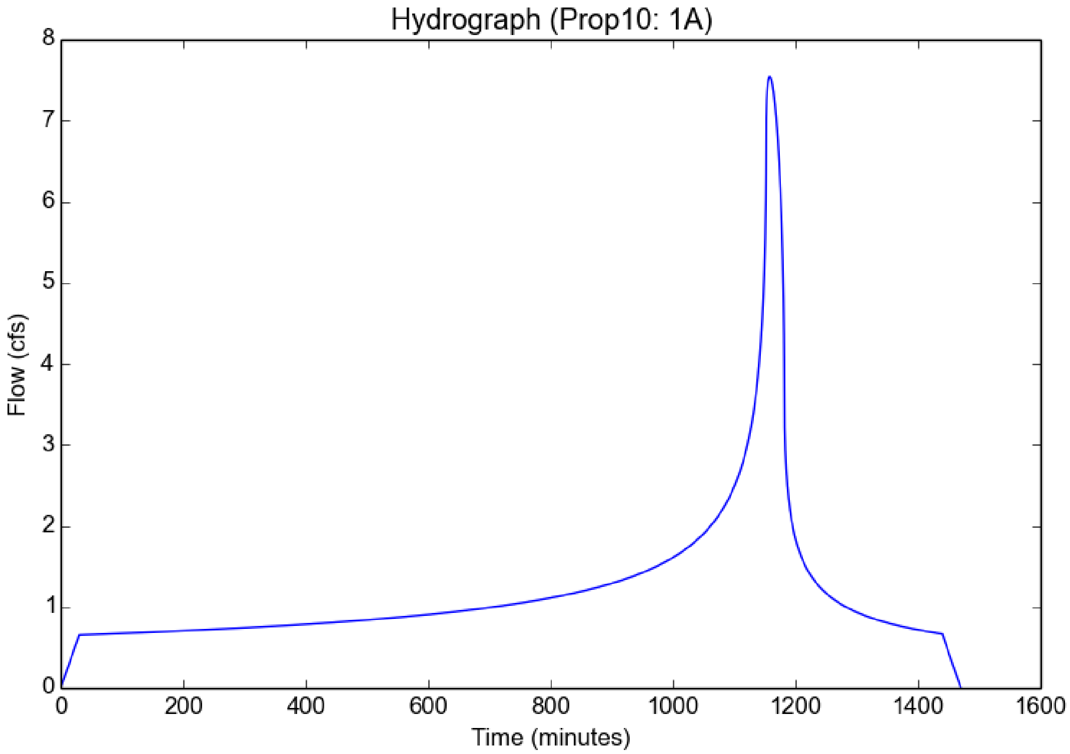
File location: X:/Civil3D/5122-028/Storm/Hydrology/Prop10-1A.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Prop10
Subarea ID	1A
Area (ac)	19.09
Flow Path Length (ft)	1100.0
Flow Path Slope (vft/hft)	0.005
50-yr Rainfall Depth (in)	2.6
Percent Impervious	0.91
Soil Type	120
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	1.8564
Peak Intensity (in/hr)	0.4771
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.828
Time of Concentration (min)	30.0
Clear Peak Flow Rate (cfs)	7.5419
Burned Peak Flow Rate (cfs)	7.5419
24-Hr Clear Runoff Volume (ac-ft)	2.4251
24-Hr Clear Runoff Volume (cu-ft)	105636.8183



Peak Flow Hydrologic Analysis

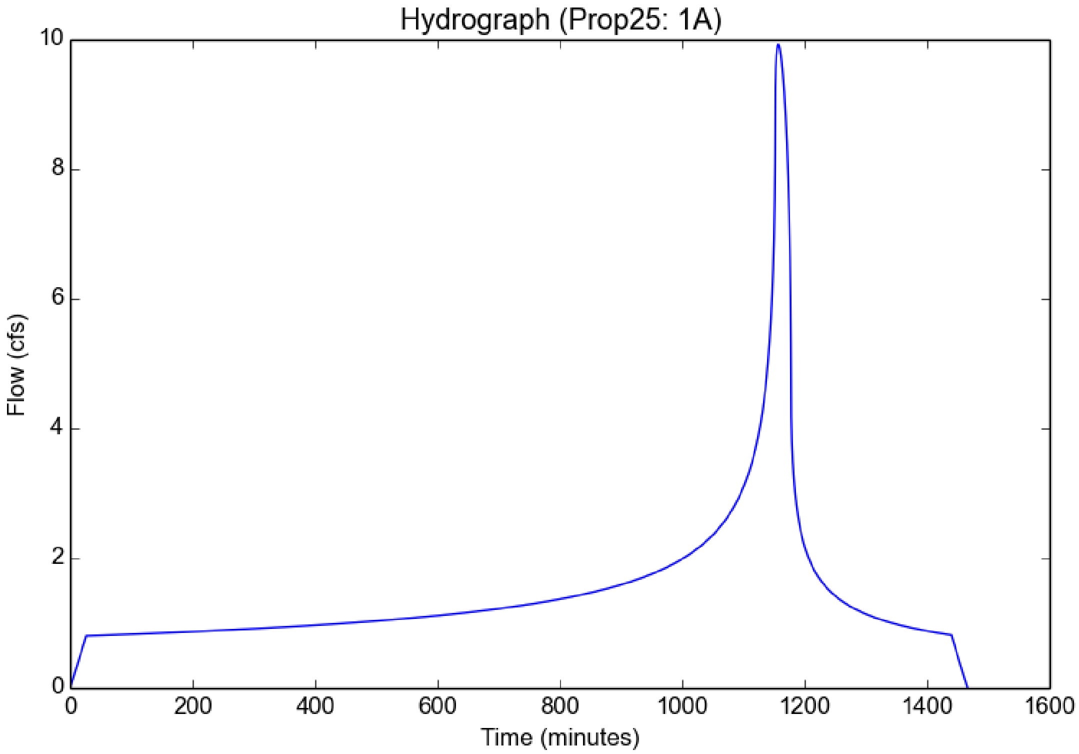
File location: X:/Civil3D/5122-028/Storm/Hydrology/Prop25-1A.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Prop25
Subarea ID	1A
Area (ac)	19.09
Flow Path Length (ft)	1100.0
Flow Path Slope (vft/hft)	0.005
50-yr Rainfall Depth (in)	2.6
Percent Impervious	0.91
Soil Type	120
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	2.2828
Peak Intensity (in/hr)	0.6276
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.828
Time of Concentration (min)	26.0
Clear Peak Flow Rate (cfs)	9.9194
Burned Peak Flow Rate (cfs)	9.9194
24-Hr Clear Runoff Volume (ac-ft)	2.9821
24-Hr Clear Runoff Volume (cu-ft)	129900.3632



Runoff Calculations for 3 Sub-areas for the 25-year Frequency Existing and Proposed Conditions

Peak Flow Hydrologic Analysis

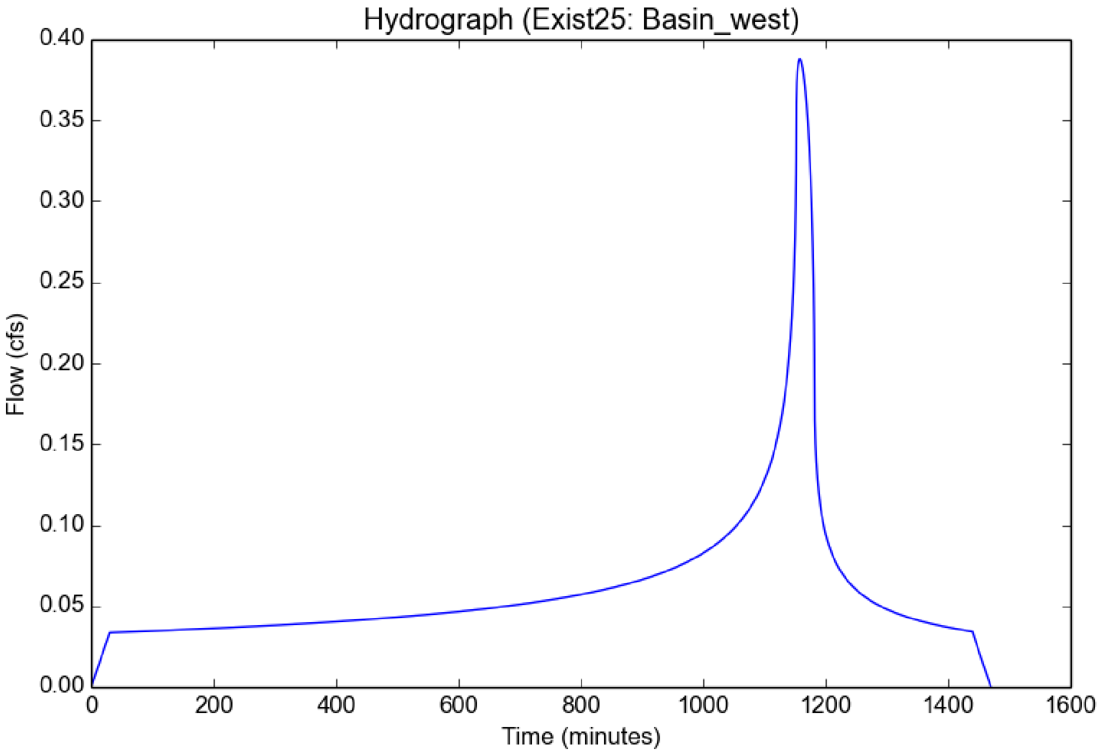
File location: X:/Civil3D/5122-028/Storm/Hydrology/HydroCalc/3basins/Exist25 - Basin_west.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Exist25
Subarea ID	Basin_west
Area (ac)	6.12
Flow Path Length (ft)	245.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	2.6
Percent Impervious	0.01
Soil Type	120
Design Storm Frequency	25-yr
Fire Factor	0.34
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	2.2828
Peak Intensity (in/hr)	0.5867
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.108
Time of Concentration (min)	30.0
Clear Peak Flow Rate (cfs)	0.3878
Burned Peak Flow Rate (cfs)	0.6984
24-Hr Clear Runoff Volume (ac-ft)	0.1247
24-Hr Clear Runoff Volume (cu-ft)	5431.8845



Peak Flow Hydrologic Analysis

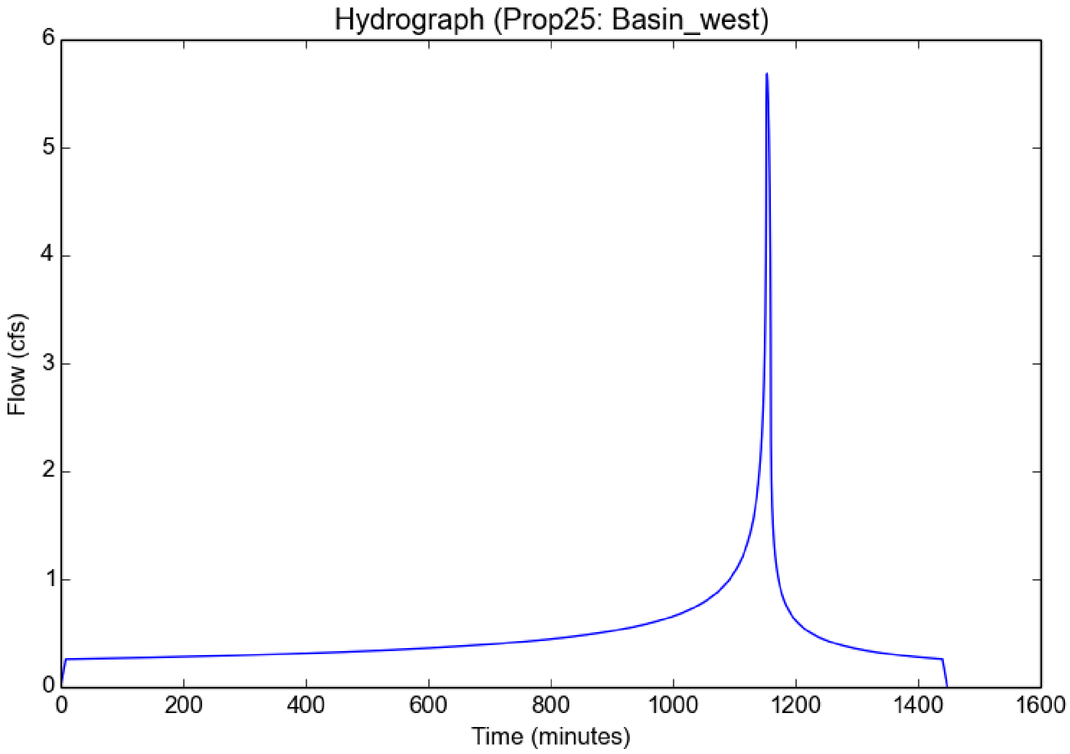
File location: X:/Civil3D/5122-028/Storm/Hydrology/HydroCalc/3basins/Prop25 - Basin_west.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Prop25
Subarea ID	Basin_west
Area (ac)	6.12
Flow Path Length (ft)	245.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	2.6
Percent Impervious	0.91
Soil Type	120
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	2.2828
Peak Intensity (in/hr)	1.092
Undeveloped Runoff Coefficient (Cu)	0.3495
Developed Runoff Coefficient (Cd)	0.8505
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	5.6838
Burned Peak Flow Rate (cfs)	5.6838
24-Hr Clear Runoff Volume (ac-ft)	0.9573
24-Hr Clear Runoff Volume (cu-ft)	41700.3442



Peak Flow Hydrologic Analysis

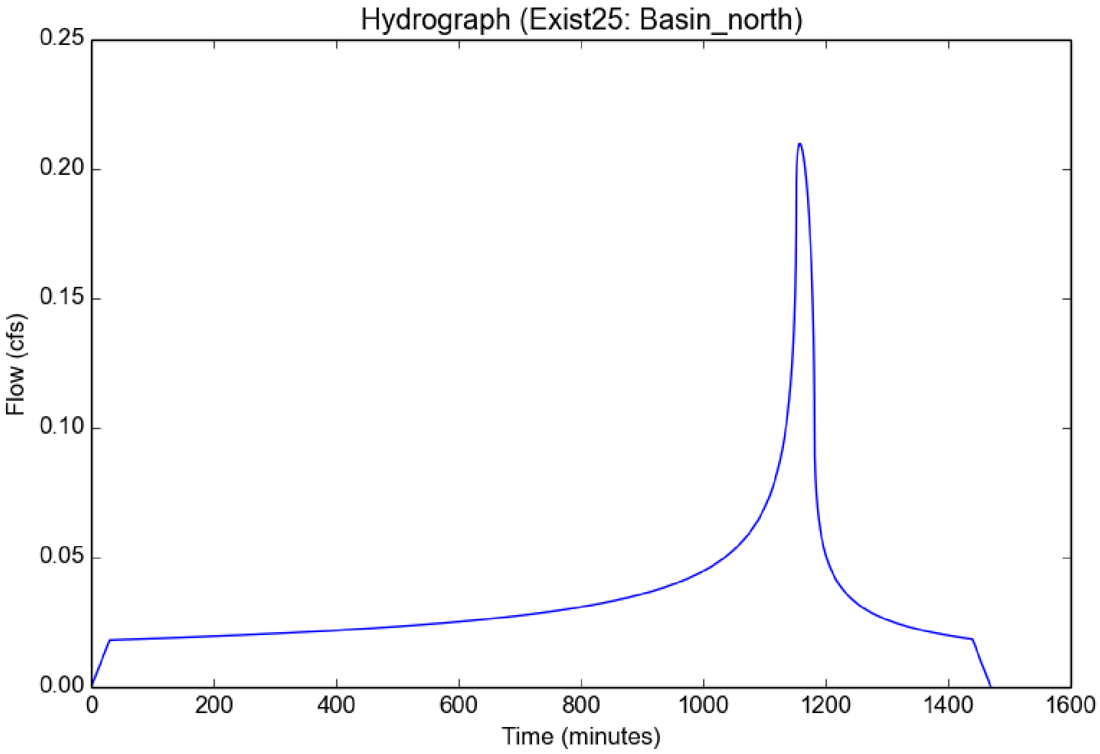
File location: X:/Civil3D/5122-028/Storm/Hydrology/HydroCalc/3basins/Exist25 - Basin_north.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Exist25
Subarea ID	Basin_north
Area (ac)	3.31
Flow Path Length (ft)	330.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	2.6
Percent Impervious	0.01
Soil Type	120
Design Storm Frequency	25-yr
Fire Factor	0.34
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	2.2828
Peak Intensity (in/hr)	0.5867
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.108
Time of Concentration (min)	30.0
Clear Peak Flow Rate (cfs)	0.2097
Burned Peak Flow Rate (cfs)	0.3777
24-Hr Clear Runoff Volume (ac-ft)	0.0674
24-Hr Clear Runoff Volume (cu-ft)	2937.833



Peak Flow Hydrologic Analysis

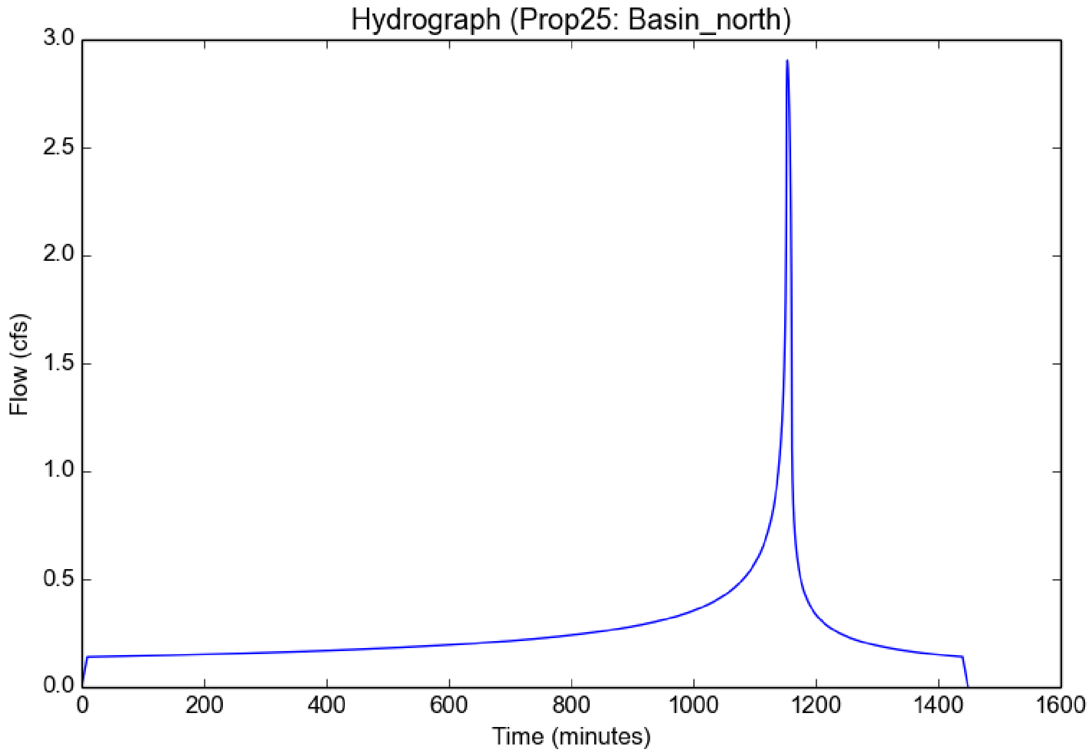
File location: X:/Civil3D/5122-028/Storm/Hydrology/HydroCalc/3basins/Prop25 - Basin_north.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Prop25
Subarea ID	Basin_north
Area (ac)	3.31
Flow Path Length (ft)	330.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	2.6
Percent Impervious	0.91
Soil Type	120
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	2.2828
Peak Intensity (in/hr)	1.0332
Undeveloped Runoff Coefficient (Cu)	0.3334
Developed Runoff Coefficient (Cd)	0.849
Time of Concentration (min)	9.0
Clear Peak Flow Rate (cfs)	2.9036
Burned Peak Flow Rate (cfs)	2.9036
24-Hr Clear Runoff Volume (ac-ft)	0.5177
24-Hr Clear Runoff Volume (cu-ft)	22551.6769



Peak Flow Hydrologic Analysis

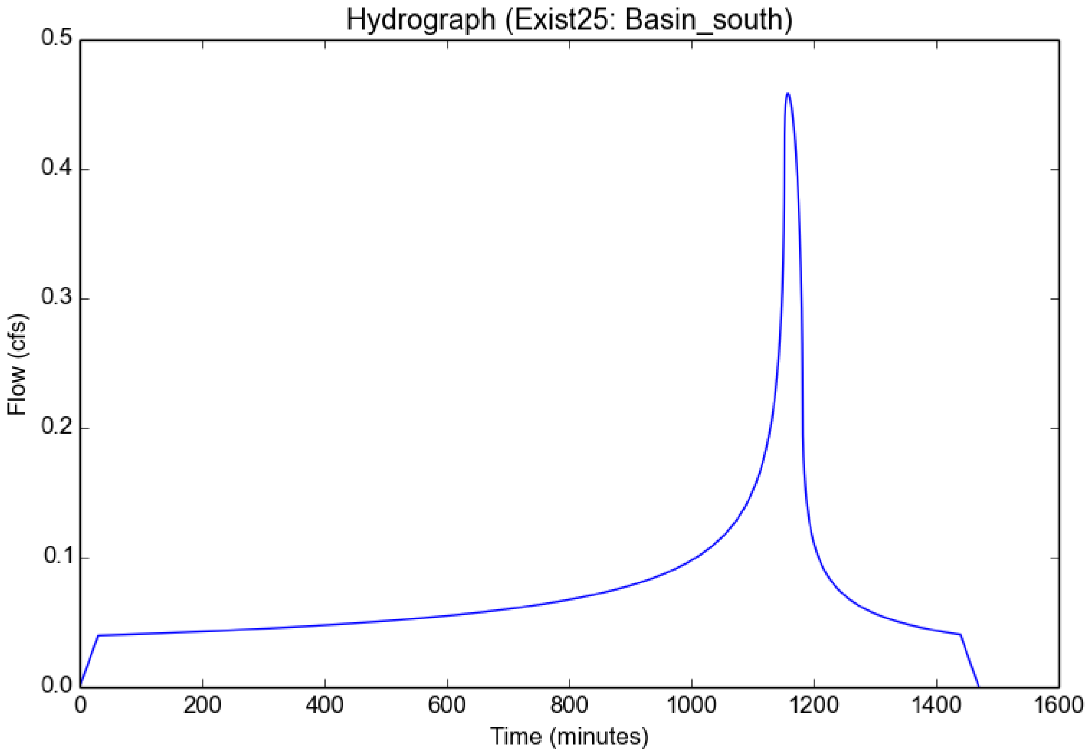
File location: X:/Civil3D/5122-028/Storm/Hydrology/HydroCalc/3basins/Exist25 - Basin_south.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Exist25
Subarea ID	Basin_south
Area (ac)	7.23
Flow Path Length (ft)	970.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	2.6
Percent Impervious	0.01
Soil Type	120
Design Storm Frequency	25-yr
Fire Factor	0.34
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	2.2828
Peak Intensity (in/hr)	0.5867
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.108
Time of Concentration (min)	30.0
Clear Peak Flow Rate (cfs)	0.4581
Burned Peak Flow Rate (cfs)	0.825
24-Hr Clear Runoff Volume (ac-ft)	0.1473
24-Hr Clear Runoff Volume (cu-ft)	6417.0793



Peak Flow Hydrologic Analysis

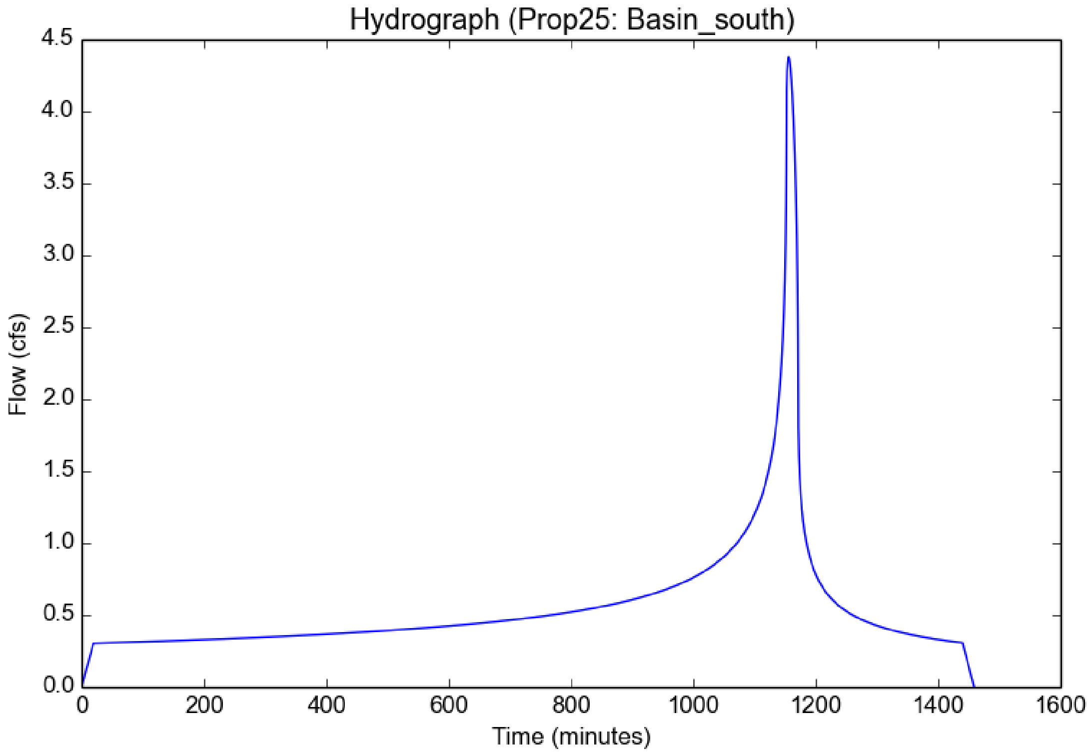
File location: X:/Civil3D/5122-028/Storm/Hydrology/HydroCalc/3basins/Prop25 - Basin_south.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Prop25
Subarea ID	Basin_south
Area (ac)	7.23
Flow Path Length (ft)	970.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	2.6
Percent Impervious	0.91
Soil Type	120
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	2.2828
Peak Intensity (in/hr)	0.7272
Undeveloped Runoff Coefficient (Cu)	0.1495
Developed Runoff Coefficient (Cd)	0.8325
Time of Concentration (min)	19.0
Clear Peak Flow Rate (cfs)	4.377
Burned Peak Flow Rate (cfs)	4.377
24-Hr Clear Runoff Volume (ac-ft)	1.1297
24-Hr Clear Runoff Volume (cu-ft)	49209.1373



Appendix C

Required Volume Calculations

The following sheets show abbreviated portions of the entire calculation. HydroCalc produces a time-series with over 7,000 points on the hydrograph. The hydrograph is processed by a spreadsheet to determine the required retention volume. Printing the content of the entire spreadsheet that includes all lines on letter size paper would take about ~150 pages. Therefore, only a one-page abbreviated content is included herein. The entire spreadsheet is included with the submittal, however.

Required Retention Volume per Lancaster Requirements for Basin West

25-year runoff

Qmax=	5.68381	0.38781
	.85*Qmax=	0.32964

Time min	**Qprop** cfs	**Qexist** cfs	**85% Qexist** cfs	**Delta Q** cfs	**Delta Vol.** Cu-Ft
0.0	0.00000	0.00000	-	0.00000	
0.2	0.00640	0.00022	-	0.00617	0.04
0.4	0.01279	0.00045	-	0.01235	0.11
0.6	0.01919	0.00067	-	0.01852	0.19
0.8	0.02559	0.00089	-	0.02469	0.26
…					
…					
…					
1166.6	1.22706	0.36949	0.32964	0.89742	10.84
1166.8	1.21551	0.36870	0.32964	0.88587	10.70
1167.0	1.20431	0.36789	0.32964	0.87467	10.56
1167.2	1.19344	0.36706	0.32964	0.86380	10.43
1167.4	1.18288	0.36622	0.32964	0.85325	10.30
1167.6	1.17263	0.36536	0.32964	0.84299	10.18
1167.8	1.16266	0.36449	0.32964	0.83302	10.06
1168.0	1.15296	0.36359	0.32964	0.82332	9.94
1168.2	1.14352	0.36268	0.32964	0.81388	9.82
1168.4	1.13433	0.36176	0.32964	0.80469	9.71
1168.6	1.12537	0.36081	0.32964	0.79573	9.60
1168.8	1.11663	0.35985	0.32964	0.78700	9.50
1169.0	1.10812	0.35887	0.32964	0.77848	9.39
1169.2	1.09981	0.35787	0.32964	0.77017	9.29
1169.4	1.09169	0.35686	0.32964	0.76206	9.19
1169.6	1.08377	0.35583	0.32964	0.75413	9.10
…					
0.0	0.00000	0.00067	-	0.00000	0.00
0.0	0.00000	0.00044	-	0.00000	0.00
0.0	0.00000	0.00022	-	0.00000	0.00
0.0	0.00000	0.00000	-	0.00000	0.00
				Sum(Cu.Ft)=	**32,294**
				Sum(Ac-Ft)=	**0.7414**

Required Retention Volume per Lancaster Requirements for Basin North

25-year runoff

Qmax=	2.90358	0.20975
	.85*Qmax=	0.17828

Time min	**Qprop** cfs	**Qexist** cfs	**85% Qexist** cfs	**Delta Q** cfs	**Delta Vol.** Cu-Ft
0.0	0.00000	0.00000	-	0.00000	
0.2	0.00308	0.00012	-	0.00296	0.02
0.4	0.00615	0.00024	-	0.00591	0.05
0.6	0.00923	0.00036	-	0.00887	0.09
0.8	0.01230	0.00048	-	0.01182	0.12
…					
…					
…					
1156.6	2.73704	0.20935	0.17828	2.55875	30.84
1156.8	2.71387	0.20946	0.17828	2.53558	30.57
1157.0	2.68922	0.20955	0.17828	2.51094	30.28
1157.2	2.66306	0.20962	0.17828	2.48477	29.97
1157.4	2.63531	0.20968	0.17828	2.45703	29.65
1157.6	2.60592	0.20972	0.17828	2.42763	29.31
1157.8	2.57478	0.20974	0.17828	2.39650	28.94
1158.0	2.54179	0.20975	0.17828	2.36351	28.56
1158.2	2.50683	0.20974	0.17828	2.32854	28.15
1158.4	2.46973	0.20972	0.17828	2.29144	27.72
1158.6	2.43030	0.20968	0.17828	2.25201	27.26
1158.8	2.38830	0.20963	0.17828	2.21002	26.77
1159.0	2.34344	0.20957	0.17828	2.16516	26.25
1159.2	2.29535	0.20950	0.17828	2.11706	25.69
…					
…					
…					
0.0	0.00000	0.00036	-	0.00000	0.00
0.0	0.00000	0.00024	-	0.00000	0.00
0.0	0.00000	0.00012	-	0.00000	0.00
0.0	0.00000	0.00000	-	0.00000	0.00
				Sum(Cu.Ft)=	**17,459**
				Sum(Ac-Ft)=	**0.4008**

Required Retention Volume per Lancaster Requirements for Basin South

25-year runoff

Qmax=	4.37695	0.45814
	.85*Qmax=	0.38942

Time	**Qprop**	**Qexist**	**85% Qexist**	**Delta Q**	**Delta Vol.**
min	cfs	cfs	cfs	cfs	Cu-Ft
0.0	0.00000	0.00000	-	0.00000	
0.2	0.00319	0.00026	-	0.00293	0.02
0.4	0.00638	0.00053	-	0.00585	0.05
0.6	0.00957	0.00079	-	0.00878	0.09
0.8	0.01276	0.00106	-	0.01170	0.12
…					
…					
…					
1154.6	4.36057	0.45200	0.38942	3.97115	47.61
1154.8	4.36588	0.45283	0.38942	3.97645	47.69
1155.0	4.37004	0.45358	0.38942	3.98061	47.74
1155.2	4.37315	0.45426	0.38942	3.98373	47.79
1155.4	4.37530	0.45486	0.38942	3.98588	47.82
1155.6	4.37655	0.45540	0.38942	3.98713	47.84
1155.8	4.37695	0.45588	0.38942	3.98753	47.85
1156.0	4.37656	0.45631	0.38942	3.98714	47.85
1156.2	4.37542	0.45668	0.38942	3.98600	47.84
1156.4	4.37357	0.45701	0.38942	3.98415	47.82
1156.6	4.37104	0.45729	0.38942	3.98162	47.79
1156.8	4.36786	0.45752	0.38942	3.97843	47.76
1157.0	4.36405	0.45772	0.38942	3.97462	47.72
1157.2	4.35964	0.45788	0.38942	3.97021	47.67
…					
…					
…					
0.0	0.00000	0.00079	-	0.00000	0.00
0.0	0.00000	0.00053	-	0.00000	0.00
0.0	0.00000	0.00026	-	0.00000	0.00
0.0	0.00000	0.00000	-	0.00000	0.00
				Sum(Cu.Ft)=	**37,968**
				Sum(Ac-Ft)=	**0.8716**

Appendix D

Infiltration and Spillway Calculations

$R := 0.5$ Infiltration rate, in/hr

$T_{MAX} := 168$ (7 days) Maximum allowed time of infiltraion, hr

BASINS WEST:

$V := 32294$ Volume to be infiltrated, ft^3

$A_{REQ} := \frac{12 \cdot V}{T_{MAX} \cdot R} = 4613.43$ Required infiltration surface area, ft^2

$V_B := 33056$ Basin volume capacity, ft^3

$D_B := 1.3$ Basin depth, ft

$A_{AV} := \frac{V_B}{D_B} = 25428$ Basin average surface area, ft^2

$A_{AV} > A_{REQ}$

BASINS NORTH:

$V := 17459$ Volume to be infiltrated, ft^3

$A_{REQ} := \frac{12 \cdot V}{T_{MAX} \cdot R} = 2494$ Required infiltration surface area, ft^2

$V_B := 17545$ Basin volume capacity, ft^3

$D_B := 5.0$ Basin depth, ft

$A_{AV} := \frac{V_B}{D_B} = 3509$ Basin average surface area, ft^2

$A_{AV} > A_{REQ}$

BASINS SOUTH:

$V := 37968$ Volume to be infiltrated, Ft^3

$A_{REQ} := \frac{12 \cdot V}{T_{MAX} \cdot R} = 5424$ Required infiltration surface area, ft^2

$V_B := 38056$ Basin volume capacity, ft^3

$D_B := 5.1$ Basin depth, ft

$A_{AV} := \frac{V_B}{D_B} = 7462$ Basin average surface area, ft^2

$A_{AV} > A_{REQ}$

$D := 0.5$ Depth of flow, ft

$C := 2.8$ Broad-crested weir discharge coefficient

BASINS WEST:

$Q := 5.68$ 25-year peak runoff

$Q125 := Q \cdot 1.25 = 7.1$ 125% of peak 25-year peak runoff

$W := \frac{Q125}{C \cdot D^{1.5}} = 7.2$ Minimum weir (splillway) width, Ft:

BASINS NORTH:

$Q := 2.90$ 25-year peak runoff

$Q125 := Q \cdot 1.25 = 3.62$ 125% of peak 25-year peak runoff

$W := \frac{Q125}{C \cdot D^{1.5}} = 3.7$ Minimum weir (splillway) width, Ft:

BASINS SOUTH:

$Q := 4.38$ 25-year peak runoff

$Q125 := Q \cdot 1.25 = 5.48$ 125% of peak 25-year peak runoff

$W := \frac{Q125}{C \cdot D^{1.5}} = 5.5$ Minimum weir (splillway) width, Ft:

Appendix E

Infiltration Test Results

SoCalGeo
SOUTHERN
CALIFORNIA
GEOTECHNICAL
A California Corporation

November 16, 2022

Covington Development Partners, LLC
3 Corporate Plaza, Suite 230
Newport Beach, California 92660

Attention: Mr. Michael Di Sano
Sr. Director - Entitlements

Project No.: **22G245-2**

Subject: **Results of Infiltration Testing**
Proposed Warehouse
NEC of West Avenue H and 35th Street West
Lancaster, California

Reference: Geotechnical Investigation, Proposed Warehouse, NEC of West Avenue H and 35th Street West, Lancaster, California, Prepared by Southern California Geotechnical, Inc. (SCG) for Covington Development Partners, LLC, SCG Project No. 22G245-1, dated November 15, 2022.

Mr. Di Sano:

In accordance with your request, we have conducted infiltration testing at the subject site. We are pleased to present this report summarizing the results of the infiltration testing and our design recommendations.

Scope of Services

The scope of services performed for this project was in accordance with our Proposal No. 22P365, dated September 16, 2022. The scope of the infiltration testing consisted of site reconnaissance, subsurface exploration, field testing, and engineering analysis to determine the infiltration rates of the on-site soils. The infiltration testing was performed in general accordance with the guidelines published by the County of Los Angeles – Department of Public Works Geotechnical and Materials Engineering Division. These guidelines are dated June 30, 2021 and titled Guidelines for Design, Investigation, and Reporting Low Impact Development Stormwater Infiltration, GS200.1.

Site Description

The subject site is located at the northeast corner of West Avenue H and 35th Street West in Lancaster, California. The site is bounded to the north and east by vacant lots, to the south by West Avenue H, and to the west by the 35th Street West easement. The general location of the site is illustrated on the Site Location Map, included as Plate 1 of this report.

The site consists of a rectangular-shaped property 17.82± acres in size. The site is currently vacant and undeveloped. The ground surface consists of exposed soil with moderate native vegetation, including minor shrubs.

Detailed topographic information was not available at the time of this report. Based on the elevations obtained from Google Earth, and visual observations made at the time of the subsurface investigation, the overall site topography slopes downward to the east-southeast at a gradient of less than 1 percent.

Proposed Development

Our office was provided with a conceptual site plan, identified as Scheme A and dated August 17, 2022, which was prepared by GAA Architects. The plan indicates that the new development will consist of one (1) new warehouse, 388,000± ft² in size, located in the northwestern portion of the subject site. Dock-high doors and a truck court will be constructed on the east side of the proposed building. The new building is expected to be surrounded by asphaltic concrete (AC) pavements in the parking and drive areas, and Portland cement concrete (PCC) pavements in the loading dock area. Several landscaped planters and concrete flatwork are also expected to be included throughout the site.

We understand that this project may use on-site storm water infiltration. Based on the site plan provided, a detention basin may be constructed in the southeastern area of the site. The depth of the proposed basin was unknown at the time of this report. For the purposes of this report, we assume the bottom of the infiltration system will extend to depths of 10 to 12± feet. In addition, a bio-retention basin is proposed along the west property line. However, due to the proximity of the bio-retention basin to the proposed building, SCG recommends that this basin be lined and no infiltration should be expected.

Concurrent Study

SCG concurrently conducted a geotechnical investigation at the subject site, referenced above. As a part of this study, six (6) borings (identified as Boring Nos. B-1 through B-6) were advanced to depths of 10 to 25± feet below the existing site grades.

Native alluvium was encountered at the ground surface at all of the boring locations, extending to at least the maximum depth explored of 25± feet. The alluvium generally consists of stiff to hard sandy clays and medium dense clayey sands with varying silt content, and occasional stiff silty clays and medium dense sands and silty sands. Boring No. B-3 encountered a stratum consisting of loose clayey sands at the ground surface, extending to a depth of 3± feet. Boring No. B-3 also encountered a stratum consisting of dense silty sands at a depth of 13½± feet.

Groundwater

Free water was not encountered during the drilling of any of the borings. Based on the moisture content of the recovered soil samples and the lack of free water in the borings, the static groundwater table is at a greater depth than 25± feet below existing site grades.

As part of our research, we reviewed available groundwater data in order to determine the historic high groundwater level for the site. The primary reference used to determine the historic groundwater depths in this area is the California Geological Survey (CGS) Seismic Hazard Zone Report 095, Seismic Hazard Zone Report for the Lancaster West 7.5-Minute Quadrangle, which indicates that the historic high groundwater level for the site is approximately 85± feet below the ground surface.

In addition, recent water level data was obtained from the California Department of Water Resources Water Data Library website, https://wdl.water.ca.gov/waterdatalibrary/. The nearest monitoring well on record (identified as State Well Number: 07N12W07B002S) is located as close as 350± feet south-southwest of the project site. Water level readings within this monitoring well indicate a high groundwater level of 38± feet below the ground surface in September 1963.

Subsurface Exploration

Scope of Exploration

The subsurface exploration for the infiltration testing consisted of two (2) infiltration test borings advanced to a depth of 12± feet below the existing site grades. The borings were logged during drilling by a member of our staff and were advanced using a truck-mounted drilling rig, equipped with 8-inch-diameter hollow stem augers. The approximate locations of the infiltration test borings (identified as Infiltration Test Nos. I-1 and I-2) are indicated on the Infiltration Test Location Plan, enclosed as Plate 2 of this report.

Upon the completion of the infiltration borings, the bottom of each test boring was covered with 2± inches of clean ¾-inch gravel. A sufficient length of 3-inch-diameter perforated PVC casing was then placed into each test hole so that the PVC casing extended from the bottom of the test hole to the ground surface. Clean ¾-inch gravel was then installed in the annulus surrounding the PVC casing.

Geotechnical Conditions

Native alluvium was encountered at the ground surface at both infiltration test locations, extending to at least the maximum depth explored of 12± feet below the existing site grades. The near-surface alluvium generally consists of medium dense clayey fine sand, extending to a depth of 7± feet. At greater depths, the alluvium generally consists of medium dense silty fine to medium sand, clayey fine sand, and very stiff silty clay. The soil samples contained varying amounts of silt, iron oxide staining, calcareous veins and nodules, and clay content. The Boring Logs, which illustrate the conditions encountered at each test location are included within this report.

Infiltration Testing

We understand that the results of the testing will be used to prepare a preliminary design for the storm water infiltration systems that will be used at the subject site. The infiltration testing was performed in general accordance with the guidelines published by the County of Los Angeles – Department of Public Works Geotechnical and Materials Engineering Division. These guidelines are dated June 30, 2021 and titled Guidelines for Design, Investigation, and Reporting Low Impact Development Stormwater Infiltration, GS200.1.

Pre-soaking

The infiltration test boring was pre-soaked for at least 1 hour to ensure the sand around the annulus of the perforated pipe was fully saturated. The pre-soaking procedure consisted of filling each test boring with clean potable water to an elevation of at least 12± inches above the bottom of each test boring. In accordance with the Los Angeles County guidelines, since the water in the infiltration test borings did not completely infiltrate within a 30-minute time period after filling each boring, a falling head test was the appropriate test method. Based on the conditions encountered at each of the infiltration test borings, 30-minute measurement intervals were assigned at Infiltration Test No. I-1 and I-2.

Infiltration Testing Procedure

After the completion of the pre-soaking process, SCG performed the infiltration testing. A sufficient amount of water was added to the test borings so that the water level was approximately 3± feet higher than the bottom of the borings and less than or equal to the water level used during the pre-soaking process. As indicated above, 30-minute measurement intervals were assigned at Infiltration Test No. I-1 and I-2. A stabilized rate of drop, where the highest and lowest readings from three consecutive readings are within 10 percent of each other, was obtained for each of the test borings. These water level readings are presented on the spreadsheets enclosed with this report. The infiltration rates for each of the timed intervals are also tabulated on the spreadsheets.

The infiltration rates for the tests are tabulated in inches per hour. In accordance with the typically accepted practice, it is recommended that the most conservative reading from the latter part of the infiltration tests be used for design. These rates are summarized below:

Infiltration Test No.	**Depth (feet)**	**Soil Description**	**Measured Infiltration Rate (inches/hour)**
I-1	12	Gray Brown Silty Clay, little fine to medium Sand	2.2
I-2	12	Gray Brown Silty fine to medium Sand, trace Clay, trace coarse Sand	3.6

Laboratory Testing

Moisture Content

The moisture contents for the recovered soil samples within the borings were determined in accordance with ASTM D-2216 and are expressed as a percentage of the dry weight. These test results are presented on the Boring Logs.

Grain Size Analysis

The grain size distribution of selected soils collected from the base of each infiltration test boring have been determined using a range of wire mesh screens. These tests were performed in general accordance with ASTM D-422 and/or ASTM D-1140. The weight of the portion of the sample retained on each screen is recorded and the percentage finer or coarser of the total weight is calculated. The results of these tests are presented on Plates C-1 and C-2 of this report.

Design Recommendations

Two (2) infiltration tests were performed in the southern portion of the site. The measured infiltration rates at these infiltration test locations were 2.2 and 3.6 inches per hour. The Guidelines for Geotechnical Investigation and Reporting Low Impact Development Stormwater

Infiltration, GS200.1 prepared by the County of Los Angeles, Department of Public Works, Geotechnical and Materials Division (GMED) on June 30, 2021 dictate that a reduction factor be utilized in the design infiltration rate. The following reduction factors are considered in the design infiltration rate (DIR):

Reduction Factors	
Small Diameter Boring	$RF_t = 1$
Site Variability, number of tests, and thoroughness of subsurface investigation	$RF_v = 1$
Long-term siltation plugging and maintenance	$RF_s = 2$
Total Reduction Factor, $RF = RF_t + RF_v + RF_s$	RF = 4
Design Infiltration Rate (DIR) = Measured Percolation Rate/RF	DIR = See Below

Based on the results of the infiltration testing, the silt and clay content, and the reduction factor, we recommend an infiltration rate of 0.5 inches per hour for the proposed detention basin located in the southeastern portion of the site.

The design of the proposed storm water infiltration system should be performed by the project civil engineer, in accordance with the City of Lancaster and/or County of Los Angeles guidelines. However, it is recommended that the system be constructed so as to facilitate removal of silt and clay, or other deleterious materials from any water that may enter the systems. The presence of such materials would decrease the effective infiltration rate. **It is recommended that the project civil engineer apply an appropriate factor of safety. The infiltration rate recommended above is based on the assumption that only clean water will be introduced to the subsurface profile. Any fines, debris, or organic materials could significantly impact the infiltration rate.** It should be noted that the recommended infiltration rate is based on infiltration testing at two (2) discrete locations and the overall infiltration rate of the storm water infiltration system could vary considerably.

Infiltration Rate Considerations

The infiltration rates presented herein were determined in accordance with the Los Angeles County guidelines and are considered valid only for the time and place of the actual tests. Varying subsurface conditions will exist in other areas of the site, which could alter the recommended infiltration rates presented above. The infiltration rate will decline over time between maintenance cycles as silt or clay particles accumulate on the BMP surface. The infiltration rate is highly dependent upon a number of factors, including density, silt and clay content, grainsize distribution throughout the range of particle sizes, and particle shape. Small changes in these factors can cause large changes in the infiltration rate.

Infiltration rates are based on unsaturated flow. As water is introduced into soils by infiltration, the soils become saturated and the wetting front advances from the unsaturated zone to the saturated zone. Once the soils become saturated, infiltration rates become zero, and water can only move through soils by hydraulic conductivity at a rate determined by pressure head and soil permeability. Changes in soil moisture content will affect the infiltration rate. Infiltration rates should be expected to decrease until the soils become saturated. Soil permeability values will then govern groundwater movement. Permeability values may be on the order of 10 to 20 times less than infiltration rates. The system designer should incorporate adequate factors of safety and allow for overflow design into appropriate traditional storm drain systems, which would transport storm water off-site.

Construction Considerations

The infiltration rate presented in this report is specific to the tested locations and tested depths. Infiltration rates can be significantly reduced if the soils are exposed to excessive disturbance or compaction during construction. Compaction of the soils at the bottom of the infiltration system can significantly reduce the infiltration ability of the system. Therefore, the subgrade soils within proposed infiltration system area should not be over-excavated, undercut or compacted in any significant manner. **It is recommended that a note to this effect be added to the project plans and/or specifications.**

We recommend that a representative from the geotechnical engineer be on-site during the construction of the proposed infiltration system to identify the soil classification at the base of the system. The infiltration rate of the system will likely vary significantly if the composition of the soil located beneath the system is not consistent with the tested soils.

We recommend that scrapers and other rubber-tired heavy equipment not be operated on the system bottom, or at levels lower than 2 feet above the bottom of the system, particularly within basins. As such, the bottom 24 inches of the infiltration systems should be excavated with non-rubber-tired equipment, such as excavators.

Basin Maintenance

The proposed project may include an infiltration basin. Water flowing into these basins will carry some level of sediment. Wind-blown sediments and erosion of the basin side walls will also contribute to sediment deposition at the bottom of the basin. This layer has the potential to significantly reduce the infiltration rate of the basin subgrade soils. Therefore, a formal basin maintenance program should be established to ensure that these silt and clay deposits are removed from the basin on a regular basis. Appropriate vegetation on the basin sidewalls and bottom may reduce erosion and sediment deposition.

Basin maintenance should also include measures to prevent animal burrows, and to repair any burrows or damage caused by such. Animal burrows in the basin sidewalls can significantly increase the risk of erosion and piping failures.

Location of Infiltration Systems

The use of on-site storm water infiltration systems carries a risk of creating adverse geotechnical conditions. Increasing the moisture content of the soil can cause the soil to lose internal shear strength and increase its compressibility, resulting in a change in the designed engineering properties. Overlying structures and pavements in the infiltration area could potentially be damaged due to saturation of the subgrade soils. **The proposed infiltration system for this site should be located at least 25 feet away from any structures, including retaining walls.** Even with this provision of locating the infiltration system at least 25 feet from the building, it is possible that infiltrating water into the subsurface soils could have an adverse effect on the proposed or existing structures. It should also be noted that utility trenches which happen to collect storm water can also serve as conduits to transmit storm water toward the structure, depending on the slope of the utility trench. Therefore, consideration should also be given to the proposed locations of underground utilities which may pass near the proposed infiltration systems.

The infiltration system designer should also give special consideration to the effect that the proposed infiltration systems may have on nearby subterranean structures, open excavations, or descending slopes. In particular, infiltration systems should not be located near the crest of descending slopes, particularly where the slopes are comprised of granular soils. Such systems will require specialized design and analysis to evaluate the potential for slope instability, piping failures and other phenomena that typically apply to earthen dam design. This type of analysis is beyond the scope of this infiltration test report, but these factors should be considered by the infiltration system designer when locating the infiltration systems.

General Comments

This report has been prepared as an instrument of service for use by the client in order to aid in the evaluation of this property and to assist the architects and engineers in the design and preparation of the project plans and specifications. This report may be provided to the contractor(s) and other design consultants to disclose information relative to the project. However, this report is not intended to be utilized as a specification in and of itself, without appropriate interpretation by the project architect, structural engineer, and/or civil engineer. The design of the proposed storm water infiltration system is the responsibility of the civil engineer. The role of the geotechnical engineer is limited to determination of infiltration rate only. By using the design infiltration rate contained herein, the civil engineer agrees to indemnify, defend, and hold harmless the geotechnical engineer for all aspects of the design and performance of the proposed storm water infiltration system. The reproduction and distribution of this report must be authorized by the client and Southern California Geotechnical, Inc. Furthermore, any reliance on this report by an unauthorized third party is at such party's sole risk, and we accept no responsibility for damage or loss which may occur.

The analysis of this site was based on a subsurface profile interpolated from limited discrete soil samples. While the materials encountered in the project area are considered to be representative of the total area, some variations should be expected between boring locations and testing depths. If the conditions encountered during construction vary significantly from those detailed herein, we should be contacted immediately to determine if the conditions alter the recommendations contained herein.

This report has been based on assumed or provided characteristics of the proposed development. It is recommended that the owner, client, architect, structural engineer, and civil engineer carefully review these assumptions to ensure that they are consistent with the characteristics of the proposed development. If discrepancies exist, they should be brought to our attention to verify that they do not affect the conclusions and recommendations contained herein. We also recommend that the project plans and specifications be submitted to our office for review to verify that our recommendations have been correctly interpreted. The analysis, conclusions, and recommendations contained within this report have been promulgated in accordance with generally accepted professional geotechnical engineering practice. No other warranty is implied or expressed.

Closure

We sincerely appreciate the opportunity to be of service on this project. We look forward to providing additional consulting services during the course of the project. If we may be of further assistance in any manner, please contact our office.

Respectfully Submitted,

SOUTHERN CALIFORNIA GEOTECHNICAL, INC.

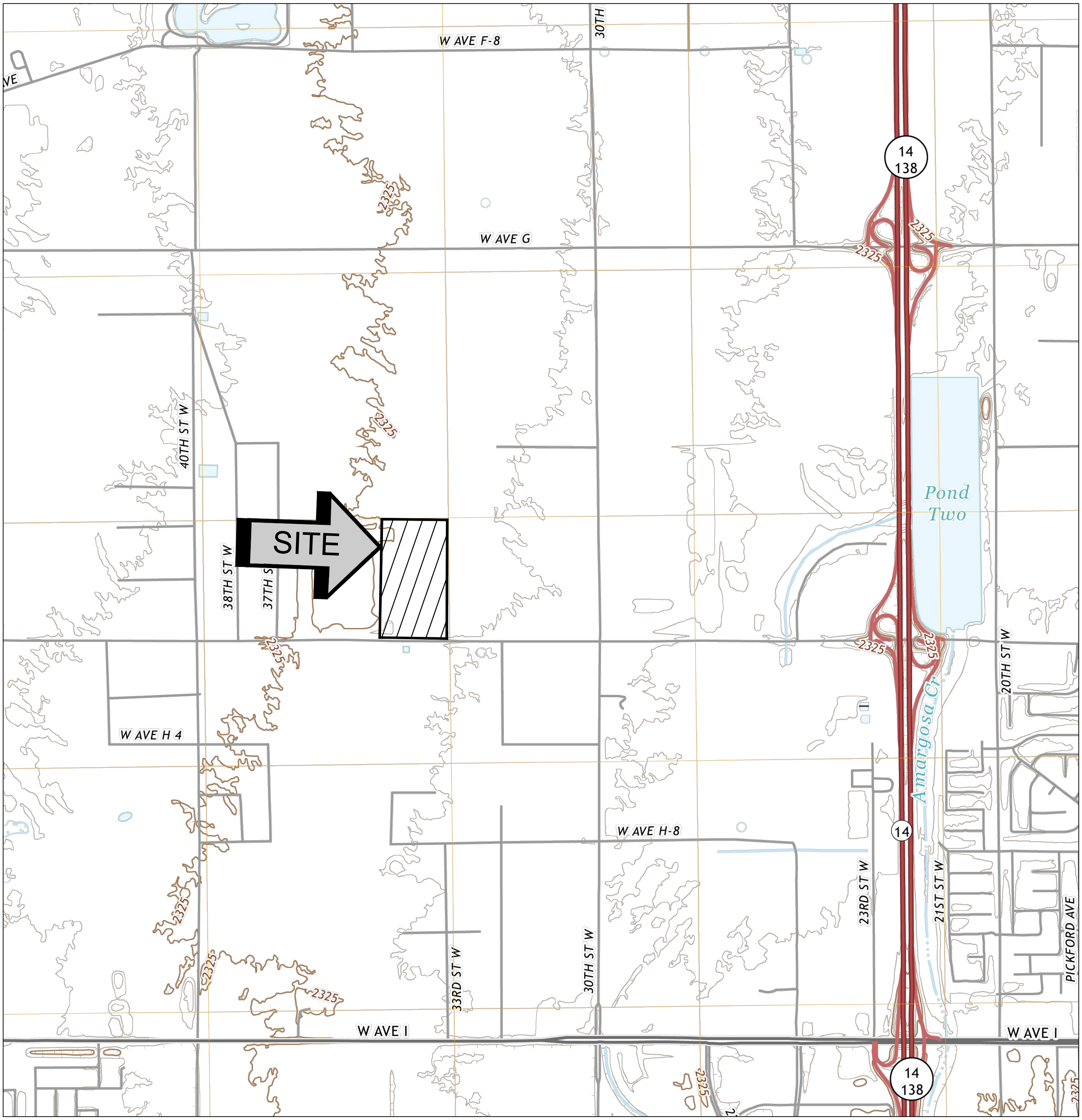
Michelle Krizek
Staff Geologist

Robert G. Trazo, GE 2655
Principal Engineer

REGISTERED PROFESSIONAL ENGINEER
ROBERT TRAZO
No. 2655
GEOTECHNICAL
STATE OF CALIFORNIA

Distribution: (1) Addressee

Enclosures:
Plate 1 - Site Location Map
Plate 2 - Infiltration Test Location Plan
Boring Log Legend and Logs (4 pages)
Infiltration Test Results Spreadsheets (2 pages)
Grain Size Distribution Graphs (2 pages)



SOURCE: USGS TOPOGRAPHIC MAP OF THE LANCASTER WEST QUADRANGLE, LOS ANGELES COUNTY, CALIFORNIA, 2022

SITE LOCATION MAP

PROPOSED WAREHOUSE

LANCASTER, CALIFORNIA

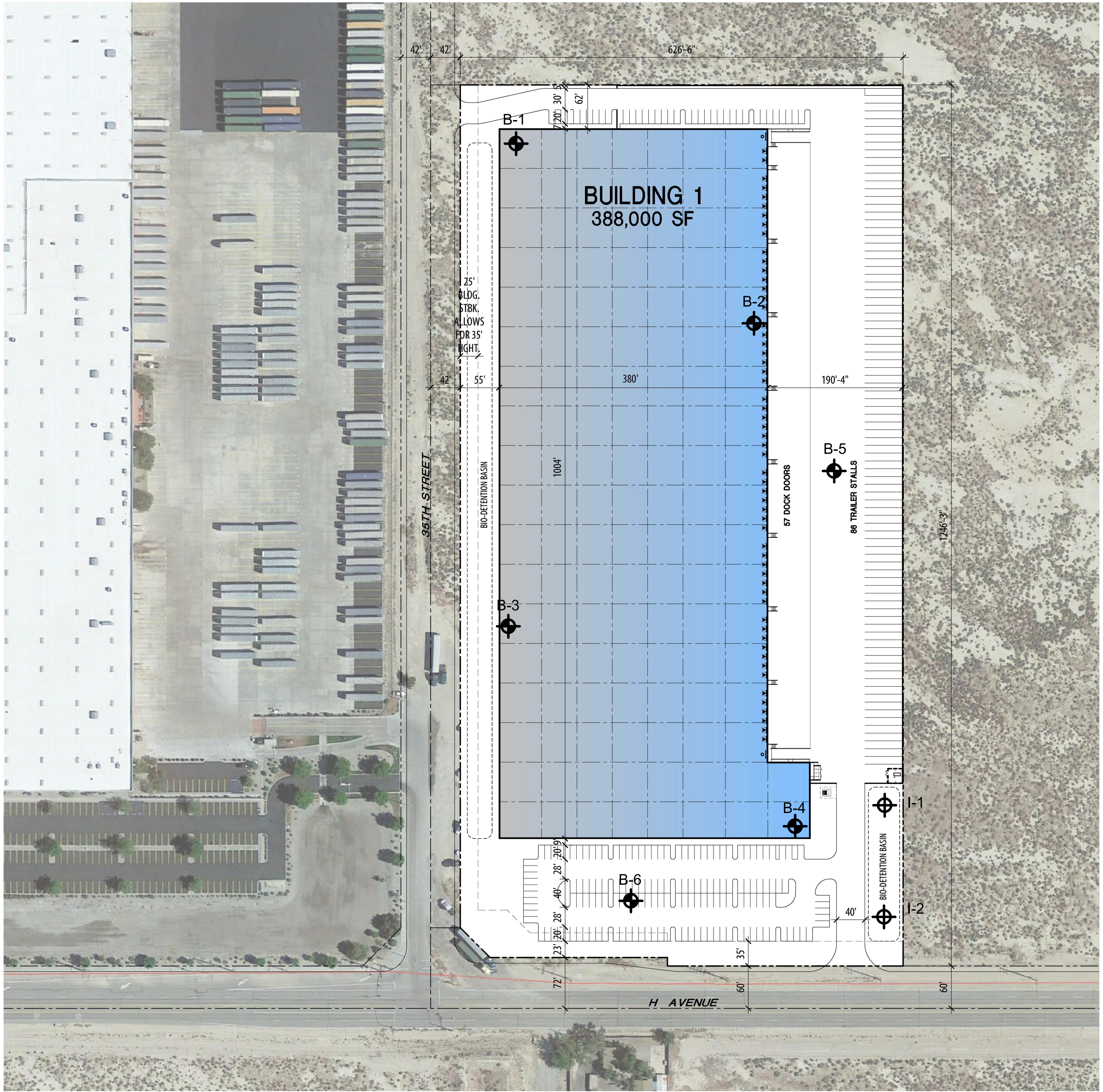
SCALE: 1" = 2000'

DRAWN: MK
CHKD: RGT

SCG PROJECT
22G245-2

PLATE 1

SoCalGeo SOUTHERN CALIFORNIA GEOTECHNICAL



NORTH
SoCalGeo

GEOTECHNICAL LEGEND

⊕ APPROXIMATE INFILTRATION TEST LOCATION

● APPROXIMATE BORING LOCATION (CONCURRENT STUDY SCG. PROJECT NO. 22G245-1)

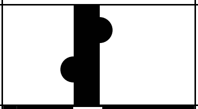
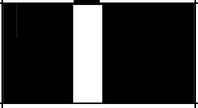
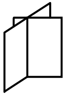
NOTE: CONCEPTUAL SITE PLAN PROVIDED BY GAA ARCHITECTS.
AERIAL PHOTO OBTAINED FROM GOOGLE EARTH.

INFILTRATION TEST LOCATION PLAN
PROPOSED WAREHOUSE
LANCASTER, CALIFORNIA

SCALE: 1" = 150'
DRAWN: MK
CHKD: RGT
SCG PROJECT
22G245-2
PLATE 2

SoCalGeo
SOUTHERN
CALIFORNIA
GEOTECHNICAL

BORING LOG LEGEND

SAMPLE TYPE	GRAPHICAL SYMBOL	SAMPLE DESCRIPTION
AUGER		SAMPLE COLLECTED FROM AUGER CUTTINGS, NO FIELD MEASUREMENT OF SOIL STRENGTH. (DISTURBED)
CORE		ROCK CORE SAMPLE: TYPICALLY TAKEN WITH A DIAMOND-TIPPED CORE BARREL. TYPICALLY USED ONLY IN HIGHLY CONSOLIDATED BEDROCK.
GRAB		SOIL SAMPLE TAKEN WITH NO SPECIALIZED EQUIPMENT, SUCH AS FROM A STOCKPILE OR THE GROUND SURFACE. (DISTURBED)
CS	⧓	CALIFORNIA SAMPLER: 2-1/2 INCH I.D. SPLIT BARREL SAMPLER, LINED WITH 1-INCH HIGH BRASS RINGS. DRIVEN WITH SPT HAMMER. (RELATIVELY UNDISTURBED)
NSR	○	NO RECOVERY: THE SAMPLING ATTEMPT DID NOT RESULT IN RECOVERY OF ANY SIGNIFICANT SOIL OR ROCK MATERIAL.
SPT	⊠	STANDARD PENETRATION TEST: SAMPLER IS A 1.4 INCH INSIDE DIAMETER SPLIT BARREL, DRIVEN 18 INCHES WITH THE SPT HAMMER. (DISTURBED)
SH	■	SHELBY TUBE: TAKEN WITH A THIN WALL SAMPLE TUBE, PUSHED INTO THE SOIL AND THEN EXTRACTED. (UNDISTURBED)
VANE		VANE SHEAR TEST: SOIL STRENGTH OBTAINED USING A 4 BLADED SHEAR DEVICE. TYPICALLY USED IN SOFT CLAYS-NO SAMPLE RECOVERED.

COLUMN DESCRIPTIONS

DEPTH:	Distance in feet below the ground surface.
SAMPLE:	Sample Type as depicted above.
BLOW COUNT:	Number of blows required to advance the sampler 12 inches using a 140 lb hammer with a 30-inch drop. 50/3” indicates penetration refusal (>50 blows) at 3 inches. WH indicates that the weight of the hammer was sufficient to push the sampler 6 inches or more.
POCKET PEN.:	Approximate shear strength of a cohesive soil sample as measured by pocket penetrometer.
GRAPHIC LOG:	Graphic Soil Symbol as depicted on the following page.
DRY DENSITY:	Dry density of an undisturbed or relatively undisturbed sample in lbs/ft^3.
MOISTURE CONTENT:	Moisture content of a soil sample, expressed as a percentage of the dry weight.
LIQUID LIMIT:	The moisture content above which a soil behaves as a liquid.
PLASTIC LIMIT:	The moisture content above which a soil behaves as a plastic.
PASSING #200 SIEVE:	The percentage of the sample finer than the #200 standard sieve.
UNCONFINED SHEAR:	The shear strength of a cohesive soil sample, as measured in the unconfined state.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)	●	**GW**	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
			○	**GP**	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)	○	**GM**	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
			▨	**GC**	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)	⁘	**SW**	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
			⁖	**SP**	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	⁚	**SM**	SILTY SANDS, SAND - SILT MIXTURES
			▨	**SC**	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50	‖	**ML**	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			▨	**CL**	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			☰	**OL**	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50	▥	**MH**	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
			▨	**CH**	INORGANIC CLAYS OF HIGH PLASTICITY
			〰	**OH**	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			⺌	**PT**	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. I-1

JOB NO.: 22G245-2
PROJECT: Proposed Warehouse
LOCATION: Lancaster, California

DRILLING DATE: 10/17/22
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Michelle Krizek

WATER DEPTH: Dry
CAVE DEPTH: Not Applicable
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
				▨	<u>ALLUVIUM:</u> Light Brown Clayey fine Sand, trace Silt, trace medium Sand, trace Calcareous veins and nodules, medium dense-damp							
	☒	19		▨			9					
5				▨								
				▒	Brown Silty fine Sand, trace to little Calcareous veins and nodules, trace medium to coarse Sand, trace Clay, medium dense-damp							
	☒	22		▒			10					
10				▒								
	☒	22		▒	Gray Brown Silty fine to medium Sand, trace coarse Sand, medium dense-dry to damp		3			19		
			4.5	▥	Gray Brown Silty Clay, little fine to medium Sand, trace to little Iron Oxide stains, very stiff-very moist		18			73		

Boring Terminated at 12'

TEST BORING LOG

PLATE B-1

SOUTHERN
CALIFORNIA
GEOTECHNICAL
A California Corporation

BORING NO.
I-2

JOB NO.: 22G245-2
PROJECT: Proposed Warehouse
LOCATION: Lancaster, California

DRILLING DATE: 10/17/22
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Michelle Krizek

WATER DEPTH: Dry
CAVE DEPTH: Not Applicable
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					ALLUVIUM: Light Brown Clayey fine Sand, little Calcareous veins and noudles, trace to little Silt, trace fine root fibers, medium dense-damp							
	☒	23					6					
5												
					Gray Brown Clayey fine Sand, trace Silt, trace medium to coarse Sand, trace to little Calcareous veins and nodules, medium dense-damp							
	☒	25					8					
10												
	☒	27			Gray Brown Silty fine to medium Sand, trace Clay, trace coarse Sand, trace Iron Oxide stains, medium dense-dry to damp		4			28		
					Boring Terminated at 12'							

INFILTRATION CALCULATIONS

Project Name: Proposed Warehouse
Project Location: Lancaster, California
Project Number: 22G245-2
Engineer: Michelle Krizek

Test Hole Radius: 4.00 (in)
Test Depth: 11.89 (ft)

Infiltration Test Hole: I-1

Start Time for Pre-Soak: 8:40 AM
Start Time for Standard: 9:40 AM

Water Remaining in Boring (Y/N): Y
Time Interal Between Readings: 30min

Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Measured Infiltration Rate Q (in/hr)	Reduction Factor (RF)	Design Infiltration Rate Q (in/hr)
1	Initial	9:40 AM	30.0	8.89	1.56	2.2	2.6	4.0	0.7
	Final	10:10 AM		10.45					
2	Initial	10:10 AM	30.0	8.89	1.44	2.3	2.4	4.0	0.6
	Final	10:40 AM		10.33					
3	Initial	10:40 AM	30.0	8.89	1.41	2.3	2.3	4.0	0.6
	Final	11:10 AM		10.30					
4	Initial	11:10 AM	30.0	8.89	1.36	2.3	2.2	4.0	0.5
	Final	11:40 AM		10.25					
5	Initial	11:40 AM	30.0	8.89	1.36	2.3	2.2	4.0	0.5
	Final	12:10 PM		10.25					
6	Initial	12:10 PM	30.0	8.89	1.36	2.3	2.2	4.0	0.5
	Final	12:40 PM		10.25					

Design Infiltration Rate = (Measured Infiltration Rate)/(Reduction Factor)
Reduction Factor (RF) = $RF_t+RF_v+RF_s$

Reduction Factors	
Double-ring Infiltrometer	RF_t = 1 to 3
Shallow Test Pit	
Small Diameter Boring	
Large Diameter Boring	
High Fow-rate	RF_t = 3
Grain Size Analysis Method	RF_t = 2 to 3
Site variability, number of tests and thoroughness of subsurface investigation	RF_v = 1 to 3
Long-term siltation, plugging, and maintenance	RF_s = 1 to 3

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

Where: Q = Measured Infiltration Rate (in inches per hour)
ΔH = Change in Height (Water Level) over the time interval
r = Test Hole (Borehole) Radius
Δt = Time Interval
H_{avg} = Average Head Height over the time interval

INFILTRATION CALCULATIONS

Project Name: Proposed Warehouse
Project Location: Lancaster, California
Project Number: 22G245-2
Engineer: Michelle Krizek

Test Hole Radius: 4.00 (in)
Test Depth: 12.06 (ft)

Infiltration Test Hole: I-2

Start Time for Pre-Soak: 8:30 AM
Start Time for Standard: 9:30 AM

Water Remaining in Boring (Y/N): Y
Time Interal Between Readings: 30min

Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Measured Infiltration Rate Q (in/hr)	Reduction Factor (RF)	Design Infiltration Rate Q (in/hr)
1	Initial	9:30 AM	30.0	9.06	2.22	1.9	4.3	4.0	1.1
	Final	10:00 AM		11.28					
2	Initial	10:00 AM	30.0	9.06	2.18	1.9	4.2	4.0	1.0
	Final	10:30 AM		11.24					
3	Initial	10:30 AM	30.0	9.06	2.04	2.0	3.8	4.0	1.0
	Final	11:00 AM		11.10					
4	Initial	11:00 AM	30.0	9.06	2.03	2.0	3.8	4.0	0.9
	Final	11:30 AM		11.09					
5	Initial	11:30 AM	30.0	9.06	1.96	2.0	3.6	4.0	0.9
	Final	12:00 PM		11.02					
6	Initial	12:00 PM	30.0	9.06	1.95	2.0	3.6	4.0	0.9
	Final	12:30 PM		11.01					

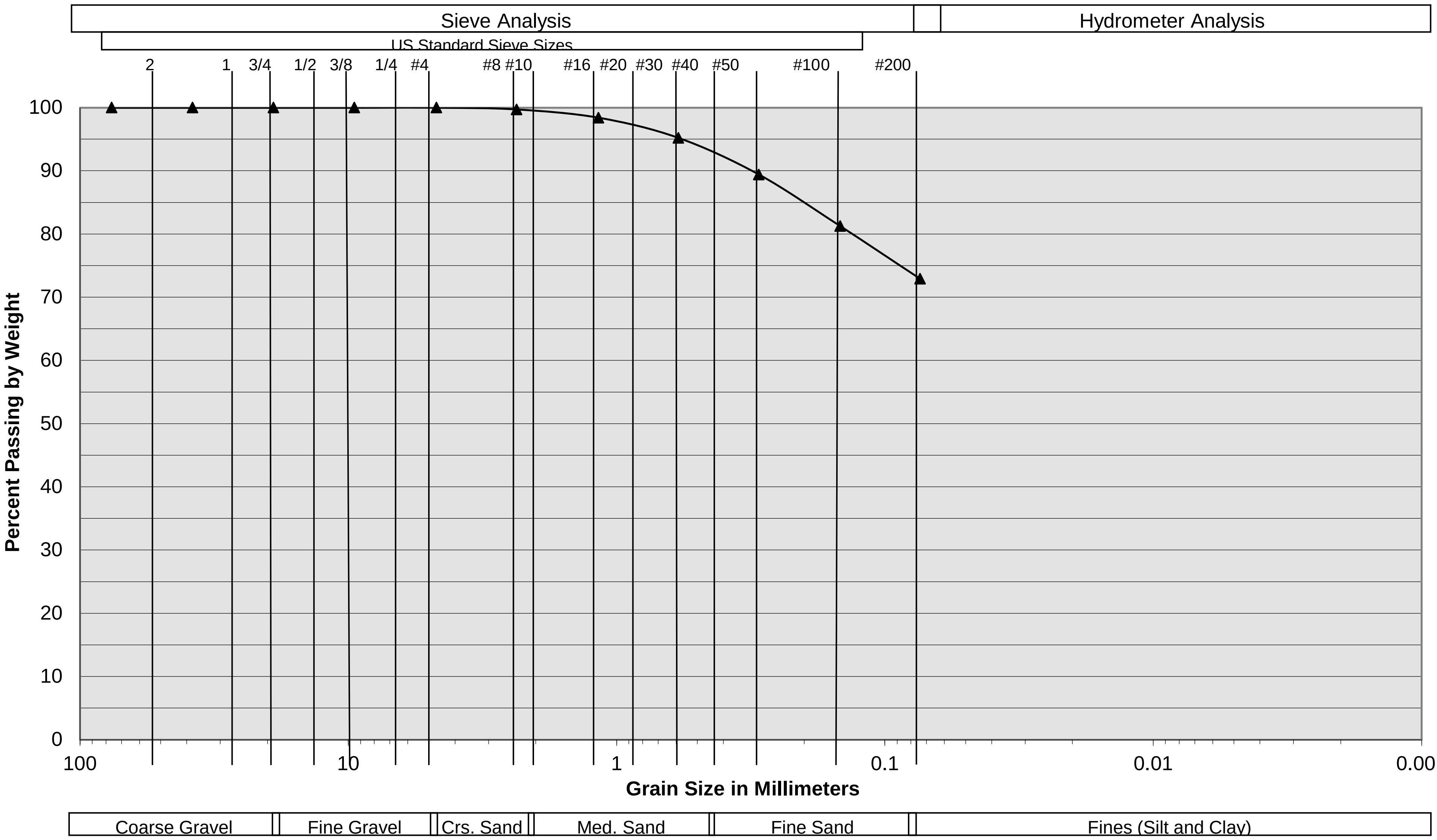
Design Infiltration Rate = (Measured Infiltration Rate)/(Reduction Factor)
Reduction Factor (RF) = $RF_t + RF_v + RF_s$

Reduction Factors	
Double-ring Infiltrometer	RF_t = 1 to 3
Shallow Test Pit	
Small Diameter Boring	
Large Diameter Boring	
High Fow-rate	RF_t = 3
Grain Size Analysis Method	RF_t = 2 to 3
Site variability, number of tests and thoroughness of subsurface investigation	RF_v = 1 to 3
Long-term siltation, plugging, and maintenance	RF_s = 1 to 3

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

Where:
Q = Measured Infiltration Rate (in inches per hour)
ΔH = Change in Height (Water Level) over the time interval
r = Test Hole (Borehole) Radius
Δt = Time Interval
H_{avg} = Average Head Height over the time interval

Grain Size Distribution

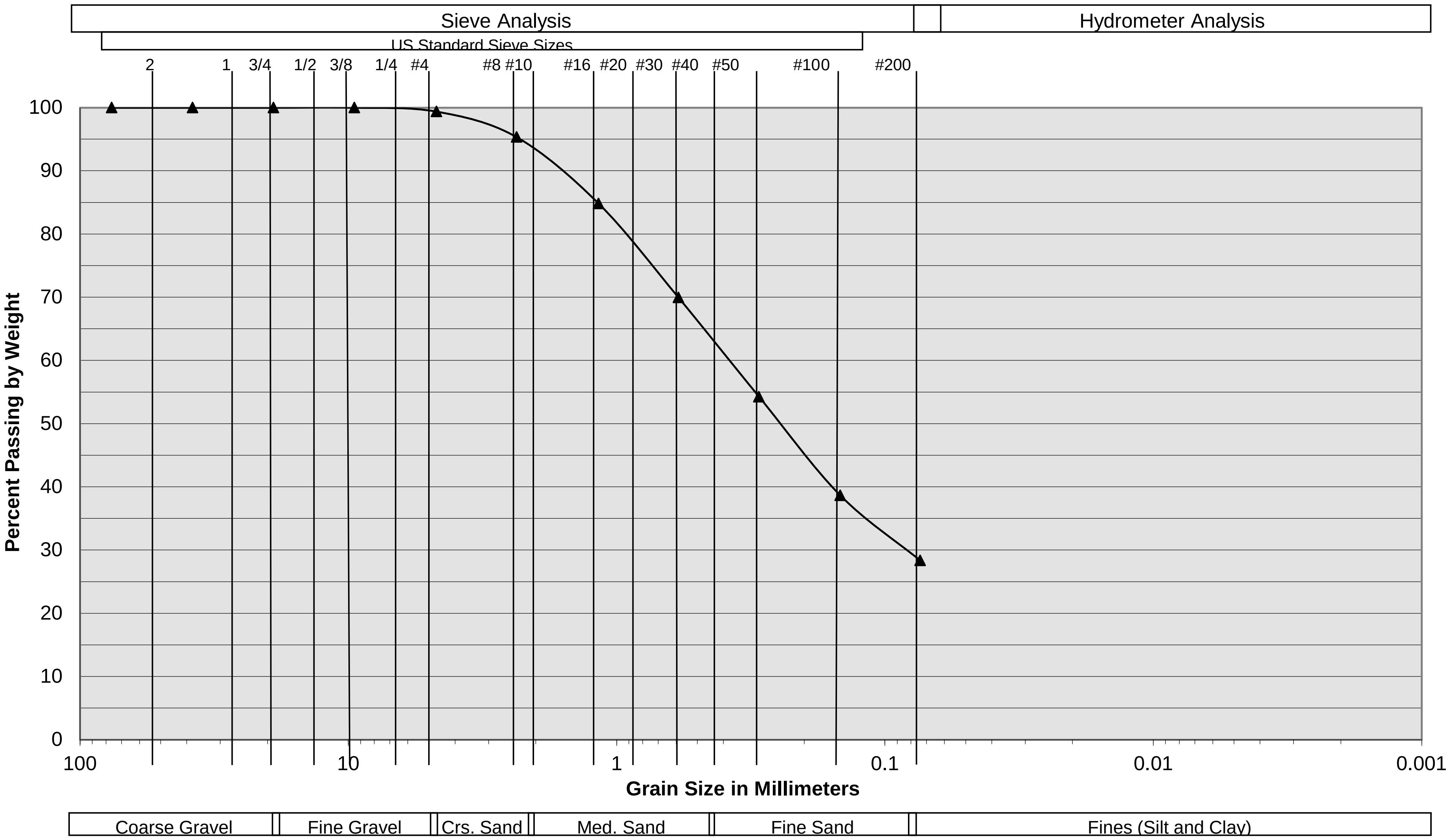


Sample Description	I-1 @ 11'
Soil Classification	Gray Brown Silty Clay, little fine to medium Sand

Proposed Warehouse
Lancaster, California
Project No. 22G245-2
PLATE C- 1

SoCalGeo
SOUTHERN
CALIFORNIA
GEOTECHNICAL
A California Corporation

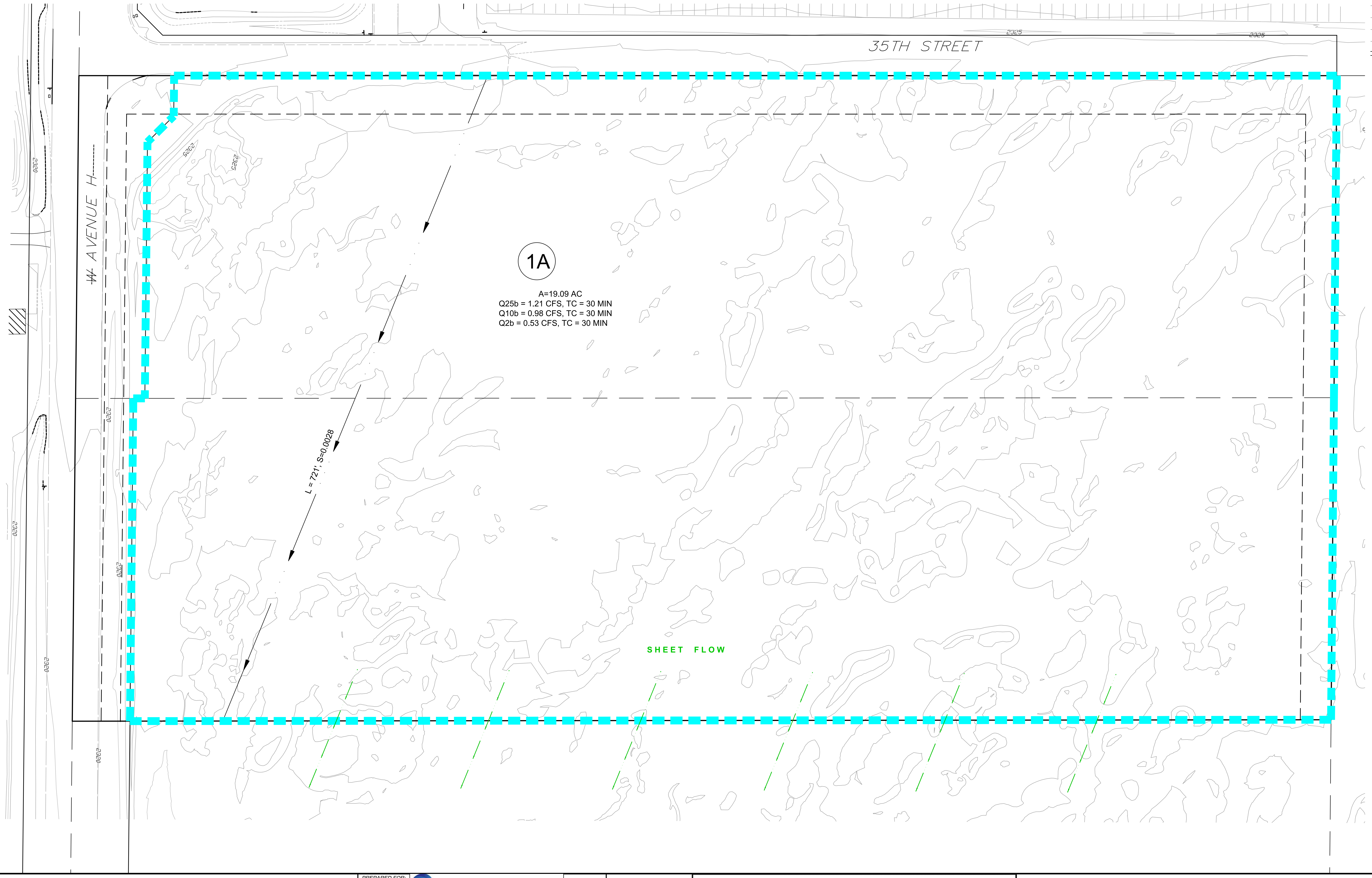
Grain Size Distribution

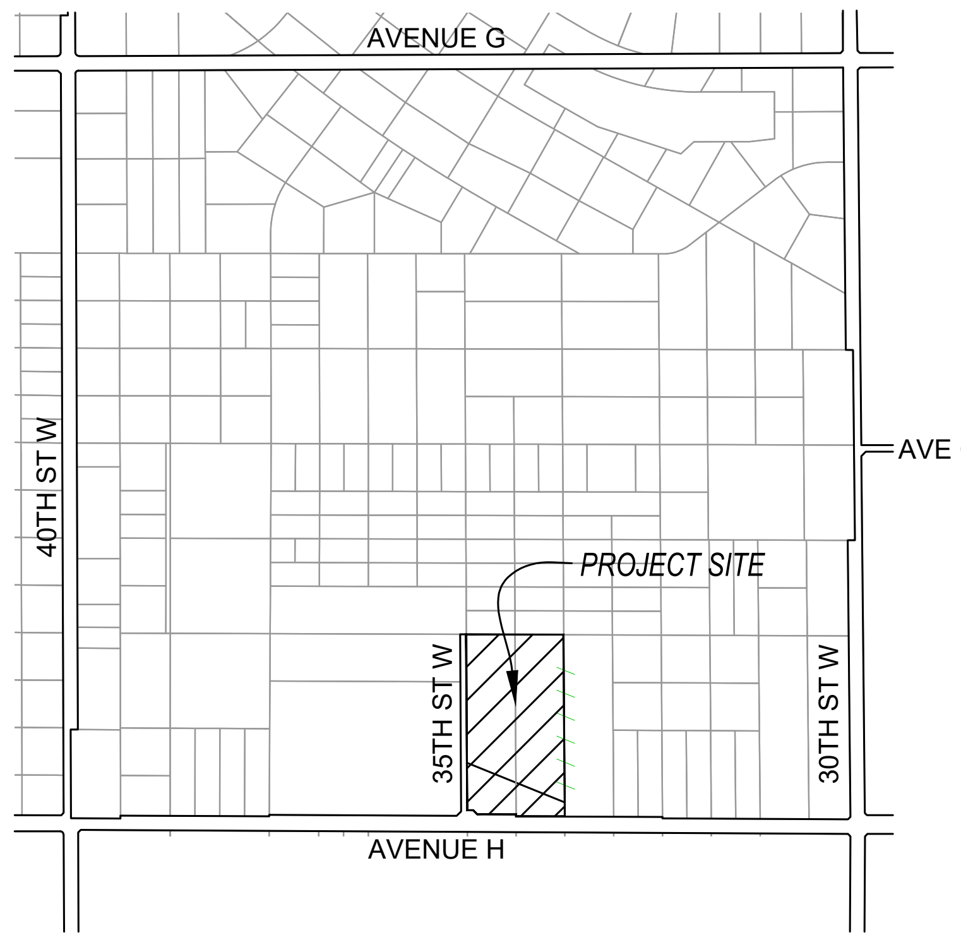


Sample Description	I-2 @ 10½'
Soil Classification	Gray Brown Silty fine to medium Sand, trace Clay, trace coarse Sand

Proposed Warehouse
Lancaster, California
Project No. 22G245-2
PLATE C- 2

SoCalGeo
SOUTHERN
CALIFORNIA
GEOTECHNICAL
A California Corporation





KEY MAP
SCALE: 1" = $\frac{1}{4}$ MILE

HYDROLOGIC PARAMETERS:

SOIL = 120
50-YEAR ISOHYETAL = 2.6 IN
IMPERVIOUSNESS = 1%
BASIN NAME = ANTELOPE VALLEY
INFILTRATION RATE = 0.5 IN/HR

LEGEND

▬ ▬ ▬ WATHERSHED BOUNDARY

N

50' 0' 50' 100'

SCALE: 1" = 50'

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PREPARED FOR:
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COVINGTON DEVELOPMENT PARTNERS, LLC
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NEWPORT BEACH, CA 92660
ATTN: MICHAEL DI SANO

DOUG FARMER
No.49041
Exp. 09-30-2022
CIVIL

PROJECT ENGINEER DATE

SIKAND
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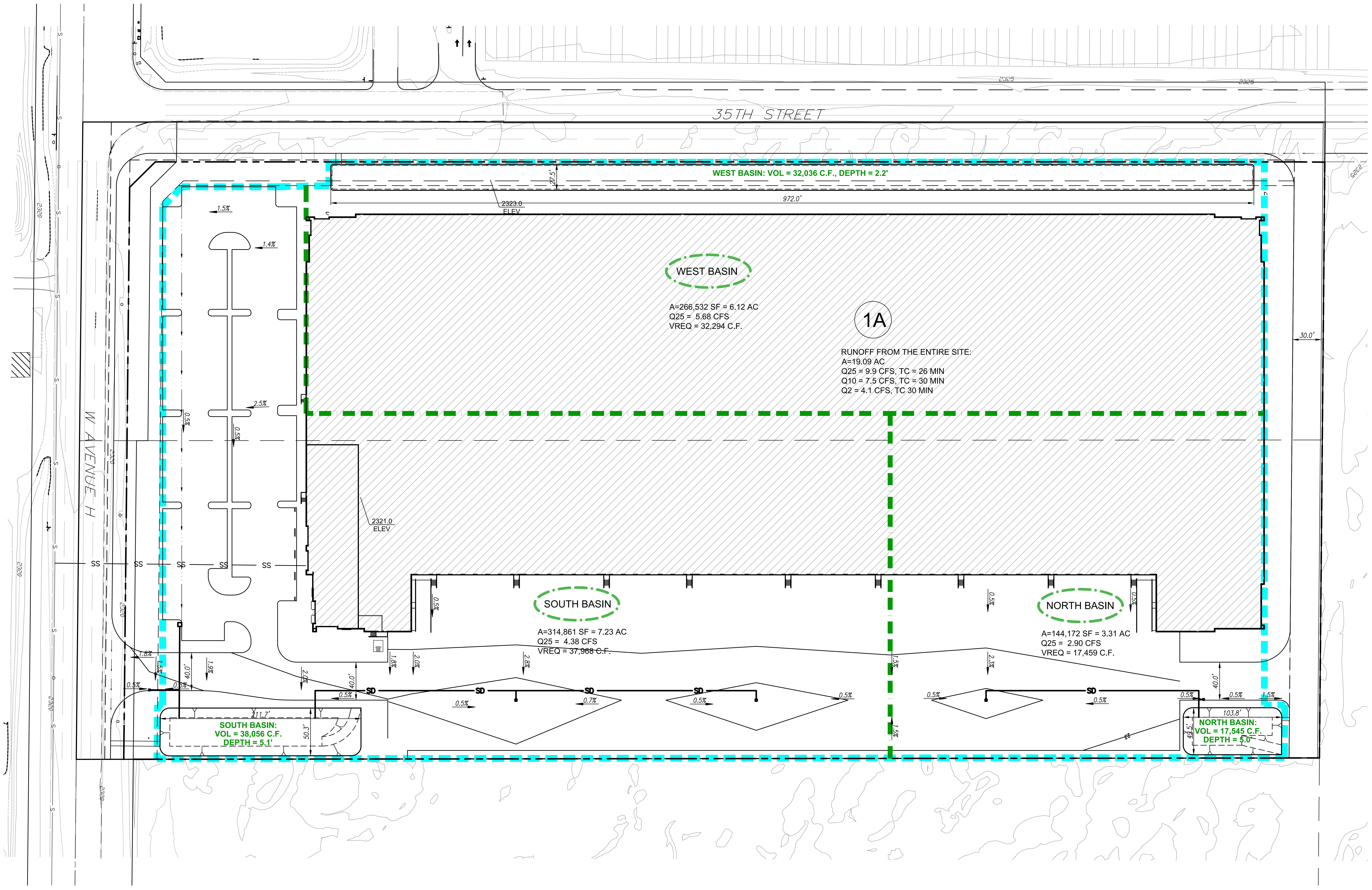
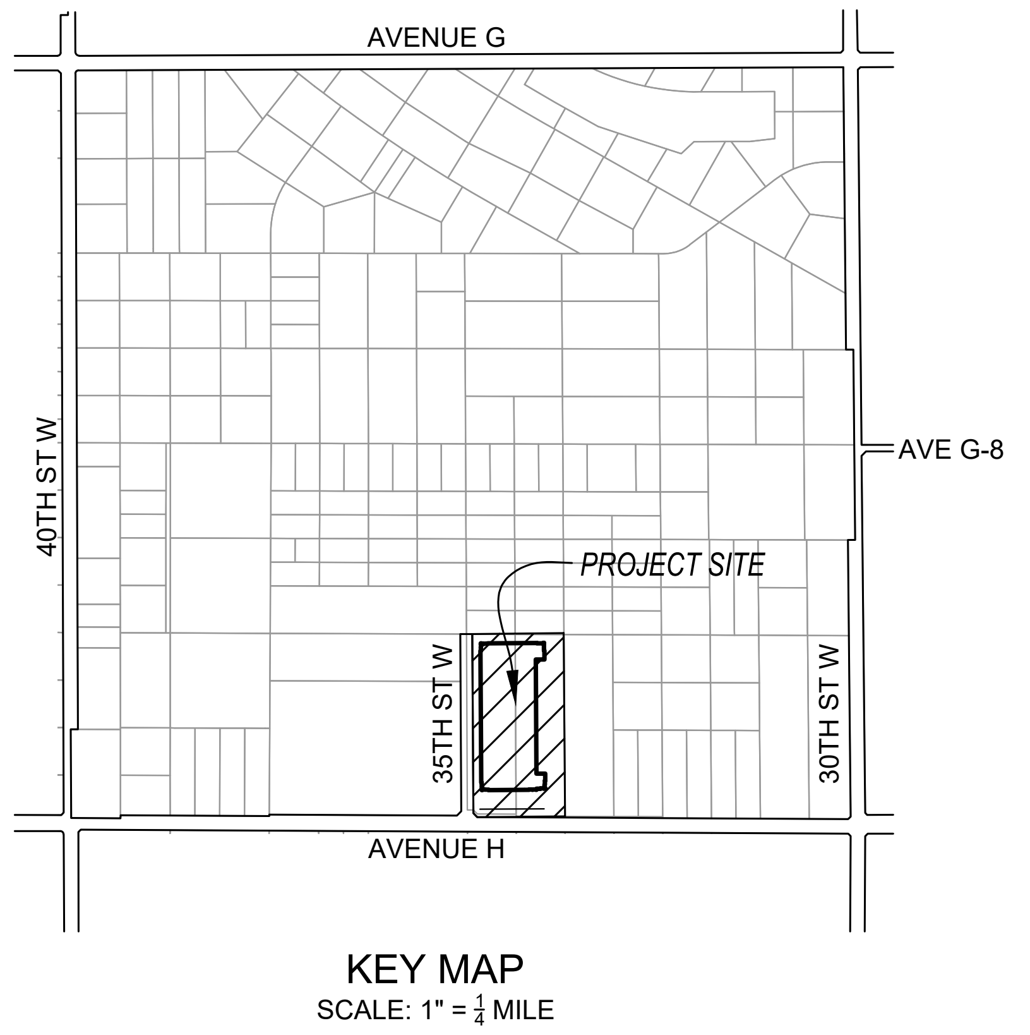
HYDROLOGY MAP
EXISTING CONDITION
CITY OF LANCASTER
W. AVENUE H WAREHOUSE INDUSTRIAL PARK





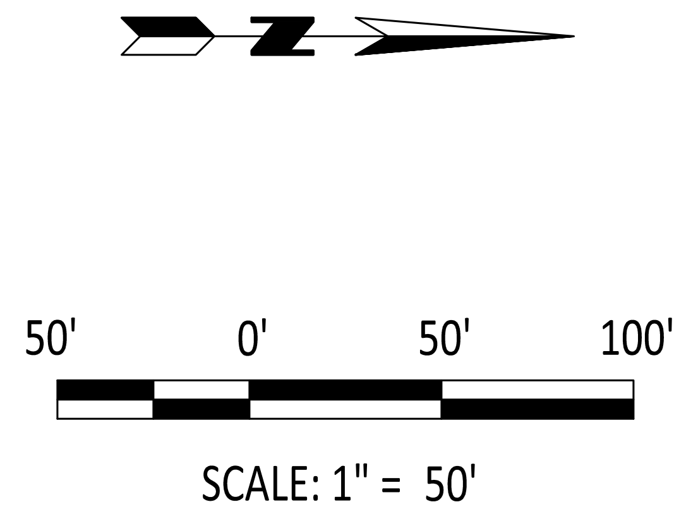
KEY MAP
SCALE: 1" = ½ MILE

HYDROLOGIC PARAMETERS:

SOIL = 120
50-YEAR ISOHYETAL = 2.6 IN
IMPERVIOUSNESS = 91%
BASIN NAME = ANTELOPE VALLEY
INFILTRATION RATE = 0.5 IN/HR

LEGEND

WATHERSHED BOUNDARY
SUB-AREA BOUNDARY
▨ BUILDING FOOTPRINT
—SD— ON-SITE STORM DRAIN



SCALE: 1" = 50'

X:\Civil3D\5122-028\Storm\Hydrology\dwg\Hydrology_Proposed.dwg

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DOUG FARMER
No.49041
Exp. 09-30-2022

PROJECT ENGINEER DATE

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info@sikand.com

HYDROLOGY MAP

PROPOSED CONDITION
CITY OF LANCASTER
W. AVENUE H WAREHOUSE INDUSTRIAL PARK

Appendix I

Noise and Vibration Technical Memorandum

DUDEK
MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

MEMORANDUM

To:	Mr. Michael Di Sano, West Avenue H 18 LLC
From:	Mike Greene, Senior Noise Specialist, Dudek
Subject:	35th Street & Avenue H Industrial Project Noise and Vibration Technical Memorandum
Date:	May 18, 2023
cc:	Jennifer Sucha, Dudek
Attachments:	A – Field Noise Measurement Data B – Construction Noise Modeling Input/Output Files C – Traffic Noise Modeling Data D – Mechanical Equipment Calculations

This technical memorandum analyzes noise and vibration impacts for the proposed 35th Street and Avenue H Industrial Project (Project) located in the City of Lancaster, California (City). The approximately 18.15-acre Project site is located in the northwestern part of the City of Lancaster (City), which is within the Antelope Valley region of Los Angeles County (Figure 1, Project Location). The Project site is located on the northeast quadrant of W Avenue H and 35th Street.

This memorandum estimates and assesses noise and vibration levels from construction and operation of the Project in accordance with the California Environmental Quality Act (CEQA) Guidelines and City of Industry standards.

The contents and organization of this memorandum are as follows: Project Description, Environmental Setting, Regulatory Setting, Noise and Vibration Impacts Assessment, Conclusions, and References Cited.

1 Project Description

The Project would include construction of an industrial warehouse building and associated improvements on 18.15 acres of vacant land (see Figure 2, Site Plan). The proposed Project would provide 395,390 square feet of industrial/warehouse space and include associated improvements, such as loading docks, tractor-trailer stalls, passenger vehicle parking spaces, stormwater detention basins, and landscape area. Office space within the building would be ground floor providing 10,000 square-feet of office space. The building would have a maximum height of 35 feet, measured from the finished floor to the top of the building parapets and would have a gross floor area ratio of 50.0%.

The Project would include off-site improvements along 35th Street and W Avenue H, including a widening of 35th Street, 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 buildings and throughout the Project site.

2 Environmental Setting

2.1 Noise and Vibration Characteristics

2.1.1 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 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 1. Typical Sound Levels in the Environment and Industry

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
—	110	Rock band
Jet flyover at 300 meters (1,000 feet)	100	—
Gas lawn mower at 1 meter (3 feet)	90	—
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)
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)
—	10	Broadcast/recording studio
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Notes: dBA = A-weighted decibels; kph = kilometers per hour; mph = miles per hour
Source: Caltrans 2013.

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 Section 2.2). 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.

2.1.2 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 (RMS) 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 RMS. The decibel notation 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.

2.2 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 a single-family residential use to the south, multi-family residences further to the southeast, a park to the east, and single-family residences to the east-southeast. These sensitive receptors represent the nearest uses with the potential to be impacted by construction and operation of the Project. Additional sensitive receptors are located farther from the Project site in the surrounding community and would be less impacted by noise and vibration levels than the above-listed sensitive receptors.

2.3 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 Avenue H, 30th Street, and State Route, as well as noise from the adjacent industrial/commercial uses.

Noise measurements were conducted on and near the Project site on March 31, 2023, to characterize the existing noise levels. The measurements were made using calibrated SoftdB Piccolo integrating sound level meters. The sound level meters meet the current American National Standards Institute standard for a Type 2 (general purpose) sound level meter. The accuracy of the sound level meters 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.

Four short-term noise measurement locations (ST) that represent existing sensitive receivers were selected near the Project site. These locations are depicted as receivers ST1–ST4 on Figure 3, Noise Measurement and Modeling Locations. The measured energy-averaged (L_{eq}) and maximum (L_{max}) noise levels are provided in Table 2. The primary noise sources at the measurement sites consisted of traffic along adjacent roadways; distant conversation and nearby mechanical noise (air conditioning equipment) represented secondary noise sources. As shown in Table -2, the measured sound levels ranged from approximately 48 dBA L_{eq} at ST3 to 66 dBA L_{eq} at ST4. The field noise data sheets are provided in Attachment A.

Table 2. Measured Noise Levels

Receptors[1]	Location	Date	Time	L_{eq} (dBA)	L_{max} (dBA)
ST1[2]	South of project site, adjacent to home at 3434 West Avenue H	3/31/2023	9:31 a.m.–9:46 a.m.	60	80.4
ST2	East of project site, at Amargosa Creek Parkway Park	3/31/2023	10:30 a.m – 10:45 a.m	58.2	69.4
ST3	South-east of project site, adjacent to Cooper Square housing complex (45447 30th Street West)	3/31/2023	9:59 a.m.–10:15 a.m.	47.8	64.8

Table 2. Measured Noise Levels

Receptors[1]	Location	Date	Time	L_{eq} (dBA)	L_{max} (dBA)
ST 4	East of project site, adjacent to home at 1857 W Avenue H	3/3/2023	11:01 a.m. – 11:16 a.m.	62.5	75.9

Source: Attachment A.
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 3, Noise Measurement and Modeling Locations.

3 Regulatory Setting

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 Leq 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 4.1, 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 City of Lancaster, 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 2020) 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 2020).

Local

City of Lancaster General Plan

Relevant objectives from the Lancaster General Plan's Noise Element are stated below:

> Objective 4.3: Promote noise compatible land use relationships by implementing the noise standards identified in Table III-1 (shown in this report as Table 3) to be utilized for design purposes in new development and establishing a program to attenuate existing noise problems.

Table 3. Noise Compatible Land Use Objectives

Land Use	Maximum Exterior CNEL (dBA)	Maximum Interior CNEL (dBA)
Rural, Single Family, Multiple Family Residential	65	45
Schools:		
Classrooms	65	45
Playgrounds	70	—
Hospitals/Convalescent Facilities:		
Living Areas	—	50
Sleeping Areas	—	45
Commercial and Industrial	70	—
Office Areas	—	50

Source: City of Lancaster 2009.

City of Lancaster Municipal Code

Section 8.24.030 of the Lancaster Municipal Code prohibits loud, unnecessary, and unusual noises. Section 8.24.040 prohibits construction- and building-related noise on Sundays or any day between the hours of 8:00 PM and sunrise. Section 8.24.050 states that under special conditions, written permission from the city engineer can be obtained to perform such work at times otherwise prohibited in Section 8.24.040.

4 Noise and Vibration Impacts Assessment

4.1 Thresholds of Significance

The following significance criteria, included in Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.), will determine the significance of a noise impact. Impacts related to noise would be significant if the proposed project would 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.
- Generation of excessive groundborne vibration or groundborne noise levels.
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the exposure of people residing or working in the project area to excessive noise levels.

Quantitative thresholds of significance have been established for the purposes of this analysis based on the local polices and regulations described in Section 3 as well as those of federal agencies and are listed below.

- **Construction Noise:** In the absence of quantifiable local regulations for construction noise, this analysis is based on the FTA's guidance for maximum noise during construction. During construction activities, an exceedance of the FTA's 80 dBA $L_{eq\ 8\text{-hour}}$ threshold is considered a significant noise impact.
- **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 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,

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[1] As discussed in Section 2.2.1, the L_{dn} and CNEL noise metrics are very similar and often used interchangeably.

they are used in this analysis to define a substantial increase in community noise levels related to all transportation noise sources.[2]

Table 4. 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.

- **On-Site Project-Attributed Stationary Noise:** A noise impact 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) exceeded if the applicable City General Plan noise standards are as detailed in Section 3.
- **Construction Vibration:** Groundborne vibration from construction and operation of the project would be considered significant if the project resulted in vibration levels exceeding the Caltrans recommendations (for construction) as detailed in Section 3.

4.2 Impact Analysis

4.2.1 Would the project result in the 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 during permitted hours (between sunrise and 8:00 PM) and would not occur on Sundays as specified in the City of Lancaster 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).

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[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.

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 5.

Table 5. 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: Attachment B.

Construction Noise – Project Site Assessment

With the construction equipment noise sources identified in Table 5, 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 Attachment B for the inputs used in the RCNM model and the detailed results.

Sensitive receptors in the vicinity of the Project site include a single-family residence to the south, and multi-family residences located further to the southeast (approximately 3,600 feet away from the project site). 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 sensitive land uses. For example, construction (in the form of site preparation, grading and paving work) would take place as near as approximately 125 feet from the residence to the south land, but (because of the Project's size) construction work would also take place as far as 1,350 feet from the same residential uses. Most construction activities associated with the Project would occur at an average distance of approximately 750 feet from the residential land use to the south, 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 and for typical construction activity/receiver distances.

The results of the Project site construction noise analysis using the RCNM are summarized in Table 6. As shown, the noise levels from construction are predicted to range from approximately 54 dBA $L_{eq\ 8\text{-}hr}$ (during the architectural coating phase) to 72 dBA $L_{eq\ 8\text{-}hr}$ (during the grading phase) at the nearest noise-sensitive receiver (a single-family residence approximately 125 feet from the nearest construction work). Typical construction noise levels would be lower, ranging from approximately 45 to 59 $L_{eq\ 8\text{-}hr}$. Construction noise levels at the other noise-sensitive receivers would be substantially lower as well, because of the greater distance to the Project site. These noise levels would generally be less than measured ambient noise levels in the area and would be lower than the 80 dBA $L_{eq\ 8\text{-}hr}$ FTA construction noise standard. Therefore, noise from Project site construction would be less than significant.

Although the predicted impact due to construction noise is less than significant, good construction practice (or as required by City regulations, policies, or expectations) would include providing nearby off-site residences advance notice of expected construction periods.

Table 6. On-Site Construction Noise Analysis Summary

Land Use	Off-site Receptor Location	Distance from Construction Activity to Noise Receptor (feet)	Estimated Construction Noise Levels (dBA $L_{eq\ 8\text{-}hr}$)				
			Site Preparation	Grading	Building Construction	Paving	Architectural Coating
Residential	South of the project	Nearest Construction Activity/ Receiver Distance (125)	72	71	59	66	54
		Typical Construction Activity/ Receiver Distance (750)	57	59	54	53	45
Residential	Southeast of the project	Nearest Construction Activity/ Receiver Distance (3,600)	40	42	36	36	28

Table 6. On-Site Construction Noise Analysis Summary

Land Use	Off-site Receptor Location	Distance from Construction Activity to Noise Receptor (feet)	Estimated Construction Noise Levels (dBA $L_{eq\ 8\text{-}hr}$)				
			Site Preparation	Grading	Building Construction	Paving	Architectural Coating
		Typical Construction Activity/ Receiver Distance (4,300)	38	40	35	34	26

Source: Attachment B.
Note: L_{eq} = equivalent continuous sound level (time-averaged sound level); dBA = A-weighted decibel.

Construction Noise – Project-Related Construction Vehicles (On-Road)

Based upon the construction scenario assumptions provided by the applicant, the highest average daily number of one-way worker trips during construction would be 166 (i.e., 83 round trips), occurring during the building construction phase. The highest average daily number of vendor one-way trips would be 65 (33) round trips), also occurring during building construction; and the highest number of average daily haul truck one-way-trips would be 4 (2 round trips) occurring during the grading phase. Project-related trucks would be restricted to the City-authorized truck routes, and (like the project site) would for the most part 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 on Avenue H and State Route 138. Based upon data provided as part of the Project's transportation analysis (Dudek 2023), Avenue H east of 35th Street has an average daily traffic volume of 3,233. The incremental increase in local traffic from the project would be approximately during the peak phase (i.e., building construction) would be approximately 7 percent. Based upon the fundamentals of acoustics, a doubling (a 100 percent 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 new 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 Project's transportation analysis (Dudek 2023), the Project would generate 1,139 daily trips. During the AM peak-hour, implementation of the Project would result in a total of 108 passenger vehicles and 33 trucks. During the PM peak-hour, implementation of the Project would result in a total of 101 passenger vehicles and 31 trucks. Ninety percent (90%) of the passenger vehicle and eight-five percent (85%) of the truck trips would access and exit the

Project site to the east, via Avenue H, where the majority of the vehicle trips would enter and leave the Project area from and to State Route 138 (the Antelope Valley Freeway). Project-related trucks would only utilize local streets 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, Year 2024, and Year 2024 plus Project traffic volumes. Noise levels were modeled at nearby representative noise-sensitive receivers (i.e., the nearest residence to the south of the project site, the residences located to the southeast of the project site, as well as the park further to the east and residences located east of SR-138 / south of Avenue H. The receivers were modeled to be 5 feet above the local ground elevation. The measured and modeled receiver locations are shown in Figure 3.

The traffic noise modeling results were 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 7. The input and output files for the Traffic Noise Model are provided in Attachment C.

Table 7. Summary of Off-Site Existing and Opening (Year 2024) Traffic Noise Levels (dBA CNEL[1])

Modeled Receptor	Existing	Existing plus Project	Project Opening Year (2024)	Project Opening Year (2024) plus Project	Maximum Project-Related Noise Level Increase (dB)	Applicable Noise Standard[1]	Applicable Noise Standard Exceeded?
ST1: South of Project site, south of Avenue H	62	64	63	64	2	65	No
ST2: East of project site, at Amargosa Creek Parkway Park	61	61	61	61	0	65	No
ST3: South-east of project site, adjacent to Cooper Square housing complex	52	52	52	52	0	65	No
ST 4: East of Project site, southeast of SR-138 and Avenue H interchange	64	64	64	64	0	65	No

Source: Attachment C.

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 City of Lancaster General Plan Noise Element compatibility standards, shown in Table 4.10-4.

As Table 7 shows, with the exception of receiver ST1, the Project would increase the traffic noise levels along the nearby arterial roadways by 0 dBA (when rounded to whole numbers). A change (either an increase or a decrease) of 1 dB or less is not an audible change in the context of community noise (i.e., outside of a controlled test environment). At modeled receiver ST1, located just south of the project site along Avenue H, the Project is estimated to increase local traffic noise by 2 decibels; however, the City of Lancaster noise compatibility standard for residential land use of 65 dBA CNEL would not be exceeded, and the noise increase would not represent a substantial level based upon the FICON noise thresholds outlined in Table 4. 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.

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 onsite 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 southeast side of the building. Office space would total approximately 10,000 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 four such units would be required for the office area. 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 (Charles M. Salter 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 (Charles M. Salter 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 onsite truck traffic would occur during a typical nighttime hour of facility operation.

As shown in Table 8, 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 residential land uses. 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 58 to 60 dBA L_{eq}.

Table 8. 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})	Resultant CNEL Noise Level (dBA CNEL)	Applicable Noise Standard[1] (dBA CNEL)	Applicable Standard Exceeded?
ST1 - Single-Family Residential	39	37.5	44.5	65	No
ST2 – Multi-Family Residential	22.9	22.5	29.3	65	No

Source: Attachment D.
Notes: dBA = A-weighted decibel; L_{eq} = equivalent continuous sound level (time-averaged sound level).
[1] Applicable noise compatibility standard per City of Lancaster General Plan Noise Element Table III-1 (provided here as Table 3).

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 (Baltrënas 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 ST1, the single-family residence to the south) is located approximately 150 or more feet from the nearest parking area. At a distance of 150 feet, parking lot noise levels would be approximately 31 dBA, L_{eq}. On a 24-hour CNEL basis (assuming that the nighttime parking lot activity would be approximately 25% of the daytime activity), the resulting noise level would be approximately 34 dBA CNEL, which would be well below the City's residential noise compatibility standard of 65 dBA CNEL.

To summarize, impacts associated with on-site operational noise would be less than significant.

4.2.2 Would the project result in the 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 2020). Information from Caltrans indicates that continuous vibrations with a PPV of approximately 0.1 ips begin to annoy people. 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 (residences located to the north) to where construction activity would be occurring on the project site (approximately 125 feet), and with the anticipated construction equipment, the PPV vibration level would be approximately 0.008 ips. At the closest sensitive receptors, vibration levels would be well below the vibration threshold of potential annoyance of 0.1 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 0.008 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.

4.2.3 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?

Less than Significant Impact. The project site is not located within the vicinity of a private airstrip. The closest public airport to the project site is General William J. Fox Airport, which is located approximately 1.7 miles north of the project site. According to the City of Lancaster General Plan, the project is located approximately 1.6 miles from the airport's 65 dBA CNEL noise contour. The project would not expose people residing or working in the project area to excessive noise levels. Therefore, impacts would be less than significant.

5 Conclusions

In summary, with implementation of standard construction and design techniques and practices, the Project's short- and long-term noise and vibration impacts would be less than significant. The proposed Project was analyzed using the conservative assumption that it may be operational 24 hours per day. Based upon the impacts analysis (Section 4.2), even if operated during nighttime and early morning hours, Project-generated noise would not exceed applicable standards and would be low relative to existing ambient levels. No mitigation measures are required.

6 References Cited

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental

Baltrënas, Pranus et.al. (Pranas Baltrënas, Dainius Kazlauskas & Egidijus Petraitis). 2004. Testing on noise level prevailing at motor vehicle parking lots and numeral simulation of its dispersion, Journal of Environmental Engineering and Landscape Management, 12:2, 63-70

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.

Caltrans. 2020. Transportation and Construction Vibration Guidance Manual. Division of Environmental Analysis, Environmental Engineering, Hazardous Waste, Air, Noise, Paleontology Office. April 2020.

Charles M. Salter 2014. Midpoint at 237 Loading Dock Noise Study. March 27, 2014.

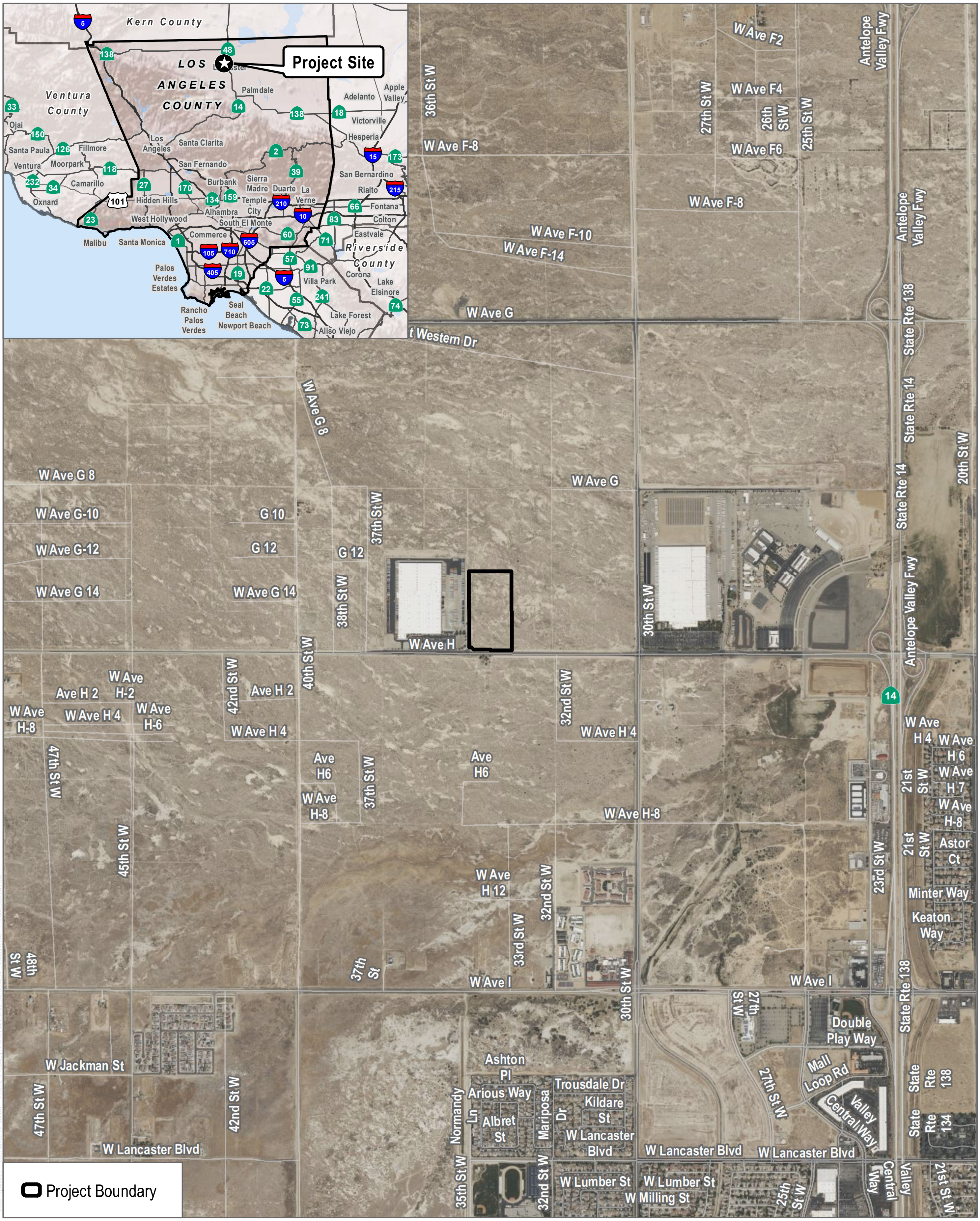
City of Lancaster. 2009. Lancaster General Plan 2030. https://www.cityoflancasterca.org/home/showpublisheddocument/9323/6357757922 10230000

Dudek. 2023. Local Transportation Assessment Report, 35th Street & Avenue H Industrial Project. March 2023.

FHWA (Federal Highway Administration). 2008. *Roadway Construction Noise Model (RCNM), Software Version 1.1.* Washington, DC: U.S. Department of Transportation, Research and Innovative Technology Administration, John A. Volpe National Transportation Systems Center, Environmental Measurement and Modeling Division.

FICON (Federal Interagency Committee on Noise). 1992. Federal Agency Review of Selected Airport Noise Analysis Issues. August 1992

FTA (U.S. Department of Transportation, Federal Transit Administration). 2018. Transit Noise and Vibration Impact Assessment Manual. September 2018.

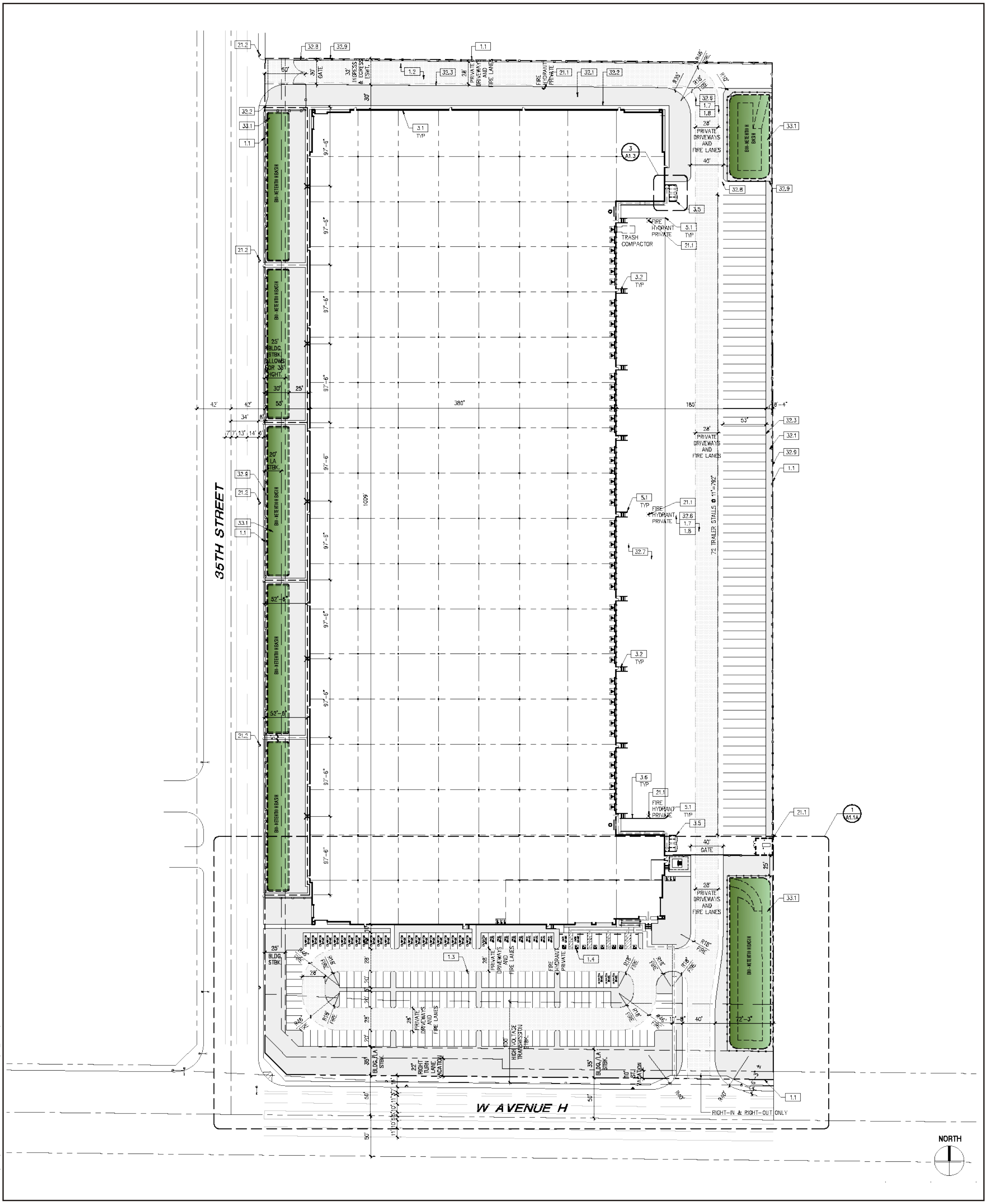


SOURCE: Bing Imagery 2021

FIGURE 1

Project Location

35th Street and Avenue H Industrial Project



Path: Z:\Projects\j14731\01\MAPDOC\DOCUMENT\Project_Description

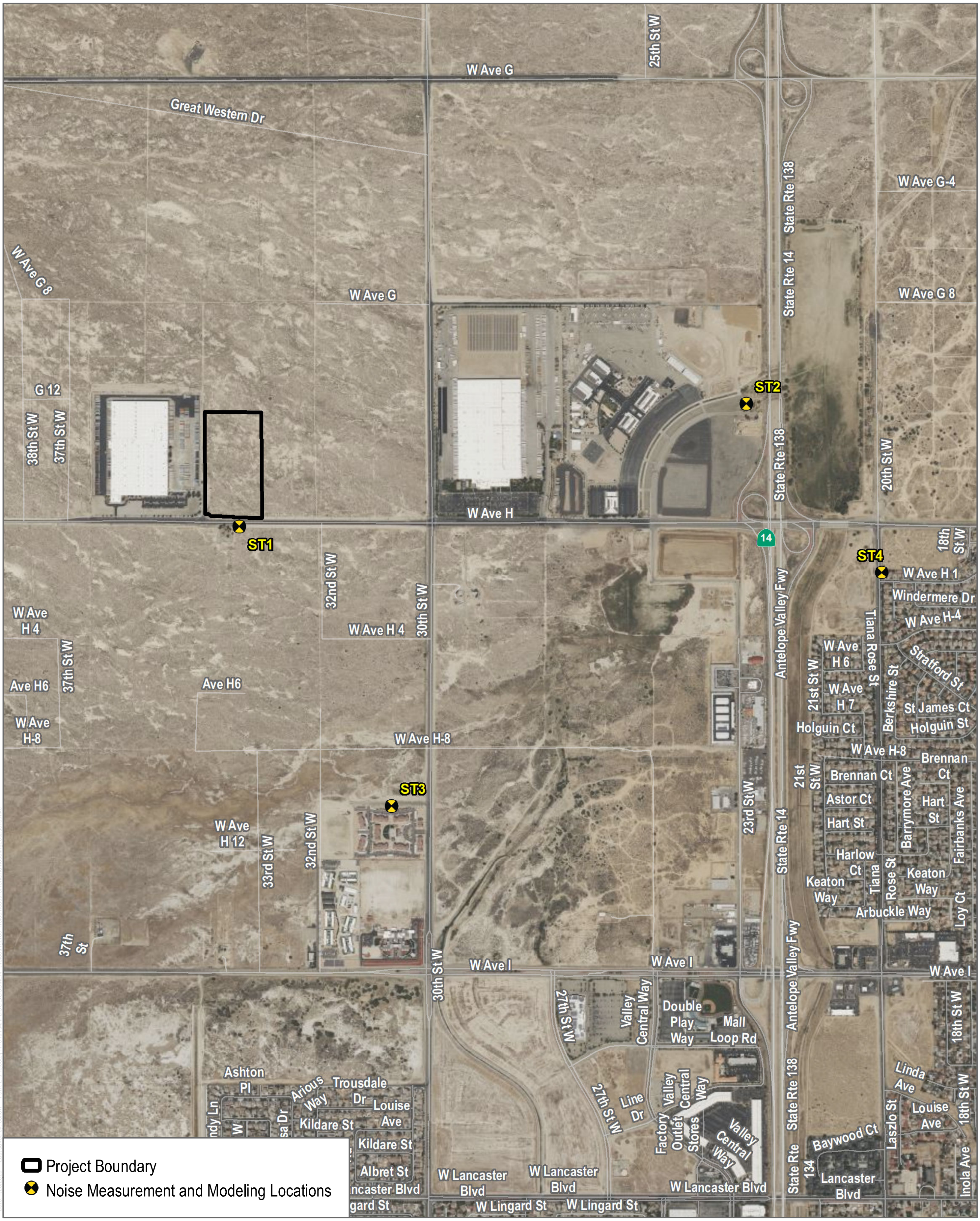
SOURCE: GAA Architects 2022

FIGURE 2

Site Plan

35th Street & Avenue H Industrial Project

DUDEK



SOURCE: Bing Imagery 2021

DUDEK

FIGURE 3

Noise Measurement and Modeling Locations

35th Street and Avenue H Industrial Project

Attachment A

Field Noise Measurement Data

DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT LANCASTER 18 PROJECT# 14731
SITE ID
SITE ADDRESS OBSERVER(S) PETE VAJAR
START DATE 3/31/23 END DATE 3/31/23
START TIME END TIME

METEOROLOGICAL CONDITIONS
TEMP 46 F HUMIDITY 56 % R.H. WIND CALM [✓ LIGHT] MODERATE
WINDSPD 1 MPH DIR. N NE S SE S SW W NW VARIABLE STEADY GUSTY
SKY [✓ SUNNY] [✓ CLEAR] OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS
MEAS. INSTRUMENT PICCOLO SLM-P3 TYPE 1 2 SERIAL# 13092704 8
CALIBRATOR REED R8090 SERIAL#
CALIBRATION CHECK PRE-TEST dBA SPL POST-TEST dBA SPL WINDSCRN YES

SETTINGS [✓ A-WTD] [✓ SLOW] FAST FRONTAL RANDOM ANSI OTHER:

ST1

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
1–16	9:31	9:46							

COMMENTS
READING TAKEN ALONG W. AVENUE H, [illegible] NEXT TO RESIDENCE AT 3336 W. AVE H; PRIMARY NOISE SOURCE IS TRAFFIC ALONG W. AVENUE H;

SOURCE INFO AND TRAFFIC COUNTS
PRIMARY NOISE SOURCE [✓ TRAFFIC] AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT DIST. TO RDWY [✓ C/L] OR EOP: APX 70' TO C/L ON W. AVENUE H

TRAFFIC COUNT DURATION: 15 MIN

COUNT 1 (OR RDWY 1) DIRECTION	NB/EB	SB/WB	SPEED NB/EB	SPEED SB/WB
AUTOS	26			
MED TRKS	2			
HVY TRKS	0			
BUSES	0			
MOTRCLS	0			

IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ✓

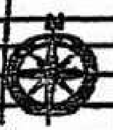
___ MIN

COUNT 2 (OR RDWY 2) DIRECTION	NB/EB	SB/WB	SPEED NB/EB	SPEED SB/WB
AUTOS				
MED TRKS				
HVY TRKS				
BUSES				
MOTRCLS				

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS [✓ BIRDS] DIST. INDUSTRIAL
DIST. KIDS PLAYING DIST. CONVERSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER:

DESCRIPTION / SKETCH
TERRAIN HARD SOFT [✓ MIXED] FLAT OTHER:
PHOTOS 6729; 6730; 6731; 6732; 6733;
OTHER COMMENTS / SKETCH



DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT LANCASTER 18
PROJECT# 14731
SITE ID
SITE ADDRESS
OBSERVER(S) PETE VITAR
START DATE 3/31/23 **END DATE** 3/31/23
START TIME **END TIME**

METEOROLOGICAL CONDITIONS

TEMP 48 **F** **HUMIDITY** 51 **% R.H.** **WIND** CALM [✓ LIGHT] MODERATE
WINDSPD 2 **MPH** **DIR.** N NE S SE S SW W NW VARIABLE STEADY GUSTY
SKY [✓ SUNNY] [✓ CLEAR] OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS
MEAS. INSTRUMENT PICCOLO SLM P-3 **TYPE** 1 2 **SERIAL#** 130927046
CALIBRATOR REED R8090 **SERIAL#**
CALIBRATION CHECK PRE-TEST dBA SPL POST-TEST dBA SPL **WINDSCRN** YES

SETTINGS [✓ A-WTD] [✓ SLOW] FAST FRONTAL RANDOM ANSI OTHER:

ST3

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
17-32	9:59	10:15							

COMMENTS
READING TAKEN AT NW CORNER OF COPPER SQUARE RESIDENTIAL COMPLEX, NEAR NW CORNER OF BUILDING 45447 30TH ST WEST (BLDG F.)

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE TRAFFIC AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT **DIST. TO RDWY C/L OR EOP:**
TRAFFIC COUNT DURATION: 15 **MIN** / **MIN**

COUNT 1 (OR RDWY 1) DIRECTION	NB/EB	SB/WB	SPEED NB/EB	SPEED SB/WB
AUTOS	1			
MED TRKS	0			
HVY TRKS	0			
BUSES	0			
MOTRCLS	0			

IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ✓

COUNT 2 (OR RDWY 2) DIRECTION	NB/EB	SB/WB	SPEED NB/EB	SPEED SB/WB
AUTOS				
MED TRKS				
HVY TRKS				
BUSES				
MOTRCLS				

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS [✓ BIRDS] AUDIBLE DIST. INDUSTRIAL DIST. KIDS PLAYING DIST. CONVRSTNS/YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER: CAR IDLING NEARBY AT 10:02; LOW HUM OF AIR CONDITIONING UNIT IN DISTANCE THROUGHOUT READING;

DESCRIPTION / SKETCH
TERRAIN HARD SOFT [✓ MIXED] FLAT **OTHER:**
PHOTOS 6735; 6736; 6737; 6738; 6739; 6740; 6741
OTHER COMMENTS / SKETCH

DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT LANCASTER 18
PROJECT # 14731
SITE ID
SITE ADDRESS
OBSERVER(S) PETE VITAR
START DATE 3/31/23
END DATE 3/31/23
START TIME
END TIME

METEOROLOGICAL CONDITIONS
TEMP 51 F
HUMIDITY 48 % R.H.
WIND CALM [✓ LIGHT] MODERATE
WINDSPD 3 MPH
DIR. N NE S SE S SW W NW
VARIABLE STEADY GUSTY
SKY [✓ SUNNY] [✓ CLEAR] OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS
MEAS. INSTRUMENT PICCOLO SLM-P3
TYPE 1 2
SERIAL # 130927046
CALIBRATOR REED R8090
SERIAL #
CALIBRATION CHECK PRE-TEST dBA SPL POST-TEST dBA SPL
WINDSCRN YES

SETTINGS [✓ A-WTD] [✓ SLOW] FAST FRONTAL RANDOM ANSI OTHER:

ST2

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
33–48	10:30	10:45							

COMMENTS
READING TAKEN ~~[illegible]~~ IN AMARGOSA CREEK PARKWAY (PATH); PRIMARY NOISE SOURCE IS TRAFFIC ON 14 HWY TO THE EAST;

SOURCE INFO AND TRAFFIC COUNTS
PRIMARY NOISE SOURCE [✓ TRAFFIC] AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT
DIST. TO RDWY [✓ C/L] OR EOP: APX 220' TO ~~[illegible]~~ WESTERN EDGE OF 14 HWY
TRAFFIC COUNT DURATION: ___ MIN SPEED
___ MIN SPEED

COUNT 1 (OR RDWY 1) DIRECTION	NB/EB	SB/WB	NB/EB	SB/WB
AUTOS				
MED TRKS				
HVY TRKS				
BUSES				
MOTRCLS				

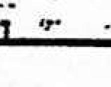
IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ___

COUNT 2 (OR RDWY 2)	NB/EB	SB/WB	NB/EB	SB/WB

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS [✓ BIRDS] DIST. INDUSTRIAL DIST. KIDS PLAYING DIST. CONVERSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER:

DESCRIPTION / SKETCH
TERRAIN HARD SOFT [✓ MIXED] FLAT OTHER:
PHOTOS 6743; 6744; 6745; 6746; 6747; 6748; 6749; 6750
OTHER COMMENTS / SKETCH



DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT LANCASTER 18 PROJECT # 14931
SITE ID
SITE ADDRESS OBSERVER(S) PETE VITAR
START DATE 3/31/23 END DATE 3/31/23
START TIME / / END TIME / /

METEOROLOGICAL CONDITIONS
TEMP 54 F HUMIDITY 42 % R.H. WIND CALM [✓ LIGHT] MODERATE
WINDSPD 3 MPH DIR. N NE S SE S SW W NW VARIABLE STEADY GUSTY
SKY [✓ SUNNY] [✓ CLEAR] OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS
MEAS. INSTRUMENT PICCOLO SLM-P3 TYPE 1 2 SERIAL # 13092 7046
CALIBRATOR REED R8090 SERIAL #
CALIBRATION CHECK PRE-TEST ____ dBA SPL POST-TEST ____ dBA SPL WINDSCRN YES

SETTINGS [✓ A-WTD] [✓ SLOW] FAST FRONTAL RANDOM ANSI OTHER:

ST4

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
49-64	11:01	11:16							

COMMENTS
READING TAKEN AT NW CORNER OF RESIDENCE AT 1857 W. AVENUE H1; PRIMARY NOISE SOURCE IS TRAFFIC ON 20TH ST W; DISTANT TRAFFIC NOISE FROM 14 FWY TO THE WEST

SOURCE INFO AND TRAFFIC COUNTS
PRIMARY NOISE SOURCE [✓ TRAFFIC] AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT DIST. TO RDWY [✓ C/L] OR EOP: APX 35' TO C/L ON 20TH ST W.
TRAFFIC COUNT DURATION: 15 MIN

COUNT 1 (OR RDWY 1) DIRECTION	NB/EB	SB/WB	SPEED NB/EB	SPEED SB/WB
AUTOS	101			
MED TRKS	0			
HVY TRKS	0			
BUSES	0			
MOTRCLS	0			

IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ✓

COUNT 2 (OR RDWY 2) ____ MIN

COUNT 2 (OR RDWY 2)	NB/EB	SB/WB	SPEED NB/EB	SPEED SB/WB

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES [✓ DIST. BARKING DOGS] [✓ BIRDS] DIST. INDUSTRIAL
DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER:

DESCRIPTION / SKETCH
TERRAIN HARD SOFT [✓ MIXED] FLAT OTHER:
PHOTOS 6752; 6753; 6754; 6755
OTHER COMMENTS / SKETCH

ST1

Rec 1 to 16	Slow Response		dBA weighting		2.0 dB reso
Date hh:mm:ss	LeqPeriod	Leq	SEL	Lmax	Lmin
3/31/2023 9:31	1.0 min	45.3	63.1	48.5	44.5
3/31/2023 9:32	1.0 min	55.4	73.2	67	43.8
3/31/2023 9:33	1.0 min	59.8	77.6	69.5	43.1
3/31/2023 9:34	1.0 min	55.2	73	67.8	42.6
3/31/2023 9:35	1.0 min	56.8	74.6	69.7	41.8
3/31/2023 9:36	1.0 min	66.9	84.7	80.4	42.9
3/31/2023 9:37	1.0 min	57	74.8	70.2	42.5
3/31/2023 9:38	1.0 min	58.4	76.2	69.5	42.3
3/31/2023 9:39	1.0 min	44.1	61.9	48.4	42.5
3/31/2023 9:40	1.0 min	61.6	79.4	70.7	43.9
3/31/2023 9:41	1.0 min	57.6	75.4	66.5	43
3/31/2023 9:42	1.0 min	64	81.8	73.5	41.3
3/31/2023 9:43	1.0 min	56.9	74.7	72.8	42
3/31/2023 9:44	1.0 min	60.1	77.9	70.7	40.9
3/31/2023 9:45	1.0 min	59.1	76.9	68.9	42.9
3/31/2023 9:46	9 sec	61.3	70.8	68.2	46.7

Leq	60.0
Lmax	80.4
Lmin	40.9

ST2

Rec 33 to 48	Slow Response		dBA weighting		2.0 dB reso
Date hh:mm:ss	LeqPeriod	Leq	SEL	Lmax	Lmin
3/31/2023 10:30	1.0 min	57.4	75.2	63.4	52.4
3/31/2023 10:31	1.0 min	57.6	75.4	62.4	48.8
3/31/2023 10:32	1.0 min	58.2	76	62.8	51.3
3/31/2023 10:33	1.0 min	56.2	74	60.9	49.6
3/31/2023 10:34	1.0 min	59.2	77	63.4	50.7
3/31/2023 10:35	1.0 min	58.5	76.3	64.1	48.3
3/31/2023 10:36	1.0 min	60.3	78.1	65.9	50.3
3/31/2023 10:37	1.0 min	56.2	74	62.2	51.5
3/31/2023 10:38	1.0 min	57.8	75.6	61.3	50.6
3/31/2023 10:39	1.0 min	60.9	78.7	69.4	53.8
3/31/2023 10:40	1.0 min	56.7	74.5	61.8	50.2
3/31/2023 10:41	1.0 min	56.5	74.3	61	50
3/31/2023 10:42	1.0 min	56.6	74.4	63.2	46.6
3/31/2023 10:43	1.0 min	58.8	76.6	63.6	54.1
3/31/2023 10:44	1.0 min	58.7	76.5	65.8	51
3/31/2023 10:45	12 sec	58.2	69	59.4	54.6
	Leq	58.2			
	Lmax	69.4			
	Lmin	46.6			

ST3

Rec 17 to 32	Slow Response		dBA weighting		2.0 dB reso
Date hh:mm:ss	LeqPeriod	Leq	SEL	Lmax	Lmin
3/31/2023 9:59	1.0 min	43.3	61.1	46.7	42.1
3/31/2023 10:00	1.0 min	46.1	63.9	57.4	42.4
3/31/2023 10:01	1.0 min	50.8	68.6	64.8	42.9
3/31/2023 10:02	1.0 min	51.2	69	56	45.5
3/31/2023 10:03	1.0 min	43.5	61.3	47.5	42.3
3/31/2023 10:04	1.0 min	45.2	63	51.7	42.4
3/31/2023 10:05	1.0 min	44.1	61.9	47	42.8
3/31/2023 10:06	1.0 min	43.5	61.3	48	42.6
3/31/2023 10:07	1.0 min	43.2	61	48	42
3/31/2023 10:08	1.0 min	47.1	64.9	60.2	42.2
3/31/2023 10:09	1.0 min	49.3	67.1	54.9	43.5
3/31/2023 10:10	1.0 min	53.1	70.9	55.3	49.5
3/31/2023 10:11	1.0 min	48.4	66.2	59	43.3
3/31/2023 10:12	1.0 min	44.8	62.6	52.1	42.4
3/31/2023 10:13	1.0 min	43.2	61	45.6	42.4
3/31/2023 10:14	13 sec	43	54.1	44.6	42.2
	Leq	47.8			
	Lmax	64.8			
	Lmin	42			

ST4

Rec 49 to 64	Slow Response		dBA weighting		2.0 dB reso
Date hh:mm:ss	LeqPeriod	Leq	SEL	Lmax	Lmin
3/31/2023 11:01	1.0 min	61.2	79	70.3	44.1
3/31/2023 11:02	1.0 min	60.7	78.5	71.6	47.1
3/31/2023 11:03	1.0 min	63.4	81.2	71.6	43.6
3/31/2023 11:04	1.0 min	58.6	76.4	67.7	44.1
3/31/2023 11:05	1.0 min	58.5	76.3	64.6	44.7
3/31/2023 11:06	1.0 min	63.9	81.7	75.9	45.9
3/31/2023 11:07	1.0 min	64	81.8	75.7	44.7
3/31/2023 11:08	1.0 min	62.3	80.1	70.1	45.9
3/31/2023 11:09	1.0 min	61	78.8	71.6	45.2
3/31/2023 11:10	1.0 min	64.4	82.2	73.3	48.8
3/31/2023 11:11	1.0 min	62.2	80	70.8	45.8
3/31/2023 11:12	1.0 min	64.4	82.2	72.1	46.2
3/31/2023 11:13	1.0 min	60.7	78.5	73	45.2
3/31/2023 11:14	1.0 min	63.7	81.5	73.2	45.7
3/31/2023 11:15	1.0 min	62.2	80	72.4	43.4
3/31/2023 11:16	25 sec	68	82	76	51.5

Leq	62.5
Lmax	75.9
Lmin	43.4

Attachment B

Construction Noise Modeling Input/Output Files

To User: bordered cells are inputs, unbordered cells have formulae

enter "0" to turn off air or grnd absorption terms, "1" to turn on

air abs? 1

grnd abs? 1

magnitude of threshold (dBA) = 80

allowable hours over which Leq is to be averaged = 8

Project Phase No.	Project Phase Description	Comparable FHWA RCNM Construction Equipment Type	Quantity	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1	Site preparation	dozer	1	40	82	125	0		71.6	8	480	68
		tractor	1	40	84	150	0		71.5	8	480	68
		dozer	1	40	82	200	0		66.3	8	480	62
		backhoe	1	40	78	250	0		60.0	8	480	56
		dozer	1	40	82	300	0		62.2	8	480	58
		backhoe	1	40	78	350	0		56.6	8	480	53
		front end loader	1	40	79	400	0		56.3	8	480	52
											Total Aggregate Noise Exposure from Site preparation Phase	**71.6**
3	Grading	excavator	1	40	81	125	0		70.6	8	480	67
		excavator	1	40	81	150	0		66.5	8	480	63
		grader	1	40	85	200	0		69.3	8	480	65
		dozer	1	40	82	250	0		64.0	8	480	60
		tractor	1	40	84	300	0		64.2	8	480	60
		backhoe	1	40	78	350	0		56.6	8	480	53
		scraper	1	40	84	400	0		61.3	8	480	57
		scraper	1	40	84	450	0		60.2	8	480	56
											Total Aggregate Noise Exposure from Grading Phase	**71.1**
4	Building construction	crane	1	16	81	300	0		61.2	7	420	53
		man lift	1	20	75	350	0		53.6	8	480	47
		tractor	1	40	84	400	0		61.3	7	420	57
		man lift	1	20	75	450	0		50.7	8	480	44
		man lift	1	20	75	500	0		49.7	8	480	43
		generator	1	50	72	550	0		46.2	8	480	43
		welder / torch	1	40	73	600	0		46.4	8	480	42
		front end loader	1	40	79	650	0		51.6	7	420	47
		backhoe	1	40	78	700	0		49.9	7	420	45
											Total Aggregate Noise Exposure from Building construction Phase	**59.4**
5	Paving	paver	1	50	77	125	0		66.6	8	480	64
		concrete pump truck	1	20	81	150	0		66.5	8	480	60
		paver	1	50	77	200	0		60.0	8	480	57
		roller	1	20	80	250	0		62.0	8	480	55
		concrete pump truck	1	20	81	300	0		61.2	8	480	54
		roller	1	20	80	350	0		57.9	8	480	51
											Total Aggregate Noise Exposure from Paving Phase	**66.4**
6	Architectural coating	Compressor (air)	1	40	78	300	0		58.2	8	480	54
											Total Aggregate Noise Exposure from Architectural coating Phase	**54.2**

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air abs? 1

grnd abs? 1

magnitude of threshold (dBA) = 80

allowable hours over which Leq is to be averaged = 8

Project Phase No.	Project Phase Description	Comparable FHWA RCNM Construction Equipment Type	Quantity	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1	Site preparation	dozer	1	40	82	750	0		53.2	8	480	49
		tractor	1	40	84	750	0		55.2	8	480	51
		dozer	1	40	82	750	0		53.2	8	480	49
		backhoe	1	40	78	750	0		49.2	8	480	45
		dozer	1	40	82	750	0		53.2	8	480	49
		backhoe	1	40	78	750	0		49.2	8	480	45
		front end loader	1	40	79	750	0		50.2	8	480	46
											Total Aggregate Noise Exposure from Site preparation Phase	**56.9**
3	Grading	excavator	1	40	81	750	0		52.2	8	480	48
		excavator	1	40	81	750	0		51.9	8	480	48
		grader	1	40	85	750	0		56.2	8	480	52
		dozer	1	40	82	750	0		53.2	8	480	49
		tractor	1	40	84	750	0		55.2	8	480	51
		backhoe	1	40	78	750	0		49.2	8	480	45
		scraper	1	40	84	750	0		55.2	8	480	51
		scraper	1	40	84	750	0		55.2	8	480	51
											Total Aggregate Noise Exposure from Grading Phase	**59.1**
4	Building construction	crane	1	16	81	750	0		52.2	7	420	44
		man lift	1	20	75	750	0		46.2	8	480	39
		tractor	1	40	84	750	0		55.2	7	420	51
		man lift	1	20	75	750	0		45.9	8	480	39
		man lift	1	20	75	750	0		45.9	8	480	39
		generator	1	50	72	750	0		43.2	8	480	40
		welder / torch	1	40	73	750	0		44.2	8	480	40
		front end loader	1	40	79	750	0		50.2	7	420	46
		backhoe	1	40	78	750	0		49.2	7	420	45
											Total Aggregate Noise Exposure from Building construction Phase	**54.0**
5	Paving	paver	1	50	77	750	0		48.2	8	480	45
		concrete pump truck	1	20	81	750	0		51.9	8	480	45
		paver	1	50	77	750	0		47.9	8	480	45
		roller	1	20	80	750	0		51.2	8	480	44
		concrete pump truck	1	20	81	750	0		52.2	8	480	45
		roller	1	20	80	750	0		50.9	8	480	44
											Total Aggregate Noise Exposure from Paving Phase	**52.5**
6	Architectural coating	Compressor (air)	1	40	78	750	0		49.2	8	480	45
											Total Aggregate Noise Exposure from Architectural coating Phase	**45.2**

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air abs? 1

grnd abs? 1

magnitude of threshold (dBA) = 80

allowable hours over which Leq is to be averaged = 8

Project Phase No.	Project Phase Description	Comparable FHWA RCNM Construction Equipment Type	Quantity	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1	Site preparation	dozer	1	40	82	3600	0		36.5	8	480	32
		tractor	1	40	84	3650	0		38.3	8	480	34
		dozer	1	40	82	3700	0		36.1	8	480	32
		backhoe	1	40	78	3750	0		31.9	8	480	28
		dozer	1	40	82	3800	0		35.8	8	480	32
		backhoe	1	40	78	3850	0		31.6	8	480	28
		front end loader	1	40	79	3900	0		32.5	8	480	28
											Total Aggregate Noise Exposure from Site preparation Phase	**39.8**
3	Grading	excavator	1	40	81	3600	0		35.5	8	480	31
		excavator	1	40	81	3650	0		35.3	8	480	31
		grader	1	40	85	3700	0		39.1	8	480	35
		dozer	1	40	82	3750	0		35.9	8	480	32
		tractor	1	40	84	3800	0		37.8	8	480	34
		backhoe	1	40	78	3850	0		31.6	8	480	28
		scraper	1	40	84	3900	0		37.5	8	480	33
		scraper	1	40	84	3950	0		37.3	8	480	33
											Total Aggregate Noise Exposure from Grading Phase	**41.7**
4	Building construction	crane	1	16	81	3800	0		34.8	7	420	26
		man lift	1	20	75	3850	0		28.6	8	480	22
		tractor	1	40	84	3900	0		37.5	7	420	33
		man lift	1	20	75	3950	0		28.3	8	480	21
		man lift	1	20	75	4000	0		28.1	8	480	21
		generator	1	50	72	4050	0		25.0	8	480	22
		welder / torch	1	40	73	4100	0		25.8	8	480	22
		front end loader	1	40	79	4150	0		31.7	7	420	27
		backhoe	1	40	78	4200	0		30.5	7	420	26
											Total Aggregate Noise Exposure from Building construction Phase	**36.0**
5	Paving	paver	1	50	77	3600	0		31.5	8	480	28
		concrete pump truck	1	20	81	3650	0		35.3	8	480	28
		paver	1	50	77	3700	0		31.1	8	480	28
		roller	1	20	80	3750	0		33.9	8	480	27
		concrete pump truck	1	20	81	3800	0		34.8	8	480	28
		roller	1	20	80	3850	0		33.6	8	480	27
											Total Aggregate Noise Exposure from Paving Phase	**35.5**
6	Architectural coating	Compressor (air)	1	40	78	3800	0		31.8	8	480	28
											Total Aggregate Noise Exposure from Architectural coating Phase	**27.8**

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air abs? 1

grnd abs? 1

magnitude of threshold (dBA) = 80

allowable hours over which Leq is to be averaged = 8

Project Phase No.	Project Phase Description	Comparable FHWA RCNM Construction Equipment Type	Quantity	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1	Site preparation	dozer	1	40	82	4300	0		34.2	8	480	30
		tractor	1	40	84	4300	0		36.2	8	480	32
		dozer	1	40	82	4300	0		34.2	8	480	30
		backhoe	1	40	78	4300	0		30.2	8	480	26
		dozer	1	40	82	4300	0		34.2	8	480	30
		backhoe	1	40	78	4300	0		30.2	8	480	26
		front end loader	1	40	79	4300	0		31.2	8	480	27
											Total Aggregate Noise Exposure from Site preparation Phase	**37.9**
3	Grading	excavator	1	40	81	4300	0		33.2	8	480	29
		excavator	1	40	81	4300	0		33.2	8	480	29
		grader	1	40	85	4300	0		37.2	8	480	33
		dozer	1	40	82	4300	0		34.2	8	480	30
		tractor	1	40	84	4300	0		36.2	8	480	32
		backhoe	1	40	78	4300	0		30.2	8	480	26
		scraper	1	40	84	4300	0		36.2	8	480	32
		scraper	1	40	84	4300	0		36.2	8	480	32
											Total Aggregate Noise Exposure from Grading Phase	**40.1**
4	Building construction	crane	1	16	81	4300	0		33.2	7	420	25
		man lift	1	20	75	4300	0		27.2	8	480	20
		tractor	1	40	84	4300	0		36.2	7	420	32
		man lift	1	20	75	4300	0		27.2	8	480	20
		man lift	1	20	75	4300	0		27.2	8	480	20
		generator	1	50	72	4300	0		24.2	8	480	21
		welder / torch	1	40	73	4300	0		25.2	8	480	21
		front end loader	1	40	79	4300	0		31.2	7	420	27
		backhoe	1	40	78	4300	0		30.2	7	420	26
											Total Aggregate Noise Exposure from Building construction Phase	**35.0**
5	Paving	paver	1	50	77	4300	0		29.2	8	480	26
		concrete pump truck	1	20	81	4300	0		33.2	8	480	26
		paver	1	50	77	4300	0		29.2	8	480	26
		roller	1	20	80	4300	0		32.2	8	480	25
		concrete pump truck	1	20	81	4300	0		33.2	8	480	26
		roller	1	20	80	4300	0		32.2	8	480	25
											Total Aggregate Noise Exposure from Paving Phase	**33.7**
6	Architectural coating	Compressor (air)	1	40	78	4300	0		30.2	8	480	26
											Total Aggregate Noise Exposure from Architectural coating Phase	**26.2**

Attachment C

Traffic Noise Modeling Data

Dudek **26 April 2023**
MG **TNM 2.5**

INPUT: ROADWAYS
PROJECT/CONTRACT: **14731**
RUN: **Existing**

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Avenue H w. of 30th Street	60.0	point1	1	1,287.7	9,383.9	0.00				Average	
		point3	3	6,081.2	9,380.4	0.00					
30th Street n. of Avenue H	60.0	point42	42	6,056.7	12,014.4	0.00				Average	
		point8	8	6,090.0	9,376.0	0.00					
SR-14 SB Offramp	60.0	point43	43	10,087.0	10,809.7	0.00				Average	
		point11	11	10,073.7	10,540.8	0.00				Average	
		point12	12	10,034.1	10,227.8	0.00				Average	
		point13	13	9,963.5	10,042.6	0.00				Average	
		point14	14	9,884.2	9,888.3	0.00				Average	
		point15	15	9,743.1	9,698.7	0.00				Average	
		point16	16	9,716.6	9,412.2	0.00					
SR-14 SB	60.0	point45	45	10,085.0	12,353.2	0.00				Average	
		point35	35	10,107.2	10,792.4	0.00				Average	
		point36	36	10,120.4	8,394.0	0.00				Average	
		point37	37	10,134.4	7,477.3	0.00					
SR-14 NB Offramp	60.0	point47	47	10,255.6	8,044.2	0.00				Average	
		point18	18	10,308.1	8,485.1	0.00				Average	
		point19	19	10,409.6	8,751.0	0.00				Average	
		point20	20	10,581.0	9,013.5	0.00				Average	
		point21	21	10,633.5	9,198.9	0.00				Average	
		point22	22	10,637.0	9,342.4	0.00					
SR-14 NB Onramp	60.0	point49	49	10,613.7	9,392.7	0.00				Average	
		point30	30	10,489.2	9,497.4	0.00				Average	
		point31	31	10,303.8	9,721.4	0.00				Average	
		point32	32	10,289.8	10,071.3	0.00				Average	

		point33	33	10,247.8	10,806.1	0.00		
SR-14 SB Onramp	60.0	point51	51	9,736.8	9,347.9	0.00		Average
		point24	24	9,902.1	9,308.2	0.00		Average
		point25	25	10,027.8	9,209.1	0.00		Average
		point26	26	10,047.6	9,039.3	0.00		Average
		point27	27	10,082.9	8,475.0	0.00		Average
		point28	28	10,085.1	8,391.2	0.00		
Avenue H e. of 30th Street	60.0	point52	52	6,097.6	9,380.4	0.00		Average
		point4	4	10,061.2	9,380.4	0.00		
30th Street s. of Avenue H	60.0	point53	53	6,090.0	9,376.0	0.00		Average
		point9	9	6,062.0	4,008.4	0.00		
Avenue H e. of SR-14	60.0	point55	55	10,284.5	9,375.0	0.00		Average
		point6	6	14,388.3	9,387.4	0.00		
SR-14 NB	60.0	point57	57	10,240.5	7,487.2	0.00		Average
		point39	39	10,234.9	10,825.5	0.00		Average
		point2	2	10,196.1	12,369.7	0.00		

Dudek **26 April 2023**
MG **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **14731**
RUN: **Existing**

Roadway **Name**	**Points** **Name**	**No.**	**Segment** **Autos** **V** veh/hr	 **S** mph	 **MTrucks** **V** veh/hr	 **S** mph	 **HTrucks** **V** veh/hr	 **S** mph	 **Buses** **V** veh/hr	 **S** mph	 **Motorcycles** **V** veh/hr	 **S** mph
Avenue H w. of 30th Street	point1	1	340	55	7	50	4	45	0	0	0	0
	point3	3										
30th Street n. of Avenue H	point42	42	65	55	1	50	1	45	0	0	0	0
	point8	8										
SR-14 SB Offramp	point43	43	589	65	12	60	6	55	0	0	0	0
	point11	11	589	65	12	60	6	55	0	0	0	0
	point12	12	589	65	12	60	6	55	0	0	0	0
	point13	13	589	65	12	60	6	55	0	0	0	0
	point14	14	589	65	12	60	6	55	0	0	0	0
	point15	15	589	65	12	60	6	55	0	0	0	0
	point16	16										
SR-14 SB	point45	45	1588	70	29	65	58	60	0	0	0	0
	point35	35	1588	70	29	65	58	60	0	0	0	0
	point36	36	1588	70	29	65	58	60	0	0	0	0
	point37	37										
SR-14 NB Offramp	point47	47	329	65	7	60	3	55	0	0	0	0
	point18	18	329	65	7	60	3	55	0	0	0	0
	point19	19	329	65	7	60	3	55	0	0	0	0
	point20	20	329	65	7	60	3	55	0	0	0	0
	point21	21	329	65	7	60	3	55	0	0	0	0
	point22	22										
SR-14 NB Onramp	point49	49	383	65	8	60	4	55	0	0	0	0
	point30	30	383	65	8	60	4	55	0	0	0	0

	point31	31	383	65	8	60	4	55	0	0	0	0
	point32	32	383	65	8	60	4	55	0	0	0	0
	point33	33										
SR-14 SB Onramp	point51	51	45	65	1	60	0	0	0	0	0	0
	point24	24	45	65	1	60	0	0	0	0	0	0
	point25	25	45	65	1	60	0	0	0	0	0	0
	point26	26	45	65	1	60	0	0	0	0	0	0
	point27	27	45	65	1	60	0	0	0	0	0	0
	point28	28										
Avenue H e. of 30th Street	point52	52	719	55	15	50	7	45	0	0	0	0
	point4	4										
30th Street s. of Avenue H	point53	53	439	55	9	50	5	45	0	0	0	0
	point9	9										
Avenue H e. of SR-14	point55	55	1519	55	31	50	16	45	0	0	0	0
	point6	6										
SR-14 NB	point57	57	1588	70	29	65	58	60	0	0	0	0
	point39	39	1588	70	29	65	58	60	0	0	0	0
	point2	2										

Dudek **26 April 2023**
MG **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **14731**
RUN: **Existing**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	1	1	3,795.1	9,283.2	0.00	5.00	0.00	66	10.0	8.0	Y
ST2	2	1	9,742.7	10,710.6	0.00	5.00	0.00	66	10.0	8.0	Y
ST3	3	1	5,672.8	6,005.8	0.00	5.00	0.00	66	10.0	8.0	Y
ST4	4	1	10,911.9	9,111.3	0.00	5.00	0.00	66	10.0	8.0	Y

Dudek			**26 April 2023**	
MG			**TNM 2.5**	
INPUT: TERRAIN LINES				
PROJECT/CONTRACT:	**14731**			
RUN:	**Existing**			
Terrain Line	**Points**			
Name	**No.**	**Coordinates (ground)**		
		X ft	**Y** ft	**Z** ft
Terrain Line1	1	9,783.4	10,010.8	3.00
	2	9,939.9	10,542.8	3.00
	3	9,955.5	11,481.6	3.00
	4	9,908.6	12,279.6	3.00

Dudek
MG

26 April 2023
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: **14731**
RUN: **Existing**
BARRIER DESIGN: **INPUT HEIGHTS**
ATMOSPHERICS: **68 deg F, 50% RH**

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	**No.**	**#DUs**	**Existing LAeq1h**	**No Barrier LAeq1h Calculated**	**Crit'n**	**Increase over existing Calculated**	**Crit'n Sub'l Inc**	**Type Impact**	**With Barrier Calculated LAeq1h**	**Noise Reduction Calculated**	**Goal**	**Calculated minus Goal**
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	1	1	0.0	62.0	66	62.0	10	----	62.0	0.0	8	-8.0
ST2	2	1	0.0	61.0	66	61.0	10	----	61.0	0.0	8	-8.0
ST3	3	1	0.0	51.7	66	51.7	10	----	51.7	0.0	8	-8.0
ST4	4	1	0.0	64.1	66	64.1	10	----	64.1	0.0	8	-8.0

Dwelling Units	**# DUs**	**Noise Reduction Min dB**	**Avg dB**	**Max dB**
All Selected	4	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek **26 April 2023**
MG **TNM 2.5**

INPUT: ROADWAYS
PROJECT/CONTRACT: **14731**
RUN: **Existing with Project**

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	**Width**	**Points Name**	**No.**	**Coordinates (pavement) X**	**Y**	**Z**	**Flow Control Control Device**	**Speed Constraint**	**Percent Vehicles Affected**	**Segment Pvmt Type**	**On Struct?**
	ft			ft	ft	ft		mph	%		
Avenue H w. of 30th Street	60.0	point1	1	1,287.7	9,383.9	0.00				Average	
		point3	3	6,081.2	9,380.4	0.00					
30th Street n. of Avenue H	60.0	point42	42	6,056.7	12,014.4	0.00				Average	
		point8	8	6,090.0	9,376.0	0.00					
SR-14 SB Offramp	60.0	point43	43	10,087.0	10,809.7	0.00				Average	
		point11	11	10,073.7	10,540.8	0.00				Average	
		point12	12	10,034.1	10,227.8	0.00				Average	
		point13	13	9,963.5	10,042.6	0.00				Average	
		point14	14	9,884.2	9,888.3	0.00				Average	
		point15	15	9,743.1	9,698.7	0.00				Average	
		point16	16	9,716.6	9,412.2	0.00					
SR-14 SB	60.0	point45	45	10,085.0	12,353.2	0.00				Average	
		point35	35	10,107.2	10,792.4	0.00				Average	
		point36	36	10,120.4	8,394.0	0.00				Average	
		point37	37	10,134.4	7,477.3	0.00					
SR-14 NB Offramp	60.0	point47	47	10,255.6	8,044.2	0.00				Average	
		point18	18	10,308.1	8,485.1	0.00				Average	
		point19	19	10,409.6	8,751.0	0.00				Average	
		point20	20	10,581.0	9,013.5	0.00				Average	
		point21	21	10,633.5	9,198.9	0.00				Average	
		point22	22	10,637.0	9,342.4	0.00					
SR-14 NB Onramp	60.0	point49	49	10,613.7	9,392.7	0.00				Average	
		point30	30	10,489.2	9,497.4	0.00				Average	
		point31	31	10,303.8	9,721.4	0.00				Average	
		point32	32	10,289.8	10,071.3	0.00				Average	

		point33	33	10,247.8	10,806.1	0.00		
SR-14 SB Onramp	60.0	point51	51	9,736.8	9,347.9	0.00		Average
		point24	24	9,902.1	9,308.2	0.00		Average
		point25	25	10,027.8	9,209.1	0.00		Average
		point26	26	10,047.6	9,039.3	0.00		Average
		point27	27	10,082.9	8,475.0	0.00		Average
		point28	28	10,085.1	8,391.2	0.00		
Avenue H e. of 30th Street	60.0	point52	52	6,097.6	9,380.4	0.00		Average
		point4	4	10,061.2	9,380.4	0.00		
30th Street s. of Avenue H	60.0	point53	53	6,090.0	9,376.0	0.00		Average
		point9	9	6,062.0	4,008.4	0.00		
Avenue H e. of SR-14	60.0	point55	55	10,284.5	9,375.0	0.00		Average
		point6	6	14,388.3	9,387.4	0.00		
SR-14 NB	60.0	point57	57	10,240.5	7,487.2	0.00		Average
		point39	39	10,234.9	10,825.5	0.00		Average
		point2	2	10,196.1	12,369.7	0.00		

Dudek
MG

26 April 2023
TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **14731**
RUN: **Existing with Project**

Roadway	**Points**											
Name	**Name**	**No.**	**Segment**									
			Autos		**MTrucks**		**HTrucks**		**Buses**		**Motorcycles**	
			V veh/hr	**S** mph	**V** veh/hr	**S** mph	**V** veh/hr	**S** mph	**V** veh/hr	**S** mph	**V** veh/hr	**S** mph
Avenue H w. of 30th Street	point1	1	438	55	16	50	19	45	0	0	0	0
	point3	3										
30th Street n. of Avenue H	point42	42	66	55	1	50	1	45	0	0	0	0
	point8	8										
SR-14 SB Offramp	point43	43	611	65	15	60	11	55	0	0	0	0
	point11	11	611	65	15	60	11	55	0	0	0	0
	point12	12	611	65	15	60	11	55	0	0	0	0
	point13	13	611	65	15	60	11	55	0	0	0	0
	point14	14	611	65	15	60	11	55	0	0	0	0
	point15	15	611	65	15	60	11	55	0	0	0	0
	point16	16										
SR-14 SB	point45	45	1588	70	29	65	58	60	0	0	0	0
	point35	35	1588	70	29	65	58	60	0	0	0	0
	point36	36	1588	70	29	65	58	60	0	0	0	0
	point37	37										
SR-14 NB Offramp	point47	47	368	65	12	60	12	55	0	0	0	0
	point18	18	368	65	12	60	12	55	0	0	0	0
	point19	19	368	65	12	60	12	55	0	0	0	0
	point20	20	368	65	12	60	12	55	0	0	0	0
	point21	21	368	65	12	60	12	55	0	0	0	0
	point22	22										
SR-14 NB Onramp	point49	49	383	65	8	60	4	55	0	0	0	0
	point30	30	383	65	8	60	4	55	0	0	0	0

	point31	31	383	65	8	60	4	55	0	0	0	0
	point32	32	383	65	8	60	4	55	0	0	0	0
	point33	33										
SR-14 SB Onramp	point51	51	51	65	2	60	2	55	0	0	0	0
	point24	24	51	65	2	60	2	55	0	0	0	0
	point25	25	51	65	2	60	2	55	0	0	0	0
	point26	26	51	65	2	60	2	55	0	0	0	0
	point27	27	51	65	2	60	2	55	0	0	0	0
	point28	28										
Avenue H e. of 30th Street	point52	52	792	55	24	50	23	45	0	0	0	0
	point4	4										
30th Street s. of Avenue H	point53	53	463	55	9	50	5	45	0	0	0	0
	point9	9										
Avenue H e. of SR-14	point55	55	1525	55	32	50	17	45	0	0	0	0
	point6	6										
SR-14 NB	point57	57	1588	70	29	65	58	60	0	0	0	0
	point39	39	1588	70	29	65	58	60	0	0	0	0
	point2	2										

Dudek **26 April 2023**
MG **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **14731**
RUN: **Existing with Project**

Receiver Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active
			X	Y	Z	above	Existing	Impact Criteria		NR	in
						Ground	LAeq1h	LAeq1h	Sub'l	Goal	Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	1	1	3,795.1	9,283.2	0.00	5.00	0.00	66	10.0	8.0	Y
ST2	2	1	9,742.7	10,710.6	0.00	5.00	0.00	66	10.0	8.0	Y
ST3	3	1	5,672.8	6,005.8	0.00	5.00	0.00	66	10.0	8.0	Y
ST4	4	1	10,911.9	9,111.3	0.00	5.00	0.00	66	10.0	8.0	Y

Dudek			**26 April 2023**	
MG			**TNM 2.5**	
INPUT: TERRAIN LINES				
PROJECT/CONTRACT:	**14731**			
RUN:	**Existing with Project**			
Terrain Line	**Points**			
Name	**No.**	**Coordinates (ground)**		
		X ft	**Y** ft	**Z** ft
Terrain Line1	1	9,783.4	10,010.8	3.00
	2	9,939.9	10,542.8	3.00
	3	9,955.5	11,481.6	3.00
	4	9,908.6	12,279.6	3.00

Dudek
MG

26 April 2023
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: **14731**
RUN: **Existing with Project**
BARRIER DESIGN: **INPUT HEIGHTS**
ATMOSPHERICS: **68 deg F, 50% RH**

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	1	1	0.0	63.9	66	63.9	10	----	63.9	0.0	8	-8.0
ST2	2	1	0.0	61.0	66	61.0	10	----	61.0	0.0	8	-8.0
ST3	3	1	0.0	51.9	66	51.9	10	----	51.9	0.0	8	-8.0
ST4	4	1	0.0	64.3	66	64.3	10	----	64.3	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min dB	Avg dB	Max dB
All Selected	4	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek **26 April 2023**
MG **TNM 2.5**

INPUT: ROADWAYS
PROJECT/CONTRACT: **14731**
RUN: **Year 2024**

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Avenue H w. of 30th Street	60.0	point1	1	1,287.7	9,383.9	0.00				Average	
		point3	3	6,081.2	9,380.4	0.00					
30th Street n. of Avenue H	60.0	point42	42	6,056.7	12,014.4	0.00				Average	
		point8	8	6,090.0	9,376.0	0.00					
SR-14 SB Offramp	60.0	point43	43	10,087.0	10,809.7	0.00				Average	
		point11	11	10,073.7	10,540.8	0.00				Average	
		point12	12	10,034.1	10,227.8	0.00				Average	
		point13	13	9,963.5	10,042.6	0.00				Average	
		point14	14	9,884.2	9,888.3	0.00				Average	
		point15	15	9,743.1	9,698.7	0.00				Average	
		point16	16	9,716.6	9,412.2	0.00					
SR-14 SB	60.0	point45	45	10,085.0	12,353.2	0.00				Average	
		point35	35	10,107.2	10,792.4	0.00				Average	
		point36	36	10,120.4	8,394.0	0.00				Average	
		point37	37	10,134.4	7,477.3	0.00					
SR-14 NB Offramp	60.0	point47	47	10,255.6	8,044.2	0.00				Average	
		point18	18	10,308.1	8,485.1	0.00				Average	
		point19	19	10,409.6	8,751.0	0.00				Average	
		point20	20	10,581.0	9,013.5	0.00				Average	
		point21	21	10,633.5	9,198.9	0.00				Average	
		point22	22	10,637.0	9,342.4	0.00					
SR-14 NB Onramp	60.0	point49	49	10,613.7	9,392.7	0.00				Average	
		point30	30	10,489.2	9,497.4	0.00				Average	
		point31	31	10,303.8	9,721.4	0.00				Average	
		point32	32	10,289.8	10,071.3	0.00				Average	

		point33	33	10,247.8	10,806.1	0.00		
SR-14 SB Onramp	60.0	point51	51	9,736.8	9,347.9	0.00		Average
		point24	24	9,902.1	9,308.2	0.00		Average
		point25	25	10,027.8	9,209.1	0.00		Average
		point26	26	10,047.6	9,039.3	0.00		Average
		point27	27	10,082.9	8,475.0	0.00		Average
		point28	28	10,085.1	8,391.2	0.00		
Avenue H e. of 30th Street	60.0	point52	52	6,097.6	9,380.4	0.00		Average
		point4	4	10,061.2	9,380.4	0.00		
30th Street s. of Avenue H	60.0	point53	53	6,090.0	9,376.0	0.00		Average
		point9	9	6,062.0	4,008.4	0.00		
Avenue H e. of SR-14	60.0	point55	55	10,284.5	9,375.0	0.00		Average
		point6	6	14,388.3	9,387.4	0.00		
SR-14 NB	60.0	point57	57	10,240.5	7,487.2	0.00		Average
		point39	39	10,234.9	10,825.5	0.00		Average
		point2	2	10,196.1	12,369.7	0.00		

Dudek **26 April 2023**
MG **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes

PROJECT/CONTRACT: **14731**
RUN: **Year 2024**

Roadway **Name**	**Points** **Name**	**No.**	**Segment** **Autos** **V** veh/hr	 **S** mph	**MTrucks** **V** veh/hr	**S** mph	**HTrucks** **V** veh/hr	**S** mph	**Buses** **V** veh/hr	**S** mph	**Motorcycles** **V** veh/hr	**S** mph
Avenue H w. of 30th Street	point1	1	392	55	8	50	4	45	0	0	0	0
	point3	3										
30th Street n. of Avenue H	point42	42	89	55	2	50	1	45	0	0	0	0
	point8	8										
SR-14 SB Offramp	point43	43	603	65	12	60	6	55	0	0	0	0
	point11	11	603	65	12	60	6	55	0	0	0	0
	point12	12	603	65	12	60	6	55	0	0	0	0
	point13	13	603	65	12	60	6	55	0	0	0	0
	point14	14	603	65	12	60	6	55	0	0	0	0
	point15	15	603	65	12	60	6	55	0	0	0	0
	point16	16										
SR-14 SB	point45	45	1588	70	29	65	58	60	0	0	0	0
	point35	35	1588	70	29	65	58	60	0	0	0	0
	point36	36	1588	70	29	65	58	60	0	0	0	0
	point37	37										
SR-14 NB Offramp	point47	47	354	65	7	60	4	55	0	0	0	0
	point18	18	354	65	7	60	4	55	0	0	0	0
	point19	19	354	65	7	60	4	55	0	0	0	0
	point20	20	354	65	7	60	4	55	0	0	0	0
	point21	21	354	65	7	60	4	55	0	0	0	0
	point22	22										
SR-14 NB Onramp	point49	49	387	65	8	60	4	55	0	0	0	0
	point30	30	387	65	8	60	4	55	0	0	0	0

	point31	31	387	65	8	60	4	55	0	0	0	0
	point32	32	387	65	8	60	4	55	0	0	0	0
	point33	33										
SR-14 SB Onramp	point51	51	59	65	1	60	1	55	0	0	0	0
	point24	24	59	65	1	60	1	55	0	0	0	0
	point25	25	59	65	1	60	1	55	0	0	0	0
	point26	26	59	65	1	60	1	55	0	0	0	0
	point27	27	59	65	1	60	1	55	0	0	0	0
	point28	28										
Avenue H e. of 30th Street	point52	52	775	55	16	50	8	45	0	0	0	0
	point4	4										
30th Street s. of Avenue H	point53	53	475	55	10	50	5	45	0	0	0	0
	point9	9										
Avenue H e. of SR-14	point55	55	1546	55	32	50	16	45	0	0	0	0
	point6	6										
SR-14 NB	point57	57	1588	70	29	65	58	60	0	0	0	0
	point39	39	1588	70	29	65	58	60	0	0	0	0
	point2	2										

Dudek **26 April 2023**
MG **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **14731**
RUN: **Year 2024**

Receiver Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active
			X	Y	Z	above Ground	Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	1	1	3,795.1	9,283.2	0.00	5.00	0.00	66	10.0	8.0	Y
ST2	2	1	9,742.7	10,710.6	0.00	5.00	0.00	66	10.0	8.0	Y
ST3	3	1	5,672.8	6,005.8	0.00	5.00	0.00	66	10.0	8.0	Y
ST4	4	1	10,911.9	9,111.3	0.00	5.00	0.00	66	10.0	8.0	Y

Dudek			**26 April 2023**	
MG			**TNM 2.5**	

INPUT: TERRAIN LINES

PROJECT/CONTRACT: **14731**

RUN: **Year 2024**

Terrain Line	**Points**			
Name	**No.**	**Coordinates (ground)**		
		X ft	**Y** ft	**Z** ft
Terrain Line1	1	9,783.4	10,010.8	3.00
	2	9,939.9	10,542.8	3.00
	3	9,955.5	11,481.6	3.00
	4	9,908.6	12,279.6	3.00

Dudek **26 April 2023**
MG **TNM 2.5**
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: **14731**
RUN: **Year 2024**
BARRIER DESIGN: **INPUT HEIGHTS**
ATMOSPHERICS: **68 deg F, 50% RH**

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	**No.**	**#DUs**	**Existing LAeq1h**	**No Barrier LAeq1h Calculated**	**Crit'n**	**Increase over existing Calculated**	**Crit'n Sub'l Inc**	**Type Impact**	**With Barrier Calculated LAeq1h**	**Noise Reduction Calculated**	**Goal**	**Calculated minus Goal**
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	1	1	0.0	62.6	66	62.6	10	----	62.6	0.0	8	-8.0
ST2	2	1	0.0	61.0	66	61.0	10	----	61.0	0.0	8	-8.0
ST3	3	1	0.0	52.0	66	52.0	10	----	52.0	0.0	8	-8.0
ST4	4	1	0.0	64.2	66	64.2	10	----	64.2	0.0	8	-8.0

Dwelling Units	**# DUs**	**Noise Reduction Min dB**	**Avg dB**	**Max dB**
All Selected	4	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek **26 April 2023**
MG **TNM 2.5**

INPUT: ROADWAYS
PROJECT/CONTRACT: **14731**
RUN: **Year 2024 with Project**

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	**Width**	**Points Name**	**No.**	**Coordinates (pavement) X**	**Y**	**Z**	**Flow Control Control Device**	**Speed Constraint**	**Percent Vehicles Affected**	**Segment Pvmt Type**	**On Struct?**
	ft			ft	ft	ft		mph	%		
Avenue H w. of 30th Street	60.0	point1	1	1,287.7	9,383.9	0.00				Average	
		point3	3	6,081.2	9,380.4	0.00					
30th Street n. of Avenue H	60.0	point42	42	6,056.7	12,014.4	0.00				Average	
		point8	8	6,090.0	9,376.0	0.00					
SR-14 SB Offramp	60.0	point43	43	10,087.0	10,809.7	0.00				Average	
		point11	11	10,073.7	10,540.8	0.00				Average	
		point12	12	10,034.1	10,227.8	0.00				Average	
		point13	13	9,963.5	10,042.6	0.00				Average	
		point14	14	9,884.2	9,888.3	0.00				Average	
		point15	15	9,743.1	9,698.7	0.00				Average	
		point16	16	9,716.6	9,412.2	0.00					
SR-14 SB	60.0	point45	45	10,085.0	12,353.2	0.00				Average	
		point35	35	10,107.2	10,792.4	0.00				Average	
		point36	36	10,120.4	8,394.0	0.00				Average	
		point37	37	10,134.4	7,477.3	0.00					
SR-14 NB Offramp	60.0	point47	47	10,255.6	8,044.2	0.00				Average	
		point18	18	10,308.1	8,485.1	0.00				Average	
		point19	19	10,409.6	8,751.0	0.00				Average	
		point20	20	10,581.0	9,013.5	0.00				Average	
		point21	21	10,633.5	9,198.9	0.00				Average	
		point22	22	10,637.0	9,342.4	0.00					
SR-14 NB Onramp	60.0	point49	49	10,613.7	9,392.7	0.00				Average	
		point30	30	10,489.2	9,497.4	0.00				Average	
		point31	31	10,303.8	9,721.4	0.00				Average	
		point32	32	10,289.8	10,071.3	0.00				Average	

		point33	33	10,247.8	10,806.1	0.00		
SR-14 SB Onramp	60.0	point51	51	9,736.8	9,347.9	0.00		Average
		point24	24	9,902.1	9,308.2	0.00		Average
		point25	25	10,027.8	9,209.1	0.00		Average
		point26	26	10,047.6	9,039.3	0.00		Average
		point27	27	10,082.9	8,475.0	0.00		Average
		point28	28	10,085.1	8,391.2	0.00		
Avenue H e. of 30th Street	60.0	point52	52	6,097.6	9,380.4	0.00		Average
		point4	4	10,061.2	9,380.4	0.00		
30th Street s. of Avenue H	60.0	point53	53	6,090.0	9,376.0	0.00		Average
		point9	9	6,062.0	4,008.4	0.00		
Avenue H e. of SR-14	60.0	point55	55	10,284.5	9,375.0	0.00		Average
		point6	6	14,388.3	9,387.4	0.00		
SR-14 NB	60.0	point57	57	10,240.5	7,487.2	0.00		Average
		point39	39	10,234.9	10,825.5	0.00		Average
		point2	2	10,196.1	12,369.7	0.00		

Dudek **26 April 2023**
MG **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **14731**
RUN: **Year 2024 with Project**

Roadway Name	Points Name	No.	Segment Autos V veh/hr	 S mph	 MTrucks V veh/hr	 S mph	 HTrucks V veh/hr	 S mph	 Buses V veh/hr	 S mph	 Motorcycles V veh/hr	 S mph
Avenue H w. of 30th Street	point1	1	490	55	17	50	20	45	0	0	0	0
	point3	3										
30th Street n. of Avenue H	point42	42	90	55	2	50	1	45	0	0	0	0
	point8	8										
SR-14 SB Offramp	point43	43	625	65	15	60	11	55	0	0	0	0
	point11	11	625	65	15	60	11	55	0	0	0	0
	point12	12	625	65	15	60	11	55	0	0	0	0
	point13	13	625	65	15	60	11	55	0	0	0	0
	point14	14	625	65	15	60	11	55	0	0	0	0
	point15	15	625	65	15	60	11	55	0	0	0	0
	point16	16										
SR-14 SB	point45	45	1588	70	29	65	58	60	0	0	0	0
	point35	35	1588	70	29	65	58	60	0	0	0	0
	point36	36	1588	70	29	65	58	60	0	0	0	0
	point37	37										
SR-14 NB Offramp	point47	47	393	65	12	60	12	55	0	0	0	0
	point18	18	393	65	12	60	12	55	0	0	0	0
	point19	19	393	65	12	60	12	55	0	0	0	0
	point20	20	393	65	12	60	12	55	0	0	0	0
	point21	21	393	65	12	60	12	55	0	0	0	0
	point22	22										
SR-14 NB Onramp	point49	49	387	65	8	60	4	55	0	0	0	0
	point30	30	387	65	8	60	4	55	0	0	0	0

	point31	31	387	65	8	60	4	55	0	0	0	0
	point32	32	387	65	8	60	4	55	0	0	0	0
	point33	33										
SR-14 SB Onramp	point51	51	65	65	2	60	2	55	0	0	0	0
	point24	24	65	65	2	60	2	55	0	0	0	0
	point25	25	65	65	2	60	2	55	0	0	0	0
	point26	26	65	65	2	60	2	55	0	0	0	0
	point27	27	65	65	2	60	2	55	0	0	0	0
	point28	28										
Avenue H e. of 30th Street	point52	52	848	55	25	50	24	45	0	0	0	0
	point4	4										
30th Street s. of Avenue H	point53	53	499	55	10	50	5	45	0	0	0	0
	point9	9										
Avenue H e. of SR-14	point55	55	1552	55	32	50	17	45	0	0	0	0
	point6	6										
SR-14 NB	point57	57	1588	70	29	65	58	60	0	0	0	0
	point39	39	1588	70	29	65	58	60	0	0	0	0
	point2	2										

Dudek **26 April 2023**
MG **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **14731**
RUN: **Year 2024 with Project**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	1	1	3,795.1	9,283.2	0.00	5.00	0.00	66	10.0	8.0	Y
ST2	2	1	9,742.7	10,710.6	0.00	5.00	0.00	66	10.0	8.0	Y
ST3	3	1	5,672.8	6,005.8	0.00	5.00	0.00	66	10.0	8.0	Y
ST4	4	1	10,911.9	9,111.3	0.00	5.00	0.00	66	10.0	8.0	Y

Dudek			**26 April 2023**	
MG			**TNM 2.5**	
INPUT: TERRAIN LINES				
PROJECT/CONTRACT:	**14731**			
RUN:	**Year 2024 with Project**			
Terrain Line	**Points**			
Name	**No.**	**Coordinates (ground)**		
		X ft	**Y** ft	**Z** ft
Terrain Line1	1	9,783.4	10,010.8	3.00
	2	9,939.9	10,542.8	3.00
	3	9,955.5	11,481.6	3.00
	4	9,908.6	12,279.6	3.00

Dudek
MG

26 April 2023
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: 14731
RUN: Year 2024 with Project
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	1	1	0.0	64.3	66	64.3	10	----	64.3	0.0	8	-8.0
ST2	2	1	0.0	61.0	66	61.0	10	----	61.0	0.0	8	-8.0
ST3	3	1	0.0	52.2	66	52.2	10	----	52.2	0.0	8	-8.0
ST4	4	1	0.0	64.4	66	64.4	10	----	64.4	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min dB	Avg dB	Max dB
All Selected	4	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Attachment D

Mechanical Equipment Calculations

from CMS "Midpoint at 237" March 27, 2014 noise study				Dudek time estimate			
	dBA	dist (feet)	at 50'	minutes per hour	hourly Leq	source	PWL
truck passby	68	30	63.6	2	48.8	**traveling on lot**	**83.5**
truck airbrakes	72	25	66.0	0.05	35.2	at dock	69.8
truck backup alarm	79	30	74.6	0.1	46.8	at dock	81.4
idle before shutoff	70	25	64.0	5	53.2	at dock	87.8
truck engine ignition + airbrakes	71	25	65.0	0.05	34.2	at dock	68.8
truck accelerating from stop	74	25	68.0	0.05	37.2	at dock	71.8
						total at dock	**88.9**

dock door quantities from 2/16/22 siteplan		peak hour trips*	split**	log add***
Building 1	docks	49		
east	49		49.0	16.9

*(3 and 4-axle trucks)

**(based on dock ratio for the building)

***(to single truck noise levels)

TECHNICAL GUIDE

R-410A
ZE/ZF/ZR/XN/XP SERIES
3 - 6 TON
60 Hertz

Description

YORK® ZE/ZF/ZR/XN/XP Series units are convertible single package high efficiency rooftops with a common roof curb for the 3, 4, 5 and 6 Ton sizes (ZE, ZR, XN, XP not available in 6 Ton). Although the units are primarily designed for curb mounting on a roof, they can also be slab-mounted at ground level or set on steel beams above a finished roof.

All ZE/ZF/ZR/XN/XP Series units are self-contained and assembled on rigid full perimeter base rails allowing for overhead rigging. Every unit is completely charged, wired, piped and tested at the factory to provide a quick and easy field installation.

All models (including those with an economizer) are convertible between bottom and horizontal duct connections.

ZE/ZF/ZR Series units are available in the following configurations: cooling only, cooling with electric heat, and cooling with one or two stage gas heat. Electric heaters are available as factory-installed option or field installed accessory.

XN/XP Series units are available in the following configurations: cooling and heating only and cooling and heating with electric heat.

Tested in accordance with:

AHRI CERTIFIED™
www.ahridirectory.org
Unitary Small AC
AHRI Standard 210/240
Certification applies only when the complete system is listed with AHRI.

AHRI CERTIFIED™
www.ahridirectory.org
Unitary Small HP
AHRI Standard 210/240
Certification applies only when the complete system is listed with AHRI.

Sound Performance

ZF/ZR/XP Indoor Sound Power Levels

Size (Tons)	CFM	ESP (IWG)	Blower		Sound Power, dB (10^{-12}) Watts								
					Sound Rating[1] dB (A)	Octave Band Centerline Frequency (Hz)							
			RPM	BHP		63	125	250	500	1000	2000	4000	8000
036 (3.0)	1200	0.2	630	0.41	63	82	77	59	50	43	42	40	45
048 (4.0)	1600	0.2	791	0.54	72	95	84	58	54	46	44	45	44
060 (5.0)	2000	0.2	840	0.67	62	84	71	58	53	50	49	49	49
072 (6.0)	2200	0.3	920	1.45	76	61	71	68	67	72	66	61	54

1. These values have been accessed using a model of sound propagation from a point source into the hemispheric/free field. The dBA values provided are to be used for reference only. Calculation of dBA values cover matters of system design and the fan manufacture has no way of knowing the details of each system. This constitutes an exception to any specification or guarantee requiring a dBA value of sound data in any other form than sound power level ratings.

ZE/ZF/ZR Outdoor Sound Power Levels

Size (Tons)	Sound Rating[1] dB (A)	Octave Band Centerline Frequency (Hz)							
		63	125	250	500	1000	2000	4000	8000
036 (3.0)	81	87.5	86.0	81.0	77.0	75.0	69.5	65.5	70.5
048 (4.0)	80	84.5	81.0	80.0	78.0	75.0	70.0	67.0	70.5
060 (5.0)	82	86.5	87.5	81.5	77.5	75.0	71.5	68.0	70.5
072 (6.0)	83	-	84.0	85.0	79.0	80.0	72.0	67.5	62.5

1. Rated in accordance with AHRI 270 standard.

XN/XP Outdoor Sound Power Levels

Size (Tons)	Sound Rating[1] dB (A)	Octave Band Centerline Frequency (Hz)							
		63	125	250	500	1000	2000	4000	8000
036 (3.0)	76	83.5	84.5	76.5	72.0	68.0	66.0	60.0	56.0
048 (4.0)	80	85.0	83.0	81.0	77.5	75.5	71.5	67.5	61.5
060 (5.0)	80	86.0	84.0	81.0	77.0	75.5	71.0	66.5	60.5

1. Rated in accordance with AHRI 270 standard.

35th St_Avenue H_HVAC and Trucks_Daytime

Receiver		Land Use	Limiting Value		rel. Axis			Lr w/o Noise Control		dL req.		Lr w/ Noise Control		Exc
Name	ID		Day	Night	Station	Distance	Height	Day	Night	Day	Night	Day	Night	Day
			dB(A)	dB(A)	m	m	m	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A
ST1			0	0	0	93.09	0.00	39.0	39.0	39.0	39.0	0.0	0.0	-
ST2			0	0	89	1135.61	0.00	22.9	22.9	22.9	22.9	0.0	0.0	-

35th St_Avenue H_HVAC and Trucks_Nightttime

Receiver		Land Use	Limiting Value		rel. Axis			Lr w/o Noise Control		dL req.		Lr w/ Noise Control		Exc
Name	ID		Day	Night	Station	Distance	Height	Day	Night	Day	Night	Day	Night	Day
			dB(A)	dB(A)	m	m	m	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A
ST1			0	0	0	93.09	0.00	37.5	37.5	37.5	37.5	0.0	0.0	-
ST2			0	0	89	1135.61	0.00	22.5	22.5	22.5	22.5	0.0	0.0	-

Appendix J

Local Transportation Assessment Report

Local Transportation Assessment Report

35th Street & Avenue H Industrial Project

JUNE 2023

Prepared for:

WEST AVENUE H 18 LLC
3 Corporate Plaza, Suite 230
Newport Beach, California 92660
Contact: Michael Di Sano

Prepared by:

DUDEK

605 Third Street
Encinitas, California 92024

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TABLES

FIGURES

APPENDICES

1 Introduction

1.1 Purpose and Scope of the Local Transportation Assessment Report

The purpose of this Local Transportation Assessment Report (LTA Report) is to identify traffic impacts associated with the proposed 35th Street & Avenue H Industrial Project (proposed Project or Project), an industrial development in the City of Lancaster (City), in Los Angeles County (County). This LTA Report has been prepared per the City of Lancaster Department of Development Services Local Transportation Assessment Guidelines (January 2021). In addition, this LTA Report complies with the City of Lancaster General Plan 2030 Plan for Physical Mobility, which contains local level of service (LOS) and other transportation-related policies. The primary objectives of this LTA Report are to:

- Document existing roadway, pedestrian, bicycle, transit and traffic conditions, including intersection levels of service in the study area;
- Estimate trip generation, distribution, and assignment characteristics for the proposed project;
- Provide a Vehicle Miles Traveled (VMT) analysis per Senate Bill 743, the updated California Environmental Quality Act (CEQA) Guidelines, the City of Lancaster Department of Development Services Local Transportation Assessment Guidelines;
- Document future short-range (Opening Year 2024) intersection levels of service in the study area per traffic volumes derived from adding growth to existing traffic volumes;
- Analyze the potential traffic impacts that would occur under the Existing (2022) and Opening Year (2024) conditions with the project-added traffic;
- Identify CEQA-required mitigation measures for significant transportation impacts and/or other improvements needed to meet level of service standards (if any); and,
- Provide findings and recommendations based on the traffic analysis of the proposed project.

Figure 1, Project Location and Study Area, shows the Project location and study area. As illustrated in Figure 1, the study area is comprised of 9 intersections, 2 roadway segments, and the Project driveways.

1.2 Project Description

The Project involves the construction and operation of up to approximately 395,390 square feet of industrial/warehouse space on approximately 18 acres of vacant land (see Figure 2, Site Plan). The Project site is bound to the south by West Avenue H, to the west by 35th Street West and an existing Michaels Distribution Center, and to the north and east by vacant land. Access to the Project site would be provided via State Route 14 (SR-14) to the north and south ramps at West Avenue H. The Project site has a General Plan and Zoning designation of "SP – Specific Plan" and is subject to the Fox Field Industrial Corridor Specific Plan (Specific Plan).

On-Site and Off-Site Improvements

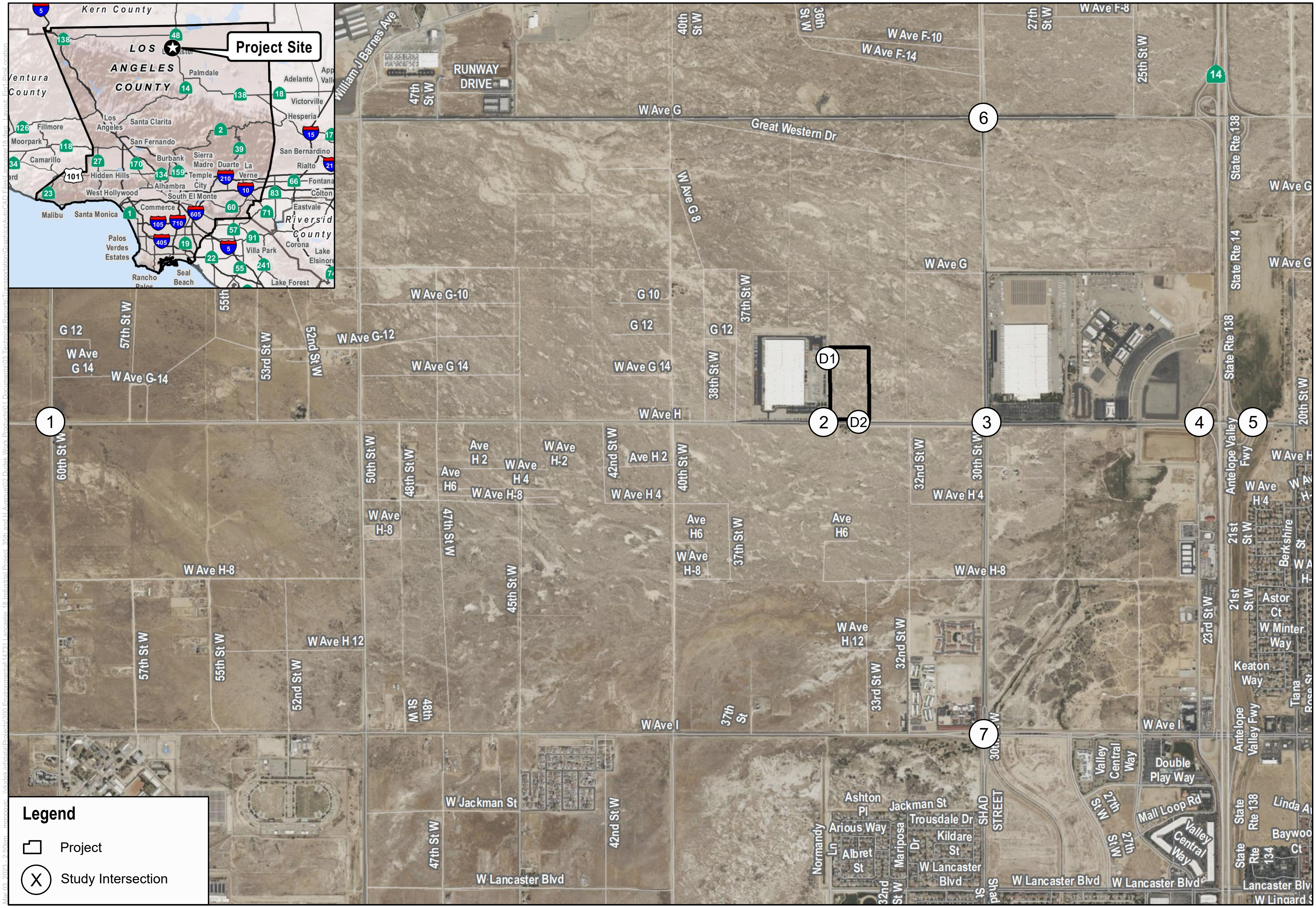
The Project would include frontage improvements along West Avenue H and 35th Street West, including landscaping and pedestrian improvements. A variety of trees, shrubs, plants, and land covers would be planted within the Project frontage's landscape setback area, as well as within the landscape areas found around the proposed industrial/warehouse building and throughout the Project site.

Site Access and Circulation

Access to the Project site would be provided via a new full access driveway on 35th Street West at the north end of the site and a new full access driveway on West Avenue H on the east end of the site. Paved passenger vehicle parking areas would be provided along the southern edge of the building, while tractor-trailer stalls and loading docks would be provided along the eastern edge of the building. In total, the Project would provide 40 loading dock positions, 70 tractor-trailer stalls, 117 passenger vehicle spaces, and approximately 134,950 square feet of landscape area coverage.

Operations

Tenants for the Project have not been identified and the industrial warehouse building space is considered speculative. Business operations would be expected to be conducted within the enclosed building space, with the exception of trucks and passenger vehicles accessing the site, passenger and truck parking, the loading and unloading of trailers within designated truck courts/loading area, and the internal and external movement of materials around the Project site via forklifts, pallet jacks, yard hostlers, and similar equipment. It is anticipated that the facilities would be operated 24 hours a day, 7 days a week.



SOURCE: Bing Imagery 2021

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FIGURE 1

Project Location and Study Area

Lancaster 18 Warehouse Project

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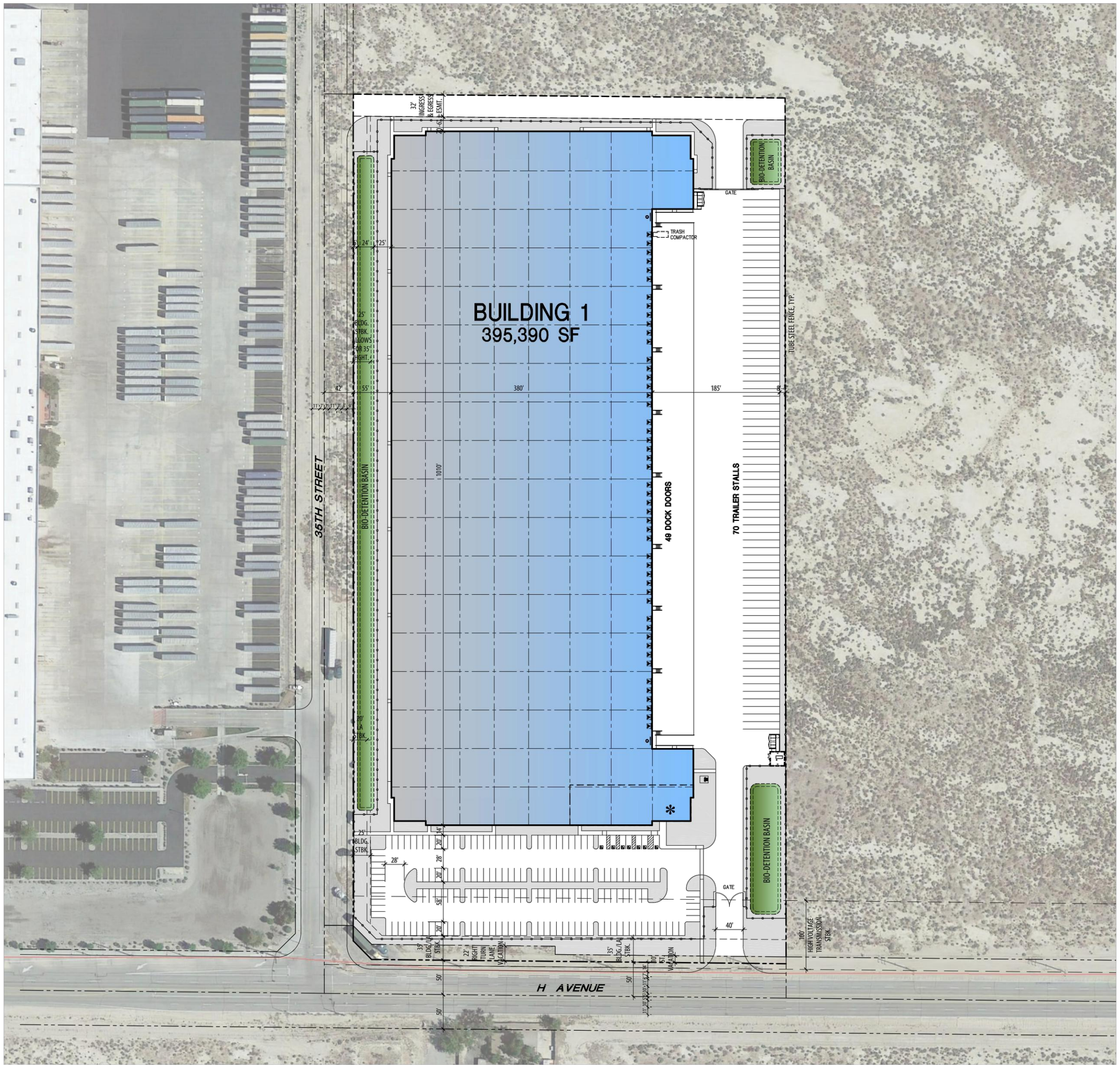

TABULATIONS

SITE AREA		SF	ACRES
Gross Site Area		877,553	20.15
Avenue H Dedication		35,985	0.83
35th Street Dedication		50,789	1.17
TOTAL		**790,779**	**18.15**
BUILDING AREA			**BUILDING 1**
	Ground Floor Office		10,000
	Warehouse		385,390
Total Building Footprint			**395,390**
	Mezzanine		0
TOTAL BUILDING AREA			**395,390**
COVERAGE (Based on Net Site)			**50.0%**
FAR (50% Max) (Based on Net Site)			**50.0%**
PARKING REQUIRED			
Office		1/250	40
Warehouse			
	0 - 25,000 sf		5
	25,000 sf +	1/5000	72
TOTAL PARKING REQUIRED			**117**
PARKING PROVIDED			**172**
PARKING RATIO			0.44/1000
DOCK DOORS			**49**
GRADE DOORS			**2**
TRAILER STALLS			**70**
LANDSCAPE (Based on Net Site Area)		15%	LA Area (S.F.)
Site Area		790,779	
Building Footprint		395,390	
Landscaping Required		395,389	59,308
Landscaping Provided		34.1%	134,950

NORTH

COVINGTON
DEVELOPMENT
PARTNERS

H AVENUE AND 35TH STREET WAREHOUSE
LANCASTER, CA

0 60 120

PROJECT NO.: CD005.01
DATE: 11/4/2022

SCHEME B.3
CONCEPTUAL SITE PLAN

NOTE: LAND AREA AND BUILDING SQUARE FOOTAGE ARE PRELIMINARY AND MAY BE SUBJECT TO CHANGE UPON REVIEW BY GOVERNING AGENCIES, CIVIL ENGINEER, AND OWNER.

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SOURCE: GAA Architects 2022

FIGURE 2

Project Site Plan

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2 Study Area

This section provides a summary of the existing street network, including the major roadways serving the site, the existing transit service, and bicycle and pedestrian facilities in the study area.

2.1 Existing Street Network

Primary access to the site would be provided from SR-14 to 35th Street West and West Avenue H. Characteristics of the primary roadways within the study area are described below.

- **SR-14** (Antelope Valley Freeway) is a north-south freeway that extends from the northern Mojave Desert to Los Angeles. In the Project vicinity, SR-14 has two lanes in each direction. Northbound and southbound on- and off- ramps are provided at West Avenue H, approximately 0.50 miles east of the Project Site. SR-14 is a designated truck route on the National Network (STAA).
- **West Avenue H** is an east-west roadway. Within the Project study area, West Avenue H is designated as a Regional Arterial by the City and a designated truck route (Los Angeles County 2020). West Avenue H has two to three lanes in each direction and a two-way-left turn lane between SR 14 to the east and 35th Street West to the west. West of 35th Street, West Avenue H narrows to two-lanes. Sidewalks are provided where development has occurred, primarily along the northern boundary of the road. A Class II bike lane (on-street painted bike lane) is provided on both sides of Avenue H, between approximately 25th Street West and 40th Street West.
- **35th Street West** is a two-lane north-south road that extends from Avenue H approximately 450 feet to the north. It currently provides access to the Michaels Distribution Center immediately west of the project.

2.2 Rail and Transit System

The City of Lancaster is served by bus services provided by Antelope Valley Transit Authority (AVTA), which provides regional and local services throughout Antelope Valley. Regionally, the City is served by passenger rail services offered by the National Railroad Passenger Corporation (Amtrak), and commuter rail service provided by Metrolink. Antelope 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 Antelope Valley (Brightline West 2022). The rail and transit providers are described below.

Antelope Valley Transit Authority

The Antelope Valley Transit Authority (AVTA) provides local bus service for the cities of Lancaster and Palmdale, and the communities of Quartz Hill, Lake Los Angeles, Littlerock, Pearblossom, and Sun Village. AVTA operates fifteen bus routes in Lancaster, providing bus connections between shopping centers, the Lancaster Post Office, schools and colleges, and residential areas. Route 9 shown in Figure 3, Existing Transit Facilities, is the closest bus route to the project site, with bus stops near the intersection of 25th Street West and W Avenue H, approximately one mile east of the project site. The route operates weekdays, between 6:15 a.m. and 8:05 p.m. and on Saturday and Sunday between 8:15 a.m. and 6:19 p.m. (AVTA 2023).

The AVTA also provides commuter bus service from Lancaster to the Los Angeles metropolitan area and San Fernando Valley via bus Routes 785, 786, and 787. The routes originate and end at Owen Memorial Park in Lancaster, approximately five miles southeast of the site.

AVTA also offers paratransit services for persons with special needs on any paved street within Lancaster as long as it is within their service boundaries. The AVTA paratransit services do not travel a fixed route and provide a flexible alternative to the fixed bus routes (AVTA 2023).

Amtrak

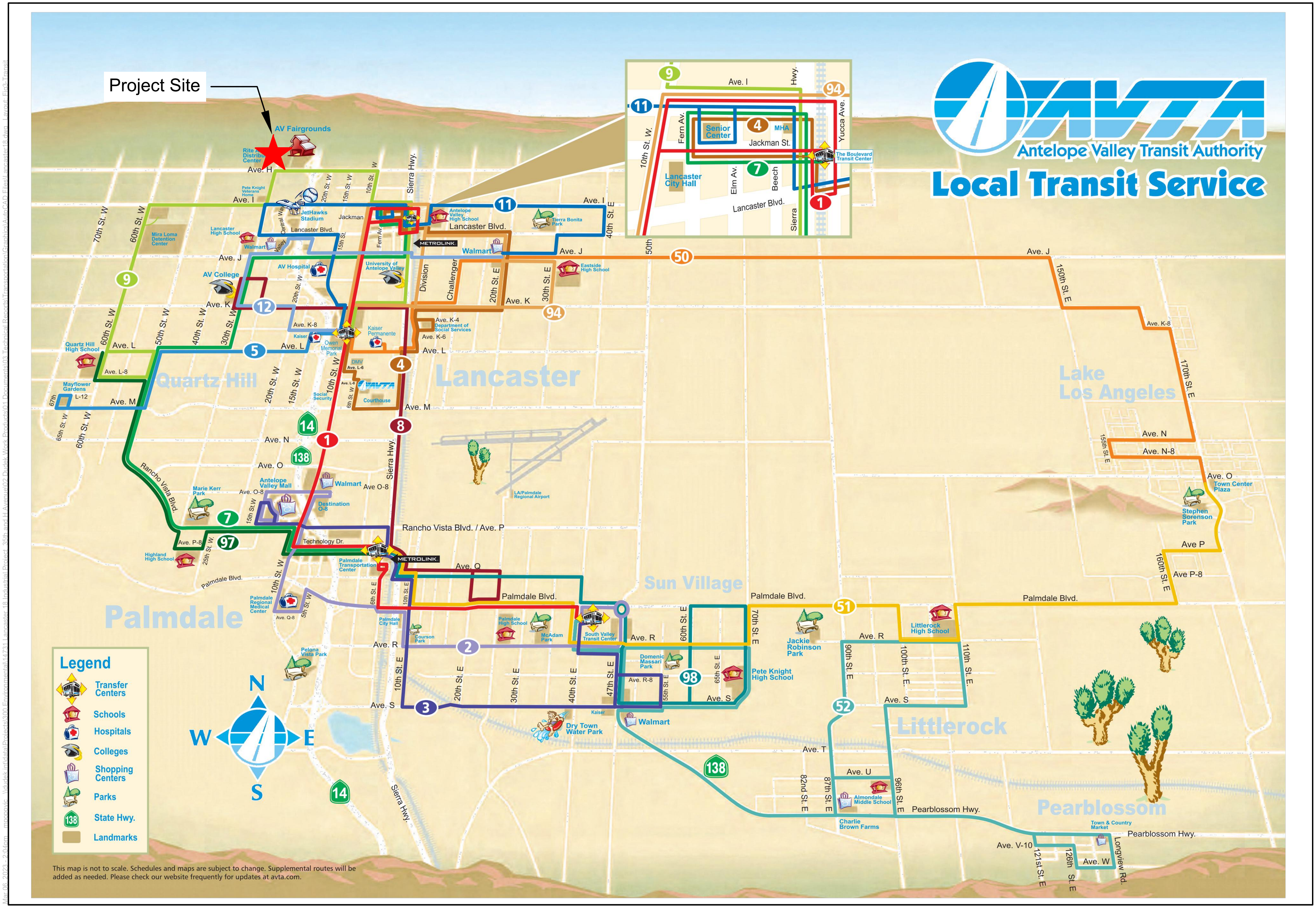
Amtrak is a national rail operator, with 21,000 route miles in 46 states, the District of Columbia, and three Canadian Provinces. Amtrak operates more than 300 trains each day to more than 500 destinations. Amtrak is the chosen operator for state-supported corridor services in 17 states and four commuter rail agencies (Amtrak 2022a). Amtrak does not operate rail service through Lancaster but provides thruway connecting bus services (Amtrak 2022b).

Metrolink

Metrolink is a commuter rail system in southern California that connects Lancaster to the greater southern California region via the Antelope Valley Line. The Lancaster station is located approximately four and half miles southeast of the site on Sierra Highway. Currently Metrolink operates 11 trains to and from Los Angeles, operating between 3:41 am and 11:52 pm (Metrolink 2023).

2.3 Pedestrian and Bicycle Facilities

The project site is located in a developing area of the City with limited pedestrian facilities in the immediate vicinity of the site. New sidewalks and bike lanes have generally been constructed where new development has occurred. The City’s existing and proposed bicycle facilities are presented as Figure 4. Within the vicinity of the site, a Class II bike lane (on-street painted bike lane) is currently provided on both sides of West Avenue H, between approximately 30th Street West and Division Street, terminating approximately two miles east of SR 14.



SOURCE: AVTA 2021

FIGURE 3

Existing Transit Facilities

Lancaster 18 Warehouse Project

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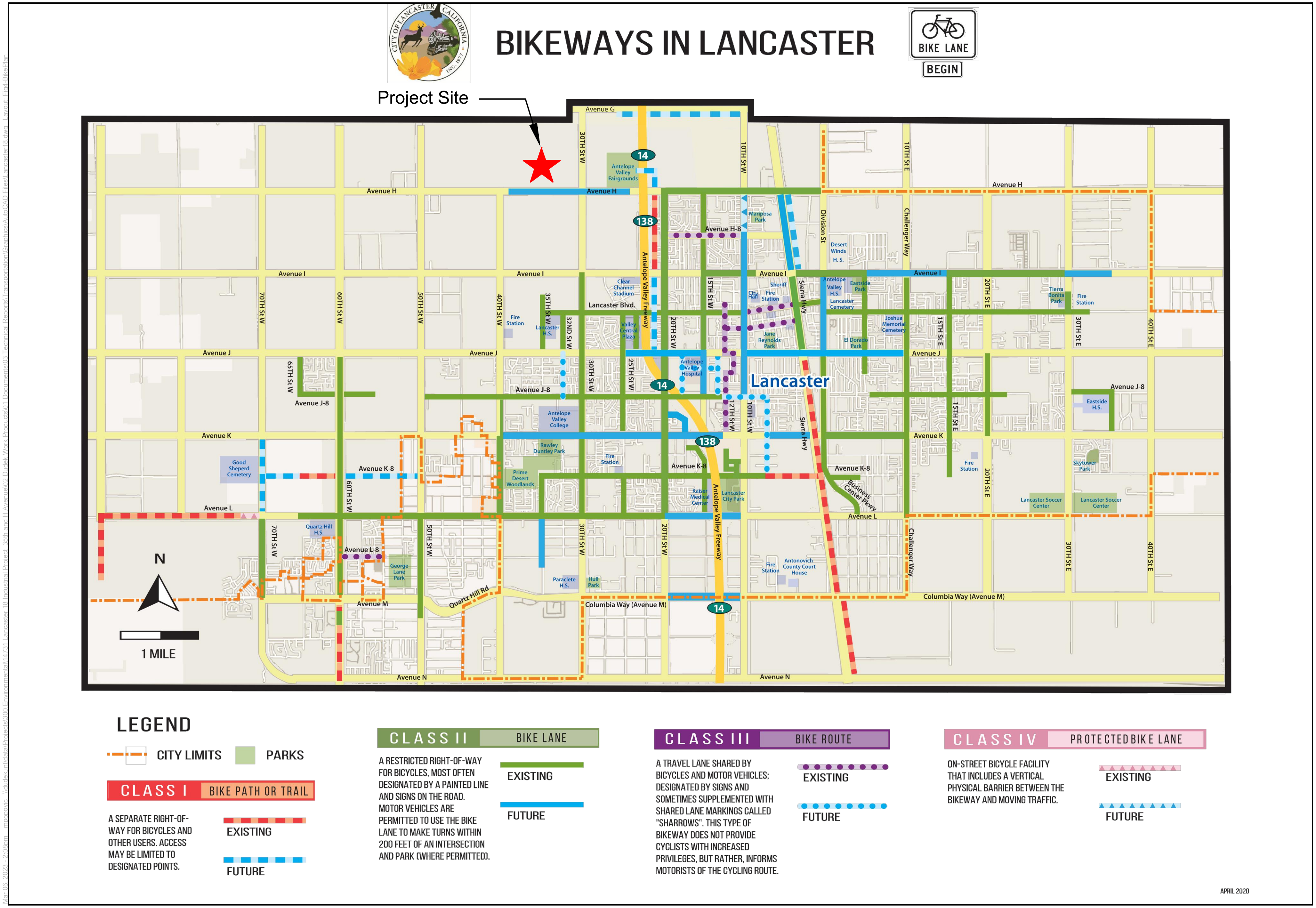

CLASS I — BIKE PATH OR TRAIL: A SEPARATE RIGHT-OF-WAY FOR BICYCLES AND OTHER USERS. ACCESS MAY BE LIMITED TO DESIGNATED POINTS.

CLASS II — BIKE LANE: A RESTRICTED RIGHT-OF-WAY FOR BICYCLES, MOST OFTEN DESIGNATED BY A PAINTED LINE AND LOGOS ON THE ROAD. MOTOR VEHICLES ARE PERMITTED TO USE THE BIKE LANE TO MAKE TURNS WITHIN 200 FEET OF AN INTERSECTION AND PARK (WHERE PERMITTED).

CLASS III — BIKE ROUTE: A TRAVEL LANE SHARED BY BICYCLES AND MOTOR VEHICLES; DESIGNATED BY SIGNS AND SOMETIMES SUPPLEMENTED WITH SHARED LANE MARKINGS CALLED "SHARROWS". THIS TYPE OF BIKEWAY DOES NOT PROVIDE CYCLISTS WITH INCREASED PRIVILEGES, BUT RATHER, INFORMS MOTORISTS OF THE CYCLING ROUTE.

CLASS IV — PROTECTED BIKE LANE: ON-STREET BICYCLE FACILITY THAT INCLUDES A VERTICAL PHYSICAL BARRIER BETWEEN THE BIKEWAY AND MOVING TRAFFIC.

SOURCE: City of Lancaster, 2020

FIGURE 4

Existing and Proposed Bicycle Facilities

Lancaster 18 Warehouse Project

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3 Project Traffic

This section documents the trip generation, distribution, and assignment of Project traffic in the study area.

3.1 Trip Generation

The Project would include construction of an approximately 395,390 square foot industrial/warehouse building with associated office spaces, surface parking, and loading areas. Trip generation estimates for the proposed Project 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 the high percentage of truck traffic associated with the Project. Neither the City of Lancaster nor Los Angeles County specify the use of PCE rates, therefore, the San Bernardino County Congestion Management Plan (CMP) (SANBAG 2016), which provides guidance on the application of PCE rates, was used. 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 2003 Fontana Truck Trip Generation Study (City of Fontana 2003) and the 2014 SCAQMD *Warehouse Truck Trip Study Data Results and Usage* (SCAQMD 2014). Trip generation rates, vehicle splits, and the resulting trip generation estimates for the Project are summarized in Table 1.

The layout of the building is most representative of a high-cube warehousing land use. However, as a specific end-user is not in place for the proposed Project, a 35% General Light Industrial and 65% High-Cube Fulfillment Center Warehousing split of the total building square footage, is applied to provide a conservative analysis for daily trip generation. As such, the following vehicle mix and land use assumptions provide a conservative analysis:

- **General Light Industrial (ITE Code 110)** trip rates were used to obtain trip generation estimates for 35% of the Project, totaling approximately 138,387 square feet of the total estimated building area.
- **High-Cube Fulfillment Center Warehouse (ITE Code 155)** trip rates were used to obtain trip generation estimates for 65% of the Project, totaling approximately 257,004 square feet of the total estimated building area.

As shown in Table 1, the proposed Project would generate 1,139 daily trips, 141 AM peak hour trips, and 131 PM peak hour trips. Accounting for truck traffic from warehousing and industrial land uses, the proposed project would generate 1,518 daily PCE trips, 185 AM peak hour PCE trips, and 172 PM peak hour PCE trips.

Table 1. Lancaster 18 Project Trip Generation Summary

Land Use	ITE Code	Size/Units		Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Trip Rates[1]										
General Light Industrial	110	TSF		4.87	0.65	0.09	0.74	0.09	0.56	0.65
High-Cube Fulfillment Center (non-sort)	155	TSF		1.81	0.12	0.03	0.15	0.06	0.10	0.16
Trip Generation										
General Light Industrial – 35%	110	138.387	TSF	674	90	12	102	13	77	90
High-Cube Fulfillment Center (non-sort) – 65%	155	257.004	TSF	465	31	8	39	16	25	41
	Project Total	**395.390**	**TSF**	**1,139**	**121**	**20**	**141**	**29**	**102**	**131**
Trip Generation Summary (Vehicle Mix, Non-PCE, by Vehicle Classification)										
ITE 110[2]										
Passenger Vehicles	78.6%			530	71	10	80	10	61	71
2-Axle Trucks	8.0%			44	7	1	8	1	6	7
3-Axle Trucks	3.9%			26	4	0	4	0	3	4
4+-Axle Trucks	9.5%			64	9	1	10	1	7	9
ITE 110 Total (Non-PCE)				*674*	*90*	*12*	*102*	*13*	*77*	*90*
ITE 155 (non-sort)[3]										
Passenger Vehicles	72.5%			337	23	6	28	12	18	30
2-Axle Trucks	4.6%			21	1	0	2	1	1	2
3-Axle Trucks	5.7%			27	2	0	2	1	1	2
4+-Axle Trucks	17.2%			80	5	1	7	3	4	7
ITE 155 (non-sort) Total (Non-PCE)				*465*	*31*	*8*	*39*	*16*	*25*	*41*
Total				**1,139**	**121**	**20**	**141**	**29**	**102**	**131**
Trip Generation Summary (PCE, by Vehicle Classification)										
Vehicle Mix	**PCE[4]**									
Passenger Vehicles	1.0			867	93	15	109	22	79	101
2-Axle Trucks	1.5			113	13	2	15	3	11	14
3-Axle Trucks	2.0			106	11	1	12	3	9	11

Table 1. Lancaster 18 Project Trip Generation Summary

Land Use	ITE Code	Size/Units	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
4+-Axle Trucks	3.0		432	42	8	49	12	35	47
Total Trip Generation (PCE)			**1,518**	**159**	**26**	**185**	**39**	**134**	**172**

Notes: Rounding discrepancies may occur. TSF = Thousand Square Feet; PCE = Passenger Car Equivalent

[1] Trip rates from the Institute of Transportation Engineers (ITE), *Trip Generation, 11th Edition, 2021.*

[2] Vehicle Mix and Percent from the Fontana Truck Trip Generation Study, August, 2003.

[3] Vehicle mix and percent from SCAQMD Warehouse Truck Trip Study Data Results and Usage, July 17, 2014.

[4] Passenger Car Equivalent (PCE) factors from the San Bernardino County CMP, Appendix B - Guidelines for CMP Traffic Impact Analysis Reports in Los Angeles County, 2016.

3.2 Trip Distribution and Assignment

Regional Project trip distribution percentages are based on logical travel paths to and from the Project site and consideration of designated truck routes.

Project trip distribution percentages are shown in Figures 5 and 6, for passenger vehicle and truck trips, respectively. Project trips were assigned to the study area intersections by applying the above-referenced Project trip generation estimates to the trip distribution percentages at each study area roadway segment and intersections. The Project trip assignments are shown in Figures 7, 8 and 9 for passenger vehicle, truck, and total trip assignments, respectively.

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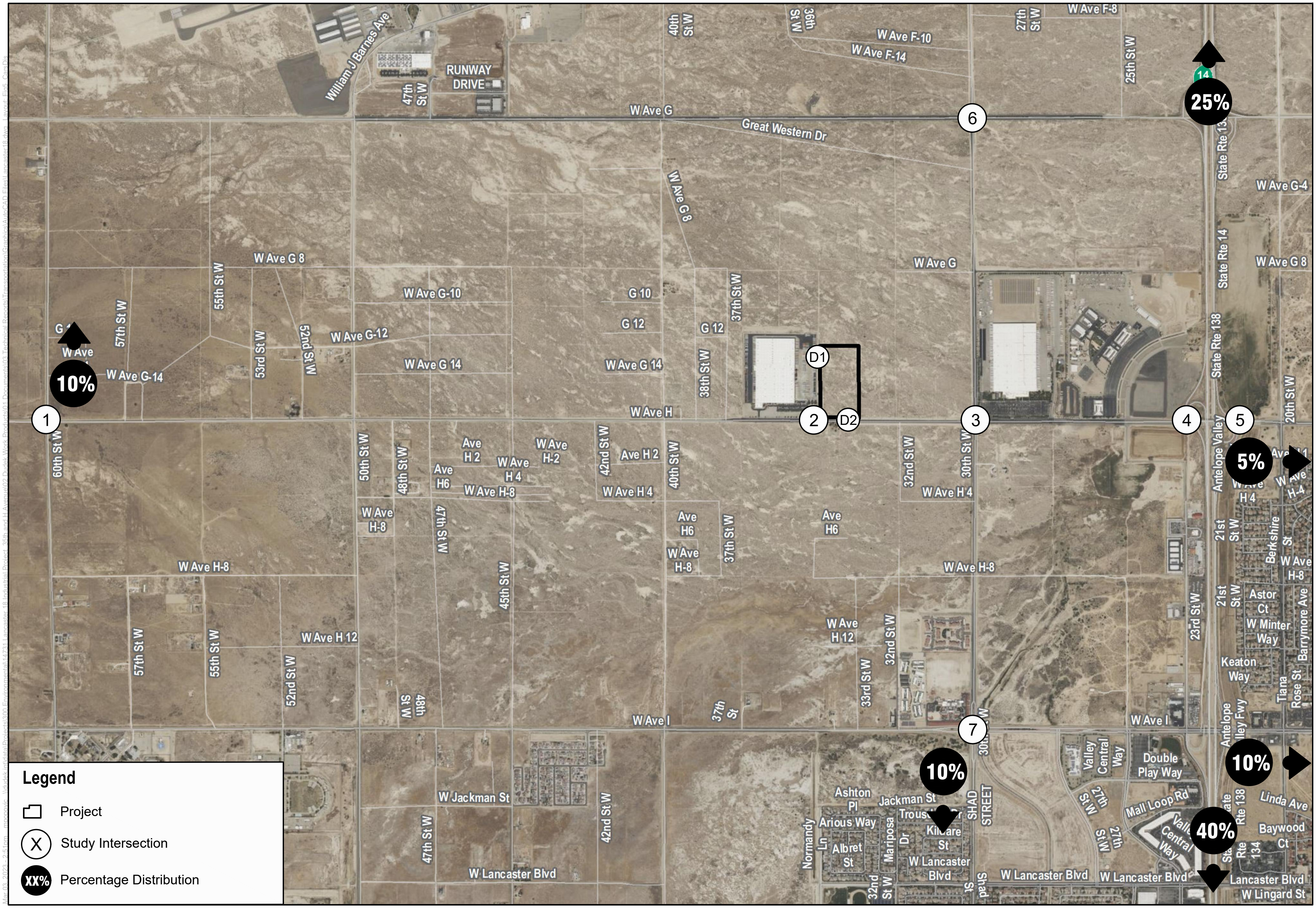

SOURCE: Bing Imagery 2021

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FIGURE 5

Project Passenger Vehicle Trip Distribution

Lancaster 18 Warehouse Project

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SOURCE: Bing Imagery 2021

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FIGURE 6

Project Truck Trip Distribution

Lancaster 18 Warehouse Project

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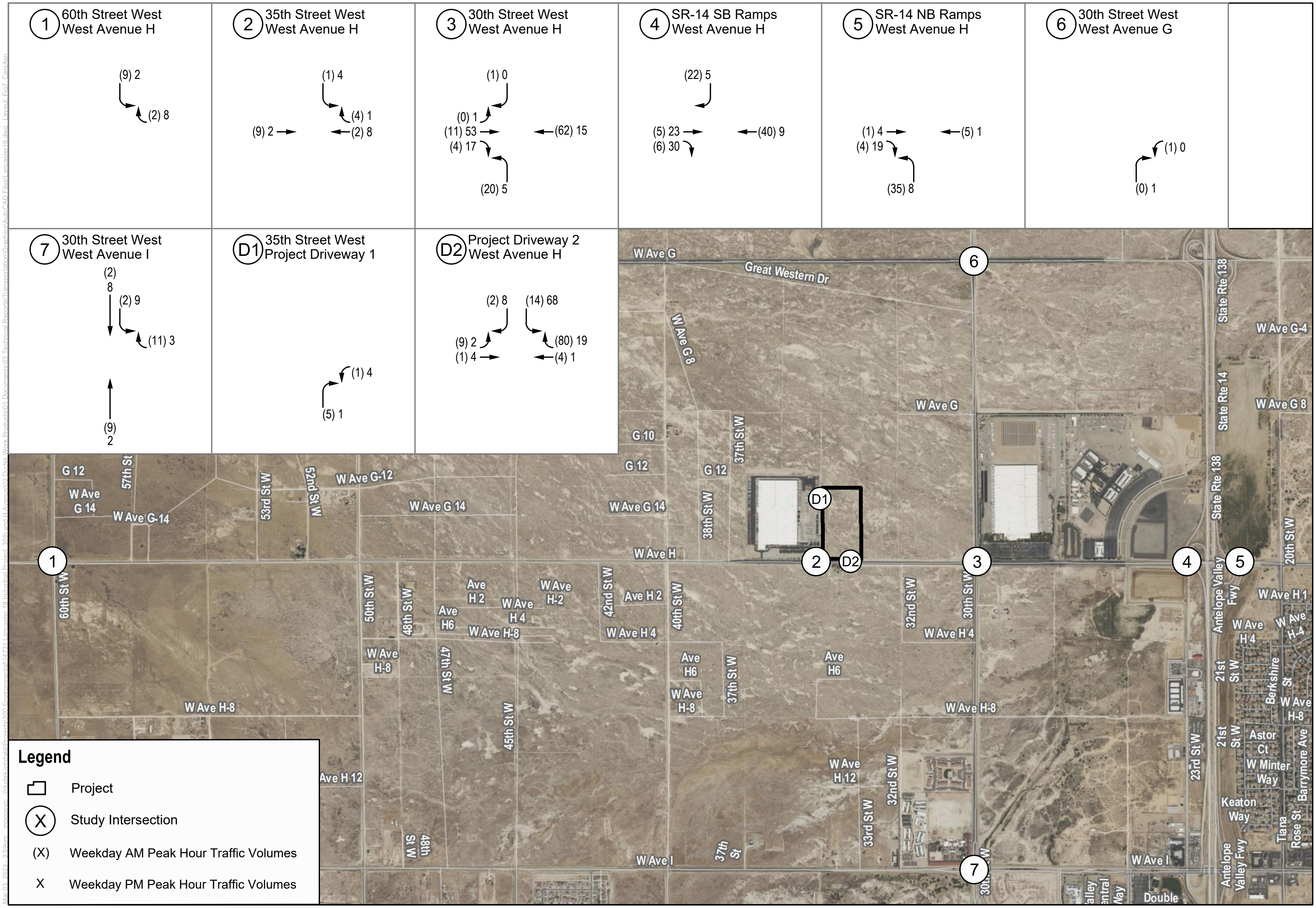

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FIGURE 7

Project Passenger Vehicle Trip Assignment

Lancaster 18 Warehouse Project

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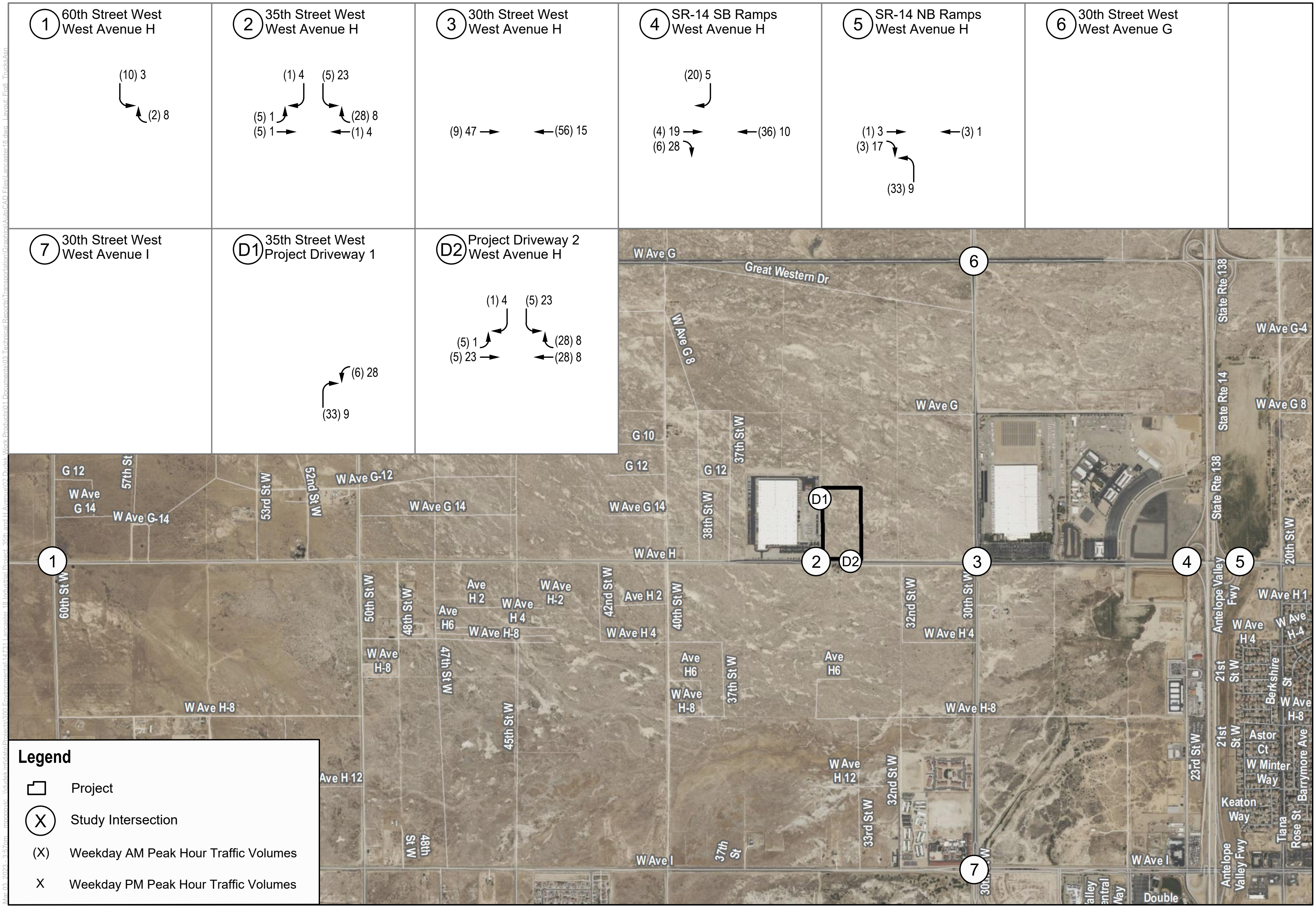

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FIGURE 8

Project Truck Trip Assignment (PCE)

Lancaster 18 Warehouse Project

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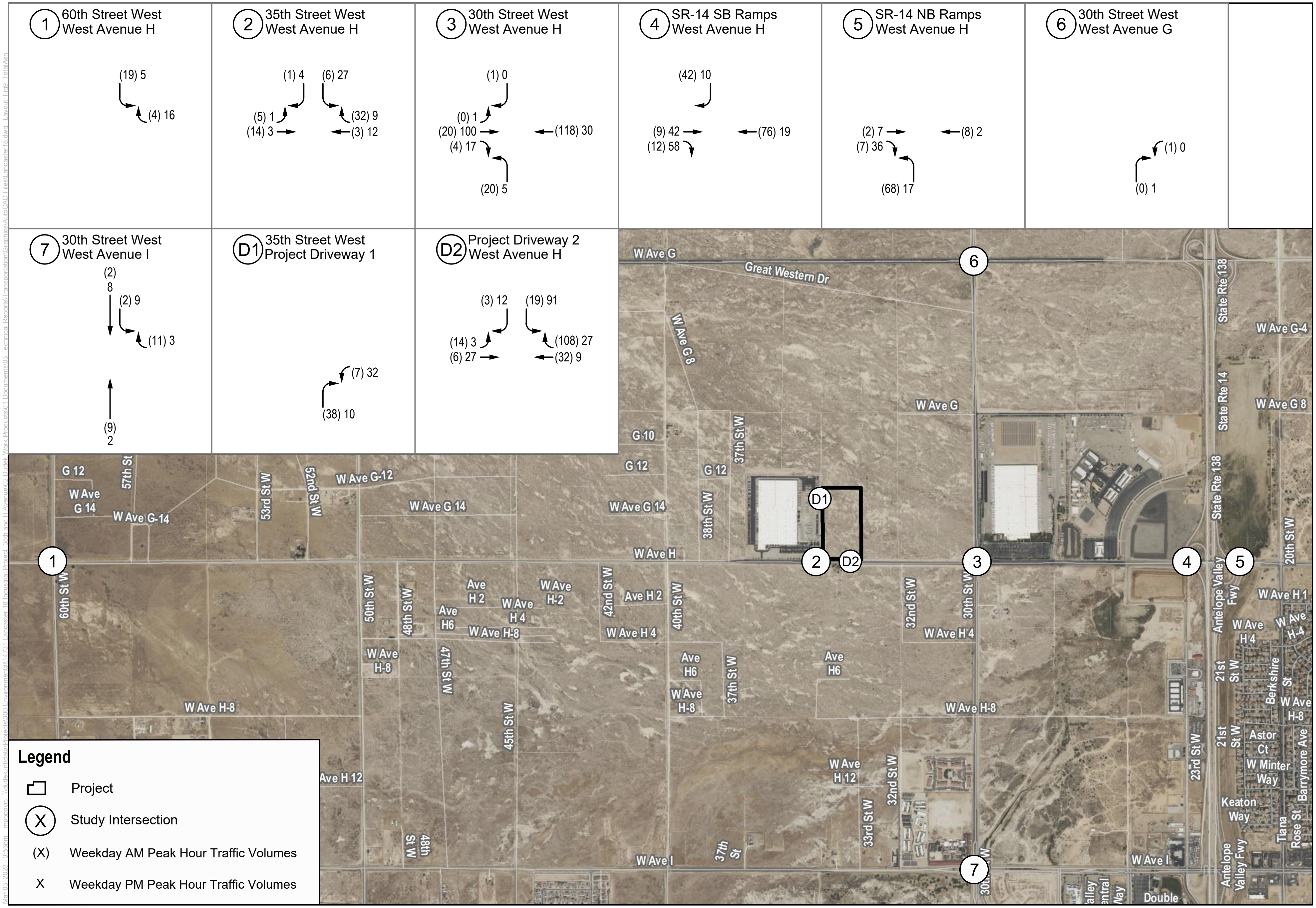

SOURCE: Bing Imagery 2021

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FIGURE 9

Project Total Trip Assignment (PCE)

Lancaster 18 Warehouse Project

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4 Level of Service (LOS) Methodology and Thresholds

The City has vehicle LOS policies to ensure that proposed developments are consistent with the City's General Plan. Therefore, an LOS analysis has been prepared to evaluate the Project's consistency with the City's policies. The study intersections and roadway segments, analysis scenarios, traffic volumes, and LOS methodology and impact criteria are presented in the following section.

4.1 Study Intersections and Roadway Segments

The following intersections were selected for analysis:

1. 60th Street West/West Avenue H
2. 35th Street West/West Avenue H
3. 30th Street West/West Avenue H
4. SR-14 SB Ramps/West Avenue H
5. SR-14 NB Ramps/West Avenue H
6. 30th Street West/West Avenue G
7. 30th Street West/West Avenue I

In addition, the following road segments were selected for analysis:

1. West Avenue H, West of 35th Street West
2. West Avenue H, East of 35th Street West

4.2 Analysis Scenarios

Consistent with the City Guidelines, intersection LOS analyses were prepared for the weekday AM and PM peak hours at the study area intersections and road segments listed above for the following analysis scenarios:

- Existing Condition
- Existing plus Project
- Existing plus Project plus Mitigation (if needed)
- Project Opening Year (Existing plus Ambient Growth [1.25% per year] plus Cumulative Projects)
- Project Opening Year plus Project
- Project Opening Year plus Project plus Mitigation (if needed)

4.3 Traffic Volumes

Daily, AM and PM peak hour turning movements counts were collected at the study intersections on January 25, 2023. The raw traffic data is provided as Appendix A. Traffic counts were adjusted to passenger car equivalents (PCE) to reflect truck traffic according to the standards set forth in the San Bernardino County CMP, as shown below:

- Light-duty trucks (2-axle): 1.5 PCE
- Medium-duty trucks (3-axle): 2.0 PCE
- Heavy-duty trucks (4+-axle): 3.0 PCE

The 2024 Opening Year condition represents a short-term horizon period (less than 5 years) where the proposed Project is constructed and fully occupied. The peak hour traffic forecasts for the Year 2024 have been projected by increasing the traffic volumes by an annual growth rate of 1.25%, per the City's Guidelines, and adding traffic volumes generated by pending projects. These approved or pending projects are developments in the review process, but not fully approved; or, projects that have been approved, but not fully constructed or occupied. A list of cumulative projects was provided by the City on January 26, 2023, further discussed in Section 6.1.

4.4 Analysis Methodology

LOS is commonly used as a qualitative description of intersection operations and roadway segments and is based on the design capacity of the intersection configuration and roadway facility, compared to the volume of traffic using the facility. The City's intersection evaluation methodology to assess transportation impacts and traffic operating conditions for intersections is based on the latest version of the Highway Capacity Manual (HCM) methodology.

The HCM analysis methodology describes the operation of an intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding control delay experienced per vehicle based on the worst turning movement for unsignalized intersections.

Synchro version 11 software was used to determine intersection LOS (for all scenarios), consistent with HCM 6 methodologies. Detailed LOS calculation worksheets (for all scenarios) are included in Appendix B. Table 2 shows the LOS values by delay ranges for unsignalized and signalized intersections under the HCM methodology.

Table 2. Levels of Service for Intersections using HCM Methodology

Level of Service	Unsignalized Intersections Control Delay (in seconds per vehicle)	Signalized Intersections Control Delay (in seconds per vehicle)
A	≤ 10.0	≤ 10.0
B	> 10.0 to < 15.0	> 10.0 to < 20.0
C	> 15.0 to < 25.0	> 20.0 to < 35.0
D	> 25.0 to < 35.0	> 35.0 to < 55.0
E	> 35.0 to < 50.0	> 55.0 to < 80.0
F	> 50.0	> 80.0

Source: HCM 6 (Transportation Research Board 2016).

Additionally, roadway segments are analyzed in the General Plan to determine their operating conditions based on a volume to capacity (V/C) ratio. Table 3 identifies the daily roadway capacities based on number of lanes and the speed limit, as identified in the City's General Plan Environmental Impact Report (Lancaster 2008).

Table 3. Daily Roadway Capacity Values

No. of Lanes	Maximum Daily Volume (vpd)				
	Speed Limit (mph)				
	55	50	45	40	35
2	22,200	19,100	18,300	16,900	13,500
Divided[1]	23,300	20,200	19,200	17,800	14,300
3	33,300	28,800	27,600	25,500	21,400
Divided[1]	35,000	30,400	29,000	26,900	22,700
4	44,400	38,400	36,800	34,100	29,300
Divided[1]	46,700	40,500	38,800	35,900	31,000
5	55,500	48,100	46,100	42,700	37,800
Divided[1]	58,400	50,700	48,600	45,000	39,900
6	66,500	57,800	55,400	51,300	46,200
Divided[1]	70,100	60,800	58,300	54,000	48,700
8	88,700	77,000	73,800	68,300	61,600
Divided[1]	93,400	81,100	77,700	72,000	64,900

Source: City of Lancaster 2030 General Plan. Environmental Impact Report, 2008

Notes:

1. With median or two-way left-turn

Table 4 defines the level of service criteria for roadway segments.

Table 4. Levels of Service and V/C Ratios for Roadways

LOS	Description	V/C Ratio
A	Free-flow speeds prevail. Vehicles are almost unimpeded in their ability to maneuver within the traffic stream	<0.60
B	Reasonably free-flow speeds are maintained. The ability to maneuver within traffic is only slightly restricted.	0.61 – 0.70
C	Flow with speeds at or near free-flow speed of the roadway. Freedom to maneuver within the traffic stream is noticeably restricted and lane changes require more care and vigilance on the part of the driver.	0.71 – 0.80
D	Speeds begin to decline slightly with increasing flows. In this range, density begins to increase somewhat more quickly with increasing flow. Freedom to maneuver within the traffic stream is noticeably limited.	0.81 – 0.90
E	Operation at capacity with no usable gaps in the traffic stream. Any disruption to the traffic stream has little or no room to dissipate.	0.91 – 1.00
F	Breakdown of the of the traffic flow with long queues of traffic. Unacceptable conditions.	>1.00

Source: City of Lancaster 2030 General Plan. Environmental Impact Report, 2008

4.5 General Plan Consistency Requirements

The City of Lancaster has adopted LOS D as the minimum acceptable operating standard for intersections and roadways. Transportation impacts are based on the following thresholds.

Table 5. City of Lancaster Criteria for Signalized and Unsignalized Intersections

LOS without Project	LOS with Project	Average Total Delay (Seconds per Vehicle)	Project-related Increase in LOS or Seconds of Average Total Delay
Signalized Intersection			
A, B, C, or D	E or F	—	Any increase in delay
E or F	E or F	>55.0	Equal to or greater than 5.0 seconds
All-Way Stop Controlled Intersections			
A, B, C, or D	E or F	—	Any increase in delay
E or F	E or F	>35.0	Equal to or greater than 3.0 seconds
Side-Street Stop Controlled Intersections			
—	E	>35.0 to 50.0[1]	LOS D or better to LOS E or worse, and meets the peak hour warrant for a traffic signal
—	F	>50.0[1]	LOS E to LOS F, or > 10 seconds of delay for worst-case approach if already at LOS F; and meets the peak hour warrant for a traffic signal

Source: City of Lancaster Local Transportation Assessment Guidelines, 2021
Note:
[1] Average total delay for side-street approach

If an all-way stop controlled intersection's 'plus project' LOS grade is E or F, the peak hour traffic signal and roundabout warrant analyses must be conducted. In addition to the delay thresholds, the peak hour traffic signal warrant and/or all-way stop warrant should also be met as part of the performance criteria. Adding these warrants to the criteria will ensure that minor street approaches with low traffic volumes are not identified as potentially needing improvements.

If a study intersection or roadway segment is found to have a significant degradation of operations based on the guidance above, potential improvements should be identified to restore operations. Potential improvements should be analyzed and discussed with the City to determine if they are feasible and desirable. Any proposed transportation improvements must comply with the City's Complete Streets Design Guidelines and Engineering Design Guidelines where applicable.

4.6 Caltrans Transportation Impact Study Guide

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 (May 2020), 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 Land Development and Intergovernmental Review Safety Review Practitioners Guidance (July 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 2020). To comply with this requirement, an assessment of queuing at the SR-14 off-ramps in the project study area has been included in this LTA Report.

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5 Existing (2022) Conditions Analysis

This section details the existing intersection and roadway segment operations within the study area, with and without the project-added traffic. Existing traffic controls and geometrics at all study intersections are shown in Figure 10 and existing peak hour traffic volumes are shown in Figure 11. The existing plus project traffic volumes are shown on Figure 12.

5.1 Intersection Operations

Table 6 summarizes the results of the intersection analysis for the AM and PM peak hours for existing conditions. As shown in the table, all of the study intersections are currently operating at satisfactory levels of service (LOS D or better) under existing conditions and will continue to operate at satisfactory LOS with the project-added traffic.

Table 6. Existing Weekday Peak Hour Intersection LOS (with and without Project)

			Existing				Existing Plus Project				Change in Delay (Sec.)		Threshold Exceeded ?	
			AM Peak		PM Peak		AM Peak		PM Peak					
No.	Intersection	Traffic Control[1]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	AM	PM	AM	PM
1	60th St. West/West Ave. H	AWSC	9.7	A	7.8	A	9.8	A	7.9	A	0.1	0.1	No	No
2	35th St. West/West Ave. H	Signal	13.0	B	12.6	B	12.9	B	11.6	B	-0.1	-1.0	No	No
3	30th St. West/West Ave H	Signal	6.5	A	5.8	A	6.5	A	5.8	A	0.0	0.0	No	No
4	SR-14 SB Ramps/West Ave. H[3]	OWSC	16.3	C	12.4	B	18.6	C	13.0	B	2.3	0.6	No	No
5	SR-14 NB Ramps/West Ave. H[3]	Signal	5.8	A	5.5	A	6.1	A	5.6	A	0.3	0.1	No	No
6	30th St. West/West Ave. G	TWSC	11.1	B	11.9	B	11.1	B	11.9	B	0.0	0.0	No	No
7	30th St. West/West Ave. I	Signal	16.6	B	16.8	B	16.6	B	16.9	B	0.0	0.1	No	No
D1	35th St. West/Driveway 1	OWSC	*Does Not Exist*				8.6	A	8.7	A	N/A		No	No
D2	West Ave. H /Driveway 2	OWSC	*Does Not Exist*				10.8	B	10.4	B	N/A		No	No

Source: Appendix B

Notes:

[1] AWSC = all-way stop control; TWSC = two-way stop control; OWSC = one-way stop control

[2] Delay in seconds per vehicle; highest movement delay is reported for TWSC intersections; LOS = Level of Service. Increases in project-related traffic may not affect critical movements; therefore, slight decreases in delay may occur with the addition of project traffic.

[3] SB = southbound; NB = northbound; LOS presented for informational purposes. Caltrans intersections evaluated based on Caltrans guidelines for safety (e.g., vehicular queuing) as presented in Section 7.2.

Bold: Exceeds City's threshold noted in Section 4.5.

5.2 Roadway Segment Operations

Table 7 shows the results of the roadway segment LOS analysis. As shown below, the study area roadway segments are operating at acceptable ADT volume-to-capacity conditions under Existing conditions, with and without the project-added traffic.

Table 7. Existing ADT Roadway Segment Level of Service

Roadway Segment		Classification	No. of Lanes	Capacity	Existing			Existing Plus Project			Exceeds Threshold?
					ADT[2]	V/C	LOS	ADT[2]	V/C	LOS	
West Avenue H											
1	West of 35th St. W.	Major Arterial	2D	23,300	2,560	0.11	A	2,744	0.12	A	No
2	East of 35th St. W.	Major Arterial	2D	23,300	3,233	0.14	A	4,567	0.20	A	No

Notes: XU = # of lanes Undivided; XD = # of lanes Divided; **Bold**: Exceeds “Acceptable” threshold

[1] Capacity determined from Table 3 in Section 4.4, Analysis Methodology

[2] Volume provided from average daily traffic (ADT) counts conducted on January 25, 2023

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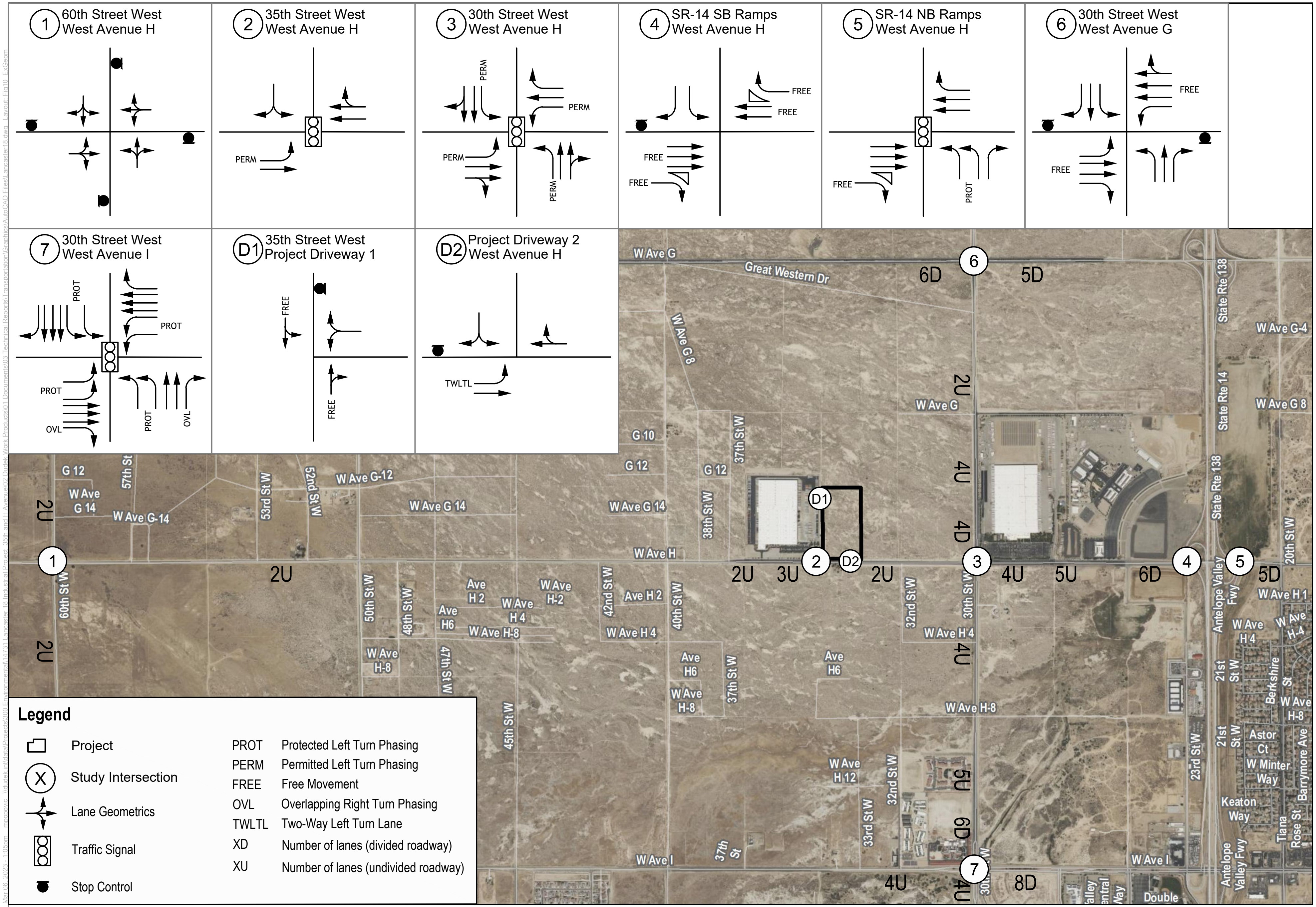

SOURCE: Bing Imagery 2021

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FIGURE 10

Existing Intersection Controls and Geometrics

Lancaster 18 Warehouse Project

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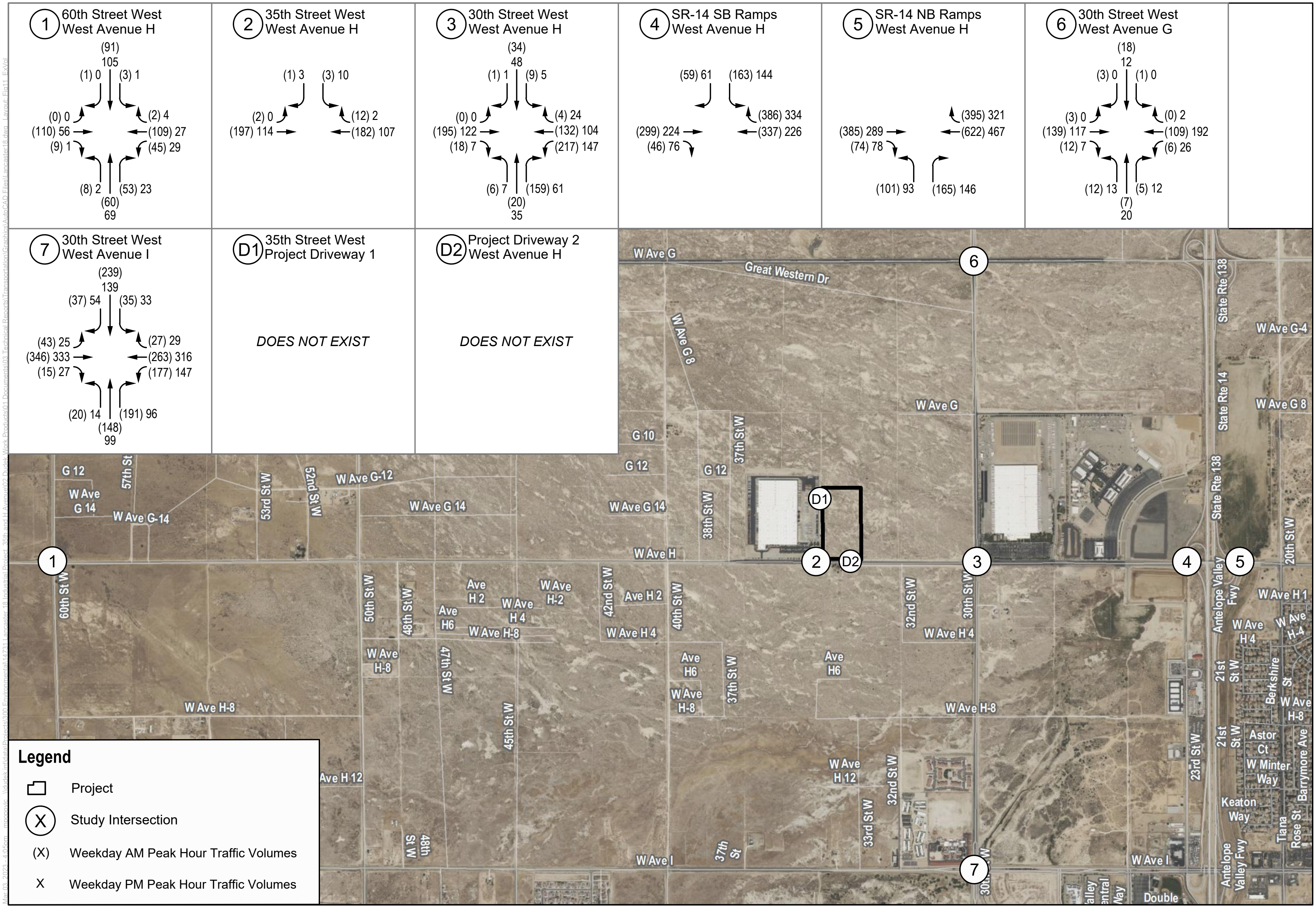

SOURCE: Bing Imagery 2021

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FIGURE 11

Existing Peak Hour Traffic Volumes (PCE)

Lancaster 18 Warehouse Project

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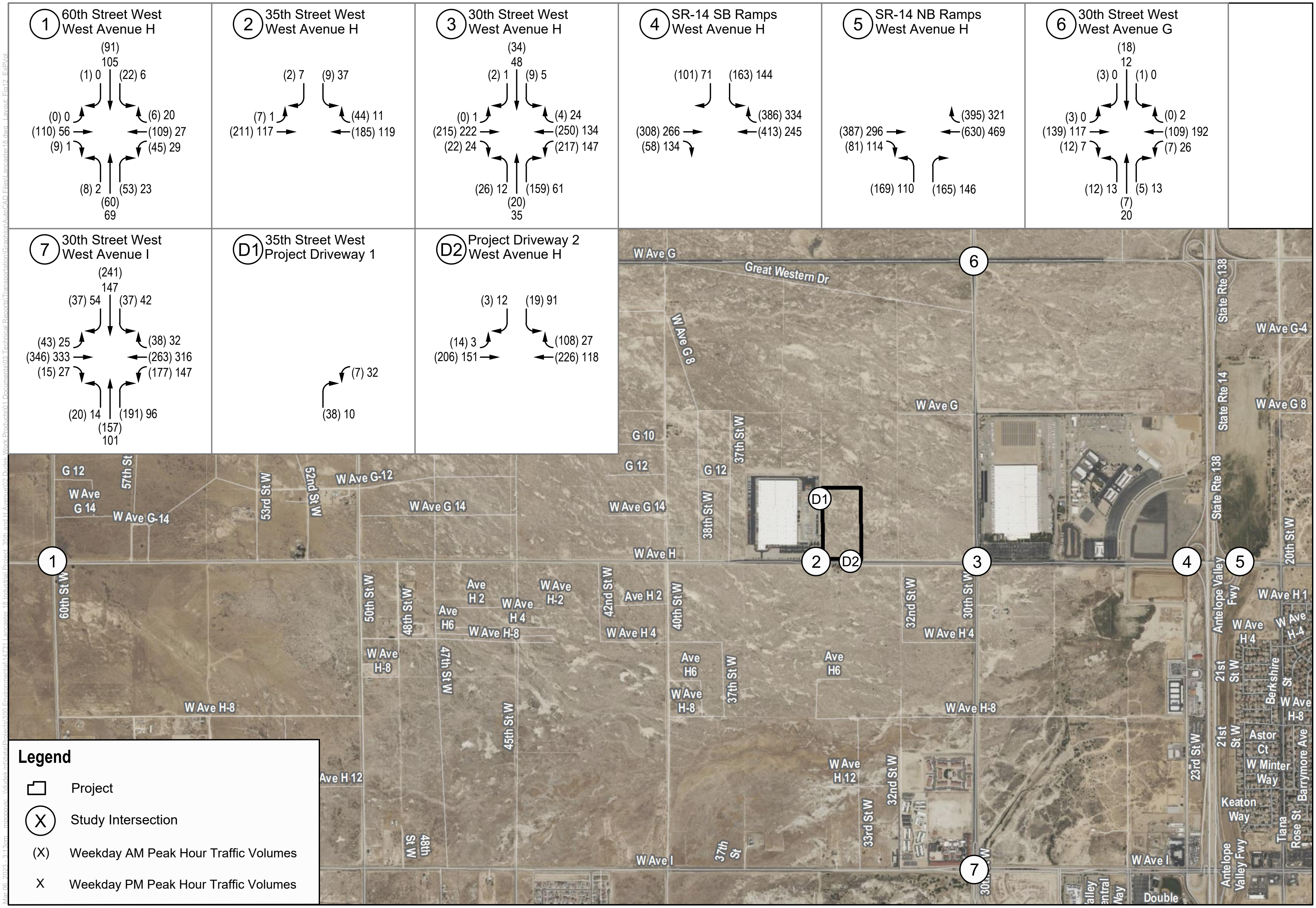

SOURCE: Bing Imagery 2021

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FIGURE 12

Existing plus Project Peak Hour Traffic Volumes (PCE)

Lancaster 18 Warehouse Project

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6 Opening Year (2024) Analysis

This section presents the results of a cumulative condition analysis that was conducted for a short-term horizon year (Year 2024) assuming the proposed Project is constructed and fully occupied.

6.1 Cumulative Projects

Cumulative projects are projects that are proposed and in the development review process, but not yet fully approved; or projects that have been approved, but not fully constructed or occupied. The following projects listed in Table 8 were provided per communication with City staff and are included in the Opening Year analysis.

Table 8. Cumulative Projects

No	Name	Location	Description
1	SPR 22-06	South side Avenue H between 25th St W and 27th St W	Facility for the production/storage of stone building materials: 2,000 sf office; 15,000 square foot warehouse
2	CUP 17-16	SEC William J Barnes Ave and 47th Street West	563,000 square feet of industrial buildings for cannabis cultivation and manufacturing
3	SPR 21-10	West side of 23rd Street West, south of Avenue H-8	9,600 square foot building for showroom/warehouse
4	TTM 83497	NWC of 40th St W and Ave I	163 single family residential lot subdivision
5	TTM 63215	SWC of 42nd Street West and Avenue H	85 lot subdivision

Source: Email correspondence with the City of Lancaster, February 2023

Project trip generation estimates for the cumulative projects were derived using ITE *Trip Generation, 11th edition* (2021) trip rates. As shown in Table 9, the cumulative projects are forecast to generate approximately 5,185 daily trips, 575 AM peak hour trips, and 673 PM peak hour trips. The trips generated by the cumulative projects were distributed through the study area network, and were based on logical commute corridors. Figure 13 shows the location of the cumulative projects and Figure 14 shows the cumulative projects trip assignments for the peak hour conditions.

Table 9. Cumulative Projects Trip Generation

Land Use			ITE Code	Size/Units		Daily	AM Peak Hour			PM Peak Hour		
							In	Out	Total	In	Out	Total
Trip Rates[1]												
Manufacturing			140	per TSF		4.75	0.52	0.16	0.68	0.23	0.51	0.74
Warehousing			150	per TSF		1.71	0.13	0.04	0.17	0.05	0.13	0.18
Single-Family Detached Housing			210	per DU		9.43	0.18	0.52	0.70	0.59	0.35	0.94
No.	**Trip Generation**											
1	SPR 22-06 - Manufacturing and Warehouse	Manufacturing	140	17.000	TSF	81	9	3	12	4	9	13
2	CUP 17-16 - Cannabis Manufacturing	Manufacturing	140	563.000	TSF	2,674	91	92	383	129	287	416
3	SP 21-10 - Warehouse	Warehouse	150	9.6000	TSF	91	2	5	7	6	4	10
4	TTM 83497 - Single Family	Single-Family	210	163	DU	1,537	30	84	114	97	57	154
5	TTM 63215 - Single Family	Single-Family	210	85	DU	802	15	44	59	50	30	80
Total Cumulative Project Trip Generation						**5,185**	**347**	**228**	**575**	**286**	**387**	**673**

Notes: DU = dwelling unit; TSF = thousand square feet

[1] Trip rates from *Trip Generation Handbook*, 11th Edition, Institute of Transportation Engineers (ITE), 2021.

[2] Cumulative projects provided by email correspondence with the City of Lancaster 2023.

6.2 Intersection Operations

The existing intersection configurations have been assumed to be preserved under the Opening Year (2024) conditions. Figure 15 illustrates the Opening Year (2024) (no project) traffic volumes for the peak hour conditions and Figure 16 illustrates the Opening Year (2024) (with project) traffic volumes for the peak hour conditions.

Table 10 summarizes the results of the Opening Year (2024) intersection analysis for the AM and PM peak hours, with and without the project. As shown in the table, all study area intersections are forecast to operate at satisfactory levels of service (LOS D or better) under Opening Year (2024) conditions with and without the project-added traffic.

Table 10. Opening Year (2024) Weekday Peak Hour Intersection LOS (with and without Project)

No.	Intersection	Traffic Control[1]	Opening Year (2024)				Opening Year (2024) Plus Project				Change in Delay (Sec.)		Threshold Exceeded ?	
			AM Peak		PM Peak		AM Peak		PM Peak					
			Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	Delay[2]	LOS[2]	AM	PM	AM	PM
1	60th St. West/West Ave. H	AWSC	9.8	A	7.9	A	10.2	B	8.0	A	0.4	0.1	No	No
2	35th St. West/West Ave. H	Signal	12.9	B	13.0	B	12.8	B	12.2	B	-0.1	-0.8	No	No
3	30th St. West/West Ave H	Signal	6.6	A	5.8	A	6.7	A	5.8	A	0.1	0.0	No	No
4	SR-14 SB Ramps/West Ave. H[3]	OWSC	17.0	C	12.9	B	19.6	C	13.5	B	2.6	0.6	No	No
5	SR-14 NB Ramps/West Ave. H[3]	Signal	5.9	A	5.6	A	6.2	A	5.6	A	0.3	0.0	No	No
6	30th St. West/West Ave. G	TWSC	15.6	C	17.6	C	15.6	C	17.6	C	0.0	0.0	No	No
7	30th St. West/West Ave. I	Signal	17.1	B	17.0	B	17.1	B	17.2	B	0.0	0.2	No	No
D1	35th St. West/Driveway 1	OWSC	*Does Not Exist*				8.6	A	8.7	A	N/A		No	No
D2	West Ave. H /Driveway 2	OWSC	*Does Not Exist*				11.0	B	10.7	B	N/A		No	No

Source: Appendix B

Notes:

[1] AWSC = all-way stop control; TWSC = two-way stop control; OWSC = one-way stop control

[2] Delay in seconds per vehicle; highest movement delay is reported for TWSC intersections; LOS = Level of Service. Increases in project-related traffic may not affect critical movements; therefore, slight decreases in delay may occur with the addition of project traffic.

[3] SB = southbound; NB = northbound; LOS presented for informational purposes. Caltrans intersections evaluated based on Caltrans guidelines for safety (e.g., vehicular queuing) as presented in Section 7.2.

Bold: Exceeds City's threshold noted in Section 4.5.

6.3 Roadway Segment Operations

Table 11 shows the results of the roadway segment LOS analysis. As shown below, the study area roadway segments are forecast to operate at acceptable conditions under Opening Year (2024) conditions, with and without the project traffic.

Table 11. Opening Year (2024) ADT Roadway Segment Level of Service

Roadway Segment		Classification	No. of Lanes	Capacity	Opening Year (2024)			Opening Year (2024) Plus Project			Threshold
					ADT[2]	V/C	LOS	ADT[2]	V/C	LOS	
West Avenue H											
1	West of 35th St. W.	Major Arterial	2D	23,300	3,274	0.14	A	3,458	0.15	A	No
2	East of 35th St. W.	Major Arterial	2D	23,300	3,955	0.17	A	5,289	0.23	A	No

Notes: XU = # of lanes Undivided; XD = # of lanes Divided; **Bold**: Exceeds "Acceptable" threshold

[1] Capacity determined from Table 3 in Section 4.4, Analysis Methodology

[2] Volume provided from average daily traffic (ADT) counts conducted on January 25, 2023

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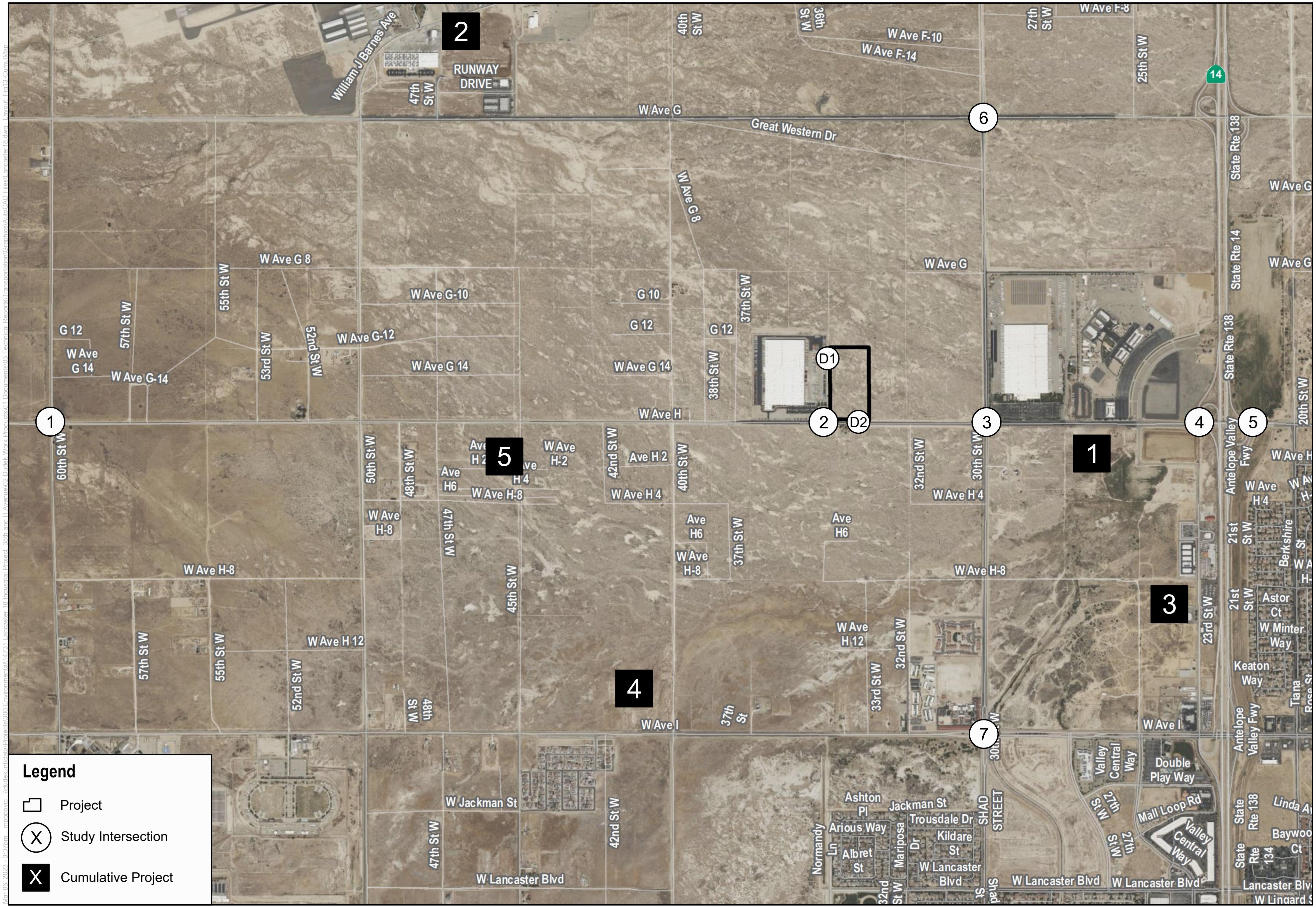

Legend

▭ Project

(X) Study Intersection

■X Cumulative Project

SOURCE: Bing Imagery 2021

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FIGURE 13

Cumulative Project Locations

Lancaster 18 Warehouse Project

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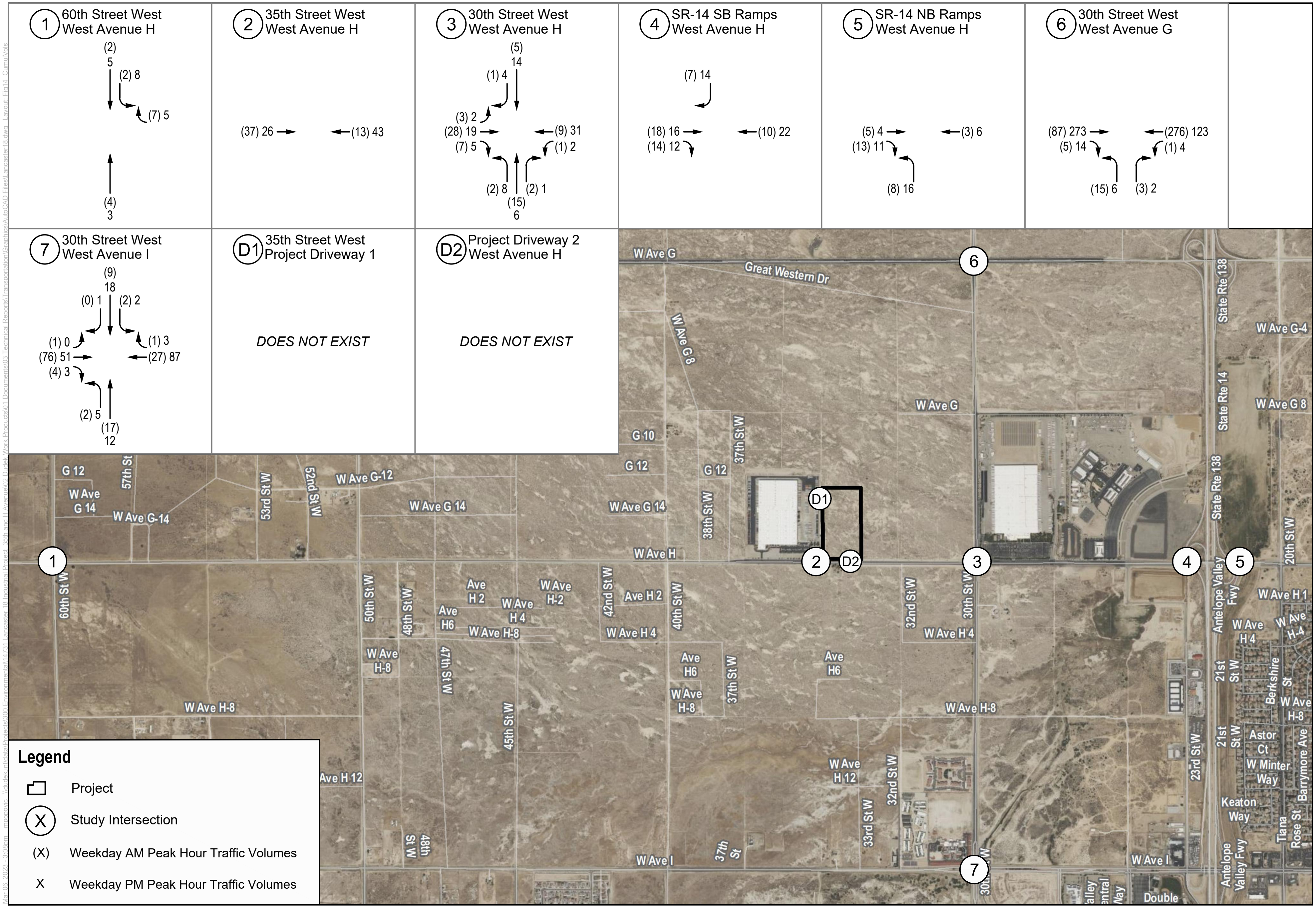

SOURCE: Bing Imagery 2021

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FIGURE 14

Cumulative Projects Peak Hour Traffic Volumes

Lancaster 18 Warehouse Project

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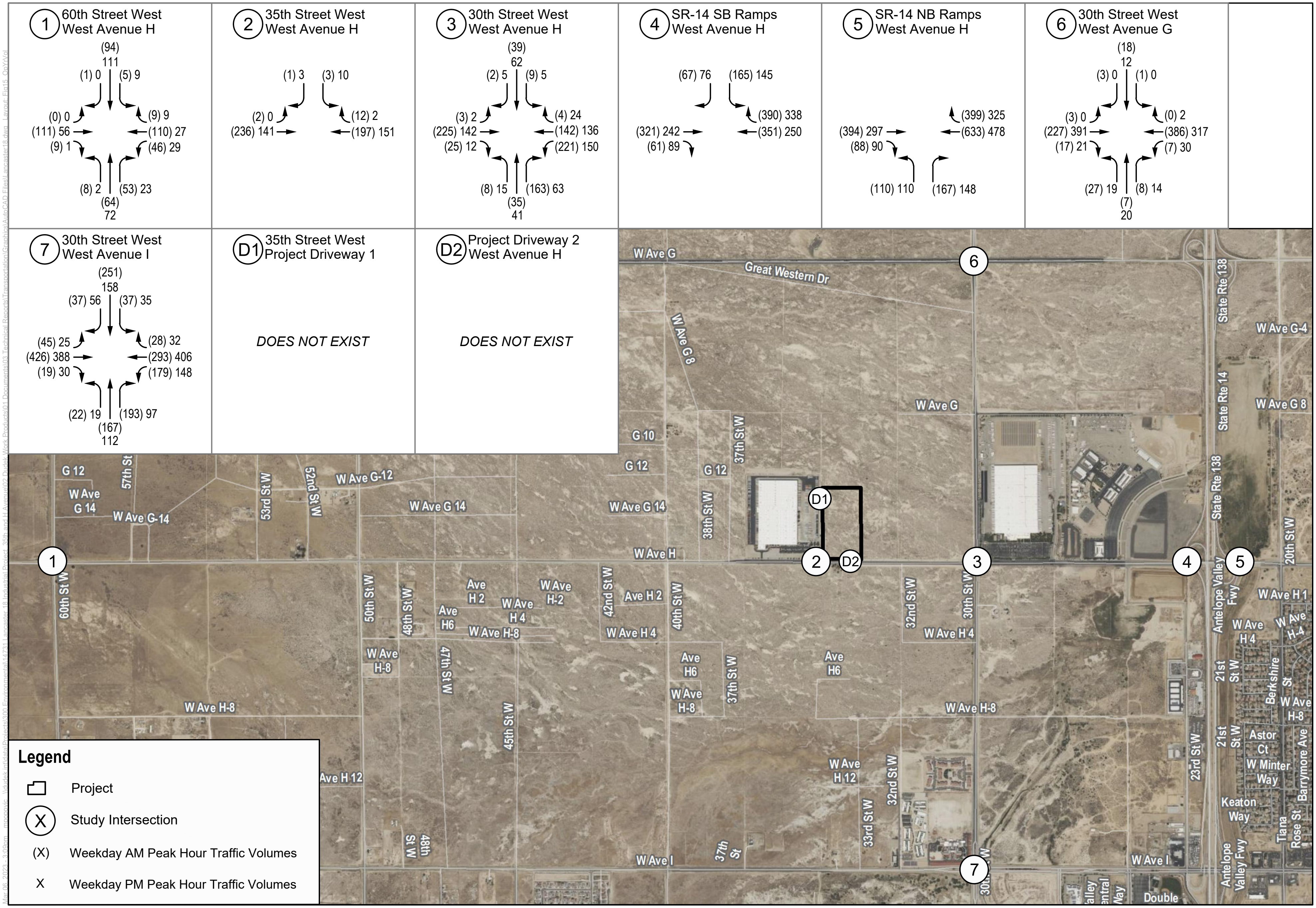

SOURCE: Bing Imagery 2021

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FIGURE 15

Opening Year (2024) Peak Hour Traffic Volumes (PCE)

Lancaster 18 Warehouse Project

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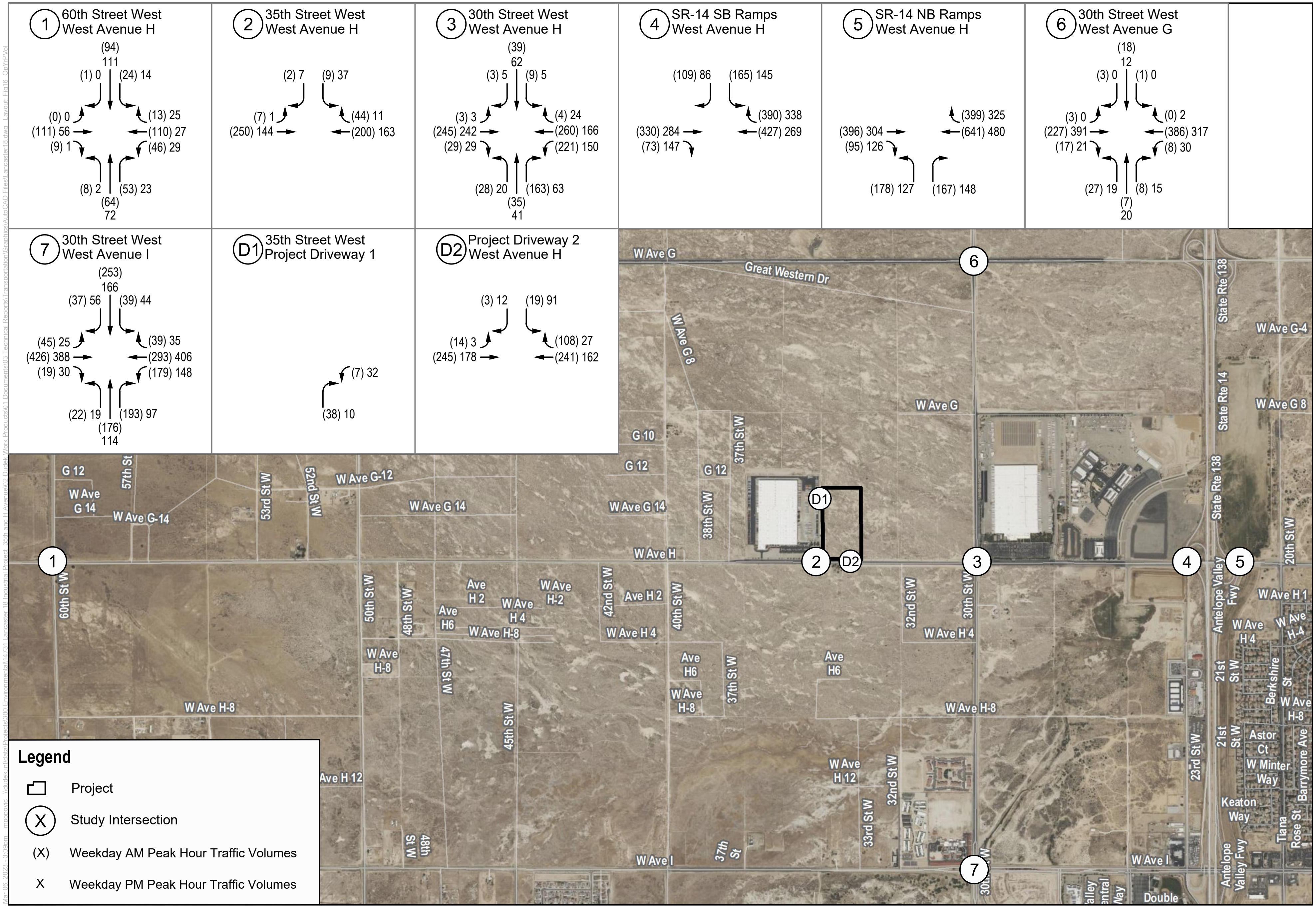

SOURCE: Bing Imagery 2021

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FIGURE 16

Opening Year (2024) plus Project Peak Hour Traffic Volumes (PCE)

Lancaster 18 Warehouse Project

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7 Project Site Access and Queuing

This section describes the proposed site access and improvements, emergency access, and pedestrian and bicycle access, and presents the results of an off-site queuing analysis conducted for the SR-14 ramps at West Avenue H.

7.1 Project Site Access and Internal Circulation

A summary of the driveway access locations is provided below, and as reported in the intersection LOS analysis presented in the previous chapters:

- D1: Driveway 1/35th Street West: full access; trucks/passenger vehicles
- D2: Driveway 2/West Avenue H– 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. A queuing analysis was also prepared for the intersection of 35th Street and Avenue H given its proximity to the Project driveways and the number of project-added trips passing through the intersection. Queuing was analyzed utilizing the SimTraffic software, which calculates the 95th percentile (design) queue. Based on the analysis, the proposed Project would not result in unacceptable queueing conditions into or out of the Project site. All queuing analysis data and SimTraffic queuing worksheets are provided in Appendix C.

Table 12. Peak-Hour Queuing Summary for Opening Year (2024) plus Project Conditions

No.	Intersection	Movement[1]	Pocket Length[1]	Opening Year (2024) plus Project			
				AM Peak Hour		PM Peak Hour	
				95th Percentile Queue[2]	Exceeds Turn Pocket Length?	95th Percentile Queue[2]	Exceeds Turn Pocket Length?
2	35th St. West/ West Ave. H	EBL	205	27	No	4	No
		WBTR	175	46	No	30	No
		SBLR[3]	230	20	No	39	No
D1	35th St. West/ Driveway 1	WBLR[4]	600	23	No	45	No
D2	West Ave. H / Driveway 2	EBL[5]	540	17	No	6	No
		SBLR[6]	90	42	No	59	No

Source: Appendix C

Notes: EBL = eastbound left turn lane; WBTR = westbound through right turn lane; WBLR = westbound left right turn lane; SBLR = southbound left right turn lane

[1] Measured in feet.

[2] Based on 95th percentile (design) queue length in SimTraffic 11

[3] Length is based on the distance to the existing Michael's Distribution Facility driveway

[4] Length is based on the estimated stacking distance to the north gate of the Project site

[5] Length is estimated based on current two-way left-turn lane distance to the nearest intersection.

[6] Length is based on the estimated stacking distance to the south gate 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. The following assumptions are made for all “plus Project” conditions included in this analysis:

- The Project would provide frontage improvements along the northern side of Avenue H, adjacent to the Project’s southern boundary. The current site plan identifies a 50-foot half-width right of way (ROW) along the extent of Avenue H bordering the Project site. This half-width is consistent with the Regional Arterial classification of this section of Avenue H in the Circulation Element and includes a center-two-way-left-turn lane, two travel lanes, a bike lane and a sidewalk (100-foot ROW, with a 50-foot half-width).

As the Project continues through design review, detailed roadway improvements will continue to be developed in coordination with the City.

Emergency Access

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 City’s firefighting apparatus, and to provide alternative emergency ingress and egress. The site plan would be subject to plan review by the City’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.

Pedestrian and Bicycle Access

The Project site is in a minimally developed area of the City, with limited pedestrian facilities provided. Where new development has occurred, sidewalks typically have been constructed along Project site frontages. The Project would construct pedestrian facilities (e.g., curb and gutter) along all Project frontages, including West Avenue H and 35th Street West. Additionally, as the adjacent areas surrounding the Project site continue to become developed, connectivity to other areas of the City will be realized.

The City of Lancaster’s existing and proposed bike facilities are presented in Figure 4, as discussed in Chapter 2.3. Within the vicinity of the site, a Class II bike lane (on-street painted bike lane) is currently provided on both sides of West Avenue H. The Project would include an extension of this bike lane along the Project frontage on Avenue H.

7.2 Caltrans Queuing Analysis

A queuing analysis was performed for the southbound and northbound SR-14 ramps at Avenue H 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 SR-14 mainline.

The queuing analysis was prepared for the Caltrans freeway ramps as part of the Caltrans safety analysis and to evaluate the intersections from a safety perspective. Queuing was analyzed utilizing the SimTraffic 11 software, which calculates the 95th percentile (design) queue. All queuing analysis data and SimTraffic queuing worksheets are provided in Appendix C.

Table 13 provides a summary of queuing results for the Opening Year (2024) plus Project conditions. As presented in Table 13, none of the calculated 95th percentile (design) queues exceed the storage capacities of either freeway ramp. Both off-ramps and on-ramps would have adequate storage capacity. Therefore, both intersections would have queues that do not spill onto the SR-14 mainline, and would not cause additional safety issues.

Table 13. Peak-Hour Freeway Queuing Summary for Opening Year (2024) plus Project Conditions

				Opening Year (2024) plus Project			
				AM Peak Hour		PM Peak Hour	
No.	Intersection	Movement	Storage Capacity[1]	95th Percentile Queue[2]	Exceeds Turn Pocket Length?	95th Percentile Queue[2]	Exceeds Turn Pocket Length?
4	SR-14 SB Ramps/ West Ave. H	SBL	1,350[3]	77	No	70	No
		SBR	380	40	No	36	No
5	SR-14 NB Ramps/ West Ave. H	WBR	100[4]	74	No	61	No
		NBL	800	45	No	34	No
		NBL	1,320[3]	80	No	61	No
		NBR	800	61	No	55	No

Source: Appendix C

Notes: SBL = southbound left-turn lane; SBR = southbound right-turn lane; WBR = westbound right-turn lane; NBL = northbound left-turn lane; NBR = northbound right-turn lane

[1] Measured in feet.

[2] Based on 95th percentile (design) queue length in SimTraffic 11.

[3] Approximate length measured from the intersection to the gore point of the SR-14 off-ramp.

[4] Approximate length measured from the distance of the through lane to the pedestrian crossing on the SR-14 on-ramp.

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8 Summary

Based on the results of the LOS analysis, and on- and off-site access analysis presented in this LTA Report, The following summarizes the key findings of the analysis:

- The proposed Project would generate 1,139 daily trips, 141 AM peak hour trips, and 131 PM peak hour trips. Accounting for truck traffic from warehousing and industrial land uses, the proposed Project would generate 1,518 daily PCE trips, 185 AM peak hour PCE trips, and 172 PM peak hour PCE trips.
- The study area intersections currently and are forecast to operate at LOS D or better under all analysis scenarios, with and without the project. There would be no LOS-related impacts.
- West Avenue H, in the vicinity of the Project, is operating at acceptable conditions under Existing conditions and will continue to operate at acceptable conditions under Opening Year (2024) conditions, with and without the project.
- The proposed Project would not result in unacceptable queueing conditions into or out of the Project site (Appendix C) or at the SR-14 ramps at West Avenue H.
- The Project would provide frontage improvements along the northern side of Avenue H, adjacent to the Project's southern boundary. The current site plan identifies a 50-foot half-width right of way (ROW) along the extent of Avenue H bordering the Project site. This half-width is consistent with the Regional Arterial classification of this section of Avenue H in the Circulation Element and includes a center-two-way-left-turn lane, two travel lanes, a bike lane and sidewalk, curb and gutter. As the Project continues through design review, detailed roadway improvements will continue to be developed in coordination with the City.

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9 References

Antelope Valley Transit Authority (AVTA). 2023. System Map (avta.com)

Amtrak. 2022a. "Amtrak Facts." Accessed June 3, 2022. https://www.amtrak.com/amtrak-facts.

Amtrak. 2022b. "Southwest Chief". Accessed on June 3, 2022. https://www.amtrak.com/routes/southwest-chief-train.html.

Brightline. 2022. "Brightline West." Accessed on June 3, 2022. https://www.gobrightline.com/brightline-west.

Caltrans. 2020. Transportation Impact Study Guide. May.

City of Fontana. Truck Trip Generation Study. 2003. August.

City of Lancaster. 2021. Department of Development Services Local Transportation Assessment Guidelines. January.

City of Lancaster. 2009a. City of Lancaster General Plan 2030 Plan for Physical Mobility. July 14.

City of Lancaster 2009b. City of Lancaster General Plan 2030 Plan Master Environmental Assessment. April.

City of Lancaster. 2008. 2030 General Plan Environmental Impact Report. 638035898881670000 (cityoflancasterca.org)

ITE (Institute of Transportation Engineers). 2021. *Trip Generation Manual*. 11th ed.

Los Angeles County Department of Public Works. 2020. Attachment No. 13. Incorporated Cities- Permit Issuance Authority. January.

Metrolink. 2023. Train Schedules | Metrolink (metrolinktrains.com)

OPR (California Governor's Office of Planning and Research). 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. December 2018. Accessed February 2022. http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf.

San Bernardino Association of Governments (SANBAG). 2016. San Bernardino County Congestion Management Plan. June.

SCAQMD (Southern California Air Quality Management District). 2014. *SCAQMD High Cube Warehouse Truck Trip Study White Paper Summary of Business Survey Results*. June 2014. Accessed September 2020. http://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/business-survey-summary.pdf.

Transportation Research Board. 2016. *Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis*.

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Appendix A

Raw Traffic Counts

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Jan 25, 23	LOCATION:	Lancaster		PROJECT #:	SC3821
	NORTH & SOUTH:	60th W		LOCATION #:	1
	EAST & WEST:	W Ave H		CONTROL:	STOP ALL

NOTES:

AM
PM
MD
OTHER
OTHER

▲ N
◄ W
E ►
S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND 60th W			SOUTHBOUND 60th W			EASTBOUND W Ave H			WESTBOUND W Ave H			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
AM	7:00 AM	0	14	5	1	20	0	0	6	0	8	13	0	67
	7:15 AM	4	10	14	0	18	0	0	19	2	14	36	1	118
	7:30 AM	4	12	17	1	30	1	0	43	3	14	43	1	169
	7:45 AM	0	23	14	1	19	0	0	38	4	9	11	0	119
	8:00 AM	1	10	10	2	17	0	0	8	0	11	8	0	67
	8:15 AM	1	12	14	0	19	0	0	12	0	9	6	0	73
	8:30 AM	1	17	13	1	14	0	0	7	0	10	6	1	70
	8:45 AM	0	9	5	2	9	0	1	7	0	4	4	1	42
	VOLUMES	11	107	92	8	146	1	1	140	9	79	127	4	725
	APPROACH %	5%	51%	44%	5%	94%	1%	1%	93%	6%	38%	60%	2%	
	APP/DEPART	210	/	112	155	/	234	150	/	240	210	/	139	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	9	55	55	4	84	1	0	108	9	48	98	2	473
	APPROACH %	8%	46%	46%	4%	94%	1%	0%	92%	8%	32%	66%	1%	
	PEAK HR FACTOR		0.804			0.695			0.636			0.638		0.700
	APP/DEPART	119	/	57	89	/	141	117	/	167	148	/	108	0
PM	4:00 PM	0	15	11	1	23	0	0	8	0	10	6	2	76
	4:15 PM	1	21	7	0	29	0	0	9	0	4	8	1	80
	4:30 PM	0	13	4	1	22	0	0	26	1	6	1	0	74
	4:45 PM	1	20	5	0	26	0	0	9	0	11	4	1	77
	5:00 PM	0	13	6	0	27	0	0	8	0	8	13	2	77
	5:15 PM	1	16	8	1	29	0	0	11	0	4	4	2	76
	5:30 PM	0	6	8	2	11	0	0	14	0	6	2	1	50
	5:45 PM	0	14	2	0	23	0	0	4	0	8	4	3	58
	VOLUMES	3	118	51	5	190	0	0	89	1	57	42	12	568
	APPROACH %	2%	69%	30%	3%	97%	0%	0%	99%	1%	51%	38%	11%	
	APP/DEPART	172	/	130	195	/	249	90	/	145	111	/	44	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	2	67	22	1	104	0	0	52	1	29	26	4	308
	APPROACH %	2%	74%	24%	1%	99%	0%	0%	98%	2%	49%	44%	7%	
	PEAK HR FACTOR		0.784			0.905			0.491			0.641		0.963
	APP/DEPART	91	/	71	105	/	134	53	/	75	59	/	28	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1

60th W

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

60th W

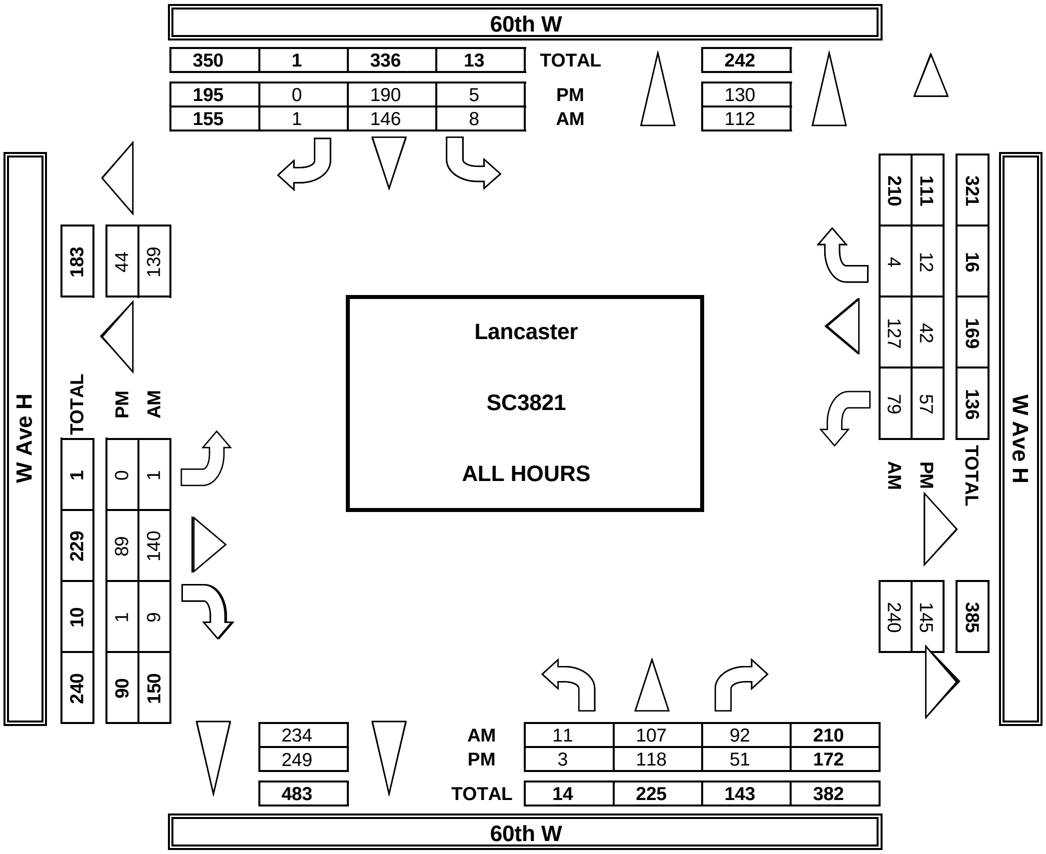
		ALL PED AND BIKE				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
	TOTAL	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	0	0
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
	TOTAL	0	0	0	0	0

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS



Lancaster

SC3821

ALL HOURS

60th W

350	1	336	13	TOTAL
195	0	190	5	PM
155	1	146	8	AM

242	TOTAL
130	PM
112	AM

W Ave H (east)

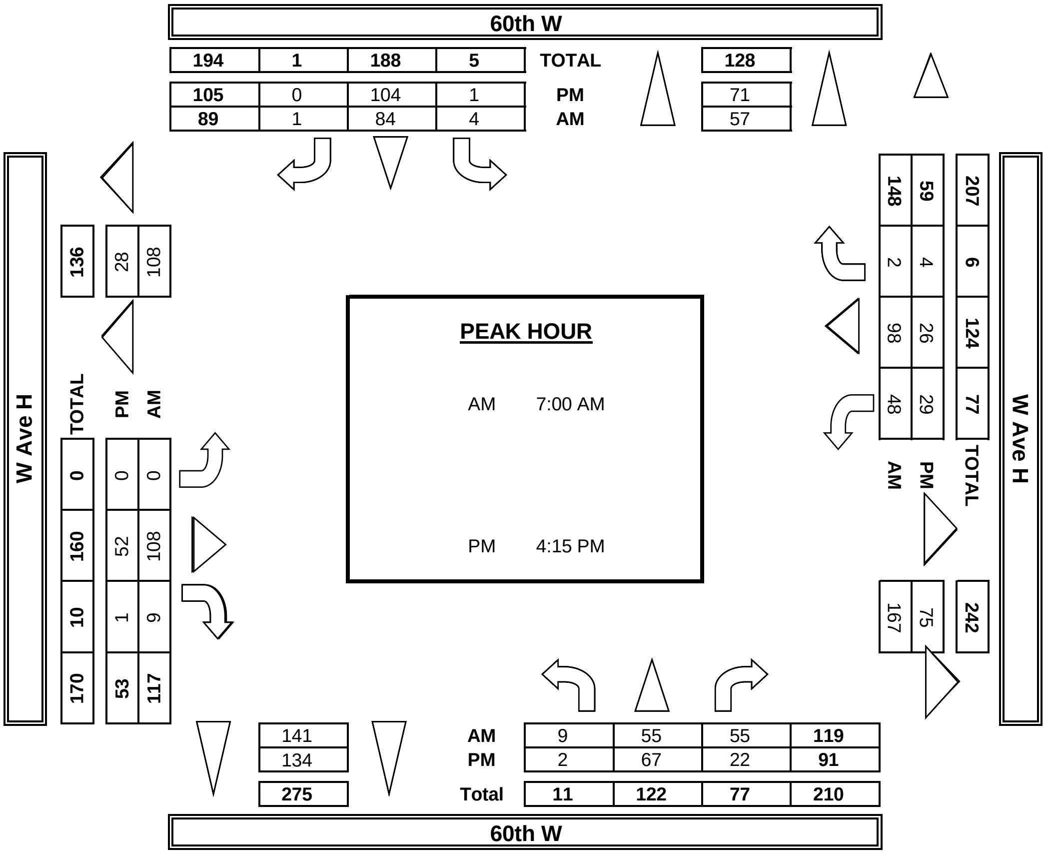
AM	PM	TOTAL
210	111	321
4	12	16
127	42	169
79	57	136
240	145	385

W Ave H (west)

TOTAL	PM	AM
183	44	139
1	0	1
229	89	140
10	1	9
240	90	150

60th W

234	AM	11	107	92	210
249	PM	3	118	51	172
483	TOTAL	14	225	143	382



PEAK HOUR

AM 7:00 AM

PM 4:15 PM

60th W

194	1	188	5	TOTAL
105	0	104	1	PM
89	1	84	4	AM

128	TOTAL
71	PM
57	AM

W Ave H (east)

AM	PM	TOTAL
148	59	207
2	4	6
98	26	124
48	29	77
167	75	242

W Ave H (west)

TOTAL	PM	AM
136	28	108
0	0	0
160	52	108
10	1	9
170	53	117

60th W

141	AM	9	55	55	119
134	PM	2	67	22	91
275	Total	11	122	77	210

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	60th W	LOCATION #:	1
	EAST & WEST:	W Ave H	CONTROL:	STOP ALL

	NOTES:								AM		▲	
PCE Adjusted	Class	1	2	3	4	5	6		PM		N	
	Factor	1	1.5	2	3	2	2		MD	◄ W		E ►
									OTHER		S	
									OTHER		▼	

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS				
		60th W			60th W			W Ave H			W Ave H								
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	0	1	0	0	1	0	0	1	0	0	1	0						
AM	7:00 AM	0	14	7	1	21	0	0	6	0	8	13	0	70					0
	7:15 AM	4	11	15	0	19	0	0	20	2	14	37	1	121					0
	7:30 AM	4	12	17	1	31	1	0	46	3	14	45	1	175					0
	7:45 AM	0	23	14	1	20	0	0	39	4	9	15	0	125					0
	8:00 AM	1	10	12	3	18	0	0	9	0	11	8	0	70					0
	8:15 AM	1	14	14	0	20	0	0	12	0	9	6	0	76					0
	8:30 AM	1	17	15	1	14	0	0	7	0	11	8	1	74					0
	8:45 AM	0	9	5	2	10	0	1	8	0	4	4	1	44					0
	VOLUMES	11	110	98	9	151	1	1	146	9	80	135	4	752	0	0	0	0	0
	APPROACH %	5%	50%	45%	5%	94%	1%	1%	94%	6%	36%	62%	2%						
	APP/DEPART	218	/	115	161	/	240	156	/	252	218	/	147	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	8	60	53	3	91	1	0	110	9	45	109	2	490					
	APPROACH %	7%	50%	44%	3%	96%	1%	0%	92%	8%	29%	70%	1%						
	PEAK HR FACTOR		0.811			0.716			0.607			0.655		0.701					
	APP/DEPART	120	/	62	95	/	145	119	/	166	156	/	118	0					
PM	4:00 PM	0	15	12	2	23	0	0	9	0	10	6	2	78					0
	4:15 PM	1	21	8	0	29	0	0	10	0	4	9	1	82					0
	4:30 PM	0	14	4	1	22	0	0	29	1	6	2	0	78					0
	4:45 PM	1	20	5	0	27	0	0	9	0	11	4	1	78					0
	5:00 PM	0	14	6	0	28	0	0	8	0	8	13	2	79					0
	5:15 PM	1	16	8	1	29	0	0	12	0	4	4	2	77					0
	5:30 PM	0	6	8	4	11	0	0	14	0	9	2	1	55					0
	5:45 PM	0	16	2	0	24	0	0	4	0	8	4	4	62					0
	VOLUMES	3	122	52	8	192	0	0	94	1	60	43	13	586	0	0	0	0	0
	APPROACH %	2%	69%	29%	4%	96%	0%	0%	99%	1%	52%	37%	11%						
	APP/DEPART	177	/	135	199	/	252	95	/	154	116	/	46	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	2	69	23	1	105	0	0	56	1	29	27	4	316					
	APPROACH %	2%	74%	24%	1%	99%	0%	0%	98%	2%	48%	45%	7%						
	PEAK HR FACTOR		0.788			0.914			0.479			0.652		0.962					
	APP/DEPART	93	/	73	106	/	135	57	/	79	60	/	29	0					

60th W

NORTH SIDE

W Ave H WEST SIDE EAST SIDE **W Ave H**

SOUTH SIDE

60th W

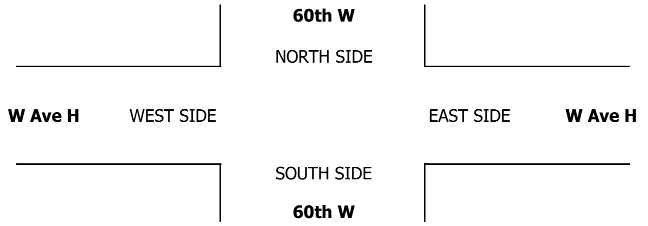
INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Lancaster	PROJECT #:	SC3821
1/25/23	NORTH & SOUTH:	60th W	LOCATION #:	1
WEDNESDAY	EAST & WEST:	W Ave H	CONTROL:	STOP ALL

CLASS 1:	**NOTES:**	AM		▲
PASSENGER		PM		N
VEHICLES		MD	◄ W	E ►
		OTHER		S
		OTHER		▼

		NORTHBOUND 60th W			SOUTHBOUND 60th W			EASTBOUND W Ave H			WESTBOUND W Ave H				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	0	1	0	0	1	0	0	1	0	0	1	0						
AM	7:00 AM	0	14	4	1	19	0	0	6	0	8	13	0	65	0	0	0	0	0
	7:15 AM	4	9	13	0	17	0	0	18	2	14	35	1	113	0	0	0	0	0
	7:30 AM	4	12	17	1	28	1	0	40	3	14	40	1	161	0	0	0	0	0
	7:45 AM	0	23	14	1	17	0	0	37	4	9	7	0	112	0	0	0	0	0
	8:00 AM	1	10	8	1	16	0	0	7	0	11	8	0	62	0	0	0	0	0
	8:15 AM	1	10	14	0	18	0	0	12	0	9	6	0	70	0	0	0	0	0
	8:30 AM	1	17	11	1	14	0	0	7	0	9	4	1	65	0	0	0	0	0
	8:45 AM	0	9	5	2	8	0	1	6	0	4	4	1	40	0	0	0	0	0
	VOLUMES	11	104	86	7	137	1	1	133	9	78	117	4	688	0	0	0	0	0
	APPROACH %	5%	52%	43%	5%	94%	1%	1%	93%	6%	39%	59%	2%						
	APP/DEPART	201	/	109	145	/	224	143	/	226	199	/	129	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	8	58	48	3	81	1	0	101	9	45	95	2	451					
	APPROACH %	7%	51%	42%	4%	95%	1%	0%	92%	8%	32%	67%	1%						
	PEAK HR FACTOR		0.770			0.708			0.640			0.645		0.700					
	APP/DEPART	114	/	60	85	/	135	110	/	152	142	/	104	0					
PM	4:00 PM	0	15	10	0	23	0	0	7	0	10	6	2	73	0	0	0	0	0
	4:15 PM	1	21	6	0	29	0	0	7	0	4	7	1	76	0	0	0	0	0
	4:30 PM	0	12	4	1	22	0	0	23	1	6	0	0	69	0	0	0	0	0
	4:45 PM	1	20	5	0	25	0	0	9	0	11	4	1	76	0	0	0	0	0
	5:00 PM	0	12	6	0	26	0	0	8	0	8	13	2	75	0	0	0	0	0
	5:15 PM	1	16	8	1	29	0	0	10	0	4	4	2	75	1	0	0	0	1
	5:30 PM	0	6	8	1	11	0	0	14	0	4	2	1	47	0	0	0	0	0
	5:45 PM	0	13	2	0	22	0	0	4	0	8	4	2	55	0	0	0	0	0
	VOLUMES	3	115	49	3	187	0	0	82	1	55	40	11	546	1	0	0	0	1
	APPROACH %	2%	69%	29%	2%	98%	0%	0%	99%	1%	52%	38%	10%						
	APP/DEPART	167	/	126	190	/	244	83	/	134	106	/	42	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	2	65	21	1	102	0	0	47	1	29	24	4	296					
	APPROACH %	2%	74%	24%	1%	99%	0%	0%	98%	2%	51%	42%	7%						
	PEAK HR FACTOR		0.786			0.888			0.500			0.620		0.974					
	APP/DEPART	88	/	69	103	/	132	48	/	69	57	/	26	0					



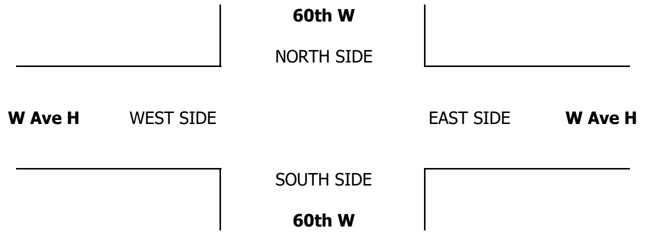
INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster		PROJECT #:	SC3821
	NORTH & SOUTH:	60th W		LOCATION #:	1
	EAST & WEST:	W Ave H		CONTROL:	STOP ALL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	**NOTES:**	AM PM MD OTHER OTHER	▲ N ◄ W E ► S ▼

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS				
		60th W			60th W			W Ave H			W Ave H								
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	0	1	0	0	1	0	0	1	0	0	1	0						
AM	7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
	7:15 AM	0	1	1	0	0	0	0	1	0	0	1	0	4	0	0	0	0	0
	7:30 AM	0	0	0	0	2	0	0	0	0	0	3	0	5	0	0	0	0	0
	7:45 AM	0	0	0	0	2	0	0	1	0	0	2	0	5	0	0	0	0	0
	8:00 AM	0	0	1	1	1	0	0	1	0	0	0	0	4	0	0	0	0	0
	8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
	8:30 AM	0	0	1	0	0	0	0	0	0	1	1	0	3	0	0	0	0	0
	8:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
	VOLUMES	0	1	3	1	8	0	0	3	0	1	7	0	24	0	0	0	0	0
	APPROACH %	0%	25%	75%	11%	89%	0%	0%	100%	0%	13%	88%	0%						
	APP/DEPART	4	/	1	9	/	9	3	/	7	8	/	7	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	0	1	1	0	5	0	0	2	0	0	6	0	15					
	APPROACH %	0%	50%	50%	0%	100%	0%	0%	100%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.250			0.625			0.500			0.500		0.750					
	APP/DEPART	2	/	1	5	/	5	2	/	3	6	/	6	0					
PM	4:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0
	4:15 PM	0	0	1	0	0	0	0	2	0	0	1	0	4	0	0	0	0	0
	4:30 PM	0	1	0	0	0	0	0	1	0	0	1	0	3	0	0	0	0	0
	4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
	5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
	5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
	VOLUMES	0	1	2	1	3	0	0	4	0	1	2	0	14	0	0	0	0	0
	APPROACH %	0%	33%	67%	25%	75%	0%	0%	100%	0%	33%	67%	0%						
	APP/DEPART	3	/	1	4	/	4	4	/	7	3	/	2	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	1	1	0	2	0	0	3	0	0	2	0	9					
	APPROACH %	0%	50%	50%	0%	100%	0%	0%	100%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.500			0.500			0.375			0.500		0.563					
	APP/DEPART	2	/	1	2	/	2	3	/	4	2	/	2	0					



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	60th W	LOCATION #:	1
	EAST & WEST:	W Ave H	CONTROL:	STOP ALL

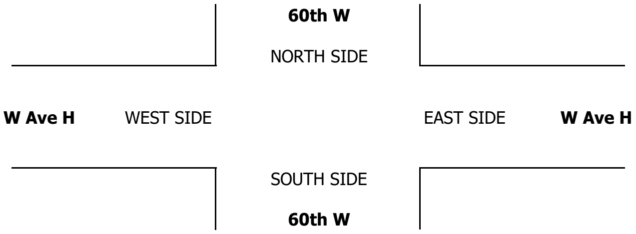
CLASS 3:
3-AXLE
TRUCKS

NOTES:

AM
PM
MD
OTHER
OTHER

▲
N
◀ W
E ▶
S
▼

		NORTHBOUND 60th W			SOUTHBOUND 60th W			EASTBOUND W Ave H			WESTBOUND W Ave H				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	0	1	0	0	1	0	0	1	0	0	1	0						
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	1	0	0	1	0	0	0	0	0	1	0	3	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	100%	0%						
	APP/DEPART	1	/	1	1	/	1	0	/	0	1	/	1	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	0	0	0	0	1	0	0	0	0	0	1	0	2					
	APPROACH %	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.000			0.250			0.000			0.250		0.500					
	APP/DEPART	0	/	0	1	/	1	0	/	0	1	/	1	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
	VOLUMES	0	1	0	0	0	0	0	2	0	0	0	1	4	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%						
	APP/DEPART	1	/	2	0	/	0	2	/	2	1	/	0	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	1	0	0	0	0	0	2	0	0	0	0	3					
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.250			0.000			0.250			0.000		0.375					
	APP/DEPART	1	/	1	0	/	0	2	/	2	0	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Lancaster	PROJECT #:	SC3821
1/25/23	NORTH & SOUTH:	60th W	LOCATION #:	1
WEDNESDAY	EAST & WEST:	W Ave H	CONTROL:	STOP ALL

CLASS 4:

4 OR MORE
AXLE
TRUCKS

NOTES:

AM
PM
MD
OTHER
OTHER

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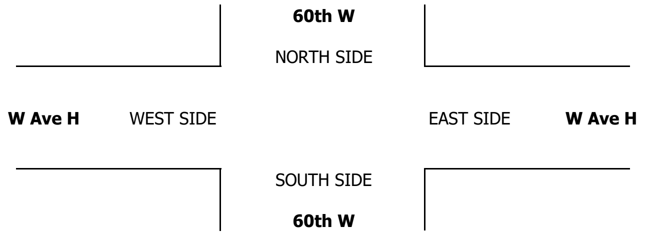
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS				
		60th W			60th W			W Ave H			W Ave H								
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	0	1	0	0	1	0	0	1	0	0	1	0						
AM	7:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	1	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%						
	APP/DEPART	1	/	0	0	/	0	0	/	1	1	/	1	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	0	0	1	0	0	0	0	0	0	0	1	0	2					
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.250			0.000			0.000			0.250		0.500					
	APP/DEPART	1	/	0	0	/	0	0	/	1	1	/	1	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	1	0	0	0	0	0	1	0	0	2	0	0	0	0	0
	5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	VOLUMES	0	1	0	1	0	0	0	0	0	1	0	0	3	0	0	0	0	0
	APPROACH %	0%	100%	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%						
	APP/DEPART	1	/	1	1	/	1	0	/	1	1	/	0	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Lancaster 60th W W Ave H	PROJECT #: SC3821 LOCATION #: 1 CONTROL: STOP ALL

CLASS 5: RV

NOTES:

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MD
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OTHER

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		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS				
			60th W			60th W			W Ave H			W Ave H							
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	0	1	0	0	1	0	0	1	0	0	1	0						
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					

60th W

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

60th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Lancaster	PROJECT #:	SC3821
1/25/23	NORTH & SOUTH:	60th W	LOCATION #:	1
WEDNESDAY	EAST & WEST:	W Ave H	CONTROL:	STOP ALL

CLASS 6: BUSES

NOTES:

AM
PM
MD
OTHER
OTHER

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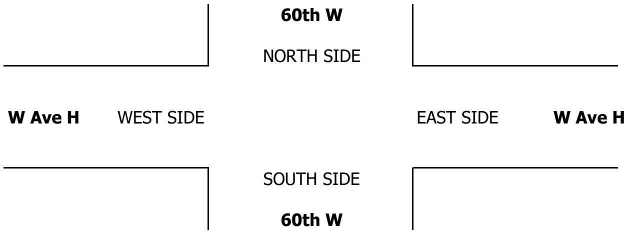
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS				
		60th W			60th W			W Ave H			W Ave H								
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	0	1	0	0	1	0	0	1	0	0	1	0						
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	8:30 AM	0	0	1	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	VOLUMES	0	1	2	0	0	0	0	4	0	0	1	0	8	0	0	0	0	0
	APPROACH %	0%	33%	67%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	APP/DEPART	3	/	1	0	/	0	4	/	6	1	/	1	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	0	0	0	0	0	0	0	3	0	0	0	0	3					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.250			0.000		0.250					
	APP/DEPART	0	/	0	0	/	0	3	/	3	0	/	0	0					
PM	4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%						
	APP/DEPART	0	/	0	0	/	0	1	/	1	0	/	0	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Jan 25, 23	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	35th W	LOCATION #:	2
	EAST & WEST:	W Ave H	CONTROL:	SIGNAL

NOTES:

AM
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☑ Add U-Turns to Left Turns

		NORTHBOUND 35th W			SOUTHBOUND 35th W			EASTBOUND W Ave H			WESTBOUND W Ave H			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	X	X	0	X	0	1	1	X	X	2	0	
AM	7:00 AM	0	0	0	0	0	1	0	16	0	0	33	5	55
	7:15 AM	0	0	0	1	0	0	0	31	0	0	55	2	89
	7:30 AM	0	0	0	1	0	0	0	72	0	0	55	1	129
	7:45 AM	0	0	0	1	0	0	2	70	0	0	29	3	105
	8:00 AM	0	0	0	1	0	0	0	25	0	0	21	1	48
	8:15 AM	0	0	0	1	0	0	1	36	0	0	19	3	60
	8:30 AM	0	0	0	4	0	0	1	30	0	0	23	4	62
	8:45 AM	0	0	0	2	0	0	0	17	0	0	18	0	37
	VOLUMES	0	0	0	11	0	1	4	297	0	0	253	19	585
	APPROACH %	0%	0%	0%	92%	0%	8%	1%	99%	0%	0%	93%	7%	
	APP/DEPART	0	/	23	12	/	0	301	/	308	272	/	254	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	0	0	0	3	0	1	2	189	0	0	172	11	378
	APPROACH %	0%	0%	0%	75%	0%	25%	1%	99%	0%	0%	94%	6%	
	PEAK HR FACTOR		0.000			1.000			0.663			0.803		0.733
	APP/DEPART	0	/	13	4	/	0	191	/	192	183	/	173	0
PM	4:00 PM	0	0	0	2	0	1	0	24	0	0	23	3	53
	4:15 PM	0	0	0	1	0	0	0	25	0	0	21	0	47
	4:30 PM	0	0	0	2	0	0	0	38	0	0	20	0	60
	4:45 PM	0	0	0	2	0	3	0	19	0	0	31	0	55
	5:00 PM	0	0	0	1	0	0	0	24	0	0	31	2	58
	5:15 PM	0	0	0	0	0	1	0	24	0	0	16	0	41
	5:30 PM	0	0	0	1	0	0	1	24	0	0	24	1	51
	5:45 PM	0	0	0	0	0	0	0	15	0	0	17	1	33
	VOLUMES	0	0	0	9	0	5	1	193	0	0	183	7	398
	APPROACH %	0%	0%	0%	64%	0%	36%	1%	99%	0%	0%	96%	4%	
	APP/DEPART	0	/	8	14	/	0	194	/	202	190	/	188	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	0	0	0	6	0	3	0	106	0	0	103	2	220
	APPROACH %	0%	0%	0%	67%	0%	33%	0%	100%	0%	0%	98%	2%	
	PEAK HR FACTOR		0.000			0.450			0.697			0.795		0.917
	APP/DEPART	0	/	2	9	/	0	106	/	112	105	/	106	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

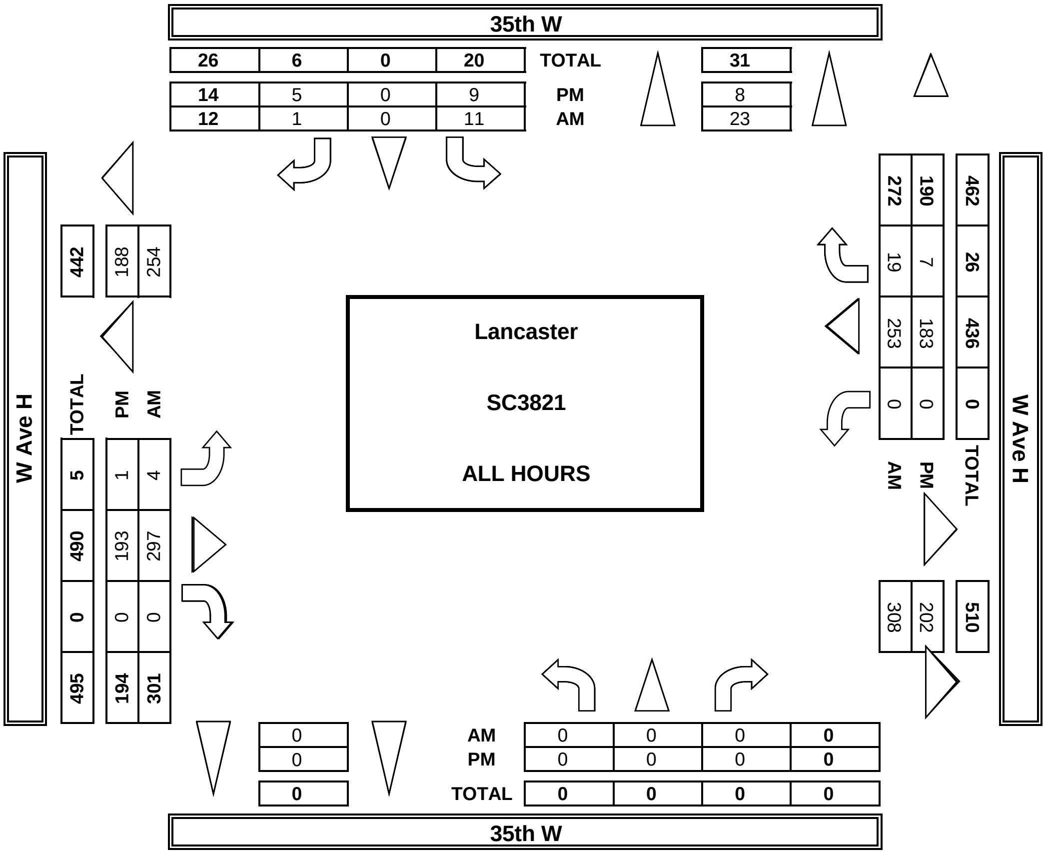
		ALL PED AND BIKE				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
	TOTAL	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	0	0
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
	TOTAL	0	0	0	0	0

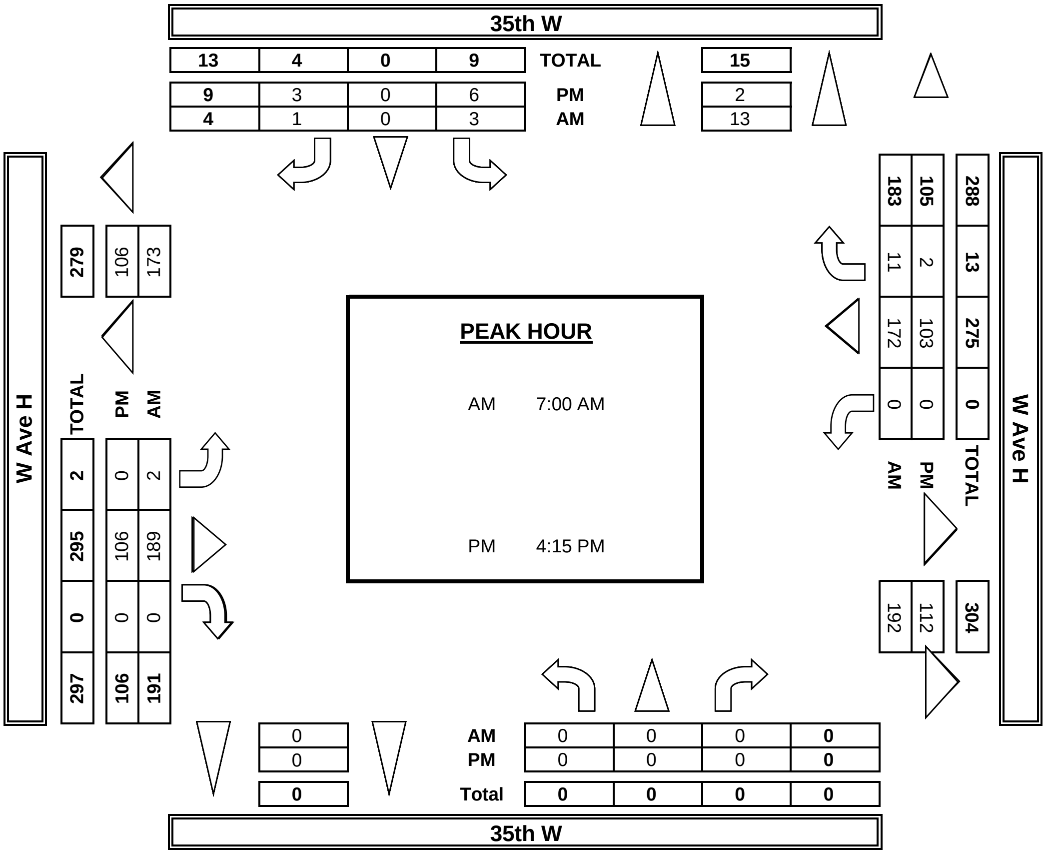
		PEDESTRIAN CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
	TOTAL	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	0	0
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
	TOTAL	0	0	0	0	0

		BICYCLE CROSSINGS				
		NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
	TOTAL	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	0	0
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
	TOTAL	0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	35th W	LOCATION #:	2
	EAST & WEST:	W Ave H	CONTROL:	SIGNAL

	NOTES:									AM		▲	
PCE Adjusted	Class	1	2	3	4	5	6			PM		N	
	Factor	1	1.5	2	3	2	2			MD	◄ W		E ►
										OTHER		S	
										OTHER		▼	

		NORTHBOUND 35th W			SOUTHBOUND 35th W			EASTBOUND W Ave H			WESTBOUND W Ave H				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	X	X	X	0	X	0	1	1	X	X	2	0						
AM	7:00 AM	0	0	0	0	0	1	0	20	0	0	35	6	62					0
	7:15 AM	0	0	0	1	0	0	0	32	0	0	55	3	90					0
	7:30 AM	0	0	0	1	0	0	0	75	0	0	59	1	136					0
	7:45 AM	0	0	0	1	0	0	2	70	0	0	33	3	109					0
	8:00 AM	0	0	0	3	0	0	0	29	0	0	24	3	58					0
	8:15 AM	0	0	0	1	0	0	1	37	0	0	20	5	64					0
	8:30 AM	0	0	0	7	0	0	1	32	0	0	26	8	74					0
	8:45 AM	0	0	0	2	0	0	0	18	0	0	23	0	42					0
	VOLUMES	0	0	0	16	0	1	4	311	0	0	274	28	634	0	0	0	0	0
	APPROACH %	0%	0%	0%	94%	0%	6%	1%	99%	0%	0%	91%	9%						
	APP/DEPART	0	/	32	17	/	0	315	/	327	302	/	275	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	0	0	0	3	0	1	2	197	0	0	182	12	396					
	APPROACH %	0%	0%	0%	75%	0%	25%	1%	99%	0%	0%	94%	6%						
	PEAK HR FACTOR		0.000			1.000			0.662			0.813		0.731					
	APP/DEPART	0	/	14	4	/	0	199	/	200	194	/	183	0					
PM	4:00 PM	0	0	0	2	0	1	0	26	0	0	23	7	59					0
	4:15 PM	0	0	0	1	0	0	0	28	0	0	23	0	51					0
	4:30 PM	0	0	0	6	0	0	0	42	0	0	21	0	68					0
	4:45 PM	0	0	0	2	0	3	0	20	0	0	32	0	56					0
	5:00 PM	0	0	0	1	0	0	0	25	0	0	32	2	60					0
	5:15 PM	0	0	0	0	0	1	0	25	0	0	19	0	45					0
	5:30 PM	0	0	0	1	0	0	3	24	0	0	27	1	56					0
	5:45 PM	0	0	0	0	0	0	0	16	0	0	19	1	36					0
	VOLUMES	0	0	0	13	0	5	3	205	0	0	193	11	430	0	0	0	0	0
	APPROACH %	0%	0%	0%	72%	0%	28%	1%	99%	0%	0%	95%	5%						
	APP/DEPART	0	/	14	18	/	0	208	/	218	204	/	198	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	0	0	10	0	3	0	114	0	0	107	2	235					
	APPROACH %	0%	0%	0%	77%	0%	23%	0%	100%	0%	0%	98%	2%						
	PEAK HR FACTOR		0.000			0.542			0.684			0.798		0.864					
	APP/DEPART	0	/	2	13	/	0	114	/	124	109	/	110	0					

35th W

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

35th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Lancaster	PROJECT #:	SC3821
1/25/23	NORTH & SOUTH:	35th W	LOCATION #:	2
WEDNESDAY	EAST & WEST:	W Ave H	CONTROL:	SIGNAL

CLASS 1:
PASSENGER
VEHICLES

NOTES:

AM
PM
MD
OTHER
OTHER

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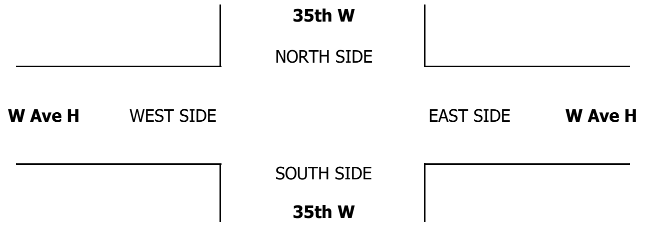
N
◀ W
E ▶
S
▼

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS				
		35th W			35th W			W Ave H			W Ave H								
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	X	X	X	0	X	0	1	1	X	X	2	0						
AM	7:00 AM	0	0	0	0	0	1	0	13	0	0	30	4	48	0	0	0	0	0
	7:15 AM	0	0	0	1	0	0	0	30	0	0	55	1	87	0	0	0	0	0
	7:30 AM	0	0	0	1	0	0	0	69	0	0	50	1	121	0	0	0	0	0
	7:45 AM	0	0	0	1	0	0	2	70	0	0	27	3	103	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	19	0	0	19	0	38	0	0	0	0	0
	8:15 AM	0	0	0	1	0	0	1	35	0	0	17	2	56	0	0	0	0	0
	8:30 AM	0	0	0	2	0	0	1	27	0	0	20	2	52	0	0	0	0	0
	8:45 AM	0	0	0	2	0	0	0	16	0	0	12	0	30	0	0	0	0	0
	VOLUMES	0	0	0	8	0	1	4	279	0	0	230	13	535	0	0	0	0	0
	APPROACH %	0%	0%	0%	89%	0%	11%	1%	99%	0%	0%	95%	5%						
	APP/DEPART	0	/	17	9	/	0	283	/	287	243	/	231	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	0	0	0	3	0	1	2	182	0	0	162	9	359					
	APPROACH %	0%	0%	0%	75%	0%	25%	1%	99%	0%	0%	95%	5%						
	PEAK HR FACTOR		0.000			1.000			0.639			0.763		0.742					
	APP/DEPART	0	/	11	4	/	0	184	/	185	171	/	163	0					
PM	4:00 PM	0	0	0	2	0	1	0	21	0	0	23	1	48	0	0	0	0	0
	4:15 PM	0	0	0	1	0	0	0	20	0	0	18	0	39	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	35	0	0	19	0	54	0	0	0	0	0
	4:45 PM	0	0	0	2	0	3	0	18	0	0	30	0	53	0	0	0	0	0
	5:00 PM	0	0	0	1	0	0	0	22	0	0	29	2	54	0	0	0	0	0
	5:15 PM	0	0	0	0	0	1	0	22	0	0	14	0	37	0	0	0	0	0
	5:30 PM	0	0	0	1	0	0	0	24	0	0	22	1	48	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	14	0	0	15	1	30	0	0	0	0	0
	VOLUMES	0	0	0	7	0	5	0	176	0	0	170	5	363	0	0	0	0	0
	APPROACH %	0%	0%	0%	58%	0%	42%	0%	100%	0%	0%	97%	3%						
	APP/DEPART	0	/	5	12	/	0	176	/	183	175	/	175	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	0	0	4	0	3	0	95	0	0	96	2	200					
	APPROACH %	0%	0%	0%	57%	0%	43%	0%	100%	0%	0%	98%	2%						
	PEAK HR FACTOR		0.000			0.350			0.679			0.790		0.926					
	APP/DEPART	0	/	2	7	/	0	95	/	99	98	/	99	0					



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Lancaster 35th W W Ave H	PROJECT #: LOCATION #: CONTROL:	SC3821 2 SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	**NOTES:**	AM PM MD OTHER OTHER	▲ N ◀ W E ▶ S ▼

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
			35th W			35th W			W Ave H			W Ave H		
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	X	X	0	X	0	1	1	X	X	2	0	
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	2	1	3
	7:15 AM	0	0	0	0	0	0	0	1	0	0	0	1	2
	7:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	3
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	5	0	0	1	0	6
	8:15 AM	0	0	0	0	0	0	0	1	0	0	2	0	3
	8:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
	8:45 AM	0	0	0	0	0	0	0	1	0	0	5	0	6
	VOLUMES	0	0	0	0	0	0	0	10	0	0	13	2	25
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	87%	13%	
	APP/DEPART	0	/	2	0	/	0	10	/	10	15	/	13	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	0	0	0	0	0	0	0	1	0	0	5	2	8
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	71%	29%	
	PEAK HR FACTOR		0.000			0.000			0.250			0.583		0.667
	APP/DEPART	0	/	2	0	/	0	1	/	1	7	/	5	0
PM	4:00 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
	4:15 PM	0	0	0	0	0	0	0	5	0	0	3	0	8
	4:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
	4:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
	5:00 PM	0	0	0	0	0	0	0	2	0	0	2	0	4
	5:15 PM	0	0	0	0	0	0	0	2	0	0	1	0	3
	5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	VOLUMES	0	0	0	0	0	0	0	13	0	0	10	0	23
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	APP/DEPART	0	/	0	0	/	0	13	/	13	10	/	10	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	0	0	0	0	0	0	0	9	0	0	7	0	16
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	PEAK HR FACTOR		0.000			0.000			0.450			0.583		0.500
	APP/DEPART	0	/	0	0	/	0	9	/	9	7	/	7	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

35th W

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

35th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	35th W	LOCATION #:	2
	EAST & WEST:	W Ave H	CONTROL:	SIGNAL

CLASS 3:
3-AXLE
TRUCKS

NOTES:

AM
PM
MD
OTHER
OTHER

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N
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E ►
S
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		NORTHBOUND 35th W			SOUTHBOUND 35th W			EASTBOUND W Ave H			WESTBOUND W Ave H				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	X	X	X	0	X	0	1	1	X	X	2	0						
AM	7:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	1	0	0	0	0	0	0	2	0	3	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	1	0	0	0	1	0	0	5	0	7	0	0	0	0	0
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	100%	0%						
	APP/DEPART	0	/	0	1	/	0	1	/	2	5	/	5	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	0	0	0	0	0	0	0	1	0	0	3	0	4					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.000			0.000			0.250			0.375		0.500					
	APP/DEPART	0	/	0	0	/	0	1	/	1	3	/	3	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	2	0	0	1	0	3	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	APP/DEPART	0	/	0	0	/	0	2	/	2	1	/	1	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	0	0	0	0	0	0	1	0	0	0	0	1					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.250			0.000		0.250					
	APP/DEPART	0	/	0	0	/	0	1	/	1	0	/	0	0					

35th W

NORTH SIDE

W Ave H WEST SIDE EAST SIDE **W Ave H**

SOUTH SIDE

35th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Lancaster 35th W W Ave H	PROJECT #: LOCATION #: CONTROL:	SC3821 2 SIGNAL	

CLASS 4: 4 OR MORE AXLE TRUCKS	**NOTES:**	AM PM MD OTHER OTHER	▲ N ◄ W E ► S ▼

		NORTHBOUND 35th W			SOUTHBOUND 35th W			EASTBOUND W Ave H			WESTBOUND W Ave H				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	X	X	X	0	X	0	1	1	X	X	2	0						
AM	7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0
	8:00 AM	0	0	0	1	0	0	0	0	0	0	1	1	3	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
	8:30 AM	0	0	0	1	0	0	0	0	0	0	0	2	3	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	VOLUMES	0	0	0	2	0	0	0	1	0	0	4	4	11	0	0	0	0	0
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	50%	50%						
	APP/DEPART	0	/	4	2	/	0	1	/	3	8	/	4	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	0	0	0	0	0	0	0	1	0	0	2	0	3					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.000			0.000			0.250			0.250		0.375					
	APP/DEPART	0	/	0	0	/	0	1	/	1	2	/	2	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	2	0	0	0	1	0	0	0	0	3	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	1	0	0	0	1	0	2	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	2	0	0	1	1	0	0	2	2	8	0	0	0	0	0
	APPROACH %	0%	0%	0%	100%	0%	0%	50%	50%	0%	0%	50%	50%						
	APP/DEPART	0	/	3	2	/	0	2	/	3	4	/	2	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	0	0	2	0	0	0	1	0	0	0	0	3					
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.250			0.250			0.000		0.250					
	APP/DEPART	0	/	0	2	/	0	1	/	3	0	/	0	0					

35th W

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

35th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Lancaster 35th W W Ave H	PROJECT #: LOCATION #: CONTROL:	SC3821 2 SIGNAL	

CLASS 5:	NOTES:		
RV		AM PM MD OTHER OTHER	▲ N ◀ W E ▶ S ▼

		NORTHBOUND 35th W			SOUTHBOUND 35th W			EASTBOUND W Ave H			WESTBOUND W Ave H			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	X	X	0	X	0	1	1	X	X	2	0	
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

35th W

NORTH SIDE

W Ave H WEST SIDE EAST SIDE **W Ave H**

SOUTH SIDE

35th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster		PROJECT #:	SC3821
	NORTH & SOUTH:	35th W		LOCATION #:	2
	EAST & WEST:	W Ave H		CONTROL:	SIGNAL

CLASS 6: BUSES

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND 35th W			SOUTHBOUND 35th W			EASTBOUND W Ave H			WESTBOUND W Ave H				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	X	X	X	0	X	0	1	1	X	X	2	0						
AM	7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	6	0	0	1	0	7	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	APP/DEPART	0	/	0	0	/	0	6	/	6	1	/	1	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	0	0	0	0	0	0	0	4	0	0	0	0	4					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.333			0.000		0.333					
	APP/DEPART	0	/	0	0	/	0	4	/	4	0	/	0	0					
PM	4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%						
	APP/DEPART	0	/	0	0	/	0	1	/	1	0	/	0	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					

35th W

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

35th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Jan 25, 23	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	30th W	LOCATION #:	3
	EAST & WEST:	W Ave H	CONTROL:	SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

▲
N
◄ W
E ►
S
▼

☑ Add U-Turns to Left Turns

		NORTHBOUND 30th W			SOUTHBOUND 30th W			EASTBOUND W Ave H			WESTBOUND W Ave H			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	0	1	2	0	1	2	0	1	2	1	
AM	7:00 AM	3	0	12	1	4	1	0	18	1	14	42	0	96
	7:15 AM	3	3	24	6	7	1	0	31	2	34	47	1	159
	7:30 AM	0	2	33	4	8	1	0	71	6	59	47	0	231
	7:45 AM	3	9	49	1	8	0	0	56	5	45	29	0	205
	8:00 AM	1	6	41	2	5	0	0	29	1	45	19	3	152
	8:15 AM	1	2	36	1	9	0	0	31	4	64	22	1	171
	8:30 AM	1	4	37	2	9	0	0	32	0	31	22	1	139
	8:45 AM	1	5	19	2	8	0	1	17	1	18	20	2	94
	VOLUMES	13	31	251	19	58	3	1	285	20	310	248	8	1,247
	APPROACH %	4%	11%	85%	24%	73%	4%	0%	93%	7%	55%	44%	1%	
	APP/DEPART	295	/	40	80	/	387	306	/	556	566	/	264	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	5	19	159	8	30	1	0	187	16	213	117	4	759
	APPROACH %	3%	10%	87%	21%	77%	3%	0%	92%	8%	64%	35%	1%	
	PEAK HR FACTOR		0.750			0.750			0.659			0.788		0.821
	APP/DEPART	183	/	23	39	/	259	203	/	354	334	/	123	0
PM	4:00 PM	2	12	24	2	12	0	0	27	1	33	24	5	142
	4:15 PM	3	10	8	0	14	1	0	28	2	30	20	8	124
	4:30 PM	0	6	15	3	10	0	0	34	3	39	23	4	137
	4:45 PM	1	6	12	0	11	0	0	20	1	42	31	5	129
	5:00 PM	1	11	20	1	8	0	0	25	2	38	32	1	139
	5:15 PM	0	5	19	1	13	1	0	24	1	31	15	3	113
	5:30 PM	1	4	29	2	6	1	0	24	0	28	28	1	124
	5:45 PM	2	8	23	4	5	0	0	14	0	27	13	3	99
	VOLUMES	10	62	150	13	79	3	0	196	10	268	186	30	1,007
	APPROACH %	5%	28%	68%	14%	83%	3%	0%	95%	5%	55%	38%	6%	
	APP/DEPART	222	/	92	95	/	356	206	/	360	484	/	199	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	6	34	59	5	47	1	0	109	7	144	98	22	532
	APPROACH %	6%	34%	60%	9%	89%	2%	0%	94%	6%	55%	37%	8%	
	PEAK HR FACTOR		0.651			0.883			0.784			0.846		0.937
	APP/DEPART	99	/	56	53	/	198	116	/	173	264	/	105	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1

30th W

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

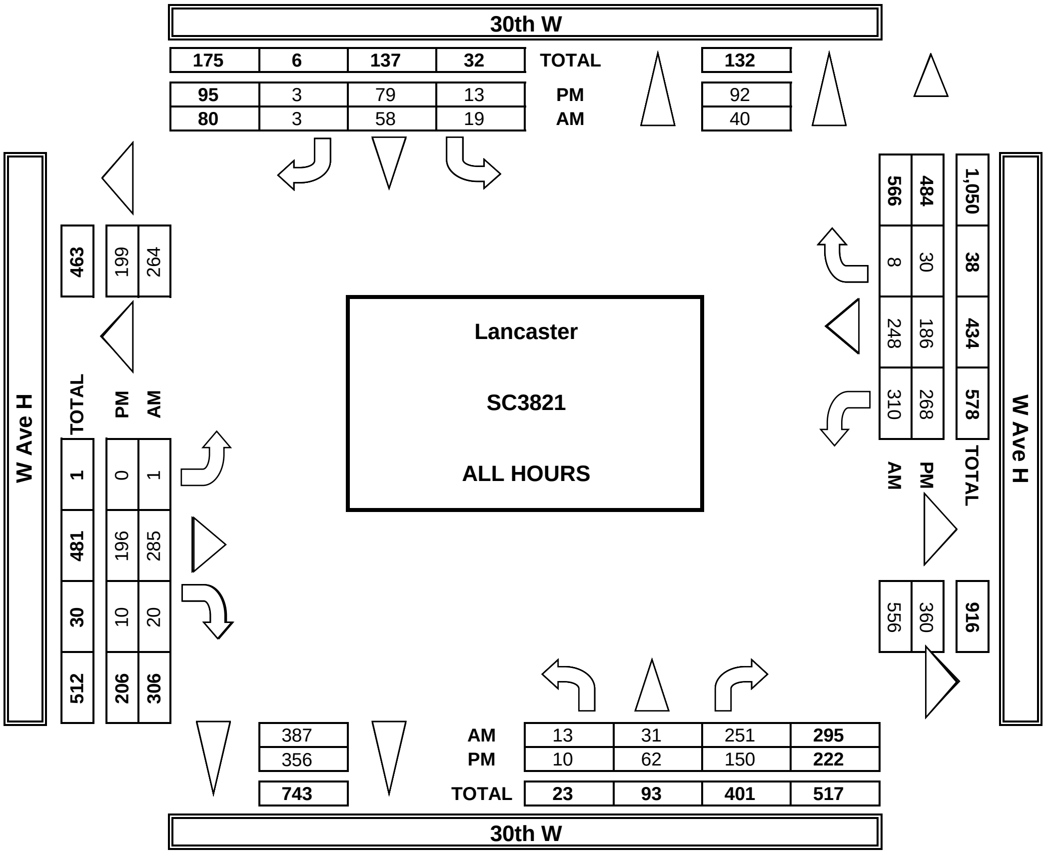
SOUTH SIDE

30th W

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	1	0	1	0	2	1	0	1	0	2	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
	TOTAL	1	0	1	1	3	1	0	1	0	2	0	0	0	1	1
PM	4:00 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	TOTAL	0	0	1	1	2	0	0	0	0	0	0	0	1	1	2

AimTD LLC

TURNING MOVEMENT COUNTS



30th W (north leg)

175	6	137	32	TOTAL	132
95	3	79	13	PM	92
80	3	58	19	AM	40

W Ave H (west leg)

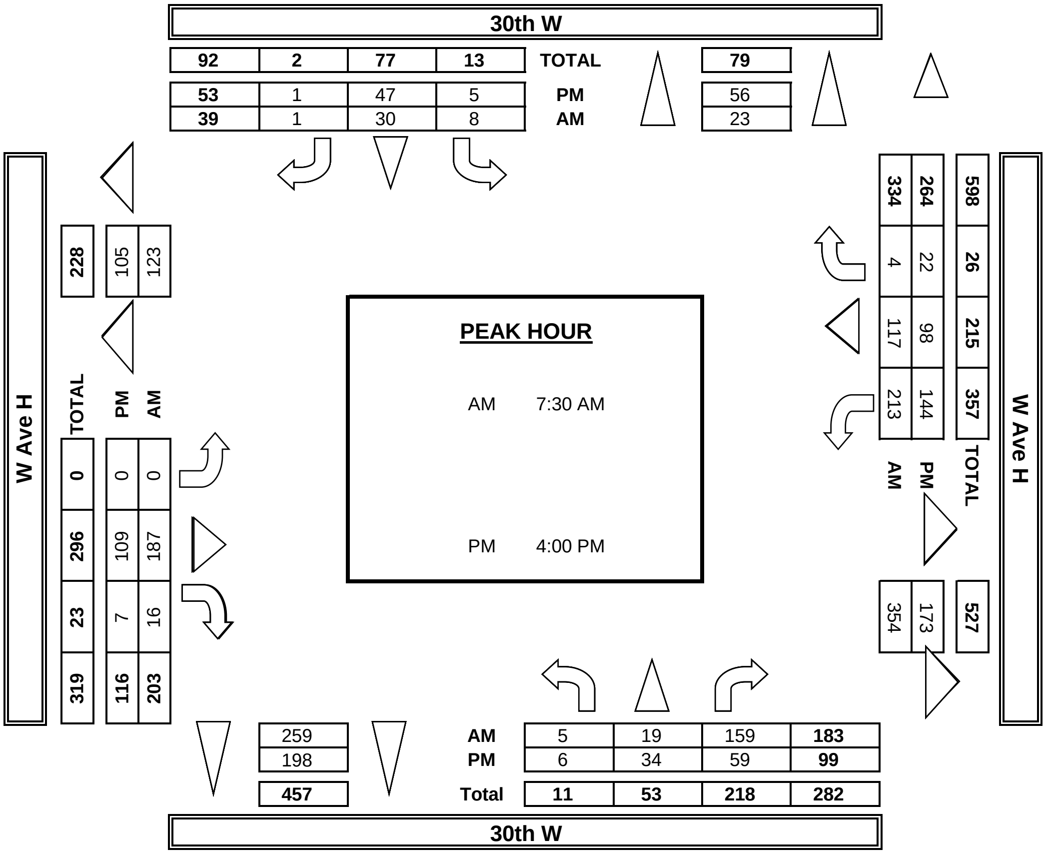
463	199	264
TOTAL	PM	AM
1	0	1
481	196	285
30	10	20
512	206	306

W Ave H (east leg)

566	484	1,050
8	30	38
248	186	434
310	268	578
AM	PM	TOTAL
556	360	916

30th W (south leg)

387	AM	13	31	251	295
356	PM	10	62	150	222
743	TOTAL	23	93	401	517



AM 7:30 AM

PM 4:00 PM

30th W (north leg)

92	2	77	13	TOTAL	79
53	1	47	5	PM	56
39	1	30	8	AM	23

W Ave H (west leg)

228	105	123
TOTAL	PM	AM
0	0	0
296	109	187
23	7	16
319	116	203

W Ave H (east leg)

334	264	598
4	22	26
117	98	215
213	144	357
AM	PM	TOTAL
354	173	527

30th W (south leg)

259	AM	5	19	159	183
198	PM	6	34	59	99
457	Total	11	53	218	282

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	30th W	LOCATION #:	3
	EAST & WEST:	W Ave H	CONTROL:	SIGNAL

PCE Adjusted	**NOTES:**								AM		▲ N
	Class	1	2	3	4	5	6		PM		
	Factor	1	1.5	2	3	2	2		MD	◄ W	E ►
									OTHER		S
									OTHER		▼

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS				
		30th W			30th W			W Ave H			W Ave H								
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1	2	0	1	2	0	1	2	0	1	2	1						
AM	7:00 AM	4	0	13	1	5	1	0	21	2	15	44	0	104					0
	7:15 AM	3	3	25	6	9	1	0	32	2	37	48	1	166					0
	7:30 AM	0	2	33	4	8	1	0	73	7	61	51	0	239					0
	7:45 AM	3	10	49	1	11	0	0	56	5	47	33	0	214					0
	8:00 AM	1	6	41	3	5	0	0	34	2	46	24	3	164					0
	8:15 AM	2	2	36	1	11	0	0	32	4	64	25	1	176					0
	8:30 AM	1	4	39	2	9	0	0	37	0	33	29	1	154					0
	8:45 AM	1	6	23	2	8	0	1	18	1	18	25	3	104					0
	VOLUMES	15	32	258	20	65	3	1	302	23	319	276	9	1,319	0	0	0	0	0
	APPROACH %	5%	11%	85%	22%	74%	3%	0%	93%	7%	53%	46%	1%						
	APP/DEPART	304	/	42	87	/	406	325	/	579	603	/	294	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	6	20	159	9	34	1	0	195	18	217	132	4	792					
	APPROACH %	3%	11%	86%	20%	78%	2%	0%	92%	8%	62%	37%	1%						
	PEAK HR FACTOR		0.748			0.837			0.663			0.794		0.828					
	APP/DEPART	184	/	24	44	/	269	212	/	362	353	/	138	0					
PM	4:00 PM	2	13	25	2	12	0	0	29	1	33	28	5	150					0
	4:15 PM	4	10	9	0	15	1	0	31	2	32	21	8	131					0
	4:30 PM	0	6	16	3	10	0	0	42	3	40	24	5	148					0
	4:45 PM	1	6	12	0	11	0	0	21	1	42	32	6	131					0
	5:00 PM	1	12	21	1	9	0	0	26	2	39	33	2	144					0
	5:15 PM	0	5	22	1	14	2	0	25	2	31	17	4	121					0
	5:30 PM	1	4	31	2	6	1	0	24	0	29	31	2	130					0
	5:45 PM	2	8	26	6	5	0	0	15	0	28	15	3	107					0
	VOLUMES	11	64	160	15	81	4	0	211	11	272	199	34	1,059	0	0	0	0	0
	APPROACH %	4%	27%	68%	15%	81%	4%	0%	95%	5%	54%	39%	7%						
	APP/DEPART	234	/	97	99	/	363	222	/	386	505	/	213	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	7	35	61	5	48	1	0	122	7	147	104	24	559					
	APPROACH %	6%	34%	60%	9%	89%	2%	0%	95%	5%	53%	38%	9%						
	PEAK HR FACTOR		0.649			0.863			0.722			0.867		0.934					
	APP/DEPART	103	/	59	54	/	201	129	/	188	274	/	112	0					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster		PROJECT #:	SC3821
	NORTH & SOUTH:	30th W		LOCATION #:	3
	EAST & WEST:	W Ave H		CONTROL:	SIGNAL

CLASS 1:
PASSENGER
VEHICLES

NOTES:

AM
PM
MD
OTHER
OTHER

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		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS				
		30th W			30th W			W Ave H			W Ave H								
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1	2	0	1	2	0	1	2	0	1	2	1						
AM	7:00 AM	2	0	11	1	3	1	0	16	0	13	39	0	86	0	0	0	0	0
	7:15 AM	3	3	23	6	6	1	0	30	2	32	46	1	153	0	0	0	0	0
	7:30 AM	0	2	33	4	8	1	0	69	5	57	42	0	221	0	0	0	0	0
	7:45 AM	3	8	49	1	6	0	0	56	5	43	27	0	198	0	0	0	0	0
	8:00 AM	1	6	41	1	5	0	0	23	0	44	16	3	140	0	0	0	0	0
	8:15 AM	0	2	36	1	7	0	0	30	4	64	20	1	165	0	0	0	0	0
	8:30 AM	1	4	34	2	9	0	0	27	0	28	17	1	123	0	0	0	1	1
	8:45 AM	1	4	16	2	8	0	1	16	1	18	14	1	82	0	0	0	0	0
	VOLUMES	11	29	243	18	52	3	1	267	17	299	221	7	1,168	0	0	0	1	1
	APPROACH %	4%	10%	86%	25%	71%	4%	0%	94%	6%	57%	42%	1%						
	APP/DEPART	283	/	37	73	/	367	285	/	529	527	/	235	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	4	18	159	7	26	1	0	178	14	208	105	4	724					
	APPROACH %	2%	10%	88%	21%	76%	3%	0%	93%	7%	66%	33%	1%						
	PEAK HR FACTOR		0.754			0.654			0.649			0.801		0.819					
	APP/DEPART	181	/	22	34	/	248	192	/	344	317	/	110	0					
PM	4:00 PM	2	10	23	2	12	0	0	24	1	33	22	5	134	0	0	0	0	0
	4:15 PM	2	10	7	0	13	1	0	23	2	28	18	8	112	0	0	0	0	0
	4:30 PM	0	6	14	3	10	0	0	29	3	38	22	3	128	0	0	0	0	0
	4:45 PM	1	6	12	0	11	0	0	19	1	42	30	4	126	0	0	0	0	0
	5:00 PM	1	10	19	1	7	0	0	23	2	37	30	0	130	0	0	0	1	1
	5:15 PM	0	5	15	1	12	0	0	23	0	31	14	2	103	0	0	0	0	0
	5:30 PM	1	4	26	2	6	1	0	24	0	27	26	0	117	0	0	0	0	0
	5:45 PM	2	8	19	3	5	0	0	13	0	26	11	3	90	0	0	0	0	0
	VOLUMES	9	59	135	12	76	2	0	178	9	262	173	25	940	0	0	0	1	1
	APPROACH %	4%	29%	67%	13%	84%	2%	0%	95%	5%	57%	38%	5%						
	APP/DEPART	203	/	84	90	/	346	187	/	326	460	/	184	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	5	32	56	5	46	1	0	95	7	141	92	20	500					
	APPROACH %	5%	34%	60%	10%	88%	2%	0%	93%	7%	56%	36%	8%						
	PEAK HR FACTOR		0.664			0.929			0.797			0.832		0.933					
	APP/DEPART	93	/	52	52	/	194	102	/	156	253	/	98	0					

30th W

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

30th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Lancaster 30th W W Ave H	PROJECT #: LOCATION #: CONTROL:	SC3821 3 SIGNAL

CLASS 2:
2-AXLE
WORK
VEHICLES/
TRUCKS

NOTES:

AM
PM
MD
OTHER
OTHER

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		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
		30th W			30th W			W Ave H			W Ave H			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	0	1	2	0	1	2	0	1	2	1	
AM	7:00 AM	0	0	1	0	1	0	0	0	0	1	3	0	6
	7:15 AM	0	0	0	0	0	0	0	1	0	1	1	0	3
	7:30 AM	0	0	0	0	0	0	0	0	0	1	3	0	4
	7:45 AM	0	1	0	0	1	0	0	0	0	1	0	0	3
	8:00 AM	0	0	0	1	0	0	0	4	1	0	1	0	7
	8:15 AM	1	0	0	0	1	0	0	1	0	0	1	0	4
	8:30 AM	0	0	3	0	0	0	0	2	0	3	0	0	8
	8:45 AM	0	1	1	0	0	0	0	1	0	0	5	1	9
	VOLUMES	1	2	5	1	3	0	0	9	1	7	14	1	44
	APPROACH %	13%	25%	63%	25%	75%	0%	0%	90%	10%	32%	64%	5%	
	APP/DEPART	8	/	3	4	/	11	10	/	15	22	/	15	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	1	1	0	1	2	0	0	5	1	2	5	0	18
	APPROACH %	50%	50%	0%	33%	67%	0%	0%	83%	17%	29%	71%	0%	
	PEAK HR FACTOR		0.500			0.750			0.300			0.438		0.643
	APP/DEPART	2	/	1	3	/	5	6	/	6	7	/	6	0
PM	4:00 PM	0	2	1	0	0	0	0	2	0	0	0	0	5
	4:15 PM	1	0	1	0	1	0	0	5	0	1	2	0	11
	4:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
	4:45 PM	0	0	0	0	0	0	0	1	0	0	1	1	3
	5:00 PM	0	1	1	0	1	0	0	2	0	1	2	0	8
	5:15 PM	0	0	2	0	1	1	0	1	1	0	0	1	7
	5:30 PM	0	0	2	0	0	0	0	0	0	1	1	1	5
	5:45 PM	0	0	3	0	0	0	0	0	0	1	1	0	5
	VOLUMES	1	3	10	0	3	1	0	12	1	4	8	3	46
	APPROACH %	7%	21%	71%	0%	75%	25%	0%	92%	8%	27%	53%	20%	
	APP/DEPART	14	/	6	4	/	8	13	/	22	15	/	10	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	1	2	2	0	1	0	0	9	0	1	4	1	21
	APPROACH %	20%	40%	40%	0%	100%	0%	0%	100%	0%	17%	67%	17%	
	PEAK HR FACTOR		0.417			0.250			0.450			0.500		0.477
	APP/DEPART	5	/	3	1	/	2	9	/	11	6	/	5	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

30th W

NORTH SIDE

W Ave H WEST SIDE EAST SIDE **W Ave H**

SOUTH SIDE

30th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Lancaster 30th W W Ave H	PROJECT #: SC3821 LOCATION #: 3 CONTROL: SIGNAL

CLASS 3:
3-AXLE
TRUCKS

NOTES:

AM
PM
MD
OTHER
OTHER

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		NORTHBOUND 30th W			SOUTHBOUND 30th W			EASTBOUND W Ave H			WESTBOUND W Ave H				U-TURNS				
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 1	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	1	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	1	0	0	2	0	3	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	1	0	0	0	1	0	0	1	1	2	4	0	10	0	0	0	0	0
	APPROACH %	100%	0%	0%	0%	100%	0%	0%	50%	50%	33%	67%	0%						
	APP/DEPART	1	/	0	1	/	4	2	/	1	6	/	5	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	0	0	1	0	0	0	0	2	2	0	5					
	APPROACH %	0%	0%	0%	0%	100%	0%	0%	0%	0%	50%	50%	0%						
	PEAK HR FACTOR		0.000			0.250			0.000			0.333		0.417					
	APP/DEPART	0	/	0	1	/	3	0	/	0	4	/	2	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
	4:30 PM	0	0	1	0	0	0	0	1	0	0	0	1	3	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	0
	VOLUMES	0	0	2	0	0	0	0	2	0	1	1	2	8	0	0	0	0	0
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	100%	0%	25%	25%	50%						
	APP/DEPART	2	/	2	0	/	1	2	/	4	4	/	1	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	1	0	0	0	0	1	0	1	0	1	4					
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	100%	0%	50%	0%	50%						
	PEAK HR FACTOR		0.250			0.000			0.250			0.500		0.333					
	APP/DEPART	1	/	1	0	/	1	1	/	2	2	/	0	0					

30th W

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

30th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	30th W	LOCATION #:	3
	EAST & WEST:	W Ave H	CONTROL:	SIGNAL

CLASS 4:

4 OR MORE
AXLE
TRUCKS

NOTES:

AM
PM
MD
OTHER
OTHER

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		NORTHBOUND 30th W			SOUTHBOUND 30th W			EASTBOUND W Ave H			WESTBOUND W Ave H				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1	2	0	1	2	0	1	2	0	1	2	1						
AM	7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	7:15 AM	0	0	0	0	1	0	0	0	0	1	0	0	2	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	1	0	0	0	0	0	2	0	3	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	1	0	0	2	0	3	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	1	0	0	2	0	3	0	0	0	0	0
	8:45 AM	0	0	1	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0
	VOLUMES	0	0	1	0	2	0	0	3	0	1	8	0	15	0	0	0	0	0
	APPROACH %	0%	0%	100%	0%	100%	0%	0%	100%	0%	11%	89%	0%						
	APP/DEPART	1	/	0	2	/	3	3	/	4	9	/	8	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	0	0	1	0	0	1	0	0	5	0	7					
	APPROACH %	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.000			0.250			0.250			0.625		0.583					
	APP/DEPART	0	/	0	1	/	1	1	/	1	5	/	5	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	5:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	VOLUMES	0	0	0	1	0	0	0	3	0	0	4	0	8	0	0	0	0	0
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	100%	0%						
	APP/DEPART	0	/	0	1	/	0	3	/	4	4	/	4	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	0	0	0	0	0	3	0	0	2	0	5					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.000			0.000			0.250			0.250		0.417					
	APP/DEPART	0	/	0	0	/	0	3	/	3	2	/	2	0					

30th W

NORTH SIDE

W Ave H WEST SIDE EAST SIDE **W Ave H**

SOUTH SIDE

30th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Lancaster 30th W W Ave H	PROJECT #: SC3821 LOCATION #: 3 CONTROL: SIGNAL

CLASS 5: RV

NOTES:

AM
PM
MD
OTHER
OTHER

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		NORTHBOUND 30th W			SOUTHBOUND 30th W			EASTBOUND W Ave H			WESTBOUND W Ave H				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1	2	0	1	2	0	1	2	0	1	2	1						
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					

30th W

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

30th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	30th W	LOCATION #:	3
	EAST & WEST:	W Ave H	CONTROL:	SIGNAL

CLASS 6: BUSES

NOTES:

AM
PM
MD
OTHER
OTHER

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		NORTHBOUND 30th W			SOUTHBOUND 30th W			EASTBOUND W Ave H			WESTBOUND W Ave H				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1	2	0	1	2	0	1	2	0	1	2	1						
AM	7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	2	1	0	0	0	3	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	2	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	0
	8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	VOLUMES	0	0	2	0	0	0	0	5	1	1	1	0	10	0	0	0	0	0
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	83%	17%	50%	50%	0%						
	APP/DEPART	2	/	0	0	/	2	6	/	7	2	/	1	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	0	0	0	0	0	3	1	1	0	0	5					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	75%	25%	100%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.333			0.250		0.417					
	APP/DEPART	0	/	0	0	/	2	4	/	3	1	/	0	0					
PM	4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	VOLUMES	0	0	3	0	0	0	0	1	0	1	0	0	5	0	0	0	0	0
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	100%	0%	100%	0%	0%						
	APP/DEPART	3	/	0	0	/	1	1	/	4	1	/	0	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	0	0	0	0	0	1	0	1	0	0	2					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.250			0.250		0.500					
	APP/DEPART	0	/	0	0	/	1	1	/	1	1	/	0	0					

30th W

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

30th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Jan 25, 23	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	SR-14 SB Ramps	LOCATION #:	5
	EAST & WEST:	W Ave H	CONTROL:	STOP S

NOTES:

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PM
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☐ Add U-Turns to Left Turns

		NORTHBOUND SR-14 SB Ramps			SOUTHBOUND SR-14 SB Ramps			EASTBOUND W Ave H			WESTBOUND W Ave H			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	X	X	1	X	1	X	2	1	X	2	1	
AM	7:00 AM	0	0	0	25	0	7	0	27	2	0	48	67	176
	7:15 AM	0	0	0	41	0	14	0	55	2	0	77	92	281
	7:30 AM	0	0	0	53	0	13	0	77	17	0	98	96	354
	7:45 AM	0	0	0	43	0	16	0	99	17	0	79	98	352
	8:00 AM	0	0	0	20	0	10	0	61	5	0	59	73	228
	8:15 AM	0	0	0	35	0	9	0	64	4	0	74	70	256
	8:30 AM	0	0	0	30	0	9	0	61	4	0	58	51	213
	8:45 AM	0	0	0	21	0	10	0	43	2	0	52	62	190
	VOLUMES	0	0	0	268	0	88	0	487	53	0	545	609	2,051
	APPROACH %	0%	0%	0%	75%	0%	25%	0%	90%	10%	0%	47%	53%	
	APP/DEPART	0	/	609	356	/	53	540	/	756	1,155	/	633	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	0	0	157	0	53	0	292	41	0	313	359	1,215
	APPROACH %	0%	0%	0%	75%	0%	25%	0%	88%	12%	0%	47%	53%	
	PEAK HR FACTOR		0.000			0.795			0.718			0.866		0.858
	APP/DEPART	0	/	359	210	/	41	333	/	449	672	/	366	0
PM	4:00 PM	0	0	0	32	0	13	0	67	17	0	51	71	251
	4:15 PM	0	0	0	36	0	12	0	44	10	0	50	88	240
	4:30 PM	0	0	0	31	0	13	0	56	27	0	49	105	281
	4:45 PM	0	0	0	40	0	21	0	52	16	0	57	53	239
	5:00 PM	0	0	0	38	0	17	0	54	7	0	53	67	236
	5:15 PM	0	0	0	53	0	11	0	61	4	0	54	47	230
	5:30 PM	0	0	0	50	0	19	0	59	11	0	37	66	242
	5:45 PM	0	0	0	34	0	7	0	42	5	0	43	52	183
	VOLUMES	0	0	0	314	0	113	0	435	97	0	394	549	1,902
	APPROACH %	0%	0%	0%	74%	0%	26%	0%	82%	18%	0%	42%	58%	
	APP/DEPART	0	/	549	427	/	97	532	/	749	943	/	507	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	0	0	0	139	0	59	0	219	70	0	207	317	1,011
	APPROACH %	0%	0%	0%	70%	0%	30%	0%	76%	24%	0%	40%	60%	
	PEAK HR FACTOR		0.000			0.811			0.860			0.851		0.899
	APP/DEPART	0	/	317	198	/	70	289	/	358	524	/	266	0

U-TURNS					
	NB	SB	EB	WB	TTL
	0	0	0	0	
7:00 AM	0	0	0	1	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
VOLUMES	0	0	0	1	1
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
VOLUMES	0	0	0	0	0

SR-14 SB Ramps

NORTH SIDE

W Ave H WEST SIDE

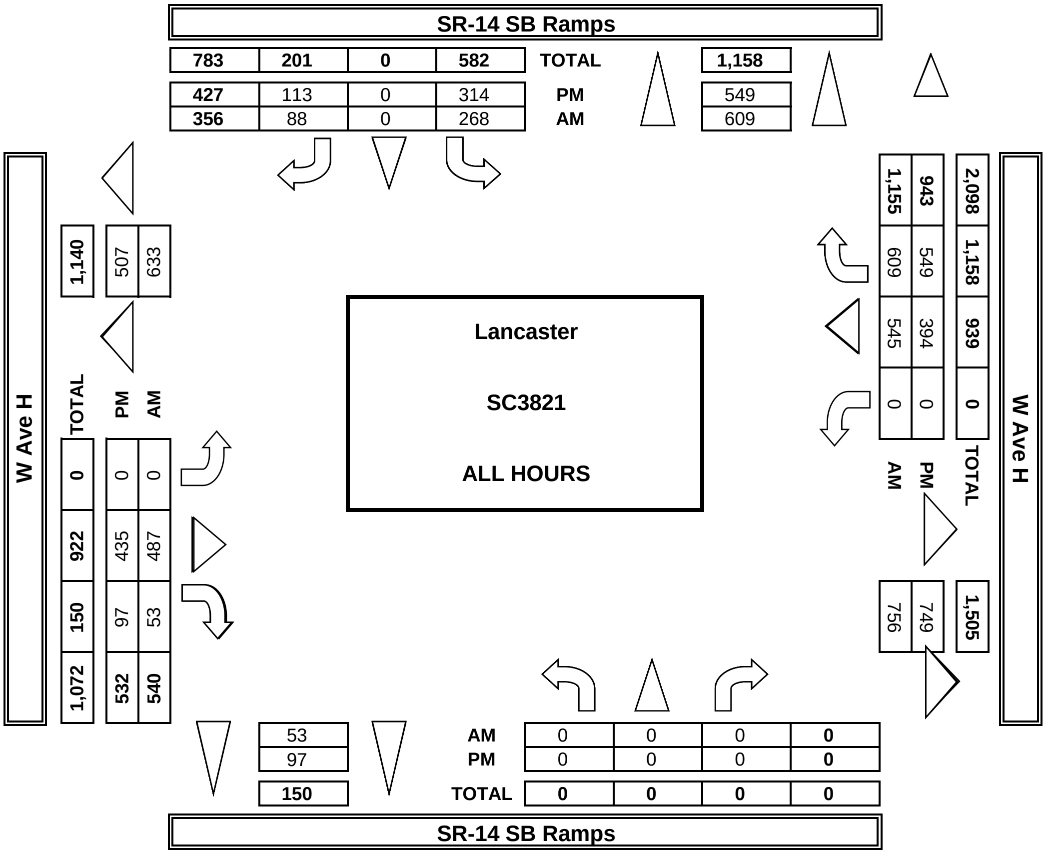
EAST SIDE **W Ave H**

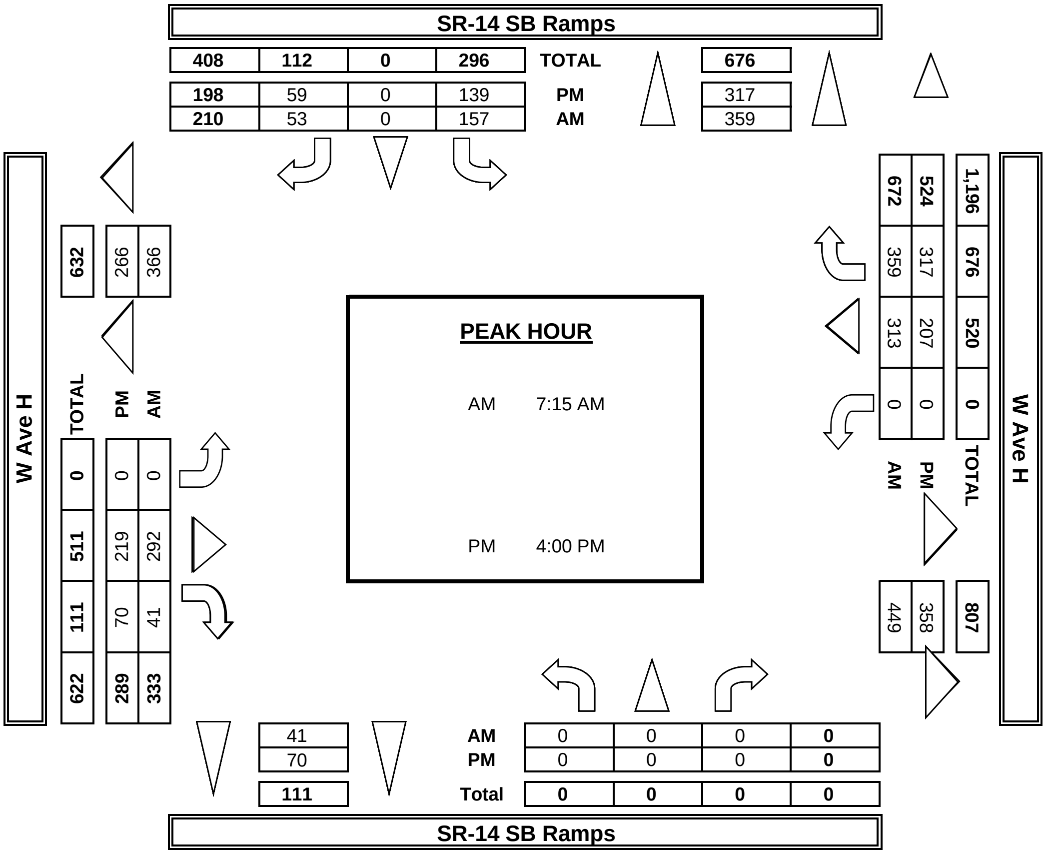
SOUTH SIDE

SR-14 SB Ramps

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	2	0	0	2	0	1	0	0	1	0	1	0	0	1
	TOTAL	0	2	0	0	2	0	1	0	0	1	0	1	0	0	1
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0

AimTD LLC
TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
1/25/23	LOCATION:	Lancaster	PROJECT #:	SC3821
WEDNESDAY	NORTH & SOUTH:	SR-14 SB Ramps	LOCATION #:	5
	EAST & WEST:	W Ave H	CONTROL:	STOP S

	NOTES:								
PCE Adjusted	Class	1	2	3	4	5	6		AM
	Factor	1	1.5	2	3	2	2		PM
									MD
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		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS				
		SR-14 SB Ramps			SR-14 SB Ramps			W Ave H			W Ave H								
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	X	X	X	1	X	1	X	2	1	X	2	1						
AM	7:00 AM	0	0	0	28	0	8	0	33	3	0	58	69	197					0
	7:15 AM	0	0	0	42	0	14	0	57	4	0	84	101	301					0
	7:30 AM	0	0	0	56	0	13	0	77	18	0	106	101	370					0
	7:45 AM	0	0	0	46	0	20	0	101	17	0	85	106	374					0
	8:00 AM	0	0	0	20	0	12	0	64	7	0	64	78	245					0
	8:15 AM	0	0	0	36	0	9	0	67	4	0	79	78	272					0
	8:30 AM	0	0	0	35	0	9	0	67	4	0	69	53	237					0
	8:45 AM	0	0	0	22	0	10	0	47	4	0	54	70	207					0
	VOLUMES	0	0	0	283	0	95	0	513	61	0	596	655	2,202	0	0	0	0	0
	APPROACH %	0%	0%	0%	75%	0%	25%	0%	89%	11%	0%	48%	52%						
	APP/DEPART	0	/	655	378	/	61	573	/	796	1,251	/	691	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	0	0	0	163	0	59	0	299	46	0	337	386	1,289					
	APPROACH %	0%	0%	0%	73%	0%	27%	0%	87%	13%	0%	47%	53%						
	PEAK HR FACTOR		0.000			0.808			0.731			0.877		0.862					
	APP/DEPART	0	/	386	222	/	46	345	/	462	723	/	396	0					
PM	4:00 PM	0	0	0	34	0	13	0	68	18	0	60	79	271					0
	4:15 PM	0	0	0	36	0	12	0	47	14	0	54	90	252					0
	4:30 PM	0	0	0	31	0	13	0	57	29	0	52	110	291					0
	4:45 PM	0	0	0	43	0	23	0	52	16	0	60	57	250					0
	5:00 PM	0	0	0	39	0	18	0	57	9	0	56	71	249					0
	5:15 PM	0	0	0	55	0	13	0	65	4	0	55	50	241					0
	5:30 PM	0	0	0	54	0	21	0	63	14	0	40	70	261					0
	5:45 PM	0	0	0	35	0	7	0	45	8	0	48	54	196					0
	VOLUMES	0	0	0	326	0	120	0	453	111	0	424	578	2,010	0	0	0	0	0
	APPROACH %	0%	0%	0%	73%	0%	27%	0%	80%	20%	0%	42%	58%						
	APP/DEPART	0	/	578	446	/	111	563	/	779	1,002	/	543	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	0	144	0	61	0	224	76	0	226	334	1,064					
	APPROACH %	0%	0%	0%	70%	0%	30%	0%	75%	25%	0%	40%	60%						
	PEAK HR FACTOR		0.000			0.781			0.871			0.869		0.914					
	APP/DEPART	0	/	334	205	/	76	300	/	367	560	/	287	0					

SR-14 SB Ramps

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

SR-14 SB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	SR-14 SB Ramps	LOCATION #:	5
	EAST & WEST:	W Ave H	CONTROL:	STOP S

CLASS 1:
PASSENGER
VEHICLES

NOTES:

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		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS				
		SR-14 SB Ramps			SR-14 SB Ramps			W Ave H			W Ave H								
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	X	X	X	1	X	1	X	2	1	X	2	1						
AM	7:00 AM	0	0	0	23	0	6	0	23	1	0	39	64	156	0	0	0	1	1
	7:15 AM	0	0	0	40	0	14	0	52	1	0	71	85	263	0	0	0	0	0
	7:30 AM	0	0	0	51	0	13	0	77	16	0	89	91	337	0	0	0	0	0
	7:45 AM	0	0	0	41	0	14	0	96	17	0	75	87	330	0	0	0	0	0
	8:00 AM	0	0	0	20	0	9	0	56	4	0	54	70	213	0	0	0	0	0
	8:15 AM	0	0	0	34	0	9	0	61	4	0	71	63	242	0	0	0	0	0
	8:30 AM	0	0	0	26	0	9	0	54	4	0	50	50	193	0	0	0	0	0
	8:45 AM	0	0	0	19	0	10	0	39	1	0	49	56	174	0	0	0	0	0
	VOLUMES	0	0	0	254	0	84	0	458	48	0	498	566	1,909	0	0	0	1	1
	APPROACH %	0%	0%	0%	75%	0%	25%	0%	91%	9%	0%	47%	53%						
	APP/DEPART	0	/	566	338	/	48	506	/	713	1,065	/	582	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	0	0	0	152	0	50	0	281	38	0	289	333	1,143					
	APPROACH %	0%	0%	0%	75%	0%	25%	0%	88%	12%	0%	46%	54%						
	PEAK HR FACTOR		0.000			0.789			0.706			0.864		0.848					
	APP/DEPART	0	/	333	202	/	38	319	/	433	622	/	339	0					
PM	4:00 PM	0	0	0	31	0	13	0	65	16	0	46	66	237	0	0	0	0	0
	4:15 PM	0	0	0	36	0	12	0	39	7	0	46	86	226	0	0	0	0	0
	4:30 PM	0	0	0	31	0	13	0	54	26	0	46	100	270	0	0	0	0	0
	4:45 PM	0	0	0	38	0	20	0	52	16	0	55	49	230	0	0	0	0	0
	5:00 PM	0	0	0	37	0	16	0	51	6	0	50	63	223	0	0	0	0	0
	5:15 PM	0	0	0	49	0	10	0	55	4	0	53	45	216	0	0	0	0	0
	5:30 PM	0	0	0	45	0	18	0	56	9	0	34	62	224	0	0	0	0	0
	5:45 PM	0	0	0	32	0	7	0	39	3	0	40	49	170	0	0	0	0	0
	VOLUMES	0	0	0	299	0	109	0	411	87	0	370	520	1,796	0	0	0	0	0
	APPROACH %	0%	0%	0%	73%	0%	27%	0%	83%	17%	0%	42%	58%						
	APP/DEPART	0	/	520	408	/	87	498	/	710	890	/	479	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	0	136	0	58	0	210	65	0	193	301	963					
	APPROACH %	0%	0%	0%	70%	0%	30%	0%	76%	24%	0%	39%	61%						
	PEAK HR FACTOR		0.000			0.836			0.849			0.846		0.892					
	APP/DEPART	0	/	301	194	/	65	275	/	346	494	/	251	0					

SR-14 SB Ramps

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

SR-14 SB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Lancaster SR-14 SB Ramps W Ave H	PROJECT #: LOCATION #: CONTROL:	SC3821 5 STOP S

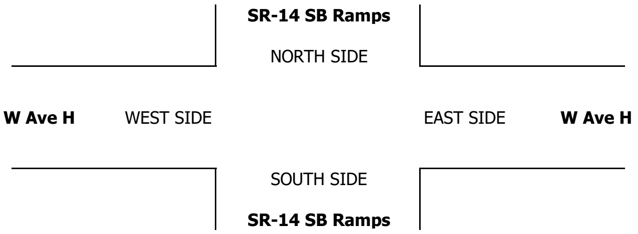
CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	**NOTES:**	AM PM MD OTHER OTHER	▲ N ◄ W E ► S ▼

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
		SR-14 SB Ramps			SR-14 SB Ramps			W Ave H			W Ave H			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	X	X	1	X	1	X	2	1	X	2	1	
AM	7:00 AM	0	0	0	1	0	1	0	0	1	0	5	2	10
	7:15 AM	0	0	0	1	0	0	0	2	0	0	3	2	8
	7:30 AM	0	0	0	1	0	0	0	0	0	0	5	3	9
	7:45 AM	0	0	0	1	0	0	0	2	0	0	1	8	12
	8:00 AM	0	0	0	0	0	0	0	4	0	0	3	0	7
	8:15 AM	0	0	0	0	0	0	0	2	0	0	1	3	6
	8:30 AM	0	0	0	2	0	0	0	4	0	0	2	0	8
	8:45 AM	0	0	0	2	0	0	0	3	0	0	2	2	9
	VOLUMES	0	0	0	8	0	1	0	17	1	0	22	20	69
	APPROACH %	0%	0%	0%	89%	0%	11%	0%	94%	6%	0%	52%	48%	
	APP/DEPART	0	/	20	9	/	1	18	/	25	42	/	23	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	0	0	3	0	0	0	8	0	0	12	13	36
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	48%	52%	
	PEAK HR FACTOR		0.000			0.750			0.500			0.694		0.750
	APP/DEPART	0	/	13	3	/	0	8	/	11	25	/	12	0
PM	4:00 PM	0	0	0	0	0	0	0	2	1	0	0	1	4
	4:15 PM	0	0	0	0	0	0	0	5	1	0	2	1	9
	4:30 PM	0	0	0	0	0	0	0	2	0	0	1	3	6
	4:45 PM	0	0	0	1	0	0	0	0	0	0	0	3	4
	5:00 PM	0	0	0	1	0	1	0	2	0	0	2	2	8
	5:15 PM	0	0	0	4	0	0	0	4	0	0	1	1	10
	5:30 PM	0	0	0	4	0	0	0	1	0	0	2	3	10
	5:45 PM	0	0	0	2	0	0	0	1	1	0	1	2	7
	VOLUMES	0	0	0	12	0	1	0	17	3	0	9	16	58
	APPROACH %	0%	0%	0%	92%	0%	8%	0%	85%	15%	0%	36%	64%	
	APP/DEPART	0	/	16	13	/	3	20	/	29	25	/	10	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	0	0	0	1	0	0	0	9	2	0	3	8	23
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	82%	18%	0%	27%	73%	
	PEAK HR FACTOR		0.000			0.250			0.458			0.688		0.639
	APP/DEPART	0	/	8	1	/	2	11	/	10	11	/	3	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
1/25/23
WEDNESDAY

LOCATION: Lancaster
NORTH & SOUTH: SR-14 SB Ramps
EAST & WEST: W Ave H

PROJECT #: SC3821
LOCATION #: 5
CONTROL: STOP S

CLASS 3:
3-AXLE
TRUCKS

NOTES:

AM
PM
MD
OTHER
OTHER

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		NORTHBOUND SR-14 SB Ramps			SOUTHBOUND SR-14 SB Ramps			EASTBOUND W Ave H			WESTBOUND W Ave H				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	X	X	X	1	X	1	X	2	1	X	2	1						
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
	8:15 AM	0	0	0	1	0	0	0	0	0	0	0	1	2	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	VOLUMES	0	0	0	1	0	0	0	1	0	0	8	6	16	0	0	0	0	0
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	57%	43%						
	APP/DEPART	0	/	6	1	/	0	1	/	2	14	/	8	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	5	4	9					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	56%	44%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.750		0.750					
	APP/DEPART	0	/	4	0	/	0	0	/	0	9	/	5	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	1	1	0	0	0	2	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	2	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	2	1	0	4	4	11	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	67%	33%	0%	50%	50%						
	APP/DEPART	0	/	4	0	/	1	3	/	2	8	/	4	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	4	2	6					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	67%	33%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.750		0.750					
	APP/DEPART	0	/	2	0	/	0	0	/	0	6	/	4	0					

SR-14 SB Ramps

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

SR-14 SB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	SR-14 SB Ramps	LOCATION #:	5
	EAST & WEST:	W Ave H	CONTROL:	STOP S

CLASS 4:
4 OR MORE
AXLE
TRUCKS

NOTES:

AM
PM
MD
OTHER
OTHER

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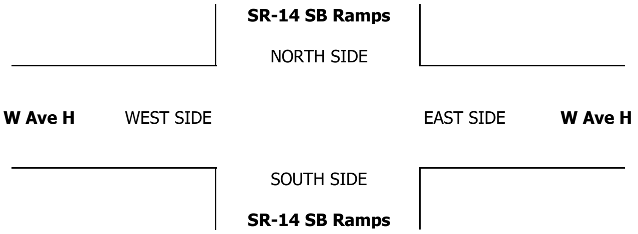
		NORTHBOUND SR-14 SB Ramps			SOUTHBOUND SR-14 SB Ramps			EASTBOUND W Ave H			WESTBOUND W Ave H				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	X	X	X	1	X	1	X	2	1	X	2	1						
AM	7:00 AM	0	0	0	1	0	0	0	2	0	0	3	0	6	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	1	0	2	3	6	0	0	0	0	0
	7:30 AM	0	0	0	1	0	0	0	0	0	0	1	1	3	0	0	0	0	0
	7:45 AM	0	0	0	1	0	2	0	0	0	0	2	1	6	0	0	0	0	0
	8:00 AM	0	0	0	0	0	1	0	0	1	0	1	2	5	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	1	0	0	2	2	5	0	0	0	0	0
	8:30 AM	0	0	0	2	0	0	0	1	0	0	4	1	8	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	1	1	0	0	3	5	0	0	0	0	0
	VOLUMES	0	0	0	5	0	3	0	5	3	0	15	13	44	0	0	0	0	0
	APPROACH %	0%	0%	0%	63%	0%	38%	0%	63%	38%	0%	54%	46%						
	APP/DEPART	0	/	13	8	/	3	8	/	10	28	/	18	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	0	0	0	2	0	3	0	0	2	0	6	7	20					
	APPROACH %	0%	0%	0%	40%	0%	60%	0%	0%	100%	0%	46%	54%						
	PEAK HR FACTOR		0.000			0.417			0.500			0.650		0.833					
	APP/DEPART	0	/	7	5	/	2	2	/	2	13	/	9	0					
PM	4:00 PM	0	0	0	1	0	0	0	0	0	0	4	3	8	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	2	0	0	0	0	0
	4:45 PM	0	0	0	1	0	1	0	0	0	0	1	1	4	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	1	1	0	1	1	4	0	0	0	0	0
	5:15 PM	0	0	0	0	0	1	0	0	0	0	0	1	2	0	0	0	0	0
	5:30 PM	0	0	0	1	0	1	0	1	1	0	1	1	6	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	1	0	2	0	3	0	0	0	0	0
	VOLUMES	0	0	0	3	0	3	0	2	5	0	10	8	31	0	0	0	0	0
	APPROACH %	0%	0%	0%	50%	0%	50%	0%	29%	71%	0%	56%	44%						
	APP/DEPART	0	/	8	6	/	5	7	/	5	18	/	13	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	0	2	0	1	0	0	2	0	6	5	16					
	APPROACH %	0%	0%	0%	67%	0%	33%	0%	0%	100%	0%	55%	45%						
	PEAK HR FACTOR		0.000			0.375			0.500			0.393		0.500					
	APP/DEPART	0	/	5	3	/	2	2	/	2	11	/	7	0					



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster		PROJECT #:	SC3821
	NORTH & SOUTH:	SR-14 SB Ramps		LOCATION #:	5
	EAST & WEST:	W Ave H		CONTROL:	STOP S

CLASS 5:	**NOTES:**	AM PM MD OTHER OTHER	▲ N ◄ W E ► S ▼
RV			

		NORTHBOUND SR-14 SB Ramps			SOUTHBOUND SR-14 SB Ramps			EASTBOUND W Ave H			WESTBOUND W Ave H				**U-TURNS**				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	X	X	X	1	X	1	X	2	1	X	2	1						
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					

SR-14 SB Ramps

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

SR-14 SB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	SR-14 SB Ramps	LOCATION #:	5
	EAST & WEST:	W Ave H	CONTROL:	STOP S

CLASS 6:

BUSES

NOTES:

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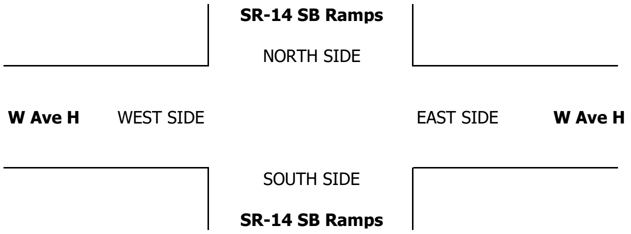
		NORTHBOUND SR-14 SB Ramps			SOUTHBOUND SR-14 SB Ramps			EASTBOUND W Ave H			WESTBOUND W Ave H				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	X	X	X	1	X	1	X	2	1	X	2	1						
AM	7:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	2	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	2	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	6	1	0	2	4	13	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	86%	14%	0%	33%	67%						
	APP/DEPART	0	/	4	0	/	1	7	/	6	6	/	2	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	0	0	0	0	0	0	0	3	1	0	1	2	7					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	75%	25%	0%	33%	67%						
	PEAK HR FACTOR		0.000			0.000			1.000			0.750		0.875					
	APP/DEPART	0	/	2	0	/	1	4	/	3	3	/	1	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	3	1	0	1	1	6	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	75%	25%	0%	50%	50%						
	APP/DEPART	0	/	1	0	/	1	4	/	3	2	/	1	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	0	0	0	0	0	0	1	0	1	1	3					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	50%	50%						
	PEAK HR FACTOR		0.000			0.000			0.250			0.500		0.750					
	APP/DEPART	0	/	1	0	/	1	1	/	0	2	/	1	0					



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Jan 25, 23	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	SR-14 NB Ramps	LOCATION #:	6
	EAST & WEST:	W Ave H	CONTROL:	SIGNAL

NOTES:

AM
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☑ Add U-Turns to Left Turns

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS				
		SR-14 NB Ramps			SR-14 NB Ramps			W Ave H			W Ave H								
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	2	X	1	X	X	X	X	3	1	X	2	1		0	0	0	0	
AM	7:00 AM	8	0	30	0	0	0	0	44	9	0	108	60	259	0	0	0	0	0
	7:15 AM	15	0	48	0	0	0	0	83	13	0	154	94	407	0	0	0	0	0
	7:30 AM	38	0	57	0	0	0	0	108	22	0	156	102	483	0	0	0	0	0
	7:45 AM	27	0	39	0	0	0	0	110	29	0	150	97	452	0	0	0	0	0
	8:00 AM	12	0	21	0	0	0	0	75	6	0	120	77	311	0	0	0	0	0
	8:15 AM	11	0	36	0	0	0	0	88	11	0	133	65	344	0	0	0	0	0
	8:30 AM	9	0	26	0	0	0	0	74	17	0	107	52	285	0	0	0	0	0
	8:45 AM	14	0	26	0	0	0	0	57	7	0	100	58	262	0	0	0	0	0
	VOLUMES	134	0	283	0	0	0	0	639	114	0	1,028	605	2,803	0	0	0	0	0
	APPROACH %	32%	0%	68%	0%	0%	0%	0%	85%	15%	0%	63%	37%						
	APP/DEPART	417	/	605	0	/	114	753	/	922	1,633	/	1,162	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	92	0	165	0	0	0	0	376	70	0	580	370	1,653					
	APPROACH %	36%	0%	64%	0%	0%	0%	0%	84%	16%	0%	61%	39%						
	PEAK HR FACTOR		0.676			0.000			0.802			0.921		0.856					
	APP/DEPART	257	/	370	0	/	70	446	/	541	950	/	672	0					
PM	4:00 PM	17	0	36	0	0	0	0	83	16	0	105	68	325	0	0	0	0	0
	4:15 PM	20	0	43	0	0	0	0	67	13	0	118	80	341	0	0	0	0	0
	4:30 PM	30	0	28	0	0	0	0	61	26	0	124	94	363	0	0	0	0	0
	4:45 PM	23	0	39	0	0	0	0	72	20	0	87	48	289	0	0	0	0	0
	5:00 PM	25	0	36	0	0	0	0	79	13	0	95	76	324	0	0	0	0	0
	5:15 PM	17	0	49	0	0	0	0	91	16	0	88	42	303	0	0	0	0	0
	5:30 PM	24	0	56	0	0	0	0	80	29	0	79	64	332	0	0	0	0	0
	5:45 PM	10	0	34	0	0	0	0	65	11	0	85	48	253	0	0	0	0	0
	VOLUMES	166	0	321	0	0	0	0	598	144	0	781	520	2,530	0	0	0	0	0
	APPROACH %	34%	0%	66%	0%	0%	0%	0%	81%	19%	0%	60%	40%						
	APP/DEPART	487	/	520	0	/	144	742	/	919	1,301	/	947	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	90	0	146	0	0	0	0	283	75	0	434	290	1,318					
	APPROACH %	38%	0%	62%	0%	0%	0%	0%	79%	21%	0%	60%	40%						
	PEAK HR FACTOR		0.937			0.000			0.904			0.830		0.908					
	APP/DEPART	236	/	290	0	/	75	358	/	429	724	/	524	0					

SR-14 NB Ramps

NORTH SIDE

W Ave H WEST SIDE EAST SIDE **W Ave H**

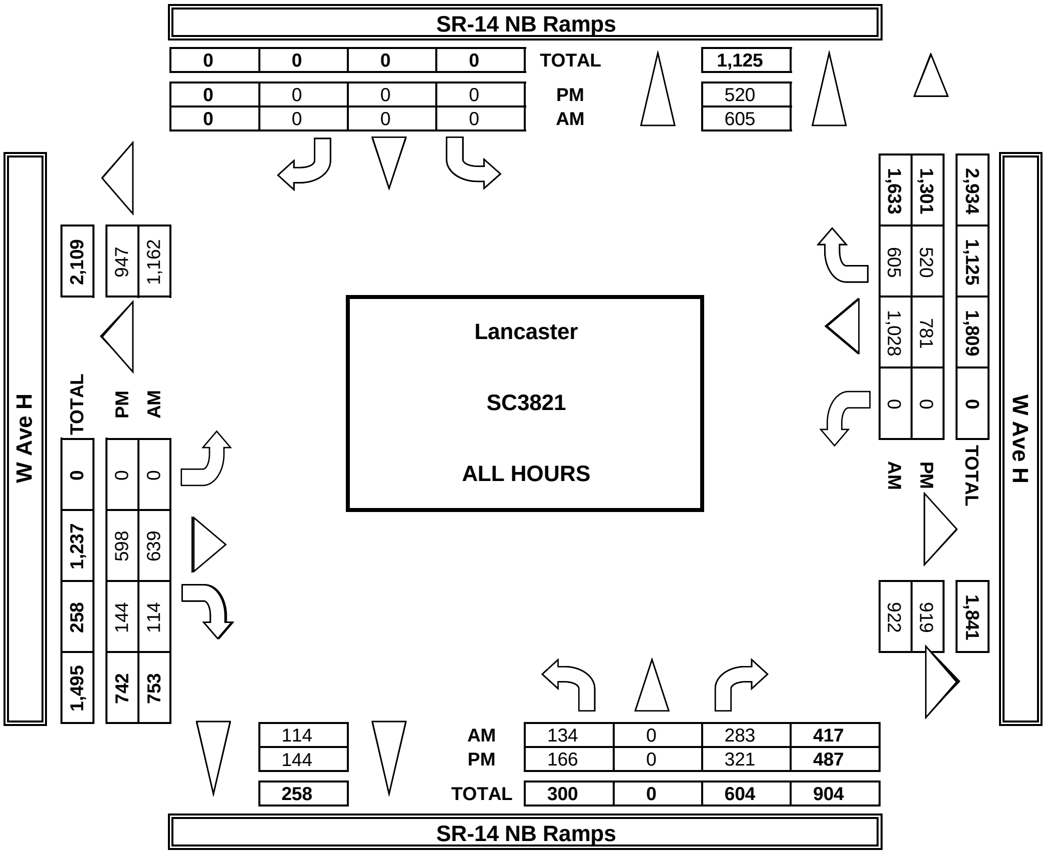
SOUTH SIDE

SR-14 NB Ramps

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
	TOTAL	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS



SR-14 NB Ramps (north)

0	**0**	**0**	**0**	**TOTAL**	**1,125**
0	0	0	0	**PM**	520
0	0	0	0	**AM**	605

Lancaster

SC3821

ALL HOURS

W Ave H (west)

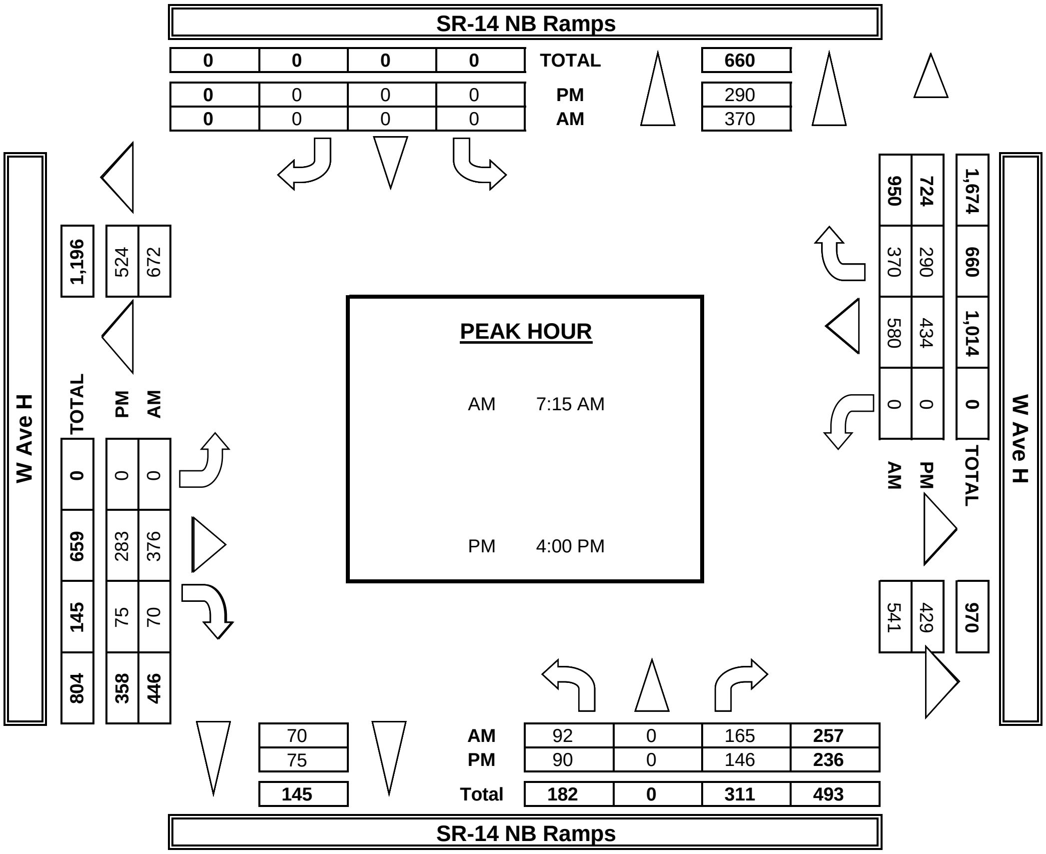
TOTAL	**PM**	**AM**
2,109	947	1,162
0	0	0
1,237	598	639
258	144	114
1,495	**742**	**753**

W Ave H (east)

AM	**PM**	**TOTAL**
1,633	**1,301**	**2,934**
605	520	**1,125**
1,028	781	**1,809**
0	0	**0**
922	919	**1,841**

SR-14 NB Ramps (south)

114	**AM**	134	0	283	**417**
144	**PM**	166	0	321	**487**
258	**TOTAL**	**300**	**0**	**604**	**904**



SR-14 NB Ramps (north)

0	**0**	**0**	**0**	**TOTAL**	**660**
0	0	0	0	**PM**	290
0	0	0	0	**AM**	370

PEAK HOUR

AM 7:15 AM

PM 4:00 PM

W Ave H (west)

TOTAL	**PM**	**AM**
1,196	524	672
0	0	0
659	283	376
145	75	70
804	**358**	**446**

W Ave H (east)

AM	**PM**	**TOTAL**
950	**724**	**1,674**
370	290	**660**
580	434	**1,014**
0	0	**0**
541	429	**970**

SR-14 NB Ramps (south)

70	**AM**	92	0	165	**257**
75	**PM**	90	0	146	**236**
145	**Total**	**182**	**0**	**311**	**493**

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Lancaster SR-14 NB Ramps W Ave H	PROJECT #: LOCATION #: CONTROL:	SC3821 6 SIGNAL

PCE Adjusted	**NOTES:**								AM PM MD OTHER OTHER	▲ N ◄ W E ► S ▼
	Class	1	2	3	4	5	6			
	Factor	1	1.5	2	3	2	2			

		NORTHBOUND SR-14 NB Ramps			SOUTHBOUND SR-14 NB Ramps			EASTBOUND W Ave H			WESTBOUND W Ave H				**U-TURNS**				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	2	X	1	X	X	X	X	3	1	X	2	1						
AM	7:00 AM	8	0	30	0	0	0	0	53	9	0	120	70	289					0
	7:15 AM	17	0	48	0	0	0	0	85	14	0	168	102	433					0
	7:30 AM	40	0	57	0	0	0	0	108	25	0	167	107	503					0
	7:45 AM	30	0	39	0	0	0	0	115	29	0	161	101	474					0
	8:00 AM	15	0	21	0	0	0	0	78	7	0	127	85	331					0
	8:15 AM	11	0	36	0	0	0	0	90	13	0	145	71	366					0
	8:30 AM	10	0	26	0	0	0	0	85	17	0	119	56	313					0
	8:45 AM	14	0	26	0	0	0	0	60	9	0	110	64	282					0
	VOLUMES	144	0	283	0	0	0	0	672	122	0	1,116	654	2,990	0	0	0	0	0
	APPROACH %	34%	0%	66%	0%	0%	0%	0%	85%	15%	0%	63%	37%						
	APP/DEPART	427	/	654	0	/	122	794	/	955	1,770	/	1,259	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	101	0	165	0	0	0	0	385	74	0	622	395	1,741					
	APPROACH %	38%	0%	62%	0%	0%	0%	0%	84%	16%	0%	61%	39%						
	PEAK HR FACTOR		0.688			0.000			0.799			0.929		0.866					
	APP/DEPART	266	/	395	0	/	74	459	/	550	1,017	/	723	0					
PM	4:00 PM	19	0	36	0	0	0	0	86	16	0	120	73	350					0
	4:15 PM	20	0	43	0	0	0	0	69	14	0	124	89	358					0
	4:30 PM	30	0	28	0	0	0	0	62	26	0	131	105	382					0
	4:45 PM	24	0	39	0	0	0	0	72	23	0	93	55	305					0
	5:00 PM	30	0	36	0	0	0	0	83	13	0	98	82	341					0
	5:15 PM	17	0	49	0	0	0	0	96	17	0	91	44	314					0
	5:30 PM	27	0	56	0	0	0	0	88	29	0	83	68	350					0
	5:45 PM	10	0	34	0	0	0	0	69	11	0	92	54	269					0
	VOLUMES	176	0	321	0	0	0	0	624	148	0	830	568	2,666	0	0	0	0	0
	APPROACH %	35%	0%	65%	0%	0%	0%	0%	81%	19%	0%	59%	41%						
	APP/DEPART	497	/	568	0	/	148	772	/	945	1,398	/	1,006	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	93	0	146	0	0	0	0	289	78	0	467	321	1,394					
	APPROACH %	39%	0%	61%	0%	0%	0%	0%	79%	21%	0%	59%	41%						
	PEAK HR FACTOR		0.948			0.000			0.900			0.836		0.913					
	APP/DEPART	239	/	321	0	/	78	367	/	435	788	/	560	0					

SR-14 NB Ramps

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

SR-14 NB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster		PROJECT #:	SC3821
	NORTH & SOUTH:	SR-14 NB Ramps		LOCATION #:	6
	EAST & WEST:	W Ave H		CONTROL:	SIGNAL

CLASS 1: PASSENGER VEHICLES

NOTES:

AM
PM
MD
OTHER
OTHER

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		NORTHBOUND SR-14 NB Ramps			SOUTHBOUND SR-14 NB Ramps			EASTBOUND W Ave H			WESTBOUND W Ave H				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	2	X	1	X	X	X	X	3	1	X	2	1						
AM	7:00 AM	8	0	30	0	0	0	0	38	9	0	96	52	233	0	0	0	0	0
	7:15 AM	14	0	48	0	0	0	0	80	12	0	142	86	382	0	0	0	0	0
	7:30 AM	36	0	57	0	0	0	0	108	20	0	144	98	463	0	0	0	0	0
	7:45 AM	25	0	39	0	0	0	0	105	29	0	137	91	426	0	0	0	0	0
	8:00 AM	10	0	21	0	0	0	0	71	5	0	114	70	291	0	0	0	0	0
	8:15 AM	11	0	36	0	0	0	0	85	10	0	123	59	324	0	0	0	0	0
	8:30 AM	8	0	26	0	0	0	0	63	17	0	99	49	262	0	0	0	0	0
	8:45 AM	14	0	26	0	0	0	0	52	6	0	91	54	243	0	0	0	0	0
	VOLUMES	126	0	283	0	0	0	0	602	108	0	946	559	2,624	0	0	0	0	0
	APPROACH %	31%	0%	69%	0%	0%	0%	0%	85%	15%	0%	63%	37%						
	APP/DEPART	409	/	559	0	/	108	710	/	885	1,505	/	1,072	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	85	0	165	0	0	0	0	364	66	0	537	345	1,562					
	APPROACH %	34%	0%	66%	0%	0%	0%	0%	85%	15%	0%	61%	39%						
	PEAK HR FACTOR		0.672			0.000			0.802			0.911		0.843					
	APP/DEPART	250	/	345	0	/	66	430	/	529	882	/	622	0					
PM	4:00 PM	16	0	36	0	0	0	0	80	16	0	96	63	307	0	0	0	0	0
	4:15 PM	20	0	43	0	0	0	0	63	12	0	112	74	324	0	0	0	0	0
	4:30 PM	30	0	28	0	0	0	0	59	26	0	116	85	344	0	0	0	0	0
	4:45 PM	21	0	39	0	0	0	0	72	18	0	83	42	275	0	0	0	0	0
	5:00 PM	22	0	36	0	0	0	0	75	13	0	91	69	306	0	0	0	0	0
	5:15 PM	17	0	49	0	0	0	0	82	15	0	85	39	287	0	0	0	0	0
	5:30 PM	22	0	56	0	0	0	0	72	29	0	74	61	314	0	0	0	0	0
	5:45 PM	10	0	34	0	0	0	0	60	11	0	79	43	237	0	0	0	0	0
	VOLUMES	158	0	321	0	0	0	0	563	140	0	736	476	2,394	0	0	0	0	0
	APPROACH %	33%	0%	67%	0%	0%	0%	0%	80%	20%	0%	61%	39%						
	APP/DEPART	479	/	476	0	/	140	703	/	884	1,212	/	894	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	87	0	146	0	0	0	0	274	72	0	407	264	1,250					
	APPROACH %	37%	0%	63%	0%	0%	0%	0%	79%	21%	0%	61%	39%						
	PEAK HR FACTOR		0.925			0.000			0.901			0.835		0.908					
	APP/DEPART	233	/	264	0	/	72	346	/	420	671	/	494	0					

SR-14 NB Ramps

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

SR-14 NB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	SR-14 NB Ramps	LOCATION #:	6
	EAST & WEST:	W Ave H	CONTROL:	SIGNAL

CLASS 2:
2-AXLE
WORK
VEHICLES/
TRUCKS

NOTES:

AM
PM
MD
OTHER
OTHER

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		NORTHBOUND SR-14 NB Ramps			SOUTHBOUND SR-14 NB Ramps			EASTBOUND W Ave H			WESTBOUND W Ave H			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	2	X	1	X	X	X	X	3	1	X	2	1	
AM	7:00 AM	0	0	0	0	0	0	0	1	0	0	7	3	11
	7:15 AM	0	0	0	0	0	0	0	3	0	0	5	4	12
	7:30 AM	1	0	0	0	0	0	0	0	1	0	7	2	11
	7:45 AM	1	0	0	0	0	0	0	3	0	0	8	4	16
	8:00 AM	1	0	0	0	0	0	0	3	1	0	2	3	10
	8:15 AM	0	0	0	0	0	0	0	2	0	0	4	2	8
	8:30 AM	0	0	0	0	0	0	0	6	0	0	2	1	9
	8:45 AM	0	0	0	0	0	0	0	5	0	0	4	1	10
	VOLUMES	3	0	0	0	0	0	0	23	2	0	39	20	87
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	92%	8%	0%	66%	34%	
	APP/DEPART	3	/	20	0	/	2	25	/	23	59	/	42	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	3	0	0	0	0	0	0	9	2	0	22	13	49
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	82%	18%	0%	63%	37%	
	PEAK HR FACTOR		0.750			0.000			0.688			0.729		0.766
	APP/DEPART	3	/	13	0	/	2	11	/	9	35	/	25	0
PM	4:00 PM	0	0	0	0	0	0	0	2	0	0	1	2	5
	4:15 PM	0	0	0	0	0	0	0	4	1	0	3	1	9
	4:30 PM	0	0	0	0	0	0	0	2	0	0	4	5	11
	4:45 PM	2	0	0	0	0	0	0	0	1	0	1	2	6
	5:00 PM	1	0	0	0	0	0	0	3	0	0	3	4	11
	5:15 PM	0	0	0	0	0	0	0	8	0	0	2	2	12
	5:30 PM	1	0	0	0	0	0	0	5	0	0	4	1	11
	5:45 PM	0	0	0	0	0	0	0	3	0	0	3	3	9
	VOLUMES	4	0	0	0	0	0	0	27	2	0	21	20	74
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	93%	7%	0%	51%	49%	
	APP/DEPART	4	/	20	0	/	2	29	/	27	41	/	25	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	2	0	0	0	0	0	0	8	2	0	9	10	31
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	80%	20%	0%	47%	53%	
	PEAK HR FACTOR		0.250			0.000			0.500			0.528		0.705
	APP/DEPART	2	/	10	0	/	2	10	/	8	19	/	11	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

SR-14 NB Ramps

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

SR-14 NB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	SR-14 NB Ramps	LOCATION #:	6
	EAST & WEST:	W Ave H	CONTROL:	SIGNAL

CLASS 3:
3-AXLE
TRUCKS

NOTES:

AM
PM
MD
OTHER
OTHER

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		NORTHBOUND SR-14 NB Ramps			SOUTHBOUND SR-14 NB Ramps			EASTBOUND W Ave H			WESTBOUND W Ave H				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	2	X	1	X	X	X	X	3	1	X	2	1						
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	2	2	4	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0	0
	7:30 AM	1	0	0	0	0	0	0	0	0	0	2	0	3	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	1	0	0	1	2	4	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	1	0	0	1	1	3	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	VOLUMES	1	0	0	0	0	0	0	2	0	0	13	7	23	0	0	0	0	0
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	100%	0%	0%	65%	35%						
	APP/DEPART	1	/	7	0	/	0	2	/	2	20	/	14	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	1	0	0	0	0	0	0	0	0	0	8	2	11					
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	80%	20%						
	PEAK HR FACTOR		0.250			0.000			0.000			0.625		0.688					
	APP/DEPART	1	/	2	0	/	0	0	/	0	10	/	9	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	2	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	2	0	0	8	7	17	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	53%	47%						
	APP/DEPART	0	/	7	0	/	0	2	/	2	15	/	8	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	6	5	11					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	55%	45%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.917		0.917					
	APP/DEPART	0	/	5	0	/	0	0	/	0	11	/	6	0					

SR-14 NB Ramps

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

SR-14 NB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	SR-14 NB Ramps	LOCATION #:	6
	EAST & WEST:	W Ave H	CONTROL:	SIGNAL

CLASS 4:
4 OR MORE
AXLE
TRUCKS

NOTES:

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		NORTHBOUND SR-14 NB Ramps			SOUTHBOUND SR-14 NB Ramps			EASTBOUND W Ave H			WESTBOUND W Ave H				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	2	X	1	X	X	X	X	3	1	X	2	1						
AM	7:00 AM	0	0	0	0	0	0	0	3	0	0	3	3	9	0	0	0	0	0
	7:15 AM	1	0	0	0	0	0	0	0	0	0	4	2	7	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	1	0	2	2	5	0	0	0	0	0
	7:45 AM	1	0	0	0	0	0	0	1	0	0	2	0	4	0	0	0	0	0
	8:00 AM	1	0	0	0	0	0	0	0	0	0	2	2	5	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	1	0	4	1	6	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	3	0	0	5	1	9	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	1	0	3	2	6	0	0	0	0	0
	VOLUMES	3	0	0	0	0	0	0	7	3	0	25	13	51	0	0	0	0	0
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	70%	30%	0%	66%	34%						
	APP/DEPART	3	/	13	0	/	3	10	/	7	38	/	28	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	3	0	0	0	0	0	0	1	1	0	10	6	21					
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	50%	50%	0%	63%	38%						
	PEAK HR FACTOR		0.750			0.000			0.500			0.667		0.750					
	APP/DEPART	3	/	6	0	/	1	2	/	1	16	/	13	0					
PM	4:00 PM	1	0	0	0	0	0	0	1	0	0	6	1	9	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	1	3	4	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	1	4	5	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	1	0	2	2	5	0	0	0	0	0
	5:00 PM	2	0	0	0	0	0	0	1	0	0	0	1	4	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	5:30 PM	1	0	0	0	0	0	0	2	0	0	1	1	5	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	2	2	4	0	0	0	0	0
	VOLUMES	4	0	0	0	0	0	0	4	1	0	14	14	37	0	0	0	0	0
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	80%	20%	0%	50%	50%						
	APP/DEPART	4	/	14	0	/	1	5	/	4	28	/	18	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	1	0	0	0	0	0	0	1	1	0	10	10	23					
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	50%	50%	0%	50%	50%						
	PEAK HR FACTOR		0.250			0.000			0.500			0.714		0.639					
	APP/DEPART	1	/	10	0	/	1	2	/	1	20	/	11	0					

SR-14 NB Ramps

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

SR-14 NB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION: Lancaster	PROJECT #:	SC3821
1/25/23	NORTH & SOUTH: SR-14 NB Ramps	LOCATION #:	6
WEDNESDAY	EAST & WEST: W Ave H	CONTROL:	SIGNAL

CLASS 5: RV

NOTES:

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		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS				
		SR-14 NB Ramps			SR-14 NB Ramps			W Ave H			W Ave H								
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	2	X	1	X	X	X	X	3	1	X	2	1						
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					

SR-14 NB Ramps

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

SR-14 NB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	SR-14 NB Ramps	LOCATION #:	6
	EAST & WEST:	W Ave H	CONTROL:	SIGNAL

CLASS 6: BUSES

NOTES:

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		NORTHBOUND SR-14 NB Ramps			SOUTHBOUND SR-14 NB Ramps			EASTBOUND W Ave H			WESTBOUND W Ave H			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	2	X	1	X	X	X	X	3	1	X	2	1	
AM	7:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
	7:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	2
	7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	7:45 AM	0	0	0	0	0	0	0	1	0	0	1	1	3
	8:00 AM	0	0	0	0	0	0	0	1	0	0	1	2	4
	8:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	2
	8:30 AM	1	0	0	0	0	0	0	1	0	0	0	0	2
	8:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	2
	VOLUMES	1	0	0	0	0	0	0	5	1	0	5	6	18
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	83%	17%	0%	45%	55%	
	APP/DEPART	1	/	6	0	/	1	6	/	5	11	/	6	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	0	0	0	0	0	0	2	1	0	3	4	10
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	67%	33%	0%	43%	57%	
	PEAK HR FACTOR		0.000			0.000			0.750			0.583		0.625
	APP/DEPART	0	/	4	0	/	1	3	/	2	7	/	3	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
	4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	2
	5:15 PM	0	0	0	0	0	0	0	1	1	0	0	0	2
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	VOLUMES	0	0	0	0	0	0	0	2	1	0	2	3	8
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	67%	33%	0%	40%	60%	
	APP/DEPART	0	/	3	0	/	1	3	/	2	5	/	2	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	2	1	3
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	67%	33%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.750		0.750
	APP/DEPART	0	/	1	0	/	0	0	/	0	3	/	2	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

SR-14 NB Ramps

NORTH SIDE

W Ave H WEST SIDE

EAST SIDE **W Ave H**

SOUTH SIDE

SR-14 NB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Jan 25, 23	LOCATION: Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH: 30th W	LOCATION #:	9
	EAST & WEST: W Ave G	CONTROL:	STOP N/S

NOTES:

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☑ Add U-Turns to Left Turns

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS				
		30th W			30th W			W Ave G			W Ave G								
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1	1	1	1	1	1	1	2	1	1	3	0		0	0	0	0	
AM	7:00 AM	0	0	1	0	3	0	0	27	7	0	19	0	57	0	0	0	0	0
	7:15 AM	1	0	2	0	4	0	1	30	2	2	22	0	64	0	0	0	0	0
	7:30 AM	3	2	1	0	2	1	1	37	4	2	21	0	74	0	0	0	0	0
	7:45 AM	4	1	1	1	4	1	0	31	1	2	25	0	71	0	0	0	0	0
	8:00 AM	4	4	1	0	8	1	1	18	3	0	24	0	64	0	0	0	0	0
	8:15 AM	0	3	0	0	6	1	0	13	0	4	23	0	50	0	0	0	0	0
	8:30 AM	3	2	1	1	5	1	0	17	3	4	16	0	53	0	0	0	0	0
	8:45 AM	2	0	2	0	3	0	0	14	3	0	20	1	45	0	0	0	0	0
	VOLUMES	17	12	9	2	35	5	3	187	23	14	170	1	478	0	0	0	0	0
	APPROACH %	45%	32%	24%	5%	83%	12%	1%	88%	11%	8%	92%	1%						
	APP/DEPART	38	/	16	42	/	72	213	/	198	185	/	192	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	12	7	5	1	18	3	3	116	10	6	92	0	273					
	APPROACH %	50%	29%	21%	5%	82%	14%	2%	90%	8%	6%	94%	0%						
	PEAK HR FACTOR		0.667			0.611			0.768			0.907		0.922					
	APP/DEPART	24	/	10	22	/	34	129	/	122	98	/	107	0					
PM	4:00 PM	3	11	1	0	7	1	0	28	1	4	33	0	89	0	0	0	0	0
	4:15 PM	1	6	2	0	5	0	0	24	0	3	47	1	89	0	0	0	0	0
	4:30 PM	4	3	0	0	2	0	0	31	4	6	37	0	87	0	0	0	0	0
	4:45 PM	2	4	2	0	5	0	0	24	1	8	46	1	93	0	0	0	0	0
	5:00 PM	4	6	5	0	0	0	0	31	2	9	39	0	96	0	0	0	0	0
	5:15 PM	3	2	1	0	2	1	1	29	5	3	29	0	76	0	0	1	0	1
	5:30 PM	1	3	1	0	2	0	0	26	2	4	33	0	72	0	0	0	0	0
	5:45 PM	2	4	2	0	1	0	1	16	2	0	25	0	53	0	0	0	0	0
	VOLUMES	20	39	14	0	24	2	2	209	17	37	289	2	655	0	0	1	0	1
	APPROACH %	27%	53%	19%	0%	92%	8%	1%	92%	7%	11%	88%	1%						
	APP/DEPART	73	/	42	26	/	78	228	/	223	328	/	312	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	11	19	9	0	12	0	0	110	7	26	169	2	365					
	APPROACH %	28%	49%	23%	0%	100%	0%	0%	94%	6%	13%	86%	1%						
	PEAK HR FACTOR		0.650			0.600			0.836			0.895		0.951					
	APP/DEPART	39	/	21	12	/	45	117	/	119	197	/	180	0					

30th W

NORTH SIDE

W Ave G WEST SIDE

EAST SIDE **W Ave G**

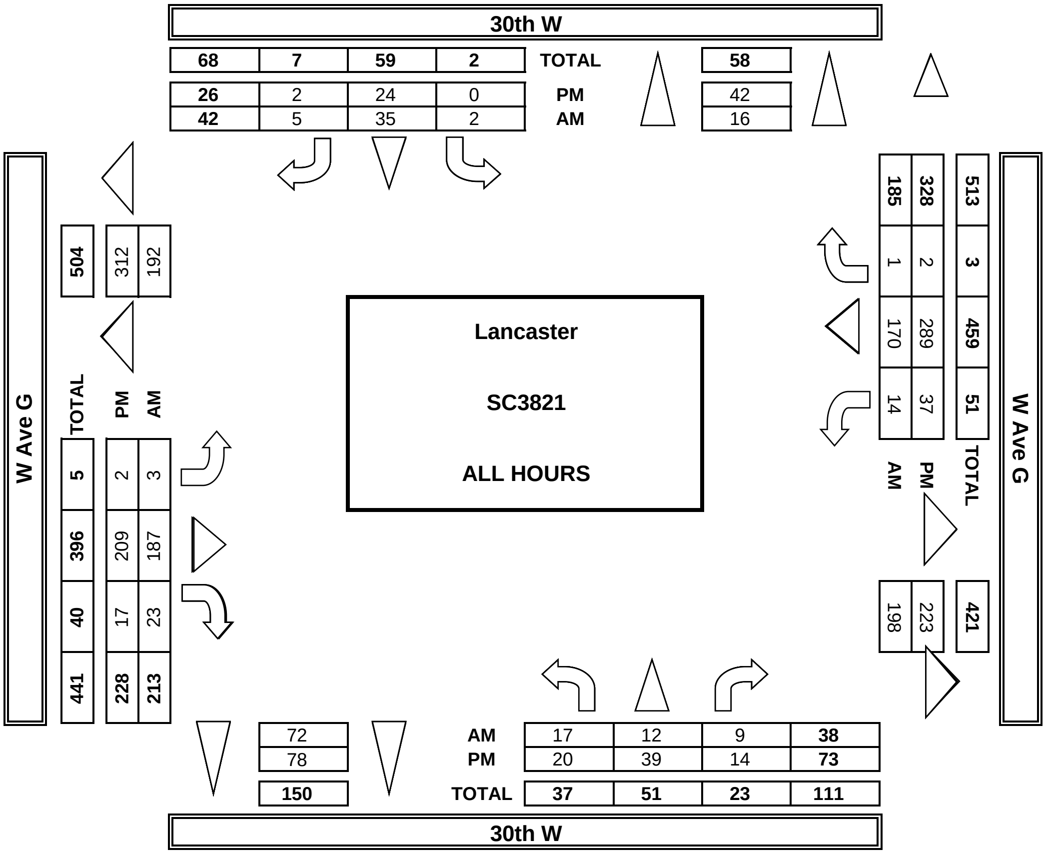
SOUTH SIDE

30th W

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	TOTAL	0	1	1	0	2	0	0	0	0	0	0	1	1	0	2
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS



Lancaster

SC3821

ALL HOURS

30th W

68	7	59	2	TOTAL	58
26	2	24	0	PM	42
42	5	35	2	AM	16

W Ave G (west)

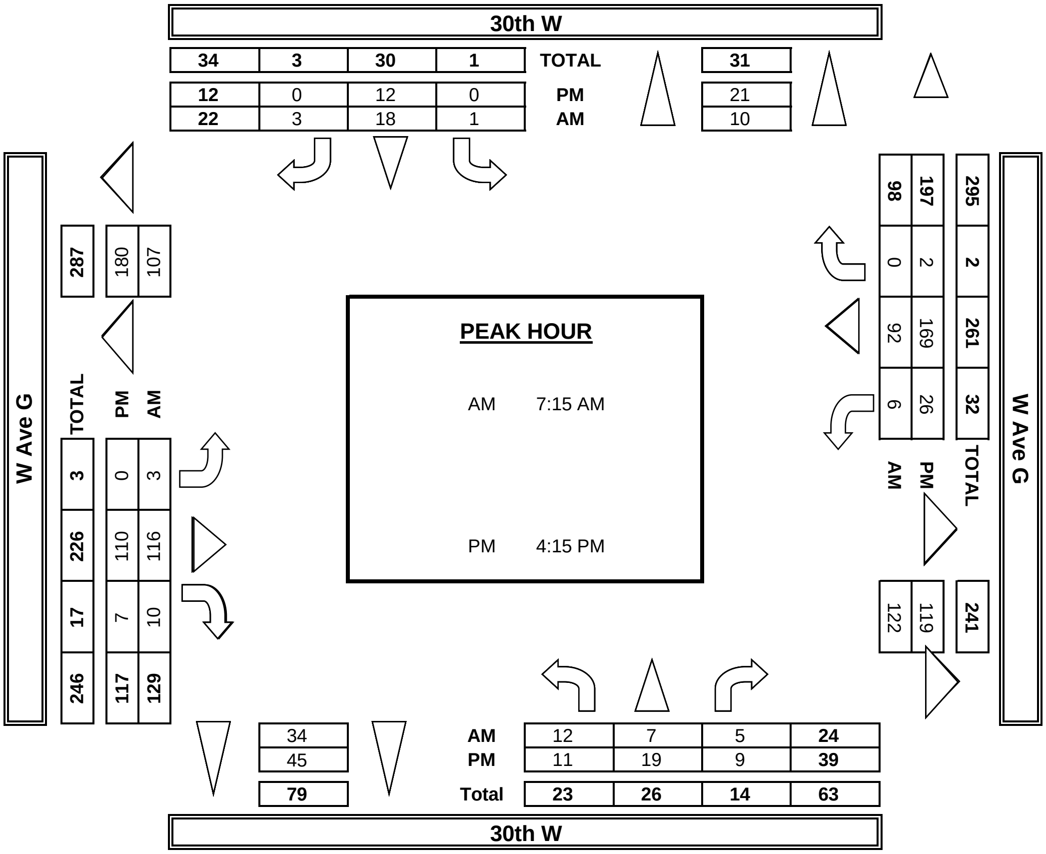
TOTAL	504	5	396	40	441
PM	312	2	209	17	228
AM	192	3	187	23	213

W Ave G (east)

AM	185	1	170	14	198
PM	328	2	289	37	223
TOTAL	513	3	459	51	421

30th W

72	AM	17	12	9	38
78	PM	20	39	14	73
150	TOTAL	37	51	23	111



PEAK HOUR

AM 7:15 AM

PM 4:15 PM

30th W

34	3	30	1	TOTAL	31
12	0	12	0	PM	21
22	3	18	1	AM	10

W Ave G (west)

TOTAL	287	3	226	17	246
PM	180	0	110	7	117
AM	107	3	116	10	129

W Ave G (east)

AM	98	0	92	6	122
PM	197	2	169	26	119
TOTAL	295	2	261	32	241

30th W

34	AM	12	7	5	24
45	PM	11	19	9	39
79	Total	23	26	14	63

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	30th W	LOCATION #:	9
	EAST & WEST:	W Ave G	CONTROL:	STOP N/S

PCE Adjusted	**NOTES:**								AM		▲		
	Class	1	2	3	4	5	6		PM		N		
	Factor	1	1.5	2	3	2	2		MD	◄ W		E ►	
									OTHER		S		
									OTHER		▼		

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS				
			30th W			30th W			W Ave G			W Ave G							
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1	1	1	1	1	1	1	2	1	1	3	0						
AM	7:00 AM	0	0	1	0	5	0	0	36	7	0	19	0	68					0
	7:15 AM	1	0	2	0	4	0	1	40	2	2	29	0	81					0
	7:30 AM	3	2	1	0	2	1	1	40	6	2	28	0	85					0
	7:45 AM	4	1	1	1	4	1	0	39	1	2	26	0	80					0
	8:00 AM	4	4	1	0	8	1	1	20	3	0	26	0	68					0
	8:15 AM	0	3	0	0	7	1	0	14	0	4	27	0	56					0
	8:30 AM	4	2	1	1	5	1	0	19	3	4	18	0	58					0
	8:45 AM	3	0	2	0	3	0	0	17	4	0	26	1	56					0
	VOLUMES	19	12	9	2	38	5	3	223	26	14	199	1	550	0	0	0	0	0
	APPROACH %	47%	30%	23%	4%	84%	11%	1%	88%	10%	7%	93%	0%						
	APP/DEPART	40	/	16	45	/	78	252	/	234	214	/	222	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	12	7	5	1	18	3	3	139	12	6	109	0	314					
	APPROACH %	50%	29%	21%	5%	82%	14%	2%	90%	8%	5%	95%	0%						
	PEAK HR FACTOR		0.667			0.611			0.825			0.923		0.924					
	APP/DEPART	24	/	10	22	/	36	154	/	145	115	/	124	0					
PM	4:00 PM	3	12	1	0	7	1	0	29	1	4	34	0	92					0
	4:15 PM	1	7	2	0	5	0	0	24	0	3	53	1	95					0
	4:30 PM	5	3	0	0	2	0	0	32	4	6	47	0	98					0
	4:45 PM	2	5	2	0	5	0	0	28	1	8	50	1	102					0
	5:00 PM	5	6	8	0	0	0	0	33	2	9	43	0	106					0
	5:15 PM	3	2	1	0	2	1	1	30	5	3	31	0	79					0
	5:30 PM	2	4	1	0	2	0	0	28	2	4	44	0	86					0
	5:45 PM	2	4	2	0	1	0	1	18	4	0	30	0	62					0
	VOLUMES	23	42	17	0	24	2	2	221	19	37	330	2	718	0	0	0	0	0
	APPROACH %	28%	52%	20%	0%	92%	8%	1%	91%	8%	10%	89%	1%						
	APP/DEPART	81	/	46	26	/	80	242	/	238	369	/	355	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	13	20	12	0	12	0	0	117	7	26	192	2	400					
	APPROACH %	29%	45%	26%	0%	100%	0%	0%	94%	6%	12%	87%	1%						
	PEAK HR FACTOR		0.601			0.600			0.870			0.932		0.948					
	APP/DEPART	45	/	22	12	/	45	124	/	128	220	/	205	0					

30th W

NORTH SIDE

W Ave G WEST SIDE

EAST SIDE **W Ave G**

SOUTH SIDE

30th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Lancaster	PROJECT #:	SC3821
1/25/23	NORTH & SOUTH:	30th W	LOCATION #:	9
WEDNESDAY	EAST & WEST:	W Ave G	CONTROL:	STOP N/S

CLASS 1:
PASSENGER
VEHICLES

NOTES:

AM
PM
MD
OTHER
OTHER

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		NORTHBOUND 30th W			SOUTHBOUND 30th W			EASTBOUND W Ave G			WESTBOUND W Ave G				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1	1	1	1	1	1	1	2	1	1	3	0						
AM	7:00 AM	0	0	1	0	2	0	0	22	7	0	19	0	51	0	0	0	0	0
	7:15 AM	1	0	2	0	4	0	1	23	2	2	16	0	51	0	0	0	0	0
	7:30 AM	3	2	1	0	2	1	1	35	3	2	17	0	67	0	0	0	0	0
	7:45 AM	4	1	1	1	4	1	0	27	1	2	24	0	66	0	0	0	0	0
	8:00 AM	4	4	1	0	8	1	1	17	3	0	23	0	62	0	0	0	0	0
	8:15 AM	0	3	0	0	5	1	0	12	0	4	19	0	44	0	0	0	0	0
	8:30 AM	2	2	1	1	5	1	0	15	3	4	15	0	49	0	0	0	0	0
	8:45 AM	1	0	2	0	3	0	0	12	2	0	14	1	35	0	0	0	0	0
	VOLUMES	15	12	9	2	33	5	3	163	21	14	147	1	425	0	0	0	0	0
	APPROACH %	42%	33%	25%	5%	83%	13%	2%	87%	11%	9%	91%	1%						
	APP/DEPART	36	/	16	40	/	68	187	/	174	162	/	167	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	12	7	5	1	18	3	3	102	9	6	80	0	246					
	APPROACH %	50%	29%	21%	5%	82%	14%	3%	89%	8%	7%	93%	0%						
	PEAK HR FACTOR		0.667			0.611			0.731			0.827		0.918					
	APP/DEPART	24	/	10	22	/	33	114	/	108	86	/	95	0					
PM	4:00 PM	3	9	1	0	7	1	0	26	1	4	31	0	83	0	0	0	0	0
	4:15 PM	1	5	2	0	5	0	0	24	0	3	43	1	84	0	0	0	0	0
	4:30 PM	3	3	0	0	2	0	0	30	4	6	31	0	79	0	0	0	0	0
	4:45 PM	2	3	2	0	5	0	0	21	1	8	44	1	87	0	0	0	0	0
	5:00 PM	3	6	3	0	0	0	0	30	2	9	37	0	90	0	0	0	0	0
	5:15 PM	3	2	1	0	2	1	1	28	5	3	28	0	74	0	0	1	0	1
	5:30 PM	0	2	1	0	2	0	0	25	2	4	27	0	63	0	0	0	0	0
	5:45 PM	2	4	2	0	1	0	1	15	1	0	22	0	48	0	0	0	0	0
	VOLUMES	17	34	12	0	24	2	2	199	16	37	263	2	608	0	0	1	0	1
	APPROACH %	27%	54%	19%	0%	92%	8%	1%	92%	7%	12%	87%	1%						
	APP/DEPART	63	/	37	26	/	77	217	/	211	302	/	283	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	9	17	7	0	12	0	0	105	7	26	155	2	340					
	APPROACH %	27%	52%	21%	0%	100%	0%	0%	94%	6%	14%	85%	1%						
	PEAK HR FACTOR		0.688			0.600			0.824			0.863		0.944					
	APP/DEPART	33	/	19	12	/	45	112	/	112	183	/	164	0					

30th W

NORTH SIDE

W Ave G WEST SIDE

EAST SIDE **W Ave G**

SOUTH SIDE

30th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	30th W	LOCATION #:	9
	EAST & WEST:	W Ave G	CONTROL:	STOP N/S

CLASS 2:
2-AXLE
WORK
VEHICLES/
TRUCKS

NOTES:

AM
PM
MD
OTHER
OTHER

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N
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		NORTHBOUND 30th W			SOUTHBOUND 30th W			EASTBOUND W Ave G			WESTBOUND W Ave G			TOTAL	U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR		NB	SB	EB	WB	TTL
	LANES:	1	1	1	1	1	1	1	2	1	1	3	0						
AM	7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	1	0	0	2	0	3	0	0	0	0	0
	8:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	1	0	0	4	0	5	0	0	0	0	0
	VOLUMES	1	0	0	0	0	0	0	4	0	0	9	0	14	0	0	0	0	0
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	APP/DEPART	1	/	0	0	/	0	4	/	4	9	/	10	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	0	0	0	0	0	0	0	1	0	0	3	0	4					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.000			0.000			0.250			0.375		0.500					
	APP/DEPART	0	/	0	0	/	0	1	/	1	3	/	3	0					
PM	4:00 PM	0	2	0	0	0	0	0	2	0	0	2	0	6	0	0	0	0	0
	4:15 PM	0	1	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	0
	4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	5:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	5:30 PM	1	1	0	0	0	0	0	0	0	0	1	0	3	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	VOLUMES	1	5	1	0	0	0	0	4	0	0	6	0	17	0	0	0	0	0
	APPROACH %	14%	71%	14%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	APP/DEPART	7	/	5	0	/	0	4	/	5	6	/	7	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	2	1	0	0	0	0	1	0	0	2	0	6					
	APPROACH %	0%	67%	33%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.750			0.000			0.250			0.500		0.750					
	APP/DEPART	3	/	2	0	/	0	1	/	2	2	/	2	0					

30th W

NORTH SIDE

W Ave G WEST SIDE

EAST SIDE **W Ave G**

SOUTH SIDE

30th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	30th W	LOCATION #:	9
	EAST & WEST:	W Ave G	CONTROL:	STOP N/S

CLASS 3:
3-AXLE
TRUCKS

NOTES:

AM
PM
MD
OTHER
OTHER

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N
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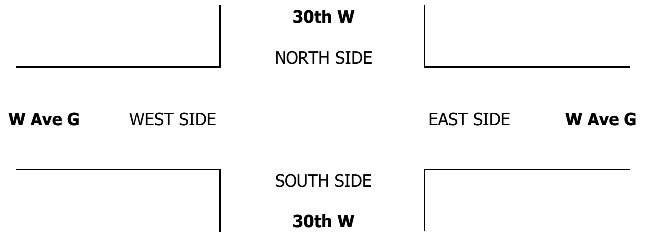
		NORTHBOUND 30th W			SOUTHBOUND 30th W			EASTBOUND W Ave G			WESTBOUND W Ave G				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1	1	1	1	1	1	1	2	1	1	3	0						
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
	VOLUMES	0	0	0	0	1	0	0	3	1	0	2	0	7	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	100%	0%	0%	75%	25%	0%	100%	0%						
	APP/DEPART	0	/	0	1	/	2	4	/	3	2	/	2	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	0	0	0	0	0	0	0	1	0	0	2	0	3					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.000			0.000			0.250			0.500		0.375					
	APP/DEPART	0	/	0	0	/	0	1	/	1	2	/	2	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	1	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0
	5:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	2	0	0	0	0	0	0	2	0	0	1	0	5	0	0	0	0	0
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	APP/DEPART	2	/	0	0	/	0	2	/	2	1	/	3	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	2	0	0	0	0	0	0	2	0	0	1	0	5					
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.500			0.000			0.250			0.250		0.625					
	APP/DEPART	2	/	0	0	/	0	2	/	2	1	/	3	0					



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster		PROJECT #:	SC3821
	NORTH & SOUTH:	30th W		LOCATION #:	9
	EAST & WEST:	W Ave G		CONTROL:	STOP N/S

CLASS 4:
4 OR MORE
AXLE
TRUCKS

NOTES:

AM
PM
MD
OTHER
OTHER

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		NORTHBOUND 30th W			SOUTHBOUND 30th W			EASTBOUND W Ave G			WESTBOUND W Ave G				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1	1	1	1	1	1	1	2	1	1	3	0						
AM	7:00 AM	0	0	0	0	1	0	0	4	0	0	0	0	5	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	3	0	0	2	0	5	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	1	1	0	3	0	5	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	1	0	0	2	0	3	0	0	0	0	0
	VOLUMES	0	0	0	0	1	0	0	14	1	0	10	0	26	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	100%	0%	0%	93%	7%	0%	100%	0%						
	APP/DEPART	0	/	0	1	/	2	15	/	14	10	/	10	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	0	0	0	0	0	0	0	9	1	0	6	0	16					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	90%	10%	0%	100%	0%						
	PEAK HR FACTOR		0.000			0.000			0.625			0.500		0.800					
	APP/DEPART	0	/	0	0	/	1	10	/	9	6	/	6	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	1	0	0	2	0	3	0	0	0	0	0
	5:00 PM	0	0	1	0	0	0	0	1	0	0	2	0	4	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	1	0	0	5	0	6	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	1	1	0	2	0	4	0	0	0	0	0
	VOLUMES	0	0	1	0	0	0	0	4	1	0	18	0	24	0	0	0	0	0
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	80%	20%	0%	100%	0%						
	APP/DEPART	1	/	0	0	/	1	5	/	5	18	/	18	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	0	1	0	0	0	0	2	0	0	10	0	13					
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.250			0.000			0.500			0.625		0.813					
	APP/DEPART	1	/	0	0	/	0	2	/	3	10	/	10	0					

30th W

NORTH SIDE

W Ave G WEST SIDE

EAST SIDE **W Ave G**

SOUTH SIDE

30th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
1/25/23	LOCATION:	Lancaster	PROJECT #:	SC3821
WEDNESDAY	NORTH & SOUTH:	30th W	LOCATION #:	9
	EAST & WEST:	W Ave G	CONTROL:	STOP N/S

CLASS 5: RV

NOTES:

AM
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OTHER
OTHER

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		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS				
		30th W			30th W			W Ave G			W Ave G								
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1	1	1	1	1	1	1	2	1	1	3	0						
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					

30th W

NORTH SIDE

W Ave G WEST SIDE

EAST SIDE **W Ave G**

SOUTH SIDE

30th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Lancaster	PROJECT #:	SC3821
1/25/23	NORTH & SOUTH:	30th W	LOCATION #:	9
WEDNESDAY	EAST & WEST:	W Ave G	CONTROL:	STOP N/S

CLASS 6:

BUSES

NOTES:

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OTHER

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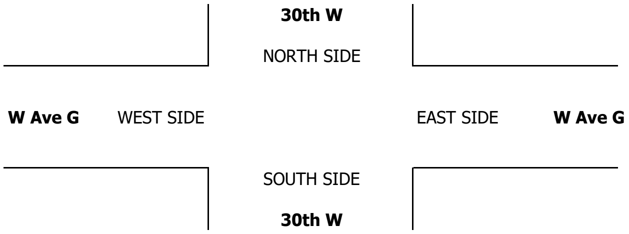
		NORTHBOUND 30th W			SOUTHBOUND 30th W			EASTBOUND W Ave G			WESTBOUND W Ave G				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1	1	1	1	1	1	1	2	1	1	3	0						
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	3	0	0	1	0	4	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	VOLUMES	1	0	0	0	0	0	0	3	0	0	2	0	6	0	0	0	0	0
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	APP/DEPART	1	/	0	0	/	0	3	/	3	2	/	3	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	0	0	0	0	0	0	0	3	0	0	1	0	4					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.000			0.000			0.250			0.250		0.250					
	APP/DEPART	0	/	0	0	/	0	3	/	3	1	/	1	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%						
	APP/DEPART	0	/	0	0	/	0	0	/	0	1	/	1	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	1	0	1					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.250		0.250					
	APP/DEPART	0	/	0	0	/	0	0	/	0	1	/	1	0					



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Jan 25, 23	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	30th W	LOCATION #:	8
	EAST & WEST:	W Ave I	CONTROL:	SIGNAL

NOTES:

AM
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☑ Add U-Turns to Left Turns

		NORTHBOUND 30th W			SOUTHBOUND 30th W			EASTBOUND W Ave I			WESTBOUND W Ave I			
	LANES:	NL 2	NT 2	NR 1	SL 2	ST 3	SR 1	EL 2	ET 3	ER 1	WL 2	WT 3	WR 1	TOTAL
AM	7:00 AM	1	11	13	5	12	5	7	74	2	16	68	1	215
	7:15 AM	9	23	19	6	33	10	8	65	2	26	81	6	288
	7:30 AM	1	28	51	9	71	8	13	93	3	33	80	4	394
	7:45 AM	11	40	43	10	48	13	12	118	2	46	73	13	429
	8:00 AM	5	47	42	7	52	6	10	54	4	32	57	8	324
	8:15 AM	3	33	49	6	66	8	8	73	5	61	44	2	358
	8:30 AM	4	37	52	5	39	7	5	56	5	68	46	1	325
	8:45 AM	2	17	35	7	21	4	3	61	4	25	52	3	234
	VOLUMES	36	236	304	55	342	61	66	594	27	307	501	38	2,567
	APPROACH %	6%	41%	53%	12%	75%	13%	10%	86%	4%	36%	59%	4%	
	APP/DEPART	576	/	340	458	/	676	687	/	953	846	/	598	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	20	148	185	32	237	35	43	338	14	172	254	27	1,505
	APPROACH %	6%	42%	52%	11%	78%	12%	11%	86%	4%	38%	56%	6%	
	PEAK HR FACTOR		0.939			0.864			0.748			0.858		0.877
	APP/DEPART	353	/	218	304	/	423	395	/	555	453	/	309	0
PM	4:00 PM	5	27	38	9	41	13	8	96	6	23	64	6	336
	4:15 PM	7	26	25	8	33	13	3	68	7	25	76	12	303
	4:30 PM	5	19	25	6	42	14	9	80	8	33	68	6	315
	4:45 PM	6	16	17	13	42	17	2	62	3	27	75	5	285
	5:00 PM	4	25	27	4	40	16	8	67	10	33	84	11	329
	5:15 PM	2	27	19	11	27	15	3	87	11	44	79	8	333
	5:30 PM	2	28	29	4	28	6	10	103	3	40	70	5	328
	5:45 PM	5	19	29	10	22	14	8	69	5	26	50	13	270
	VOLUMES	36	187	209	65	275	108	51	632	53	251	566	66	2,499
	APPROACH %	8%	43%	48%	15%	61%	24%	7%	86%	7%	28%	64%	7%	
	APP/DEPART	432	/	307	448	/	579	736	/	903	883	/	710	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	14	96	92	32	137	54	23	319	27	144	308	29	1,275
	APPROACH %	7%	48%	46%	14%	61%	24%	6%	86%	7%	30%	64%	6%	
	PEAK HR FACTOR		0.856			0.774			0.795			0.918		0.957
	APP/DEPART	202	/	150	223	/	308	369	/	441	481	/	376	0

U-TURNS				
NB 0	SB 0	EB 0	WB 0	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	3	0	0	3

30th W

NORTH SIDE

W Ave I WEST SIDE

EAST SIDE **W Ave I**

SOUTH SIDE

30th W

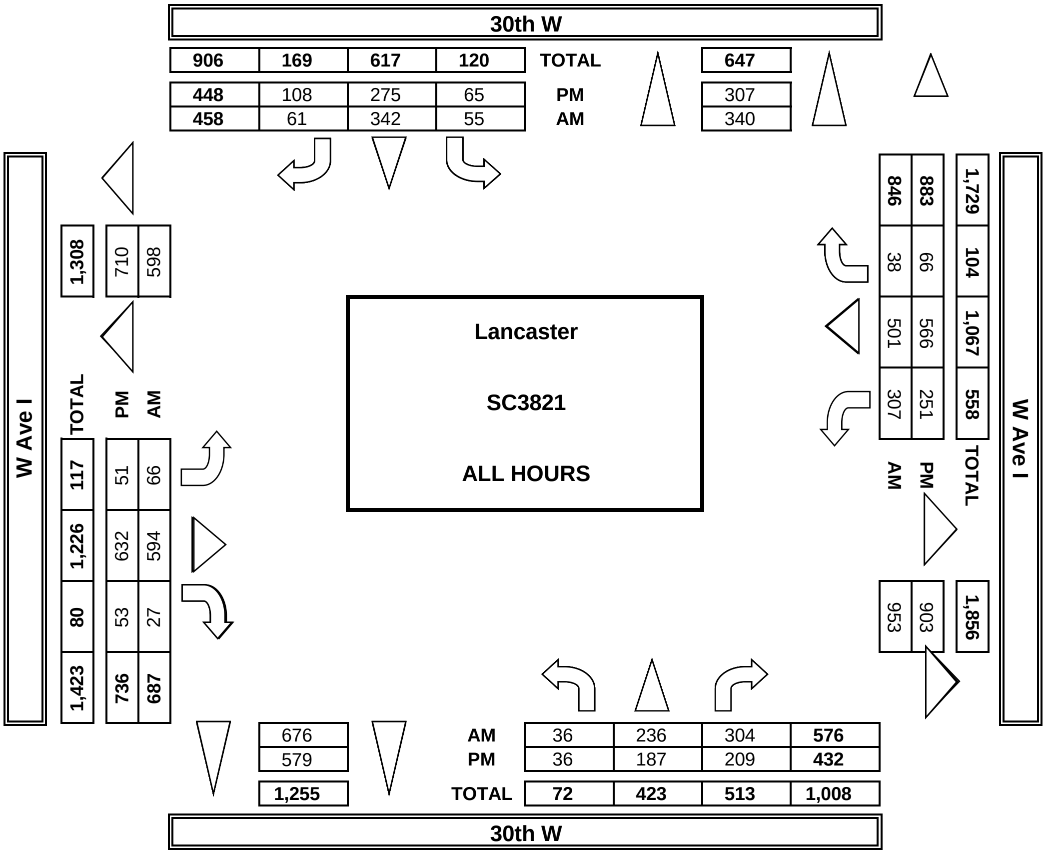
		ALL PED AND BIKE				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	1	0	1	2
	7:15 AM	2	1	0	1	4
	7:30 AM	0	0	0	0	0
	7:45 AM	2	1	3	0	6
	8:00 AM	1	2	1	1	5
	8:15 AM	1	3	0	4	8
	8:30 AM	0	0	0	5	5
	8:45 AM	1	0	1	2	4
	TOTAL	7	8	5	14	34
PM	4:00 PM	1	5	0	7	13
	4:15 PM	2	2	1	3	8
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	1	1
	5:00 PM	2	9	1	7	19
	5:15 PM	0	1	0	0	1
	5:30 PM	2	1	2	2	7
	5:45 PM	2	2	3	2	9
	TOTAL	9	20	7	22	58

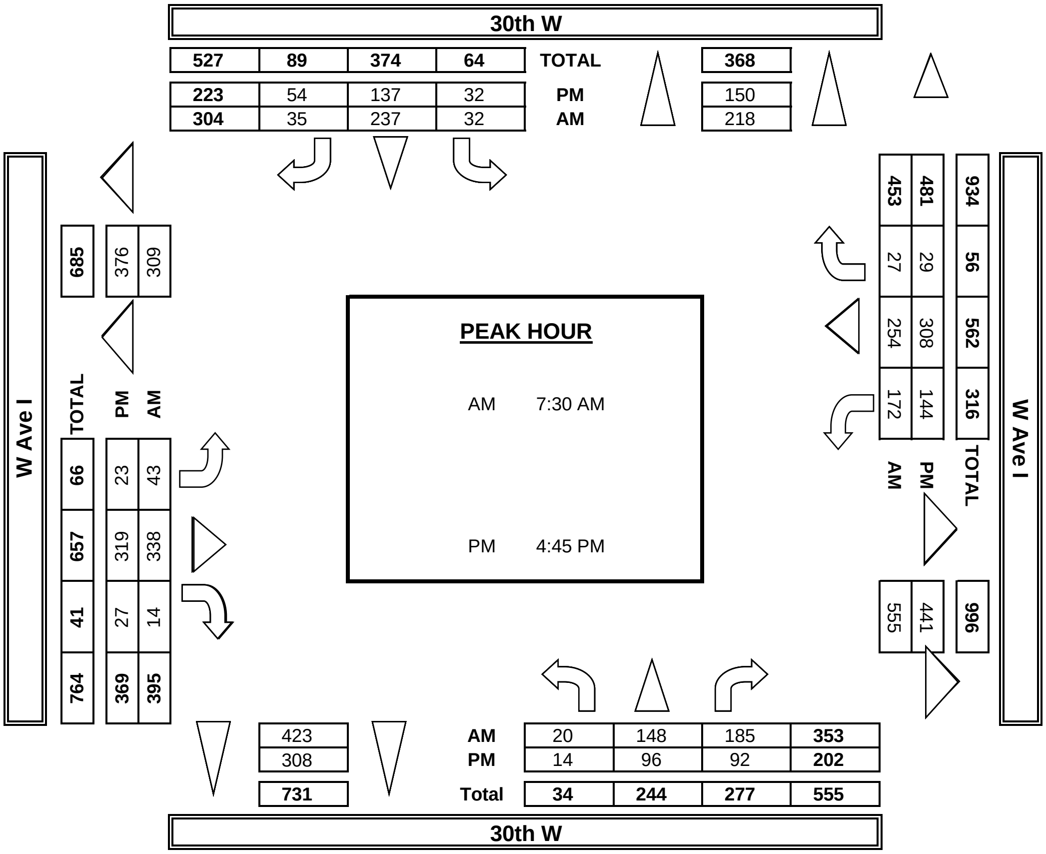
PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	1	0	1	2
2	1	0	1	4
0	0	0	0	0
2	1	3	0	6
1	2	1	1	5
0	3	0	4	7
0	0	0	4	4
1	0	1	2	4
6	8	5	13	32
1	5	0	6	12
2	2	1	3	8
0	0	0	0	0
0	0	0	0	0
2	9	1	7	19
0	1	0	0	1
1	0	1	1	3
0	2	1	2	5
6	19	4	19	48

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	1	1
0	0	0	0	0
1	0	0	1	2
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
1	1	1	1	4
2	0	2	0	4
3	1	3	3	10

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster		PROJECT #:	SC3821
	NORTH & SOUTH:	30th W		LOCATION #:	8
	EAST & WEST:	W Ave I		CONTROL:	SIGNAL

	NOTES:								AM		▲		
PCE Adjusted	Class	1	2	3	4	5	6		PM		N		
	Factor	1	1.5	2	3	2	2		MD	◄ W		E ►	
									OTHER		S		
									OTHER		▼		

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS				
		30th W			30th W			W Ave I			W Ave I								
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	2	2	1	2	3	1	2	3	1	2	3	1						
AM	7:00 AM	1	12	13	5	12	6	8	75	2	16	74	1	224					0
	7:15 AM	9	23	20	6	38	10	8	68	2	28	86	7	304					0
	7:30 AM	1	28	52	11	72	8	13	94	3	33	82	4	401					0
	7:45 AM	11	40	44	10	48	14	12	121	3	48	76	13	440					0
	8:00 AM	5	47	44	8	52	7	10	56	4	32	59	8	331					0
	8:15 AM	3	33	51	6	67	8	8	76	5	64	47	2	369					0
	8:30 AM	5	38	54	6	40	8	6	58	5	71	48	1	339					0
	8:45 AM	2	18	35	7	21	4	5	65	5	26	52	4	242					0
	VOLUMES	37	239	313	59	349	65	70	611	29	318	521	40	2,647	0	0	0	0	0
	APPROACH %	6%	41%	53%	12%	74%	14%	10%	86%	4%	36%	59%	4%						
	APP/DEPART	588	/	348	473	/	695	709	/	982	878	/	623	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	20	148	191	35	239	37	43	346	15	177	263	27	1,540					
	APPROACH %	6%	41%	53%	11%	77%	12%	11%	86%	4%	38%	56%	6%						
	PEAK HR FACTOR		0.938			0.854			0.745			0.850		0.876					
	APP/DEPART	359	/	218	311	/	431	404	/	572	466	/	320	0					
PM	4:00 PM	5	28	40	9	41	13	8	98	7	24	64	6	342					0
	4:15 PM	8	27	27	9	34	13	3	70	7	26	78	13	314					0
	4:30 PM	6	19	26	7	42	15	12	82	8	33	69	6	324					0
	4:45 PM	6	16	17	13	43	17	2	67	3	27	77	5	292					0
	5:00 PM	4	26	30	4	41	16	10	71	10	34	88	11	343					0
	5:15 PM	2	28	20	12	27	15	4	89	11	46	81	8	342					0
	5:30 PM	2	30	29	4	28	6	10	107	3	40	71	5	334					0
	5:45 PM	5	21	32	10	22	14	9	75	5	27	51	13	282					0
	VOLUMES	38	193	220	68	278	109	57	657	54	257	577	67	2,571	0	0	0	0	0
	APPROACH %	8%	43%	49%	15%	61%	24%	7%	86%	7%	29%	64%	7%						
	APP/DEPART	450	/	316	454	/	588	767	/	945	900	/	723	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	14	99	96	33	139	54	25	333	27	147	316	29	1,310					
	APPROACH %	7%	47%	46%	15%	61%	24%	7%	86%	7%	30%	64%	6%						
	PEAK HR FACTOR		0.864			0.778			0.804			0.916		0.955					
	APP/DEPART	209	/	153	226	/	312	385	/	462	491	/	384	0					

30th W

NORTH SIDE

W Ave I WEST SIDE

EAST SIDE **W Ave I**

SOUTH SIDE

30th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Lancaster	PROJECT #:	SC3821
1/25/23	NORTH & SOUTH:	30th W	LOCATION #:	8
WEDNESDAY	EAST & WEST:	W Ave I	CONTROL:	SIGNAL

CLASS 1:
PASSENGER
VEHICLES

NOTES:

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OTHER

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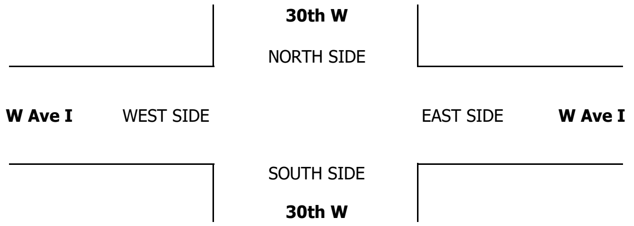
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS				
		30th W			30th W			W Ave I			W Ave I								
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	2	2	1	2	3	1	2	3	1	2	3	1						
AM	7:00 AM	1	10	13	5	12	4	6	73	2	16	62	1	205	0	0	0	0	0
	7:15 AM	9	23	18	6	30	10	8	61	2	24	74	5	270	0	0	0	0	0
	7:30 AM	1	28	50	7	69	8	13	91	3	33	78	4	385	0	0	0	0	0
	7:45 AM	11	40	42	10	48	11	12	115	1	44	69	13	416	0	0	0	0	0
	8:00 AM	5	47	40	5	52	5	10	51	4	32	54	8	313	0	0	0	0	0
	8:15 AM	3	33	46	6	65	8	8	68	5	58	42	2	344	0	0	0	0	0
	8:30 AM	3	35	50	4	38	6	4	53	5	65	43	1	307	0	0	0	0	0
	8:45 AM	2	16	35	7	21	4	1	57	3	24	52	2	224	0	0	0	0	0
	VOLUMES	35	232	294	50	335	56	62	569	25	296	474	36	2,464	0	0	0	0	0
	APPROACH %	6%	41%	52%	11%	76%	13%	9%	87%	4%	37%	59%	4%						
	APP/DEPART	561	/	330	441	/	656	656	/	913	806	/	565	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	20	148	178	28	234	32	43	325	13	167	243	27	1,458					
	APPROACH %	6%	43%	51%	10%	80%	11%	11%	85%	3%	38%	56%	6%						
	PEAK HR FACTOR		0.930			0.875			0.744			0.867		0.876					
	APP/DEPART	346	/	218	294	/	414	381	/	531	437	/	295	0					
PM	4:00 PM	5	26	36	9	41	13	8	93	5	22	64	6	328	0	1	0	0	1
	4:15 PM	6	25	23	6	32	13	3	65	7	24	73	11	288	0	0	0	0	0
	4:30 PM	4	19	24	5	42	13	5	76	8	33	66	6	301	0	0	0	0	0
	4:45 PM	6	16	17	13	41	17	2	59	3	27	72	5	278	0	1	0	0	1
	5:00 PM	4	24	25	4	38	16	6	62	10	32	79	11	311	0	0	0	0	0
	5:15 PM	2	26	18	9	27	15	2	83	11	42	76	8	319	0	0	0	0	0
	5:30 PM	2	25	29	4	28	6	10	99	3	40	69	5	320	0	1	0	0	1
	5:45 PM	5	17	27	10	22	14	7	64	5	25	49	13	258	0	0	0	0	0
	VOLUMES	34	178	199	60	271	107	43	601	52	245	548	65	2,403	0	3	0	0	3
	APPROACH %	8%	43%	48%	14%	62%	24%	6%	86%	7%	29%	64%	8%						
	APP/DEPART	411	/	289	438	/	568	696	/	857	858	/	689	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	14	91	89	28	134	54	20	303	27	141	296	29	1,228					
	APPROACH %	7%	47%	46%	13%	61%	25%	6%	87%	8%	30%	64%	6%						
	PEAK HR FACTOR		0.866			0.768			0.781			0.925		0.959					
	APP/DEPART	194	/	142	218	/	302	350	/	420	466	/	364	0					



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #: SC3821
	NORTH & SOUTH:	30th W	LOCATION #: 8
	EAST & WEST:	W Ave I	CONTROL: SIGNAL

CLASS 2:
2-AXLE
WORK
VEHICLES/
TRUCKS

NOTES:

AM
PM
MD
OTHER
OTHER

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		NORTHBOUND 30th W			SOUTHBOUND 30th W			EASTBOUND W Ave I			WESTBOUND W Ave I				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	2	2	1	2	3	1	2	3	1	2	3	1						
AM	7:00 AM	0	1	0	0	0	0	0	1	0	0	3	0	5	0	0	0	0	0
	7:15 AM	0	0	0	0	1	0	0	3	0	0	5	0	9	0	0	0	0	0
	7:30 AM	0	0	0	0	2	0	0	2	0	0	1	0	5	0	0	0	0	0
	7:45 AM	0	0	0	0	0	2	0	1	0	0	2	0	5	0	0	0	0	0
	8:00 AM	0	0	1	2	0	0	0	2	0	0	3	0	8	0	0	0	0	0
	8:15 AM	0	0	2	0	0	0	0	5	0	1	1	0	9	0	0	0	0	0
	8:30 AM	0	2	0	0	1	1	0	2	0	0	3	0	9	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	1	3	1	0	0	1	6	0	0	0	0	0
	VOLUMES	0	3	3	2	4	3	1	19	1	1	18	1	56	0	0	0	0	0
	APPROACH %	0%	50%	50%	22%	44%	33%	5%	90%	5%	5%	90%	5%						
	APP/DEPART	6	/	5	9	/	6	21	/	24	20	/	21	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	3	2	2	2	0	10	0	1	7	0	27					
	APPROACH %	0%	0%	100%	33%	33%	33%	0%	100%	0%	13%	88%	0%						
	PEAK HR FACTOR		0.375			0.750			0.500			0.667		0.750					
	APP/DEPART	3	/	0	6	/	3	10	/	15	8	/	9	0					
PM	4:00 PM	0	1	1	0	0	0	0	2	1	0	0	0	5	0	0	0	0	0
	4:15 PM	0	1	0	2	0	0	0	2	0	0	3	1	9	0	0	0	0	0
	4:30 PM	1	0	1	1	0	0	2	4	0	0	2	0	11	0	0	0	0	0
	4:45 PM	0	0	0	0	1	0	0	1	0	0	3	0	5	0	0	0	0	0
	5:00 PM	0	1	0	0	2	0	1	3	0	0	3	0	10	0	0	0	0	0
	5:15 PM	0	0	0	2	0	0	1	4	0	1	3	0	11	0	0	0	0	0
	5:30 PM	0	3	0	0	0	0	0	3	0	0	0	0	6	0	0	0	0	0
	5:45 PM	0	1	0	0	0	0	1	3	0	0	1	0	6	0	0	0	0	0
	VOLUMES	1	7	2	5	3	0	5	22	1	1	15	1	63	0	0	0	0	0
	APPROACH %	10%	70%	20%	63%	38%	0%	18%	79%	4%	6%	88%	6%						
	APP/DEPART	10	/	13	8	/	5	28	/	29	17	/	16	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	0	4	0	2	3	0	2	11	0	1	9	0	32					
	APPROACH %	0%	100%	0%	40%	60%	0%	15%	85%	0%	10%	90%	0%						
	PEAK HR FACTOR		0.333			0.625			0.650			0.625		0.727					
	APP/DEPART	4	/	6	5	/	4	13	/	13	10	/	9	0					

30th W

NORTH SIDE

W Ave I WEST SIDE

EAST SIDE **W Ave I**

SOUTH SIDE

30th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Lancaster	PROJECT #:	SC3821
1/25/23	NORTH & SOUTH:	30th W	LOCATION #:	8
WEDNESDAY	EAST & WEST:	W Ave I	CONTROL:	SIGNAL

CLASS 3:
3-AXLE
TRUCKS

NOTES:

AM
PM
MD
OTHER
OTHER

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		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				**U-TURNS**				
			30th W			30th W			W Ave I			W Ave I							
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	2	2	1	2	3	1	2	3	1	2	3	1						
AM	7:00 AM	0	0	0	0	0	1	0	0	0	0	1	0	2	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	2	1	1	2	0	6	0	0	0	0	0
	8:00 AM	0	0	1	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0
	8:15 AM	0	0	0	0	1	0	0	0	0	1	0	0	2	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	1	0	2	0	0	3	0	0	0	0	0
	8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	VOLUMES	0	1	1	0	1	1	0	4	1	4	6	0	19	0	0	0	0	0
	APPROACH %	0%	50%	50%	0%	50%	50%	0%	80%	20%	40%	60%	0%						
	APP/DEPART	2	/	1	2	/	6	5	/	5	10	/	7	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	1	0	1	0	0	3	1	2	3	0	11					
	APPROACH %	0%	0%	100%	0%	100%	0%	0%	75%	25%	40%	60%	0%						
	PEAK HR FACTOR		0.250			0.250			0.333			0.417		0.458					
	APP/DEPART	1	/	0	1	/	4	4	/	4	5	/	3	0					
PM	4:00 PM	0	0	1	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0
	4:15 PM	1	0	0	0	1	0	0	1	0	0	0	0	3	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	2	0	0	2	0	4	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	1	0	1	0	1	0	2	4	0	0	3	0	12	0	0	0	0	0
	APPROACH %	50%	0%	50%	0%	100%	0%	33%	67%	0%	0%	100%	0%						
	APP/DEPART	2	/	2	1	/	1	6	/	5	3	/	4	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	0	0	0	0	0	0	0	2	0	0	3	0	5					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.000			0.000			0.250			0.375		0.313					
	APP/DEPART	0	/	0	0	/	0	2	/	2	3	/	3	0					

30th W

NORTH SIDE

W Ave I WEST SIDE

EAST SIDE **W Ave I**

SOUTH SIDE

30th W

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	30th W	LOCATION #:	8
	EAST & WEST:	W Ave I	CONTROL:	SIGNAL

CLASS 4:

4 OR MORE
AXLE
TRUCKS

NOTES:

AM
PM
MD
OTHER
OTHER

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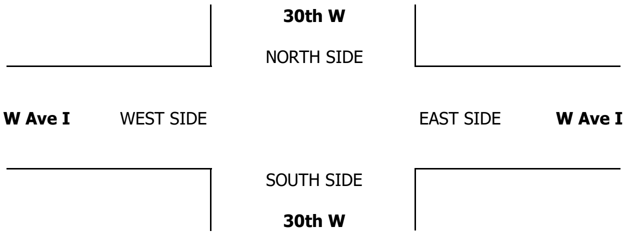
		NORTHBOUND 30th W			SOUTHBOUND 30th W			EASTBOUND W Ave I			WESTBOUND W Ave I				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	2	2	1	2	3	1	2	3	1	2	3	1						
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	7:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	VOLUMES	0	0	0	0	2	0	0	1	0	0	2	0	5	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%						
	APP/DEPART	0	/	0	2	/	2	1	/	1	2	/	2	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	1	0	1					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.250		0.250					
	APP/DEPART	0	/	0	0	/	0	0	/	0	1	/	1	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0
	5:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	5:45 PM	0	0	1	0	0	0	0	2	0	0	0	0	3	0	0	0	0	0
	VOLUMES	0	0	2	0	0	0	0	5	0	0	0	0	7	0	0	0	0	0
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%						
	APP/DEPART	2	/	0	0	/	0	5	/	7	0	/	0	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	0	0	1	0	0	0	0	3	0	0	0	0	4					
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.250			0.000			0.375			0.000		0.500					
	APP/DEPART	1	/	0	0	/	0	3	/	4	0	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #: SC3821
	NORTH & SOUTH:	30th W	LOCATION #: 8
	EAST & WEST:	W Ave I	CONTROL: SIGNAL

CLASS 5: RV

NOTES:

AM
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MD
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OTHER

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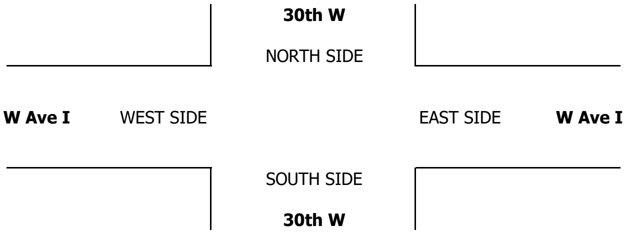
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
		30th W			30th W			W Ave I			W Ave I			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	2	2	1	2	3	1	2	3	1	2	3	1	
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/23 WEDNESDAY	LOCATION:	Lancaster	PROJECT #:	SC3821
	NORTH & SOUTH:	30th W	LOCATION #:	8
	EAST & WEST:	W Ave I	CONTROL:	SIGNAL

CLASS 6: **NOTES:**

BUSES

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OTHER

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		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS				
		30th W			30th W			W Ave I			W Ave I								
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	2	2	1	2	3	1	2	3	1	2	3	1						
AM	7:00 AM	0	0	0	0	0	0	1	0	0	0	1	0	2	0	0	0	0	0
	7:15 AM	0	0	1	0	0	0	0	1	0	2	0	1	5	0	0	0	0	0
	7:30 AM	0	0	1	2	0	0	0	0	0	0	0	0	3	0	0	0	0	0
	7:45 AM	0	0	1	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0
	8:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0
	8:15 AM	0	0	1	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0
	8:30 AM	1	0	2	1	0	0	1	0	0	1	0	0	6	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	2	0	0	0	0	0
	VOLUMES	1	0	6	3	0	1	3	1	0	6	1	1	23	0	0	0	0	0
	APPROACH %	14%	0%	86%	75%	0%	25%	75%	25%	0%	75%	13%	13%						
	APP/DEPART	7	/	4	4	/	6	4	/	10	8	/	3	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	3	2	0	1	0	0	0	2	0	0	8					
	APPROACH %	0%	0%	100%	67%	0%	33%	0%	0%	0%	100%	0%	0%						
	PEAK HR FACTOR		0.750			0.375			0.000			0.500		0.667					
	APP/DEPART	3	/	0	3	/	2	0	/	5	2	/	1	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
	4:15 PM	0	0	2	0	0	0	0	0	0	1	0	0	3	0	0	0	0	0
	4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	1	0	0	0	1	0	0	1	0	0	3	0	0	0	0	0
	5:15 PM	0	1	1	0	0	0	0	0	0	1	0	0	3	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	1	1	0	0	0	0	0	0	1	0	0	3	0	0	0	0	0
	VOLUMES	0	2	5	0	0	1	1	0	0	5	0	0	14	0	0	0	0	0
	APPROACH %	0%	29%	71%	0%	0%	100%	100%	0%	0%	100%	0%	0%						
	APP/DEPART	7	/	3	1	/	5	1	/	5	5	/	1	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	0	1	2	0	0	0	1	0	0	2	0	0	6					
	APPROACH %	0%	33%	67%	0%	0%	0%	100%	0%	0%	100%	0%	0%						
	PEAK HR FACTOR		0.375			0.000			0.250			0.500		0.500					
	APP/DEPART	3	/	2	0	/	2	1	/	2	2	/	0	0					

30th W

NORTH SIDE

W Ave I WEST SIDE EAST SIDE **W Ave I**

SOUTH SIDE

30th W

Wednesday, January 25, 2023 CITY: Lancaster PROJECT: SC3821

ADT1 W Ave H west of 35th W. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	EB		WB			PM Period	EB		WB		
0:00	0		2			12:00	10		16		
0:15	1		4			12:15	8		16		
0:30	0		1			12:30	7		8		
0:45	1	2	4	11	13	12:45	9	34	8	48	82
1:00	2		2			13:00	12		16		
1:15	0		0			13:15	19		29		
1:30	1		0			13:30	5		53		
1:45	1	4	1	3	7	13:45	17	53	38	136	189
2:00	0		0			14:00	45		20		
2:15	0		0			14:15	28		25		
2:30	0		1			14:30	31		24		
2:45	0	0	0	1	1	14:45	29	133	28	97	230
3:00	0		0			15:00	30		17		
3:15	2		3			15:15	21		25		
3:30	0		0			15:30	22		27		
3:45	4	6	1	4	10	15:45	26	99	32	101	200
4:00	2		1			16:00	24		24		
4:15	3		3			16:15	25		21		
4:30	4		3			16:30	38		20		
4:45	7	16	7	14	30	16:45	19	106	34	99	205
5:00	3		7			17:00	24		31		
5:15	8		12			17:15	24		17		
5:30	17		17			17:30	25		24		
5:45	20	48	23	59	107	17:45	15	88	17	89	177
6:00	12		11			18:00	17		8		
6:15	17		16			18:15	19		11		
6:30	6		21			18:30	11		15		
6:45	21	56	27	75	131	18:45	15	62	14	48	110
7:00	16		34			19:00	12		8		
7:15	31		55			19:15	9		11		
7:30	72		55			19:30	8		6		
7:45	72	191	29	173	364	19:45	8	37	14	39	76
8:00	25		21			20:00	5		5		
8:15	37		19			20:15	5		8		
8:30	31		23			20:30	7		11		
8:45	17	110	18	81	191	20:45	2	19	7	31	50
9:00	11		20			21:00	4		7		
9:15	9		16			21:15	6		5		
9:30	10		8			21:30	5		3		
9:45	7	37	7	51	88	21:45	11	26	6	21	47
10:00	23		7			22:00	14		8		
10:15	6		15			22:15	8		4		
10:30	9		7			22:30	3		6		
10:45	8	46	6	35	81	22:45	1	26	5	23	49
11:00	8		14			23:00	1		0		
11:15	15		7			23:15	6		2		
11:30	15		17			23:30	2		5		
11:45	12	50	13	51	101	23:45	1	10	4	11	21
Total Vol.		566		558	**1124**			693		743	**1436**

Daily Totals

EB	WB	**Combined**
1259	1301	**2560**

	AM			PM		
Split %	50.4%	49.6%	**43.9%**	48.3%	51.7%	**56.1%**
Peak Hour	7:30	7:00	**7:00**	14:00	13:15	**13:30**
Volume	206	173	**364**	133	140	**231**
P.H.F.	0.72	0.79	**0.72**	0.74	0.66	**0.89**

cs@aimtd.com Tell. 714 253 7888

Wednesday, January 25, 2023 CITY: Lancaster PROJECT: SC3821

ADT2 W Ave H east of 35th W. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	EB		WB			PM Period	EB		WB		
0:00	1		1			12:00	13		20		
0:15	2		3			12:15	12		18		
0:30	1		1			12:30	13		9		
0:45	3	7	5	10	17	12:45	17	55	12	59	114
1:00	2		2			13:00	14		18		
1:15	1		0			13:15	24		32		
1:30	1		0			13:30	10		55		
1:45	1	5	1	3	8	13:45	19	67	43	148	215
2:00	0		0			14:00	46		27		
2:15	1		1			14:15	51		28		
2:30	0		2			14:30	111		39		
2:45	0	1	0	3	4	14:45	41	249	73	167	416
3:00	0		0			15:00	32		23		
3:15	2		4			15:15	22		26		
3:30	1		0			15:30	23		28		
3:45	4	7	3	7	14	15:45	28	105	33	110	215
4:00	2		2			16:00	26		26		
4:15	3		4			16:15	26		21		
4:30	5		6			16:30	40		20		
4:45	7	17	11	23	40	16:45	21	113	31	98	211
5:00	3		12			17:00	25		33		
5:15	9		24			17:15	24		16		
5:30	13		44			17:30	25		25		
5:45	16	41	85	165	206	17:45	15	89	18	92	181
6:00	13		28			18:00	17		8		
6:15	18		17			18:15	19		12		
6:30	11		23			18:30	14		17		
6:45	21	63	28	96	159	18:45	17	67	15	52	119
7:00	16		38			19:00	13		10		
7:15	32		57			19:15	12		12		
7:30	73		56			19:30	26		9		
7:45	71	192	32	183	375	19:45	10	61	22	53	114
8:00	26		22			20:00	5		9		
8:15	37		22			20:15	4		9		
8:30	34		27			20:30	8		12		
8:45	19	116	18	89	205	20:45	4	21	9	39	60
9:00	11		20			21:00	4		8		
9:15	9		17			21:15	10		6		
9:30	10		10			21:30	6		8		
9:45	8	38	11	58	96	21:45	12	32	7	29	61
10:00	23		10			22:00	16		9		
10:15	13		14			22:15	12		5		
10:30	10		16			22:30	4		6		
10:45	21	67	9	49	116	22:45	4	36	5	25	61
11:00	12		23			23:00	7		1		
11:15	19		20			23:15	14		1		
11:30	23		22			23:30	45		3		
11:45	15	69	15	80	149	23:45	3	69	3	8	77
Total Vol.		623		766	**1389**			964		880	**1844**

Daily Totals

EB	WB	**Combined**
1587	1646	**3233**

	AM			**PM**		
Split %	44.9%	55.1%	**43.0%**	52.3%	47.7%	**57.0%**
Peak Hour	7:30	7:00	**7:00**	14:00	14:00	**14:00**
Volume	207	183	**375**	249	167	**416**
P.H.F.	0.71	0.80	**0.73**	0.56	0.57	**0.69**

Appendix B

LOS Worksheets

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	0	110	9	45	109	2	8	60	53	3	91	1
Future Vol, veh/h	0	110	9	45	109	2	8	60	53	3	91	1
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	157	13	64	156	3	11	86	76	4	130	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.5	10.2	9.3	9.4
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	0%	29%	3%
Vol Thru, %	50%	92%	70%	96%
Vol Right, %	44%	8%	1%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	121	119	156	95
LT Vol	8	0	45	3
Through Vol	60	110	109	91
RT Vol	53	9	2	1
Lane Flow Rate	173	170	223	136
Geometry Grp	1	1	1	1
Degree of Util (X)	0.23	0.231	0.304	0.191
Departure Headway (Hd)	4.787	4.892	4.915	5.078
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	743	728	724	699
Service Time	2.864	2.971	2.99	3.161
HCM Lane V/C Ratio	0.233	0.234	0.308	0.195
HCM Control Delay	9.3	9.5	10.2	9.4
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.9	0.9	1.3	0.7

2: W Ave H & 35th St W

Timing Plan: AM Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↑↱		↰↱	
Traffic Volume (veh/h)	2	197	182	12	3	1
Future Volume (veh/h)	2	197	182	12	3	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	3	270	249	16	4	1
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	383	408	739	47	624	156
Arrive On Green	0.21	0.21	0.21	0.21	0.52	0.52
Sat Flow, veh/h	1132	1900	3540	220	1191	298
Grp Volume(v), veh/h	3	270	130	135	6	0
Grp Sat Flow(s),veh/h/ln	1132	1900	1805	1860	1787	0
Q Serve(g_s), s	0.1	4.5	2.1	2.1	0.1	0.0
Cycle Q Clear(g_c), s	2.2	4.5	2.1	2.1	0.1	0.0
Prop In Lane	1.00			0.12	0.67	0.17
Lane Grp Cap(c), veh/h	383	408	387	399	936	0
V/C Ratio(X)	0.01	0.66	0.34	0.34	0.01	0.00
Avail Cap(c_a), veh/h	732	995	945	974	936	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.4	12.4	11.4	11.4	3.9	0.0
Incr Delay (d2), s/veh	0.0	1.8	0.5	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.3	0.5	0.6	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.4	14.2	11.9	11.9	3.9	0.0
LnGrp LOS	B	B	B	B	A	A
Approach Vol, veh/h		273	265		6	
Approach Delay, s/veh		14.2	11.9		3.9	
Approach LOS		B	B		A	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	11.9	22.5	11.9
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	6.5	2.1	4.1
Green Ext Time (p_c), s	0.9	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	13.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
3: 30th St W & W Ave H

Existing Conditions
Timing Plan: AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑	↱	↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	0	195	18	217	132	4	6	20	159	9	34	1
Future Volume (veh/h)	0	195	18	217	132	4	6	20	159	9	34	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	235	22	261	159	5	7	24	192	11	41	1
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	309	1280	119	692	728	617	616	417	372	459	832	20
Arrive On Green	0.00	0.38	0.38	0.38	0.38	0.38	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1241	3339	310	1140	1900	1609	1384	1805	1608	1183	3602	88
Grp Volume(v), veh/h	0	126	131	261	159	5	7	24	192	11	20	22
Grp Sat Flow(s),veh/h/ln	1241	1805	1844	1140	1900	1609	1384	1805	1608	1183	1805	1884
Q Serve(g_s), s	0.0	1.1	1.1	4.6	1.3	0.0	0.1	0.2	2.4	0.2	0.2	0.2
Cycle Q Clear(g_c), s	0.0	1.1	1.1	5.7	1.3	0.0	0.3	0.2	2.4	2.6	0.2	0.2
Prop In Lane	1.00		0.17	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	309	692	707	692	728	617	616	417	372	459	417	435
V/C Ratio(X)	0.00	0.18	0.19	0.38	0.22	0.01	0.01	0.06	0.52	0.02	0.05	0.05
Avail Cap(c_a), veh/h	790	1392	1422	1134	1465	1241	1363	1392	1240	1098	1392	1453
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	4.8	4.8	6.7	4.8	4.5	7.1	7.0	7.8	9.0	7.0	7.0
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.3	0.1	0.0	0.0	0.1	1.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	4.9	4.9	7.0	5.0	4.5	7.1	7.0	8.9	9.0	7.0	7.0
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		257			425			223			53	
Approach Delay, s/veh		4.9			6.2			8.7			7.4	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		9.9		13.4		9.9		13.4
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s		4.4		3.1		4.6		7.7
Green Ext Time (p_c), s		0.9		1.0		0.1		1.3

Intersection Summary	
HCM 6th Ctrl Delay	6.5
HCM 6th LOS	A

4: SR-14 SB Ramp & W Ave H

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑	↱				↰		↱
Traffic Vol, veh/h	0	299	46	0	337	386	0	0	0	163	0	59
Future Vol, veh/h	0	299	46	0	337	386	0	0	0	163	0	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	0	-	-	250	-	-	-	0	-	380
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	348	53	0	392	449	0	0	0	190	0	69

Major/Minor	Major1			Major2						Minor2		
Conflicting Flow All	-	0	-	-	-	0				531	-	196
Stage 1	-	-	-	-	-	-				392	-	-
Stage 2	-	-	-	-	-	-				139	-	-
Critical Hdwy	-	-	-	-	-	-				6.25	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-				5.8	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-				6	-	-
Follow-up Hdwy	-	-	-	-	-	-				3.65	-	3.3
Pot Cap-1 Maneuver	0	-	0	0	-	0				507	0	819
Stage 1	0	-	0	0	-	0				636	0	-
Stage 2	0	-	0	0	-	0				839	0	-
Platoon blocked, %		-			-							
Mov Cap-1 Maneuver	-	-	-	-	-	-				507	0	819
Mov Cap-2 Maneuver	-	-	-	-	-	-				507	0	-
Stage 1	-	-	-	-	-	-				636	0	-
Stage 2	-	-	-	-	-	-				839	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.6
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	507	819
HCM Lane V/C Ratio	-	-	0.374	0.084
HCM Control Delay (s)	-	-	16.3	9.8
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	1.7	0.3

HCM 6th Signalized Intersection Summary
5: SR-14 NB Ramp & W Ave H

Existing Conditions
Timing Plan: AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑	↱	↰↰		↱			
Traffic Volume (veh/h)	0	385	74	0	622	395	101	0	165	0	0	0
Future Volume (veh/h)	0	385	74	0	622	395	101	0	165	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900	1900	0	1900			
Adj Flow Rate, veh/h	0	443	0	0	715	454	116	0	190			
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2422		0	1685	752	650	0	298			
Arrive On Green	0.00	0.47	0.00	0.00	0.47	0.47	0.19	0.00	0.19			
Sat Flow, veh/h	0	5358	1610	0	3705	1610	3510	0	1610			
Grp Volume(v), veh/h	0	443	0	0	715	454	116	0	190			
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1805	1610	1755	0	1610			
Q Serve(g_s), s	0.0	1.3	0.0	0.0	3.4	5.4	0.7	0.0	2.8			
Cycle Q Clear(g_c), s	0.0	1.3	0.0	0.0	3.4	5.4	0.7	0.0	2.8			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2422		0	1685	752	650	0	298			
V/C Ratio(X)	0.00	0.18		0.00	0.42	0.60	0.18	0.00	0.64			
Avail Cap(c_a), veh/h	0	3911		0	2722	1214	1561	0	716			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	4.0	0.0	0.0	4.6	5.1	8.9	0.0	9.7			
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.2	0.8	0.1	0.0	2.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	4.1	0.0	0.0	4.8	5.9	9.0	0.0	12.0			
LnGrp LOS	A	A		A	A	A	A	A	B			
Approach Vol, veh/h		443			1169			306				
Approach Delay, s/veh		4.1			5.2			10.9				
Approach LOS		A			A			B				

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				16.6		9.3		16.6				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				19.5		11.5		19.5				
Max Q Clear Time (g_c+I1), s				7.4		4.8		3.3				
Green Ext Time (p_c), s				4.7		0.6		2.2				

Intersection Summary	
HCM 6th Ctrl Delay	5.8
HCM 6th LOS	A

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑↱		↰	↑	↱	↰	↑	↱
Traffic Vol, veh/h	3	139	12	6	109	0	12	7	5	1	18	3
Future Vol, veh/h	3	139	12	6	109	0	12	7	5	1	18	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	250	-	-	115	-	115	115	-	115
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	151	13	7	118	0	13	8	5	1	20	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	118	0	0	164	0	0	228	289	76	218	302	59
Stage 1	-	-	-	-	-	-	157	157	-	132	132	-
Stage 2	-	-	-	-	-	-	71	132	-	86	170	-
Critical Hdwy	5.3	-	-	4.1	-	-	6.95	6.5	6.9	6.95	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.5	5.5	-
Follow-up Hdwy	3.1	-	-	2.2	-	-	3.65	4	3.3	3.65	4	3.9
Pot Cap-1 Maneuver	1027	-	-	1427	-	-	711	624	976	722	614	848
Stage 1	-	-	-	-	-	-	804	772	-	806	791	-
Stage 2	-	-	-	-	-	-	896	791	-	882	762	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1027	-	-	1427	-	-	687	619	976	707	609	848
Mov Cap-2 Maneuver	-	-	-	-	-	-	687	619	-	707	609	-
Stage 1	-	-	-	-	-	-	802	770	-	804	787	-
Stage 2	-	-	-	-	-	-	866	787	-	866	760	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.4	10.1	10.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	687	619	976	1027	-	-	1427	-	-	707	609	848
HCM Lane V/C Ratio	0.019	0.012	0.006	0.003	-	-	0.005	-	-	0.002	0.032	0.004
HCM Control Delay (s)	10.3	10.9	8.7	8.5	-	-	7.5	-	-	10.1	11.1	9.3
HCM Lane LOS	B	B	A	A	-	-	A	-	-	B	B	A
HCM 95th %tile Q(veh)	0.1	0	0	0	-	-	0	-	-	0	0.1	0

HCM 6th Signalized Intersection Summary
7: 30th St W & W Ave I

Existing Conditions
Timing Plan: AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑↑	↱	↰↰	↑↑↑	↱	↰↰	↑↑	↱	↰↰	↑↑↑	↱
Traffic Volume (veh/h)	43	346	15	177	263	27	20	148	191	35	239	37
Future Volume (veh/h)	43	346	15	177	263	27	20	148	191	35	239	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	49	393	17	201	299	31	23	168	217	40	272	42
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	172	831	299	323	1055	320	96	1277	715	149	1913	591
Arrive On Green	0.05	0.16	0.16	0.09	0.20	0.20	0.03	0.35	0.35	0.04	0.37	0.37
Sat Flow, veh/h	3510	5187	1592	3510	5187	1575	3510	3610	1603	3510	5187	1604
Grp Volume(v), veh/h	49	393	17	201	299	31	23	168	217	40	272	42
Grp Sat Flow(s),veh/h/ln	1755	1729	1592	1755	1729	1575	1755	1805	1603	1755	1729	1604
Q Serve(g_s), s	0.7	3.5	0.4	2.8	2.5	0.8	0.3	1.6	4.4	0.6	1.8	0.9
Cycle Q Clear(g_c), s	0.7	3.5	0.4	2.8	2.5	0.8	0.3	1.6	4.4	0.6	1.8	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	172	831	299	323	1055	320	96	1277	715	149	1913	591
V/C Ratio(X)	0.28	0.47	0.06	0.62	0.28	0.10	0.24	0.13	0.30	0.27	0.14	0.07
Avail Cap(c_a), veh/h	343	1824	604	405	1915	582	343	1277	715	343	1913	591
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	19.5	17.1	22.4	17.2	16.6	24.4	11.2	9.1	23.7	10.8	10.5
Incr Delay (d2), s/veh	0.9	0.4	0.1	2.0	0.1	0.1	1.3	0.2	1.1	1.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.2	0.1	1.0	0.8	0.2	0.1	0.5	1.2	0.2	0.5	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.4	19.9	17.2	24.3	17.4	16.7	25.7	11.4	10.2	24.7	10.9	10.7
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		459			531			408			354	
Approach Delay, s/veh		20.3			20.0			11.6			12.5	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	22.6	9.2	12.7	5.9	23.4	7.0	14.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	18.1	5.9	18.0	5.0	18.1	5.0	18.9
Max Q Clear Time (g_c+I1), s	2.6	6.4	4.8	5.5	2.3	3.8	2.7	4.5
Green Ext Time (p_c), s	0.0	1.2	0.1	1.8	0.0	1.3	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	16.6
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	0	56	1	29	27	4	2	69	23	1	105	0
Future Vol, veh/h	0	56	1	29	27	4	2	69	23	1	105	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	58	1	30	28	4	2	72	24	1	109	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	7.9	7.7	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	48%	1%
Vol Thru, %	73%	98%	45%	99%
Vol Right, %	24%	2%	7%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	94	57	60	106
LT Vol	2	0	29	1
Through Vol	69	56	27	105
RT Vol	23	1	4	0
Lane Flow Rate	98	59	62	110
Geometry Grp	1	1	1	1
Degree of Util (X)	0.113	0.073	0.078	0.132
Departure Headway (Hd)	4.158	4.42	4.483	4.296
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	866	813	802	839
Service Time	2.168	2.434	2.496	2.296
HCM Lane V/C Ratio	0.113	0.073	0.077	0.131
HCM Control Delay	7.7	7.8	7.9	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.2	0.3	0.5

2: W Ave H & 35th St W

Timing Plan: PM Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↑↱		Y	
Traffic Volume (veh/h)	0	114	107	2	10	3
Future Volume (veh/h)	0	114	107	2	10	3
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	133	124	2	12	3
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	229	270	518	8	761	190
Arrive On Green	0.00	0.14	0.14	0.14	0.57	0.57
Sat Flow, veh/h	1285	1900	3731	59	1330	333
Grp Volume(v), veh/h	0	133	61	65	16	0
Grp Sat Flow(s),veh/h/ln	1285	1900	1805	1889	1774	0
Q Serve(g_s), s	0.0	2.0	1.0	1.0	0.1	0.0
Cycle Q Clear(g_c), s	0.0	2.0	1.0	1.0	0.1	0.0
Prop In Lane	1.00			0.03	0.75	0.19
Lane Grp Cap(c), veh/h	229	270	257	269	1014	0
V/C Ratio(X)	0.00	0.49	0.24	0.24	0.02	0.00
Avail Cap(c_a), veh/h	780	1086	1032	1080	1014	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	12.4	12.0	12.0	2.9	0.0
Incr Delay (d2), s/veh	0.0	1.4	0.5	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.6	0.3	0.3	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	13.8	12.5	12.4	2.9	0.0
LnGrp LOS	A	B	B	B	A	A
Approach Vol, veh/h		133	126		16	
Approach Delay, s/veh		13.8	12.5		2.9	
Approach LOS		B	B		A	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	9.0	22.5	9.0
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	4.0	2.1	3.0
Green Ext Time (p_c), s	0.4	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	12.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑	↱	↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	0	122	7	147	104	24	7	35	61	5	48	1
Future Volume (veh/h)	0	122	7	147	104	24	7	35	61	5	48	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	131	8	158	112	26	8	38	66	5	52	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	380	900	55	674	495	419	728	477	425	685	957	18
Arrive On Green	0.00	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1271	3458	210	1270	1900	1610	1373	1805	1610	1311	3621	69
Grp Volume(v), veh/h	0	68	71	158	112	26	8	38	66	5	26	27
Grp Sat Flow(s),veh/h/ln	1271	1805	1862	1270	1900	1610	1373	1805	1610	1311	1805	1886
Q Serve(g_s), s	0.0	0.5	0.6	2.1	0.9	0.2	0.1	0.3	0.6	0.1	0.2	0.2
Cycle Q Clear(g_c), s	0.0	0.5	0.6	2.6	0.9	0.2	0.3	0.3	0.6	0.7	0.2	0.2
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	380	470	485	674	495	419	728	477	425	685	477	498
V/C Ratio(X)	0.00	0.14	0.15	0.23	0.23	0.06	0.01	0.08	0.16	0.01	0.05	0.05
Avail Cap(c_a), veh/h	1258	1717	1771	1551	1807	1531	1671	1717	1531	1586	1717	1793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	5.4	5.4	6.4	5.5	5.3	5.3	5.2	5.3	5.6	5.2	5.2
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.2	0.2	0.1	0.0	0.1	0.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	5.5	5.5	6.6	5.7	5.3	5.3	5.3	5.5	5.6	5.2	5.2
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		139			296			112			58	
Approach Delay, s/veh		5.5			6.1			5.4			5.3	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	9.5	9.4	9.5	9.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	2.6	2.6	2.7	4.6
Green Ext Time (p_c), s	0.4	0.5	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	5.8
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑	↱				↰		↱
Traffic Vol, veh/h	0	224	76	0	226	334	0	0	0	144	0	61
Future Vol, veh/h	0	224	76	0	226	334	0	0	0	144	0	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	0	-	-	250	-	-	-	0	-	380
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	246	84	0	248	367	0	0	0	158	0	67

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	-	-	-	0	346	-	124
Stage 1	-	-	-	-	-	-	248	-	-
Stage 2	-	-	-	-	-	-	98	-	-
Critical Hdwy	-	-	-	-	-	-	6.25	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6	-	-
Follow-up Hdwy	-	-	-	-	-	-	3.65	-	3.3
Pot Cap-1 Maneuver	0	-	0	0	-	0	641	0	910
Stage 1	0	-	0	0	-	0	748	0	-
Stage 2	0	-	0	0	-	0	880	0	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	-	-	-	-	-	-	641	0	910
Mov Cap-2 Maneuver	-	-	-	-	-	-	641	0	-
Stage 1	-	-	-	-	-	-	748	0	-
Stage 2	-	-	-	-	-	-	880	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	641	910
HCM Lane V/C Ratio	-	-	0.247	0.074
HCM Control Delay (s)	-	-	12.4	9.3
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1	0.2

HCM 6th Signalized Intersection Summary
5: SR-14 NB Ramp & W Ave H

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑	↱	↰↰		↱			
Traffic Volume (veh/h)	0	289	78	0	467	321	93	0	146	0	0	0
Future Volume (veh/h)	0	289	78	0	467	321	93	0	146	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900	1900	0	1900			
Adj Flow Rate, veh/h	0	318	0	0	513	353	102	0	160			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2160		0	1503	671	632	0	290			
Arrive On Green	0.00	0.42	0.00	0.00	0.42	0.42	0.18	0.00	0.18			
Sat Flow, veh/h	0	5358	1610	0	3705	1610	3510	0	1610			
Grp Volume(v), veh/h	0	318	0	0	513	353	102	0	160			
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1805	1610	1755	0	1610			
Q Serve(g_s), s	0.0	0.8	0.0	0.0	2.2	3.7	0.5	0.0	2.0			
Cycle Q Clear(g_c), s	0.0	0.8	0.0	0.0	2.2	3.7	0.5	0.0	2.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2160		0	1503	671	632	0	290			
V/C Ratio(X)	0.00	0.15		0.00	0.34	0.53	0.16	0.00	0.55			
Avail Cap(c_a), veh/h	0	4768		0	3319	1480	1653	0	758			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	4.0	0.0	0.0	4.4	4.9	7.7	0.0	8.3			
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.1	0.6	0.1	0.0	1.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	4.1	0.0	0.0	4.6	5.5	7.8	0.0	10.0			
LnGrp LOS	A	A		A	A	A	A	A	A			
Approach Vol, veh/h		318			866			262				
Approach Delay, s/veh		4.1			4.9			9.1				
Approach LOS		A			A			A				

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				13.8		8.5		13.8				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				20.5		10.5		20.5				
Max Q Clear Time (g_c+I1), s				5.7		4.0		2.8				
Green Ext Time (p_c), s				3.6		0.5		1.6				

Intersection Summary	
HCM 6th Ctrl Delay	5.5
HCM 6th LOS	A

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑↱		↰	↑	↱	↰	↑	↱
Traffic Vol, veh/h	0	117	7	26	192	2	13	20	12	0	12	0
Future Vol, veh/h	0	117	7	26	192	2	13	20	12	0	12	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	250	-	-	115	-	115	115	-	115
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	123	7	27	202	2	14	21	13	0	13	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	204	0	0	130	0	0	264	381	62	329	387	102
Stage 1	-	-	-	-	-	-	123	123	-	257	257	-
Stage 2	-	-	-	-	-	-	141	258	-	72	130	-
Critical Hdwy	5.3	-	-	4.1	-	-	6.95	6.5	6.9	6.95	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.5	5.5	-
Follow-up Hdwy	3.1	-	-	2.2	-	-	3.65	4	3.3	3.65	4	3.9
Pot Cap-1 Maneuver	938	-	-	1468	-	-	675	555	996	615	551	797
Stage 1	-	-	-	-	-	-	840	798	-	665	699	-
Stage 2	-	-	-	-	-	-	814	698	-	898	792	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	938	-	-	1468	-	-	653	545	996	581	541	797
Mov Cap-2 Maneuver	-	-	-	-	-	-	653	545	-	581	541	-
Stage 1	-	-	-	-	-	-	840	798	-	665	686	-
Stage 2	-	-	-	-	-	-	784	685	-	863	792	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.9	10.7	11.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	653	545	996	938	-	-	1468	-	-	-	541	-
HCM Lane V/C Ratio	0.021	0.039	0.013	-	-	-	0.019	-	-	-	0.023	-
HCM Control Delay (s)	10.6	11.9	8.7	0	-	-	7.5	-	-	0	11.8	0
HCM Lane LOS	B	B	A	A	-	-	A	-	-	A	B	A
HCM 95th %tile Q(veh)	0.1	0.1	0	0	-	-	0.1	-	-	-	0.1	-

HCM 6th Signalized Intersection Summary
7: 30th St W & W Ave I

Existing Conditions
Timing Plan: PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑↑	↱	↰↰	↑↑↑	↱	↰↰	↑↑	↱	↰↰	↑↑↑	↱
Traffic Volume (veh/h)	25	333	27	147	316	29	14	99	96	33	139	54
Future Volume (veh/h)	25	333	27	147	316	29	14	99	96	33	139	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	26	351	28	155	333	31	15	104	101	35	146	57
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	106	838	282	305	1132	342	66	1305	711	134	1976	602
Arrive On Green	0.03	0.16	0.16	0.09	0.22	0.22	0.02	0.36	0.36	0.04	0.38	0.38
Sat Flow, veh/h	3510	5187	1559	3510	5187	1568	3510	3610	1579	3510	5187	1579
Grp Volume(v), veh/h	26	351	28	155	333	31	15	104	101	35	146	57
Grp Sat Flow(s),veh/h/ln	1755	1729	1559	1755	1729	1568	1755	1805	1579	1755	1729	1579
Q Serve(g_s), s	0.4	3.1	0.8	2.2	2.7	0.8	0.2	1.0	1.9	0.5	0.9	1.2
Cycle Q Clear(g_c), s	0.4	3.1	0.8	2.2	2.7	0.8	0.2	1.0	1.9	0.5	0.9	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	106	838	282	305	1132	342	66	1305	711	134	1976	602
V/C Ratio(X)	0.25	0.42	0.10	0.51	0.29	0.09	0.23	0.08	0.14	0.26	0.07	0.09
Avail Cap(c_a), veh/h	343	1824	579	377	1875	567	343	1305	711	343	1976	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.2	19.3	17.5	22.3	16.7	16.0	24.7	10.7	8.3	23.9	10.1	10.2
Incr Delay (d2), s/veh	1.2	0.3	0.2	1.3	0.1	0.1	1.7	0.1	0.4	1.0	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.0	0.2	0.8	0.9	0.2	0.1	0.3	0.5	0.2	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	19.6	17.7	23.6	16.9	16.1	26.5	10.9	8.7	24.9	10.2	10.5
LnGrp LOS	C	B	B	C	B	B	C	B	A	C	B	B
Approach Vol, veh/h		405			519			220			238	
Approach Delay, s/veh		19.9			18.8			11.0			12.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	23.0	8.9	12.8	5.5	24.0	6.0	15.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	18.5	5.5	18.0	5.0	18.5	5.0	18.5
Max Q Clear Time (g_c+I1), s	2.5	3.9	4.2	5.1	2.2	3.2	2.4	4.7
Green Ext Time (p_c), s	0.0	0.7	0.1	1.6	0.0	0.8	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	0	110	9	45	109	6	8	60	53	22	91	1
Future Vol, veh/h	0	110	9	45	109	6	8	60	53	22	91	1
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	157	13	64	156	9	11	86	76	31	130	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.6	10.4	9.4	9.8
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	0%	28%	19%
Vol Thru, %	50%	92%	68%	80%
Vol Right, %	44%	8%	4%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	121	119	160	114
LT Vol	8	0	45	22
Through Vol	60	110	109	91
RT Vol	53	9	6	1
Lane Flow Rate	173	170	229	163
Geometry Grp	1	1	1	1
Degree of Util (X)	0.233	0.235	0.316	0.232
Departure Headway (Hd)	4.849	4.979	4.977	5.135
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	731	712	715	691
Service Time	2.942	3.072	3.064	3.229
HCM Lane V/C Ratio	0.237	0.239	0.32	0.236
HCM Control Delay	9.4	9.6	10.4	9.8
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.9	0.9	1.4	0.9

	↗	→	←	↖	↘	↙
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↑↱		↰↱	
Traffic Volume (veh/h)	7	211	185	44	9	2
Future Volume (veh/h)	7	211	185	44	9	2
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	10	289	253	60	12	3
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	369	428	655	153	687	172
Arrive On Green	0.23	0.23	0.23	0.23	0.52	0.52
Sat Flow, veh/h	1083	1900	3002	677	1330	333
Grp Volume(v), veh/h	10	289	155	158	16	0
Grp Sat Flow(s),veh/h/ln	1083	1900	1805	1778	1774	0
Q Serve(g_s), s	0.3	4.8	2.5	2.6	0.2	0.0
Cycle Q Clear(g_c), s	2.9	4.8	2.5	2.6	0.2	0.0
Prop In Lane	1.00			0.38	0.75	0.19
Lane Grp Cap(c), veh/h	369	428	407	401	916	0
V/C Ratio(X)	0.03	0.67	0.38	0.39	0.02	0.00
Avail Cap(c_a), veh/h	684	981	932	918	916	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.7	12.3	11.4	11.5	4.1	0.0
Incr Delay (d2), s/veh	0.0	1.9	0.6	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.4	0.7	0.7	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.7	14.2	12.0	12.1	4.2	0.0
LnGrp LOS	B	B	B	B	A	A
Approach Vol, veh/h		299	313		16	
Approach Delay, s/veh		14.1	12.1		4.2	
Approach LOS		B	B		A	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	12.4	22.5	12.4
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	6.8	2.2	4.6
Green Ext Time (p_c), s	1.0	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	12.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑	↱	↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	0	215	22	217	250	4	26	20	159	9	34	2
Future Volume (veh/h)	0	215	22	217	250	4	26	20	159	9	34	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	259	27	261	301	5	31	24	192	11	41	2
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	292	1344	139	688	773	655	594	411	366	438	797	39
Arrive On Green	0.00	0.41	0.41	0.41	0.41	0.41	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1090	3302	341	1110	1900	1609	1382	1805	1608	1183	3504	170
Grp Volume(v), veh/h	0	141	145	261	301	5	31	24	192	11	21	22
Grp Sat Flow(s),veh/h/ln	1090	1805	1838	1110	1900	1609	1382	1805	1608	1183	1805	1869
Q Serve(g_s), s	0.0	1.2	1.3	4.9	2.7	0.0	0.4	0.3	2.6	0.2	0.2	0.2
Cycle Q Clear(g_c), s	0.0	1.2	1.3	6.1	2.7	0.0	0.7	0.3	2.6	2.8	0.2	0.2
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	292	735	748	688	773	655	594	411	366	438	411	425
V/C Ratio(X)	0.00	0.19	0.19	0.38	0.39	0.01	0.05	0.06	0.52	0.03	0.05	0.05
Avail Cap(c_a), veh/h	646	1319	1344	1047	1389	1176	1290	1319	1176	1033	1319	1366
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	4.7	4.7	6.7	5.1	4.3	7.7	7.4	8.3	9.6	7.4	7.4
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.3	0.3	0.0	0.0	0.1	1.2	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.4	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	4.8	4.8	7.0	5.5	4.3	7.7	7.5	9.5	9.6	7.5	7.5
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		286			567			247			54	
Approach Delay, s/veh		4.8			6.2			9.1			7.9	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2		4		6		8
Phs Duration (G+Y+Rc), s	10.1		14.5		10.1		14.5
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s	18.0		18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s	4.6		3.3		4.8		8.1
Green Ext Time (p_c), s	0.9		1.1		0.1		1.9

Intersection Summary	
HCM 6th Ctrl Delay	6.5
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑	↱				↰		↱
Traffic Vol, veh/h	0	308	58	0	413	386	0	0	0	163	0	101
Future Vol, veh/h	0	308	58	0	413	386	0	0	0	163	0	101
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	0	-	-	250	-	-	-	0	-	380
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	358	67	0	480	449	0	0	0	190	0	117

Major/Minor	Major1			Major2						Minor2		
Conflicting Flow All	-	0	-	-	-	0				623	-	240
Stage 1	-	-	-	-	-	-				480	-	-
Stage 2	-	-	-	-	-	-				143	-	-
Critical Hdwy	-	-	-	-	-	-				6.25	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-				5.8	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-				6	-	-
Follow-up Hdwy	-	-	-	-	-	-				3.65	-	3.3
Pot Cap-1 Maneuver	0	-	0	0	-	0				451	0	767
Stage 1	0	-	0	0	-	0				575	0	-
Stage 2	0	-	0	0	-	0				835	0	-
Platoon blocked, %		-			-							
Mov Cap-1 Maneuver	-	-	-	-	-	-				451	0	767
Mov Cap-2 Maneuver	-	-	-	-	-	-				451	0	-
Stage 1	-	-	-	-	-	-				575	0	-
Stage 2	-	-	-	-	-	-				835	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	451	767
HCM Lane V/C Ratio	-	-	0.42	0.153
HCM Control Delay (s)	-	-	18.6	10.5
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	2	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑	↱	↰↰		↱			
Traffic Volume (veh/h)	0	387	81	0	630	395	169	0	165	0	0	0
Future Volume (veh/h)	0	387	81	0	630	395	169	0	165	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900	1900	0	1900			
Adj Flow Rate, veh/h	0	445	0	0	724	454	194	0	190			
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2398		0	1669	744	697	0	320			
Arrive On Green	0.00	0.46	0.00	0.00	0.46	0.46	0.20	0.00	0.20			
Sat Flow, veh/h	0	5358	1610	0	3705	1610	3510	0	1610			
Grp Volume(v), veh/h	0	445	0	0	724	454	194	0	190			
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1805	1610	1755	0	1610			
Q Serve(g_s), s	0.0	1.3	0.0	0.0	3.6	5.6	1.2	0.0	2.8			
Cycle Q Clear(g_c), s	0.0	1.3	0.0	0.0	3.6	5.6	1.2	0.0	2.8			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2398		0	1669	744	697	0	320			
V/C Ratio(X)	0.00	0.19		0.00	0.43	0.61	0.28	0.00	0.59			
Avail Cap(c_a), veh/h	0	3812		0	2653	1183	1521	0	698			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	4.2	0.0	0.0	4.8	5.3	9.0	0.0	9.7			
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.2	0.8	0.2	0.0	1.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.0	0.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	4.2	0.0	0.0	5.0	6.2	9.2	0.0	11.4			
LnGrp LOS	A	A		A	A	A	A	A	B			
Approach Vol, veh/h		445			1178			384				
Approach Delay, s/veh		4.2			5.4			10.3				
Approach LOS		A			A			B				

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				16.8		9.8		16.8				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				19.5		11.5		19.5				
Max Q Clear Time (g_c+I1), s				7.6		4.8		3.3				
Green Ext Time (p_c), s				4.7		0.8		2.2				

Intersection Summary			
HCM 6th Ctrl Delay			6.1
HCM 6th LOS			A

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑↱		↰	↑	↱	↰	↑	↱
Traffic Vol, veh/h	3	139	12	7	109	0	12	7	5	1	18	3
Future Vol, veh/h	3	139	12	7	109	0	12	7	5	1	18	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	250	-	-	115	-	115	115	-	115
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	151	13	8	118	0	13	8	5	1	20	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	118	0	0	164	0	0	230	291	76	220	304	59
Stage 1	-	-	-	-	-	-	157	157	-	134	134	-
Stage 2	-	-	-	-	-	-	73	134	-	86	170	-
Critical Hdwy	5.3	-	-	4.1	-	-	6.95	6.5	6.9	6.95	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.5	5.5	-
Follow-up Hdwy	3.1	-	-	2.2	-	-	3.65	4	3.3	3.65	4	3.9
Pot Cap-1 Maneuver	1027	-	-	1427	-	-	709	623	976	720	613	848
Stage 1	-	-	-	-	-	-	804	772	-	804	789	-
Stage 2	-	-	-	-	-	-	893	789	-	882	762	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1027	-	-	1427	-	-	684	617	976	705	607	848
Mov Cap-2 Maneuver	-	-	-	-	-	-	684	617	-	705	607	-
Stage 1	-	-	-	-	-	-	802	770	-	802	784	-
Stage 2	-	-	-	-	-	-	863	784	-	866	760	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.5	10.2	10.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	684	617	976	1027	-	-	1427	-	-	705	607	848
HCM Lane V/C Ratio	0.019	0.012	0.006	0.003	-	-	0.005	-	-	0.002	0.032	0.004
HCM Control Delay (s)	10.4	10.9	8.7	8.5	-	-	7.5	-	-	10.1	11.1	9.3
HCM Lane LOS	B	B	A	A	-	-	A	-	-	B	B	A
HCM 95th %tile Q(veh)	0.1	0	0	0	-	-	0	-	-	0	0.1	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑↑	↱	↰↰	↑↑↑	↱	↰↰	↑↑	↱	↰↰	↑↑↑	↱
Traffic Volume (veh/h)	43	346	15	177	263	38	20	157	191	37	241	37
Future Volume (veh/h)	43	346	15	177	263	38	20	157	191	37	241	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	49	393	17	201	299	43	23	178	217	42	274	42
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	172	831	299	323	1053	320	96	1274	714	154	1917	593
Arrive On Green	0.05	0.16	0.16	0.09	0.20	0.20	0.03	0.35	0.35	0.04	0.37	0.37
Sat Flow, veh/h	3510	5187	1592	3510	5187	1575	3510	3610	1603	3510	5187	1604
Grp Volume(v), veh/h	49	393	17	201	299	43	23	178	217	42	274	42
Grp Sat Flow(s),veh/h/ln	1755	1729	1592	1755	1729	1575	1755	1805	1603	1755	1729	1604
Q Serve(g_s), s	0.7	3.5	0.4	2.8	2.5	1.1	0.3	1.7	4.5	0.6	1.8	0.9
Cycle Q Clear(g_c), s	0.7	3.5	0.4	2.8	2.5	1.1	0.3	1.7	4.5	0.6	1.8	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	172	831	299	323	1053	320	96	1274	714	154	1917	593
V/C Ratio(X)	0.28	0.47	0.06	0.62	0.28	0.13	0.24	0.14	0.30	0.27	0.14	0.07
Avail Cap(c_a), veh/h	342	1821	603	404	1912	581	342	1274	714	342	1917	593
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	19.6	17.1	22.4	17.3	16.7	24.4	11.3	9.1	23.7	10.8	10.5
Incr Delay (d2), s/veh	0.9	0.4	0.1	2.0	0.1	0.2	1.3	0.2	1.1	0.9	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.2	0.1	1.0	0.8	0.3	0.1	0.5	1.2	0.2	0.5	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.4	20.0	17.2	24.4	17.4	16.9	25.7	11.5	10.2	24.7	10.9	10.7
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		459			543			418			358	
Approach Delay, s/veh		20.4			20.0			11.6			12.5	
Approach LOS		C			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	22.6	9.2	12.7	5.9	23.5	7.0	14.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.1	5.9	18.0	5.0	18.1	5.0	18.9				
Max Q Clear Time (g_c+I1), s	2.6	6.5	4.8	5.5	2.3	3.8	2.7	4.5				
Green Ext Time (p_c), s	0.0	1.3	0.1	1.8	0.0	1.3	0.0	1.5				
Intersection Summary												
HCM 6th Ctrl Delay			16.6									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↱			↰
Traffic Vol, veh/h	7	0	0	38	0	0
Future Vol, veh/h	7	0	0	38	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	0	0	41	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	22	21	0	0	41	0
Stage 1	21	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	1000	1062	-	-	1581	-
Stage 1	1007	-	-	-	-	-
Stage 2	1028	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1000	1062	-	-	1581	-
Mov Cap-2 Maneuver	1000	-	-	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	1028	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	8.6		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1000	1581	-
HCM Lane V/C Ratio	-	-	0.008	-	-
HCM Control Delay (s)	-	-	8.6	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↱		Y	
Traffic Vol, veh/h	14	206	226	108	19	3
Future Vol, veh/h	14	206	226	108	19	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	15	224	246	117	21	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	363	0	-	0	559	305
Stage 1	-	-	-	-	305	-
Stage 2	-	-	-	-	254	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1207	-	-	-	494	740
Stage 1	-	-	-	-	752	-
Stage 2	-	-	-	-	793	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1207	-	-	-	488	740
Mov Cap-2 Maneuver	-	-	-	-	638	-
Stage 1	-	-	-	-	743	-
Stage 2	-	-	-	-	793	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1207	-	-	-	650
HCM Lane V/C Ratio	0.013	-	-	-	0.037
HCM Control Delay (s)	8	-	-	-	10.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	0	56	1	29	27	20	2	69	23	6	105	0
Future Vol, veh/h	0	56	1	29	27	20	2	69	23	6	105	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	58	1	30	28	21	2	72	24	6	109	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	7.8	7.8	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	38%	5%
Vol Thru, %	73%	98%	36%	95%
Vol Right, %	24%	2%	26%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	94	57	76	111
LT Vol	2	0	29	6
Through Vol	69	56	27	105
RT Vol	23	1	20	0
Lane Flow Rate	98	59	79	116
Geometry Grp	1	1	1	1
Degree of Util (X)	0.114	0.073	0.096	0.139
Departure Headway (Hd)	4.198	4.452	4.359	4.329
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	857	807	824	831
Service Time	2.21	2.466	2.373	2.341
HCM Lane V/C Ratio	0.114	0.073	0.096	0.14
HCM Control Delay	7.8	7.8	7.8	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.2	0.3	0.5

	↗	→	←	↖	↘	↙
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↑↱		↰↱	
Traffic Volume (veh/h)	1	117	119	11	37	7
Future Volume (veh/h)	1	117	119	11	37	7
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1	136	138	13	43	8
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	364	277	486	45	837	156
Arrive On Green	0.15	0.15	0.15	0.15	0.57	0.57
Sat Flow, veh/h	1256	1900	3433	311	1470	273
Grp Volume(v), veh/h	1	136	74	77	52	0
Grp Sat Flow(s),veh/h/ln	1256	1900	1805	1844	1777	0
Q Serve(g_s), s	0.0	2.1	1.2	1.2	0.4	0.0
Cycle Q Clear(g_c), s	1.2	2.1	1.2	1.2	0.4	0.0
Prop In Lane	1.00			0.17	0.83	0.15
Lane Grp Cap(c), veh/h	364	277	263	268	1012	0
V/C Ratio(X)	0.00	0.49	0.28	0.29	0.05	0.00
Avail Cap(c_a), veh/h	896	1082	1028	1050	1012	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.6	12.4	12.0	12.0	3.0	0.0
Incr Delay (d2), s/veh	0.0	1.4	0.6	0.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.6	0.3	0.3	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.6	13.8	12.6	12.6	3.1	0.0
LnGrp LOS	B	B	B	B	A	A
Approach Vol, veh/h		137	151		52	
Approach Delay, s/veh		13.8	12.6		3.1	
Approach LOS		B	B		A	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	9.1	22.5	9.1
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	4.1	2.4	3.2
Green Ext Time (p_c), s	0.4	0.1	0.5

Intersection Summary	
HCM 6th Ctrl Delay	11.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑	↱	↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	1	222	24	147	134	24	12	35	61	5	48	1
Future Volume (veh/h)	1	222	24	147	134	24	12	35	61	5	48	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1	239	26	158	144	26	13	38	66	5	52	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	670	1028	111	646	594	504	675	443	395	633	889	17
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1234	3287	354	1132	1900	1610	1373	1805	1610	1311	3621	69
Grp Volume(v), veh/h	1	130	135	158	144	26	13	38	66	5	26	27
Grp Sat Flow(s),veh/h/ln	1234	1805	1836	1132	1900	1610	1373	1805	1610	1311	1805	1886
Q Serve(g_s), s	0.0	1.1	1.1	2.5	1.1	0.2	0.1	0.3	0.7	0.1	0.2	0.2
Cycle Q Clear(g_c), s	1.2	1.1	1.1	3.6	1.1	0.2	0.4	0.3	0.7	0.7	0.2	0.2
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	670	565	574	646	594	504	675	443	395	633	443	463
V/C Ratio(X)	0.00	0.23	0.23	0.24	0.24	0.05	0.02	0.09	0.17	0.01	0.06	0.06
Avail Cap(c_a), veh/h	1375	1595	1622	1292	1679	1423	1551	1595	1423	1469	1595	1666
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.6	5.2	5.2	6.5	5.2	4.9	6.0	5.9	6.0	6.3	5.9	5.9
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.1	0.2	0.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.6	5.4	5.4	6.7	5.4	4.9	6.0	6.0	6.2	6.3	5.9	5.9
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		266			328			117			58	
Approach Delay, s/veh		5.4			6.0			6.1			6.0	
Approach LOS		A			A			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.5		10.9		9.5		10.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		2.7		3.2		2.7		5.6				
Green Ext Time (p_c), s		0.4		1.0		0.1		1.0				
Intersection Summary												
HCM 6th Ctrl Delay			5.8									
HCM 6th LOS			A									

4: SR-14 SB Ramp & W Ave H

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑	↱				↰		↱
Traffic Vol, veh/h	0	266	134	0	245	334	0	0	0	144	0	71
Future Vol, veh/h	0	266	134	0	245	334	0	0	0	144	0	71
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	0	-	-	250	-	-	-	0	-	380
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	292	147	0	269	367	0	0	0	158	0	78

Major/Minor	Major1			Major2						Minor2		
Conflicting Flow All	-	0	-	-	-	0				386	-	135
Stage 1	-	-	-	-	-	-				269	-	-
Stage 2	-	-	-	-	-	-				117	-	-
Critical Hdwy	-	-	-	-	-	-				6.25	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-				5.8	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-				6	-	-
Follow-up Hdwy	-	-	-	-	-	-				3.65	-	3.3
Pot Cap-1 Maneuver	0	-	0	0	-	0				610	0	895
Stage 1	0	-	0	0	-	0				731	0	-
Stage 2	0	-	0	0	-	0				861	0	-
Platoon blocked, %		-			-							
Mov Cap-1 Maneuver	-	-	-	-	-	-				610	0	895
Mov Cap-2 Maneuver	-	-	-	-	-	-				610	0	-
Stage 1	-	-	-	-	-	-				731	0	-
Stage 2	-	-	-	-	-	-				861	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	610	895
HCM Lane V/C Ratio	-	-	0.259	0.087
HCM Control Delay (s)	-	-	13	9.4
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑	↱	↰↰		↱			
Traffic Volume (veh/h)	0	296	114	0	469	321	110	0	146	0	0	0
Future Volume (veh/h)	0	296	114	0	469	321	110	0	146	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900	1900	0	1900			
Adj Flow Rate, veh/h	0	325	0	0	515	353	121	0	160			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2154		0	1499	669	646	0	296			
Arrive On Green	0.00	0.42	0.00	0.00	0.42	0.42	0.18	0.00	0.18			
Sat Flow, veh/h	0	5358	1610	0	3705	1610	3510	0	1610			
Grp Volume(v), veh/h	0	325	0	0	515	353	121	0	160			
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1805	1610	1755	0	1610			
Q Serve(g_s), s	0.0	0.9	0.0	0.0	2.2	3.7	0.7	0.0	2.0			
Cycle Q Clear(g_c), s	0.0	0.9	0.0	0.0	2.2	3.7	0.7	0.0	2.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2154		0	1499	669	646	0	296			
V/C Ratio(X)	0.00	0.15		0.00	0.34	0.53	0.19	0.00	0.54			
Avail Cap(c_a), veh/h	0	4734		0	3294	1469	1641	0	753			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	4.1	0.0	0.0	4.5	4.9	7.7	0.0	8.3			
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.1	0.6	0.1	0.0	1.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	4.1	0.0	0.0	4.6	5.6	7.9	0.0	9.8			
LnGrp LOS	A	A		A	A	A	A	A	A			
Approach Vol, veh/h		325			868			281				
Approach Delay, s/veh		4.1			5.0			9.0				
Approach LOS		A			A			A				

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				13.8		8.6		13.8				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				20.5		10.5		20.5				
Max Q Clear Time (g_c+I1), s				5.7		4.0		2.9				
Green Ext Time (p_c), s				3.6		0.5		1.6				

Intersection Summary	
HCM 6th Ctrl Delay	5.6
HCM 6th LOS	A

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑↱		↰	↑	↱	↰	↑	↱
Traffic Vol, veh/h	0	117	7	26	192	2	13	20	13	0	12	0
Future Vol, veh/h	0	117	7	26	192	2	13	20	13	0	12	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	250	-	-	115	-	115	115	-	115
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	123	7	27	202	2	14	21	14	0	13	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	204	0	0	130	0	0	264	381	62	329	387	102
Stage 1	-	-	-	-	-	-	123	123	-	257	257	-
Stage 2	-	-	-	-	-	-	141	258	-	72	130	-
Critical Hdwy	5.3	-	-	4.1	-	-	6.95	6.5	6.9	6.95	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.5	5.5	-
Follow-up Hdwy	3.1	-	-	2.2	-	-	3.65	4	3.3	3.65	4	3.9
Pot Cap-1 Maneuver	938	-	-	1468	-	-	675	555	996	615	551	797
Stage 1	-	-	-	-	-	-	840	798	-	665	699	-
Stage 2	-	-	-	-	-	-	814	698	-	898	792	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	938	-	-	1468	-	-	653	545	996	581	541	797
Mov Cap-2 Maneuver	-	-	-	-	-	-	653	545	-	581	541	-
Stage 1	-	-	-	-	-	-	840	798	-	665	686	-
Stage 2	-	-	-	-	-	-	784	685	-	862	792	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.9	10.6	11.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	653	545	996	938	-	-	1468	-	-	-	541	-
HCM Lane V/C Ratio	0.021	0.039	0.014	-	-	-	0.019	-	-	-	0.023	-
HCM Control Delay (s)	10.6	11.9	8.7	0	-	-	7.5	-	-	0	11.8	0
HCM Lane LOS	B	B	A	A	-	-	A	-	-	A	B	A
HCM 95th %tile Q(veh)	0.1	0.1	0	0	-	-	0.1	-	-	-	0.1	-

7: 30th St W & W Ave I

Timing Plan: PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑↑	↱	↰↰	↑↑↑	↱	↰↰	↑↑	↱	↰↰	↑↑↑	↱
Traffic Volume (veh/h)	25	333	27	147	316	32	14	101	96	42	147	54
Future Volume (veh/h)	25	333	27	147	316	32	14	101	96	42	147	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	26	351	28	155	333	34	15	106	101	44	155	57
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	106	835	281	303	1126	340	66	1294	705	159	1998	608
Arrive On Green	0.03	0.16	0.16	0.09	0.22	0.22	0.02	0.36	0.36	0.05	0.39	0.39
Sat Flow, veh/h	3510	5187	1559	3510	5187	1567	3510	3610	1579	3510	5187	1579
Grp Volume(v), veh/h	26	351	28	155	333	34	15	106	101	44	155	57
Grp Sat Flow(s),veh/h/ln	1755	1729	1559	1755	1729	1567	1755	1805	1579	1755	1729	1579
Q Serve(g_s), s	0.4	3.1	0.8	2.2	2.8	0.9	0.2	1.0	2.0	0.6	1.0	1.2
Cycle Q Clear(g_c), s	0.4	3.1	0.8	2.2	2.8	0.9	0.2	1.0	2.0	0.6	1.0	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	106	835	281	303	1126	340	66	1294	705	159	1998	608
V/C Ratio(X)	0.25	0.42	0.10	0.51	0.30	0.10	0.23	0.08	0.14	0.28	0.08	0.09
Avail Cap(c_a), veh/h	340	1809	574	374	1860	562	340	1294	705	340	1998	608
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.4	19.5	17.7	22.5	16.9	16.2	24.9	10.9	8.5	23.8	10.1	10.1
Incr Delay (d2), s/veh	1.2	0.3	0.2	1.3	0.1	0.1	1.7	0.1	0.4	0.9	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.0	0.2	0.8	0.9	0.3	0.1	0.3	0.5	0.2	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.6	19.8	17.8	23.9	17.0	16.3	26.7	11.1	8.9	24.7	10.1	10.4
LnGrp LOS	C	B	B	C	B	B	C	B	A	C	B	B
Approach Vol, veh/h		405			522			222			256	
Approach Delay, s/veh		20.1			19.0			11.1			12.7	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.8	23.0	9.0	12.8	5.5	24.4	6.1	15.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	18.5	5.5	18.0	5.0	18.5	5.0	18.5
Max Q Clear Time (g_c+I1), s	2.6	4.0	4.2	5.1	2.2	3.2	2.4	4.8
Green Ext Time (p_c), s	0.0	0.7	0.1	1.6	0.0	0.8	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	16.9
HCM 6th LOS	B

HCM 6th TWSC
8: 35th St W & Project Dwy 1

Intersection	
Int Delay, s/veh	6.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↱			↰
Traffic Vol, veh/h	32	0	0	10	0	0
Future Vol, veh/h	32	0	0	10	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	35	0	0	11	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	7	6	0	0	11	0
Stage 1	6	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	1019	1083	-	-	1621	-
Stage 1	1022	-	-	-	-	-
Stage 2	1028	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1019	1083	-	-	1621	-
Mov Cap-2 Maneuver	1019	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	1028	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1019	1621	-
HCM Lane V/C Ratio	-	-	0.034	-	-
HCM Control Delay (s)	-	-	8.7	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↱		Y	
Traffic Vol, veh/h	3	151	118	27	91	12
Future Vol, veh/h	3	151	118	27	91	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	164	128	29	99	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	157	0	-	0	313	143
Stage 1	-	-	-	-	143	-
Stage 2	-	-	-	-	170	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1435	-	-	-	684	910
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	865	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1435	-	-	-	683	910
Mov Cap-2 Maneuver	-	-	-	-	770	-
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	865	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1435	-	-	-	784
HCM Lane V/C Ratio	0.002	-	-	-	0.143
HCM Control Delay (s)	7.5	-	-	-	10.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	0	111	9	46	110	9	8	64	53	5	94	1
Future Vol, veh/h	0	111	9	46	110	9	8	64	53	5	94	1
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	159	13	66	157	13	11	91	76	7	134	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.6	10.4	9.5	9.6
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	0%	28%	5%
Vol Thru, %	51%	93%	67%	94%
Vol Right, %	42%	7%	5%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	125	120	165	100
LT Vol	8	0	46	5
Through Vol	64	111	110	94
RT Vol	53	9	9	1
Lane Flow Rate	179	171	236	143
Geometry Grp	1	1	1	1
Degree of Util (X)	0.24	0.236	0.323	0.204
Departure Headway (Hd)	4.844	4.949	4.93	5.129
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	732	717	721	691
Service Time	2.933	3.038	3.013	3.223
HCM Lane V/C Ratio	0.245	0.238	0.327	0.207
HCM Control Delay	9.5	9.6	10.4	9.6
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.9	0.9	1.4	0.8

2: W Ave H & 35th St W

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↑↑↱		↰↱	
Traffic Volume (veh/h)	2	236	197	12	3	1
Future Volume (veh/h)	2	236	197	12	3	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	3	323	270	16	4	1
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	400	461	840	50	602	150
Arrive On Green	0.24	0.24	0.24	0.24	0.51	0.51
Sat Flow, veh/h	1110	1900	3559	204	1191	298
Grp Volume(v), veh/h	3	323	140	146	6	0
Grp Sat Flow(s),veh/h/ln	1110	1900	1805	1863	1787	0
Q Serve(g_s), s	0.1	5.5	2.3	2.3	0.1	0.0
Cycle Q Clear(g_c), s	2.4	5.5	2.3	2.3	0.1	0.0
Prop In Lane	1.00			0.11	0.67	0.17
Lane Grp Cap(c), veh/h	400	461	437	452	902	0
V/C Ratio(X)	0.01	0.70	0.32	0.32	0.01	0.00
Avail Cap(c_a), veh/h	691	960	912	941	902	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.1	12.3	11.1	11.1	4.4	0.0
Incr Delay (d2), s/veh	0.0	2.0	0.4	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.6	0.6	0.6	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.1	14.3	11.5	11.5	4.4	0.0
LnGrp LOS	B	B	B	B	A	A
Approach Vol, veh/h		326	286		6	
Approach Delay, s/veh		14.3	11.5		4.4	
Approach LOS		B	B		A	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	13.1	22.5	13.1
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	7.5	2.1	4.3
Green Ext Time (p_c), s	1.1	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	12.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑	↱	↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	3	225	25	221	142	4	8	35	163	9	39	2
Future Volume (veh/h)	3	225	25	221	142	4	8	35	163	9	39	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	4	271	30	266	171	5	10	42	196	11	47	2
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	713	1315	144	673	761	645	598	418	373	439	818	35
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1227	3280	360	1095	1900	1609	1375	1805	1608	1159	3529	149
Grp Volume(v), veh/h	4	148	153	266	171	5	10	42	196	11	24	25
Grp Sat Flow(s),veh/h/ln	1227	1805	1835	1095	1900	1609	1375	1805	1608	1159	1805	1873
Q Serve(g_s), s	0.1	1.3	1.3	5.1	1.5	0.0	0.1	0.4	2.6	0.2	0.3	0.3
Cycle Q Clear(g_c), s	1.5	1.3	1.3	6.5	1.5	0.0	0.4	0.4	2.6	2.8	0.3	0.3
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	713	723	735	673	761	645	598	418	373	439	418	434
V/C Ratio(X)	0.01	0.20	0.21	0.40	0.22	0.01	0.02	0.10	0.53	0.03	0.06	0.06
Avail Cap(c_a), veh/h	1123	1327	1349	1039	1397	1183	1290	1327	1182	1023	1327	1377
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.3	4.8	4.8	6.9	4.8	4.4	7.5	7.4	8.2	9.5	7.3	7.3
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.4	0.1	0.0	0.0	0.1	1.2	0.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.4	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.3	4.9	4.9	7.3	5.0	4.4	7.5	7.5	9.4	9.5	7.4	7.4
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		305			442			248			60	
Approach Delay, s/veh		4.9			6.4			9.0			7.8	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		10.2		14.3		10.2		14.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		4.6		3.5		4.8		8.5				
Green Ext Time (p_c), s		1.0		1.2		0.1		1.3				

Intersection Summary			
HCM 6th Ctrl Delay			6.6
HCM 6th LOS			A

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑	↱				↰		↱
Traffic Vol, veh/h	0	321	61	0	351	390	0	0	0	165	0	67
Future Vol, veh/h	0	321	61	0	351	390	0	0	0	165	0	67
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	0	-	-	250	-	-	-	0	-	380
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	373	71	0	408	453	0	0	0	192	0	78

Major/Minor	Major1			Major2						Minor2		
Conflicting Flow All	-	0	-	-	-	0				557	-	204
Stage 1	-	-	-	-	-	-				408	-	-
Stage 2	-	-	-	-	-	-				149	-	-
Critical Hdwy	-	-	-	-	-	-				6.25	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-				5.8	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-				6	-	-
Follow-up Hdwy	-	-	-	-	-	-				3.65	-	3.3
Pot Cap-1 Maneuver	0	-	0	0	-	0				491	0	809
Stage 1	0	-	0	0	-	0				624	0	-
Stage 2	0	-	0	0	-	0				829	0	-
Platoon blocked, %		-			-							
Mov Cap-1 Maneuver	-	-	-	-	-	-				491	0	809
Mov Cap-2 Maneuver	-	-	-	-	-	-				491	0	-
Stage 1	-	-	-	-	-	-				624	0	-
Stage 2	-	-	-	-	-	-				829	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	491	809
HCM Lane V/C Ratio	-	-	0.391	0.096
HCM Control Delay (s)	-	-	17	9.9
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	1.8	0.3

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑	↱	↰↰		↱			
Traffic Volume (veh/h)	0	394	88	0	633	399	110	0	167	0	0	0
Future Volume (veh/h)	0	394	88	0	633	399	110	0	167	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900	1900	0	1900			
Adj Flow Rate, veh/h	0	453	0	0	728	459	126	0	192			
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2429		0	1690	754	661	0	303			
Arrive On Green	0.00	0.47	0.00	0.00	0.47	0.47	0.19	0.00	0.19			
Sat Flow, veh/h	0	5358	1610	0	3705	1610	3510	0	1610			
Grp Volume(v), veh/h	0	453	0	0	728	459	126	0	192			
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1805	1610	1755	0	1610			
Q Serve(g_s), s	0.0	1.3	0.0	0.0	3.5	5.6	0.8	0.0	2.9			
Cycle Q Clear(g_c), s	0.0	1.3	0.0	0.0	3.5	5.6	0.8	0.0	2.9			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2429		0	1690	754	661	0	303			
V/C Ratio(X)	0.00	0.19		0.00	0.43	0.61	0.19	0.00	0.63			
Avail Cap(c_a), veh/h	0	3861		0	2687	1199	1541	0	707			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	4.1	0.0	0.0	4.6	5.2	9.0	0.0	9.8			
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.2	0.8	0.1	0.0	2.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	4.1	0.0	0.0	4.8	6.0	9.1	0.0	12.0			
LnGrp LOS	A	A		A	A	A	A	A	B			
Approach Vol, veh/h		453			1187			318				
Approach Delay, s/veh		4.1			5.3			10.8				
Approach LOS		A			A			B				

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				16.8		9.4		16.8				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				19.5		11.5		19.5				
Max Q Clear Time (g_c+I1), s				7.6		4.9		3.3				
Green Ext Time (p_c), s				4.7		0.6		2.3				

Intersection Summary				
HCM 6th Ctrl Delay			5.9	
HCM 6th LOS			A	

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑↱		↰	↑	↱	↰	↑	↱
Traffic Vol, veh/h	3	227	17	7	386	0	27	7	8	1	18	3
Future Vol, veh/h	3	227	17	7	386	0	27	7	8	1	18	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	250	-	-	115	-	115	115	-	115
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	247	18	8	420	0	29	8	9	1	20	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	420	0	0	265	0	0	447	689	124	570	707	210
Stage 1	-	-	-	-	-	-	253	253	-	436	436	-
Stage 2	-	-	-	-	-	-	194	436	-	134	271	-
Critical Hdwy	5.3	-	-	4.1	-	-	6.95	6.5	6.9	6.95	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.5	5.5	-
Follow-up Hdwy	3.1	-	-	2.2	-	-	3.65	4	3.3	3.65	4	3.9
Pot Cap-1 Maneuver	746	-	-	1311	-	-	518	371	910	432	363	682
Stage 1	-	-	-	-	-	-	708	701	-	504	583	-
Stage 2	-	-	-	-	-	-	757	583	-	828	689	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	746	-	-	1311	-	-	490	367	910	418	359	682
Mov Cap-2 Maneuver	-	-	-	-	-	-	490	367	-	418	359	-
Stage 1	-	-	-	-	-	-	705	698	-	502	580	-
Stage 2	-	-	-	-	-	-	724	580	-	808	686	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	12.4	14.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	490	367	910	746	-	-	1311	-	-	418	359	682
HCM Lane V/C Ratio	0.06	0.021	0.01	0.004	-	-	0.006	-	-	0.003	0.054	0.005
HCM Control Delay (s)	12.8	15	9	9.8	-	-	7.8	-	-	13.6	15.6	10.3
HCM Lane LOS	B	C	A	A	-	-	A	-	-	B	C	B
HCM 95th %tile Q(veh)	0.2	0.1	0	0	-	-	0	-	-	0	0.2	0

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑↑	↱	↰↰	↑↑↑	↱	↰↰	↑↑	↱	↰↰	↑↑↑	↱
Traffic Volume (veh/h)	45	426	19	179	293	28	22	167	193	37	251	37
Future Volume (veh/h)	45	426	19	179	293	28	22	167	193	37	251	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	51	484	22	203	333	32	25	190	219	42	285	42
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	175	930	333	317	1139	346	102	1243	697	153	1862	576
Arrive On Green	0.05	0.18	0.18	0.09	0.22	0.22	0.03	0.34	0.34	0.04	0.36	0.36
Sat Flow, veh/h	3510	5187	1594	3510	5187	1576	3510	3610	1603	3510	5187	1603
Grp Volume(v), veh/h	51	484	22	203	333	32	25	190	219	42	285	42
Grp Sat Flow(s),veh/h/ln	1755	1729	1594	1755	1729	1576	1755	1805	1603	1755	1729	1603
Q Serve(g_s), s	0.7	4.4	0.6	2.9	2.8	0.8	0.4	1.9	4.7	0.6	2.0	0.9
Cycle Q Clear(g_c), s	0.7	4.4	0.6	2.9	2.8	0.8	0.4	1.9	4.7	0.6	2.0	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	175	930	333	317	1139	346	102	1243	697	153	1862	576
V/C Ratio(X)	0.29	0.52	0.07	0.64	0.29	0.09	0.24	0.15	0.31	0.27	0.15	0.07
Avail Cap(c_a), veh/h	334	1777	593	394	1865	567	334	1243	697	334	1862	576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.1	19.5	16.7	23.1	17.1	16.3	24.9	11.9	9.7	24.3	11.4	11.1
Incr Delay (d2), s/veh	0.9	0.5	0.1	2.4	0.1	0.1	1.2	0.3	1.2	1.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.5	0.2	1.1	0.9	0.3	0.1	0.6	1.3	0.2	0.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.0	20.0	16.8	25.5	17.2	16.5	26.2	12.2	10.9	25.3	11.6	11.3
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		557			568			434			369	
Approach Delay, s/veh		20.3			20.1			12.3			13.1	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.8	22.6	9.2	13.9	6.0	23.4	7.1	16.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	18.1	5.9	18.0	5.0	18.1	5.0	18.9
Max Q Clear Time (g_c+I1), s	2.6	6.7	4.9	6.4	2.4	4.0	2.7	4.8
Green Ext Time (p_c), s	0.0	1.3	0.1	2.2	0.0	1.4	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	17.1
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	0	56	1	29	27	9	2	72	23	9	111	0
Future Vol, veh/h	0	56	1	29	27	9	2	72	23	9	111	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	58	1	30	28	9	2	75	24	9	116	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	7.9	7.8	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	45%	7%
Vol Thru, %	74%	98%	42%	93%
Vol Right, %	24%	2%	14%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	97	57	65	120
LT Vol	2	0	29	9
Through Vol	72	56	27	111
RT Vol	23	1	9	0
Lane Flow Rate	101	59	68	125
Geometry Grp	1	1	1	1
Degree of Util (X)	0.118	0.074	0.084	0.15
Departure Headway (Hd)	4.189	4.466	4.473	4.328
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	858	804	802	834
Service Time	2.203	2.484	2.491	2.328
HCM Lane V/C Ratio	0.118	0.073	0.085	0.15
HCM Control Delay	7.8	7.8	7.9	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.2	0.3	0.5

	↗	→	←	↖	↘	↙
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↑↱		⋎	
Traffic Volume (veh/h)	0	141	151	2	10	3
Future Volume (veh/h)	0	141	151	2	10	3
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	164	176	2	12	3
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	226	289	556	6	752	188
Arrive On Green	0.00	0.15	0.15	0.15	0.57	0.57
Sat Flow, veh/h	1225	1900	3751	41	1330	333
Grp Volume(v), veh/h	0	164	87	91	16	0
Grp Sat Flow(s),veh/h/ln	1225	1900	1805	1893	1774	0
Q Serve(g_s), s	0.0	2.6	1.4	1.4	0.1	0.0
Cycle Q Clear(g_c), s	0.0	2.6	1.4	1.4	0.1	0.0
Prop In Lane	1.00			0.02	0.75	0.19
Lane Grp Cap(c), veh/h	226	289	274	288	1003	0
V/C Ratio(X)	0.00	0.57	0.32	0.32	0.02	0.00
Avail Cap(c_a), veh/h	733	1074	1020	1070	1003	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	12.5	12.0	12.0	3.0	0.0
Incr Delay (d2), s/veh	0.0	1.8	0.7	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.8	0.4	0.4	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	14.3	12.7	12.7	3.1	0.0
LnGrp LOS	A	B	B	B	A	A
Approach Vol, veh/h		164	178		16	
Approach Delay, s/veh		14.3	12.7		3.1	
Approach LOS		B	B		A	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	9.3	22.5	9.3
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	4.6	2.1	3.4
Green Ext Time (p_c), s	0.5	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	13.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
3: 30th St W & W Ave H

2024
Timing Plan: PM Peak Hour

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑	↱	↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	2	142	12	150	136	24	15	41	63	5	62	5
Future Volume (veh/h)	2	142	12	150	136	24	15	41	63	5	62	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2	153	13	161	146	26	16	44	68	5	67	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	643	950	80	676	536	454	695	463	413	660	873	64
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1232	3370	284	1239	1900	1610	1349	1805	1610	1301	3403	251
Grp Volume(v), veh/h	2	81	85	161	146	26	16	44	68	5	35	37
Grp Sat Flow(s),veh/h/ln	1232	1805	1849	1239	1900	1610	1349	1805	1610	1301	1805	1848
Q Serve(g_s), s	0.0	0.7	0.7	2.2	1.2	0.2	0.2	0.4	0.6	0.1	0.3	0.3
Cycle Q Clear(g_c), s	1.2	0.7	0.7	2.9	1.2	0.2	0.5	0.4	0.6	0.7	0.3	0.3
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	643	509	521	676	536	454	695	463	413	660	463	474
V/C Ratio(X)	0.00	0.16	0.16	0.24	0.27	0.06	0.02	0.10	0.16	0.01	0.08	0.08
Avail Cap(c_a), veh/h	1433	1667	1707	1470	1754	1487	1595	1667	1487	1528	1667	1707
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.9	5.3	5.3	6.3	5.4	5.1	5.7	5.5	5.6	5.9	5.5	5.5
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.2	0.3	0.1	0.0	0.1	0.2	0.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.9	5.4	5.4	6.5	5.7	5.2	5.7	5.6	5.8	5.9	5.6	5.6
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		168			333			128			77	
Approach Delay, s/veh		5.4			6.1			5.7			5.6	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	9.5	10.0	9.5	10.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	2.6	3.2	2.7	4.9
Green Ext Time (p_c), s	0.4	0.6	0.2	1.0

Intersection Summary	
HCM 6th Ctrl Delay	5.8
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑	↱				↰		↱
Traffic Vol, veh/h	0	242	89	0	250	338	0	0	0	145	0	76
Future Vol, veh/h	0	242	89	0	250	338	0	0	0	145	0	76
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	0	-	-	250	-	-	-	0	-	380
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	266	98	0	275	371	0	0	0	159	0	84

Major/Minor	Major1			Major2						Minor2		
Conflicting Flow All	-	0	-	-	-	0				381	-	138
Stage 1	-	-	-	-	-	-				275	-	-
Stage 2	-	-	-	-	-	-				106	-	-
Critical Hdwy	-	-	-	-	-	-				6.25	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-				5.8	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-				6	-	-
Follow-up Hdwy	-	-	-	-	-	-				3.65	-	3.3
Pot Cap-1 Maneuver	0	-	0	0	-	0				614	0	891
Stage 1	0	-	0	0	-	0				726	0	-
Stage 2	0	-	0	0	-	0				872	0	-
Platoon blocked, %		-			-							
Mov Cap-1 Maneuver	-	-	-	-	-	-				614	0	891
Mov Cap-2 Maneuver	-	-	-	-	-	-				614	0	-
Stage 1	-	-	-	-	-	-				726	0	-
Stage 2	-	-	-	-	-	-				872	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	614	891
HCM Lane V/C Ratio	-	-	0.26	0.094
HCM Control Delay (s)	-	-	12.9	9.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1	0.3

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑	↱	↰↰		↱			
Traffic Volume (veh/h)	0	297	90	0	478	325	110	0	148	0	0	0
Future Volume (veh/h)	0	297	90	0	478	325	110	0	148	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900	1900	0	1900			
Adj Flow Rate, veh/h	0	326	0	0	525	357	121	0	163			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2169		0	1509	673	646	0	296			
Arrive On Green	0.00	0.42	0.00	0.00	0.42	0.42	0.18	0.00	0.18			
Sat Flow, veh/h	0	5358	1610	0	3705	1610	3510	0	1610			
Grp Volume(v), veh/h	0	326	0	0	525	357	121	0	163			
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1805	1610	1755	0	1610			
Q Serve(g_s), s	0.0	0.9	0.0	0.0	2.2	3.7	0.7	0.0	2.1			
Cycle Q Clear(g_c), s	0.0	0.9	0.0	0.0	2.2	3.7	0.7	0.0	2.1			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2169		0	1509	673	646	0	296			
V/C Ratio(X)	0.00	0.15		0.00	0.35	0.53	0.19	0.00	0.55			
Avail Cap(c_a), veh/h	0	4702		0	3272	1460	1630	0	748			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	4.1	0.0	0.0	4.5	4.9	7.8	0.0	8.4			
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.1	0.7	0.1	0.0	1.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	4.1	0.0	0.0	4.6	5.6	7.9	0.0	10.0			
LnGrp LOS	A	A		A	A	A	A	A	A			
Approach Vol, veh/h		326			882			284				
Approach Delay, s/veh		4.1			5.0			9.1				
Approach LOS		A			A			A				
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				14.0		8.7		14.0				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				20.5		10.5		20.5				
Max Q Clear Time (g_c+I1), s				5.7		4.1		2.9				
Green Ext Time (p_c), s				3.7		0.5		1.6				
Intersection Summary												
HCM 6th Ctrl Delay			5.6									
HCM 6th LOS			A									

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑↱		↰	↑	↱	↰	↑	↱
Traffic Vol, veh/h	0	391	21	30	317	2	19	20	14	0	12	0
Future Vol, veh/h	0	391	21	30	317	2	19	20	14	0	12	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	250	-	-	115	-	115	115	-	115
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	412	22	32	334	2	20	21	15	0	13	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	336	0	0	434	0	0	616	812	206	616	833	168
Stage 1	-	-	-	-	-	-	412	412	-	399	399	-
Stage 2	-	-	-	-	-	-	204	400	-	217	434	-
Critical Hdwy	5.3	-	-	4.1	-	-	6.95	6.5	6.9	6.95	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.5	5.5	-
Follow-up Hdwy	3.1	-	-	2.2	-	-	3.65	4	3.3	3.65	4	3.9
Pot Cap-1 Maneuver	815	-	-	1136	-	-	404	315	807	404	307	725
Stage 1	-	-	-	-	-	-	573	598	-	534	606	-
Stage 2	-	-	-	-	-	-	747	605	-	743	585	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	815	-	-	1136	-	-	383	306	807	368	298	725
Mov Cap-2 Maneuver	-	-	-	-	-	-	383	306	-	368	298	-
Stage 1	-	-	-	-	-	-	573	598	-	534	589	-
Stage 2	-	-	-	-	-	-	710	588	-	704	585	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.7	14.5	17.6
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	383	306	807	815	-	-	1136	-	-	-	298	-
HCM Lane V/C Ratio	0.052	0.069	0.018	-	-	-	0.028	-	-	-	0.042	-
HCM Control Delay (s)	14.9	17.6	9.5	0	-	-	8.3	-	-	0	17.6	0
HCM Lane LOS	B	C	A	A	-	-	A	-	-	A	C	A
HCM 95th %tile Q(veh)	0.2	0.2	0.1	0	-	-	0.1	-	-	-	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑↑	↱	↰↰	↑↑↑	↱	↰↰	↑↑	↱	↰↰	↑↑↑	↱
Traffic Volume (veh/h)	25	388	30	148	406	32	19	112	97	35	158	56
Future Volume (veh/h)	25	388	30	148	406	32	19	112	97	35	158	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	26	408	32	156	427	34	20	118	102	37	166	59
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	106	897	309	302	1187	359	85	1283	700	140	1925	586
Arrive On Green	0.03	0.17	0.17	0.09	0.23	0.23	0.02	0.36	0.36	0.04	0.37	0.37
Sat Flow, veh/h	3510	5187	1561	3510	5187	1569	3510	3610	1579	3510	5187	1579
Grp Volume(v), veh/h	26	408	32	156	427	34	20	118	102	37	166	59
Grp Sat Flow(s),veh/h/ln	1755	1729	1561	1755	1729	1569	1755	1805	1579	1755	1729	1579
Q Serve(g_s), s	0.4	3.7	0.9	2.2	3.6	0.9	0.3	1.1	2.0	0.5	1.1	1.3
Cycle Q Clear(g_c), s	0.4	3.7	0.9	2.2	3.6	0.9	0.3	1.1	2.0	0.5	1.1	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	106	897	309	302	1187	359	85	1283	700	140	1925	586
V/C Ratio(X)	0.25	0.45	0.10	0.52	0.36	0.09	0.24	0.09	0.15	0.26	0.09	0.10
Avail Cap(c_a), veh/h	337	1794	579	371	1844	558	337	1283	700	337	1925	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	19.3	17.1	22.8	16.9	15.8	24.9	11.2	8.7	24.3	10.6	10.7
Incr Delay (d2), s/veh	1.2	0.4	0.1	1.4	0.2	0.1	1.4	0.1	0.4	1.0	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.2	0.3	0.8	1.1	0.3	0.1	0.3	0.5	0.2	0.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	19.7	17.3	24.1	17.0	15.9	26.3	11.3	9.1	25.3	10.7	11.0
LnGrp LOS	C	B	B	C	B	B	C	B	A	C	B	B
Approach Vol, veh/h		466			617			240			262	
Approach Delay, s/veh		19.9			18.8			11.6			12.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	23.0	9.0	13.5	5.8	23.8	6.1	16.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	18.5	5.5	18.0	5.0	18.5	5.0	18.5
Max Q Clear Time (g_c+I1), s	2.5	4.0	4.2	5.7	2.3	3.3	2.4	5.6
Green Ext Time (p_c), s	0.0	0.7	0.1	1.9	0.0	0.9	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	0	111	9	46	110	13	8	64	53	24	94	1
Future Vol, veh/h	0	111	9	46	110	13	8	64	53	24	94	1
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	159	13	66	157	19	11	91	76	34	134	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.8	10.8	9.7	10.1
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	0%	27%	20%
Vol Thru, %	51%	93%	65%	79%
Vol Right, %	42%	7%	8%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	125	120	169	119
LT Vol	8	0	46	24
Through Vol	64	111	110	94
RT Vol	53	9	13	1
Lane Flow Rate	179	171	241	170
Geometry Grp	1	1	1	1
Degree of Util (X)	0.249	0.245	0.343	0.25
Departure Headway (Hd)	5.011	5.141	5.115	5.29
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	716	699	707	678
Service Time	3.042	3.17	3.115	3.322
HCM Lane V/C Ratio	0.25	0.245	0.341	0.251
HCM Control Delay	9.7	9.8	10.8	10.1
HCM Lane LOS	A	A	B	B
HCM 95th-tile Q	1	1	1.5	1

	↗	→	←	↖	↘	↙
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↑↱		Y	
Traffic Volume (veh/h)	7	250	200	44	9	2
Future Volume (veh/h)	7	250	200	44	9	2
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	10	342	274	60	12	3
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	385	480	746	161	663	166
Arrive On Green	0.25	0.25	0.25	0.25	0.50	0.50
Sat Flow, veh/h	1063	1900	3049	637	1330	333
Grp Volume(v), veh/h	10	342	166	168	16	0
Grp Sat Flow(s),veh/h/ln	1063	1900	1805	1785	1774	0
Q Serve(g_s), s	0.3	5.9	2.7	2.8	0.2	0.0
Cycle Q Clear(g_c), s	3.1	5.9	2.7	2.8	0.2	0.0
Prop In Lane	1.00			0.36	0.75	0.19
Lane Grp Cap(c), veh/h	385	480	456	451	884	0
V/C Ratio(X)	0.03	0.71	0.36	0.37	0.02	0.00
Avail Cap(c_a), veh/h	646	947	899	890	884	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.4	12.3	11.1	11.1	4.6	0.0
Incr Delay (d2), s/veh	0.0	2.0	0.5	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.7	0.7	0.7	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.4	14.3	11.6	11.7	4.6	0.0
LnGrp LOS	B	B	B	B	A	A
Approach Vol, veh/h		352	334		16	
Approach Delay, s/veh		14.2	11.6		4.6	
Approach LOS		B	B		A	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	13.6	22.5	13.6
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	7.9	2.2	4.8
Green Ext Time (p_c), s	1.2	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
3: 30th St W & W Ave H

2024 plus Project
Timing Plan: AM Peak Hour

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑	↱	↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	3	245	29	221	260	4	28	35	163	9	39	3
Future Volume (veh/h)	3	245	29	221	260	4	28	35	163	9	39	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	4	295	35	266	313	5	34	42	196	11	47	4
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	612	1373	161	668	802	679	578	412	367	420	770	65
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1078	3253	383	1066	1900	1609	1372	1805	1608	1159	3370	283
Grp Volume(v), veh/h	4	163	167	266	313	5	34	42	196	11	25	26
Grp Sat Flow(s),veh/h/ln	1078	1805	1831	1066	1900	1609	1372	1805	1608	1159	1805	1848
Q Serve(g_s), s	0.1	1.5	1.5	5.4	2.9	0.0	0.5	0.5	2.8	0.2	0.3	0.3
Cycle Q Clear(g_c), s	3.0	1.5	1.5	6.9	2.9	0.0	0.8	0.5	2.8	3.0	0.3	0.3
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	612	762	773	668	802	679	578	412	367	420	412	422
V/C Ratio(X)	0.01	0.21	0.22	0.40	0.39	0.01	0.06	0.10	0.53	0.03	0.06	0.06
Avail Cap(c_a), veh/h	910	1262	1280	963	1328	1125	1224	1262	1124	966	1262	1292
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.2	4.7	4.7	6.9	5.1	4.3	8.1	7.8	8.7	10.0	7.8	7.8
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.4	0.3	0.0	0.0	0.1	1.2	0.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.3	0.1	0.0	0.1	0.1	0.5	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.2	4.9	4.9	7.3	5.5	4.3	8.1	8.0	9.9	10.1	7.8	7.8
LnGrp LOS	A	A	A	A	A	A	A	A	A	B	A	A
Approach Vol, veh/h		334			584			272			62	
Approach Delay, s/veh		4.9			6.3			9.4			8.2	
Approach LOS		A			A			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		10.4		15.4		10.4		15.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		4.8		5.0		5.0		8.9				
Green Ext Time (p_c), s		1.0		1.3		0.1		1.9				

Intersection Summary	
HCM 6th Ctrl Delay	6.7
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑	↱				↰		↱
Traffic Vol, veh/h	0	330	73	0	427	390	0	0	0	165	0	109
Future Vol, veh/h	0	330	73	0	427	390	0	0	0	165	0	109
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	0	-	-	250	-	-	-	0	-	380
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	384	85	0	497	453	0	0	0	192	0	127

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	-	-	-	0	651	-	249
Stage 1	-	-	-	-	-	-	497	-	-
Stage 2	-	-	-	-	-	-	154	-	-
Critical Hdwy	-	-	-	-	-	-	6.25	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6	-	-
Follow-up Hdwy	-	-	-	-	-	-	3.65	-	3.3
Pot Cap-1 Maneuver	0	-	0	0	-	0	435	0	757
Stage 1	0	-	0	0	-	0	564	0	-
Stage 2	0	-	0	0	-	0	824	0	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	-	-	-	-	-	-	435	0	757
Mov Cap-2 Maneuver	-	-	-	-	-	-	435	0	-
Stage 1	-	-	-	-	-	-	564	0	-
Stage 2	-	-	-	-	-	-	824	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.1
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	435	757
HCM Lane V/C Ratio	-	-	0.441	0.167
HCM Control Delay (s)	-	-	19.6	10.7
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	2.2	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑	↱	↰↰		↱			
Traffic Volume (veh/h)	0	396	95	0	641	399	178	0	167	0	0	0
Future Volume (veh/h)	0	396	95	0	641	399	178	0	167	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900	1900	0	1900			
Adj Flow Rate, veh/h	0	455	0	0	737	459	205	0	192			
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2406		0	1675	747	705	0	323			
Arrive On Green	0.00	0.46	0.00	0.00	0.46	0.46	0.20	0.00	0.20			
Sat Flow, veh/h	0	5358	1610	0	3705	1610	3510	0	1610			
Grp Volume(v), veh/h	0	455	0	0	737	459	205	0	192			
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1805	1610	1755	0	1610			
Q Serve(g_s), s	0.0	1.4	0.0	0.0	3.7	5.7	1.3	0.0	2.9			
Cycle Q Clear(g_c), s	0.0	1.4	0.0	0.0	3.7	5.7	1.3	0.0	2.9			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2406		0	1675	747	705	0	323			
V/C Ratio(X)	0.00	0.19		0.00	0.44	0.61	0.29	0.00	0.59			
Avail Cap(c_a), veh/h	0	3768		0	2623	1170	1504	0	690			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	4.2	0.0	0.0	4.8	5.4	9.1	0.0	9.7			
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.2	0.8	0.2	0.0	1.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.0	0.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	4.3	0.0	0.0	5.0	6.2	9.3	0.0	11.5			
LnGrp LOS	A	A		A	A	A	A	A	B			
Approach Vol, veh/h		455			1196			397				
Approach Delay, s/veh		4.3			5.5			10.4				
Approach LOS		A			A			B				

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				17.0		9.9		17.0				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				19.5		11.5		19.5				
Max Q Clear Time (g_c+I1), s				7.7		4.9		3.4				
Green Ext Time (p_c), s				4.7		0.8		2.3				

Intersection Summary												
HCM 6th Ctrl Delay			6.2									
HCM 6th LOS			A									

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑↱		↰	↑	↱	↰	↑	↱
Traffic Vol, veh/h	3	227	17	8	386	0	27	7	8	1	18	3
Future Vol, veh/h	3	227	17	8	386	0	27	7	8	1	18	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	250	-	-	115	-	115	115	-	115
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	247	18	9	420	0	29	8	9	1	20	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	420	0	0	265	0	0	449	691	124	572	709	210
Stage 1	-	-	-	-	-	-	253	253	-	438	438	-
Stage 2	-	-	-	-	-	-	196	438	-	134	271	-
Critical Hdwy	5.3	-	-	4.1	-	-	6.95	6.5	6.9	6.95	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.5	5.5	-
Follow-up Hdwy	3.1	-	-	2.2	-	-	3.65	4	3.3	3.65	4	3.9
Pot Cap-1 Maneuver	746	-	-	1311	-	-	516	370	910	431	362	682
Stage 1	-	-	-	-	-	-	708	701	-	503	582	-
Stage 2	-	-	-	-	-	-	755	582	-	828	689	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	746	-	-	1311	-	-	488	366	910	417	358	682
Mov Cap-2 Maneuver	-	-	-	-	-	-	488	366	-	417	358	-
Stage 1	-	-	-	-	-	-	705	698	-	501	578	-
Stage 2	-	-	-	-	-	-	721	578	-	808	686	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	12.4	14.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	488	366	910	746	-	-	1311	-	-	417	358	682
HCM Lane V/C Ratio	0.06	0.021	0.01	0.004	-	-	0.007	-	-	0.003	0.055	0.005
HCM Control Delay (s)	12.8	15	9	9.8	-	-	7.8	-	-	13.7	15.6	10.3
HCM Lane LOS	B	C	A	A	-	-	A	-	-	B	C	B
HCM 95th %tile Q(veh)	0.2	0.1	0	0	-	-	0	-	-	0	0.2	0

HCM 6th Signalized Intersection Summary
7: 30th St W & W Ave I

2024 plus Project
Timing Plan: AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑↑	↱	↰↰	↑↑↑	↱	↰↰	↑↑	↱	↰↰	↑↑↑	↱
Traffic Volume (veh/h)	45	426	19	179	293	39	22	176	193	39	253	37
Future Volume (veh/h)	45	426	19	179	293	39	22	176	193	39	253	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	51	484	22	203	333	44	25	200	219	44	288	42
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	175	929	332	316	1137	346	102	1241	696	158	1866	577
Arrive On Green	0.05	0.18	0.18	0.09	0.22	0.22	0.03	0.34	0.34	0.05	0.36	0.36
Sat Flow, veh/h	3510	5187	1594	3510	5187	1576	3510	3610	1603	3510	5187	1603
Grp Volume(v), veh/h	51	484	22	203	333	44	25	200	219	44	288	42
Grp Sat Flow(s),veh/h/ln	1755	1729	1594	1755	1729	1576	1755	1805	1603	1755	1729	1603
Q Serve(g_s), s	0.7	4.4	0.6	2.9	2.8	1.2	0.4	2.0	4.7	0.6	2.0	0.9
Cycle Q Clear(g_c), s	0.7	4.4	0.6	2.9	2.8	1.2	0.4	2.0	4.7	0.6	2.0	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	175	929	332	316	1137	346	102	1241	696	158	1866	577
V/C Ratio(X)	0.29	0.52	0.07	0.64	0.29	0.13	0.24	0.16	0.31	0.28	0.15	0.07
Avail Cap(c_a), veh/h	333	1774	592	393	1862	566	333	1241	696	333	1866	577
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.1	19.6	16.7	23.1	17.1	16.5	25.0	12.0	9.8	24.3	11.4	11.1
Incr Delay (d2), s/veh	0.9	0.5	0.1	2.4	0.1	0.2	1.2	0.3	1.2	0.9	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.5	0.2	1.1	0.9	0.3	0.1	0.6	1.3	0.2	0.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.0	20.0	16.8	25.6	17.3	16.7	26.2	12.3	11.0	25.3	11.6	11.3
LnGrp LOS	C	C	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		557			580			444			374	
Approach Delay, s/veh		20.3			20.1			12.4			13.2	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	22.6	9.2	13.9	6.0	23.4	7.1	16.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	18.1	5.9	18.0	5.0	18.1	5.0	18.9				
Max Q Clear Time (g_c+I1), s	2.6	6.7	4.9	6.4	2.4	4.0	2.7	4.8				
Green Ext Time (p_c), s	0.0	1.3	0.1	2.2	0.0	1.4	0.0	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			17.1									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↱			↰
Traffic Vol, veh/h	7	0	0	38	0	0
Future Vol, veh/h	7	0	0	38	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	0	0	41	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	22	21	0	0	41	0
Stage 1	21	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	1000	1062	-	-	1581	-
Stage 1	1007	-	-	-	-	-
Stage 2	1028	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1000	1062	-	-	1581	-
Mov Cap-2 Maneuver	1000	-	-	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	1028	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1000	1581	-
HCM Lane V/C Ratio	-	-	0.008	-	-
HCM Control Delay (s)	-	-	8.6	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

HCM 6th TWSC
9: W Ave H & Project Dwy 2

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↱		Y	
Traffic Vol, veh/h	14	245	241	108	19	3
Future Vol, veh/h	14	245	241	108	19	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	15	266	262	117	21	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	379	0	-	0	617	321
Stage 1	-	-	-	-	321	-
Stage 2	-	-	-	-	296	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1191	-	-	-	457	724
Stage 1	-	-	-	-	740	-
Stage 2	-	-	-	-	759	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1191	-	-	-	451	724
Mov Cap-2 Maneuver	-	-	-	-	613	-
Stage 1	-	-	-	-	730	-
Stage 2	-	-	-	-	759	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1191	-	-	-	626
HCM Lane V/C Ratio	0.013	-	-	-	0.038
HCM Control Delay (s)	8.1	-	-	-	11
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	0	56	1	29	27	25	2	72	23	14	111	0
Future Vol, veh/h	0	56	1	29	27	25	2	72	23	14	111	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	58	1	30	28	26	2	75	24	15	116	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	7.9	7.8	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	36%	11%
Vol Thru, %	74%	98%	33%	89%
Vol Right, %	24%	2%	31%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	97	57	81	125
LT Vol	2	0	29	14
Through Vol	72	56	27	111
RT Vol	23	1	25	0
Lane Flow Rate	101	59	84	130
Geometry Grp	1	1	1	1
Degree of Util (X)	0.119	0.074	0.102	0.158
Departure Headway (Hd)	4.232	4.5	4.37	4.358
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	850	798	822	826
Service Time	2.246	2.518	2.388	2.371
HCM Lane V/C Ratio	0.119	0.074	0.102	0.157
HCM Control Delay	7.8	7.9	7.9	8.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.2	0.3	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↑↱		Y	
Traffic Volume (veh/h)	1	144	163	11	37	7
Future Volume (veh/h)	1	144	163	11	37	7
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1	167	190	13	43	8
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	351	295	532	36	828	154
Arrive On Green	0.16	0.16	0.16	0.16	0.56	0.56
Sat Flow, veh/h	1198	1900	3525	233	1470	273
Grp Volume(v), veh/h	1	167	99	104	52	0
Grp Sat Flow(s),veh/h/ln	1198	1900	1805	1858	1777	0
Q Serve(g_s), s	0.0	2.6	1.6	1.6	0.4	0.0
Cycle Q Clear(g_c), s	1.6	2.6	1.6	1.6	0.4	0.0
Prop In Lane	1.00			0.13	0.83	0.15
Lane Grp Cap(c), veh/h	351	295	280	288	1001	0
V/C Ratio(X)	0.00	0.57	0.35	0.36	0.05	0.00
Avail Cap(c_a), veh/h	840	1070	1017	1046	1001	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.8	12.5	12.1	12.1	3.1	0.0
Incr Delay (d2), s/veh	0.0	1.7	0.8	0.8	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.8	0.4	0.4	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.8	14.2	12.8	12.8	3.2	0.0
LnGrp LOS	B	B	B	B	A	A
Approach Vol, veh/h		168	203		52	
Approach Delay, s/veh		14.2	12.8		3.2	
Approach LOS		B	B		A	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	9.5	22.5	9.5
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	4.6	2.4	3.6
Green Ext Time (p_c), s	0.5	0.1	0.7

Intersection Summary	
HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑	↱	↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	3	242	29	150	166	24	20	41	63	5	62	5
Future Volume (veh/h)	3	242	29	150	166	24	20	41	63	5	62	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	3	260	31	161	178	26	22	44	68	5	67	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	656	1071	126	644	626	530	647	432	386	613	815	60
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1197	3252	384	1105	1900	1610	1349	1805	1610	1301	3403	251
Grp Volume(v), veh/h	3	143	148	161	178	26	22	44	68	5	35	37
Grp Sat Flow(s),veh/h/ln	1197	1805	1831	1105	1900	1610	1349	1805	1610	1301	1805	1848
Q Serve(g_s), s	0.0	1.2	1.2	2.6	1.4	0.2	0.3	0.4	0.7	0.1	0.3	0.3
Cycle Q Clear(g_c), s	1.5	1.2	1.2	3.8	1.4	0.2	0.6	0.4	0.7	0.8	0.3	0.3
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	656	595	603	644	626	530	647	432	386	613	432	443
V/C Ratio(X)	0.00	0.24	0.25	0.25	0.28	0.05	0.03	0.10	0.18	0.01	0.08	0.08
Avail Cap(c_a), veh/h	1294	1556	1579	1233	1638	1388	1487	1556	1388	1423	1556	1594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.7	5.1	5.1	6.5	5.2	4.8	6.4	6.2	6.3	6.6	6.2	6.2
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.1	0.2	0.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.7	5.3	5.3	6.7	5.4	4.8	6.4	6.3	6.5	6.6	6.2	6.2
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		294			365			134			77	
Approach Delay, s/veh		5.3			5.9			6.4			6.3	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	9.5	11.4	9.5	11.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	2.7	3.5	2.8	5.8
Green Ext Time (p_c), s	0.4	1.1	0.2	1.2

Intersection Summary	
HCM 6th Ctrl Delay	5.8
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑	↱				↰		↱
Traffic Vol, veh/h	0	284	147	0	269	338	0	0	0	145	0	86
Future Vol, veh/h	0	284	147	0	269	338	0	0	0	145	0	86
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	0	-	-	250	-	-	-	0	-	380
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	312	162	0	296	371	0	0	0	159	0	95

Major/Minor	Major1			Major2						Minor2		
Conflicting Flow All	-	0	-	-	-	0				421	-	148
Stage 1	-	-	-	-	-	-				296	-	-
Stage 2	-	-	-	-	-	-				125	-	-
Critical Hdwy	-	-	-	-	-	-				6.25	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-				5.8	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-				6	-	-
Follow-up Hdwy	-	-	-	-	-	-				3.65	-	3.3
Pot Cap-1 Maneuver	0	-	0	0	-	0				583	0	878
Stage 1	0	-	0	0	-	0				709	0	-
Stage 2	0	-	0	0	-	0				853	0	-
Platoon blocked, %		-			-							
Mov Cap-1 Maneuver	-	-	-	-	-	-				583	0	878
Mov Cap-2 Maneuver	-	-	-	-	-	-				583	0	-
Stage 1	-	-	-	-	-	-				709	0	-
Stage 2	-	-	-	-	-	-				853	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	583	878
HCM Lane V/C Ratio	-	-	0.273	0.108
HCM Control Delay (s)	-	-	13.5	9.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.1	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑	↱	↰↰		↱			
Traffic Volume (veh/h)	0	304	126	0	480	325	127	0	148	0	0	0
Future Volume (veh/h)	0	304	126	0	480	325	127	0	148	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900	1900	0	1900			
Adj Flow Rate, veh/h	0	334	0	0	527	357	140	0	163			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2164		0	1506	672	658	0	302			
Arrive On Green	0.00	0.42	0.00	0.00	0.42	0.42	0.19	0.00	0.19			
Sat Flow, veh/h	0	5358	1610	0	3705	1610	3510	0	1610			
Grp Volume(v), veh/h	0	334	0	0	527	357	140	0	163			
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1805	1610	1755	0	1610			
Q Serve(g_s), s	0.0	0.9	0.0	0.0	2.3	3.8	0.8	0.0	2.1			
Cycle Q Clear(g_c), s	0.0	0.9	0.0	0.0	2.3	3.8	0.8	0.0	2.1			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2164		0	1506	672	658	0	302			
V/C Ratio(X)	0.00	0.15		0.00	0.35	0.53	0.21	0.00	0.54			
Avail Cap(c_a), veh/h	0	4673		0	3252	1450	1620	0	743			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	4.1	0.0	0.0	4.5	5.0	7.8	0.0	8.4			
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.1	0.7	0.2	0.0	1.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	4.2	0.0	0.0	4.7	5.6	8.0	0.0	9.9			
LnGrp LOS	A	A		A	A	A	A	A	A			
Approach Vol, veh/h		334			884			303				
Approach Delay, s/veh		4.2			5.1			9.0				
Approach LOS		A			A			A				

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				14.0		8.8		14.0				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				20.5		10.5		20.5				
Max Q Clear Time (g_c+I1), s				5.8		4.1		2.9				
Green Ext Time (p_c), s				3.7		0.5		1.7				

Intersection Summary			
HCM 6th Ctrl Delay			5.6
HCM 6th LOS			A

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑↱		↰	↑	↱	↰	↑	↱
Traffic Vol, veh/h	0	391	21	30	317	2	19	20	15	0	12	0
Future Vol, veh/h	0	391	21	30	317	2	19	20	15	0	12	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	250	-	-	115	-	115	115	-	115
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	412	22	32	334	2	20	21	16	0	13	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	336	0	0	434	0	0	616	812	206	616	833	168
Stage 1	-	-	-	-	-	-	412	412	-	399	399	-
Stage 2	-	-	-	-	-	-	204	400	-	217	434	-
Critical Hdwy	5.3	-	-	4.1	-	-	6.95	6.5	6.9	6.95	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.5	5.5	-
Follow-up Hdwy	3.1	-	-	2.2	-	-	3.65	4	3.3	3.65	4	3.9
Pot Cap-1 Maneuver	815	-	-	1136	-	-	404	315	807	404	307	725
Stage 1	-	-	-	-	-	-	573	598	-	534	606	-
Stage 2	-	-	-	-	-	-	747	605	-	743	585	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	815	-	-	1136	-	-	383	306	807	367	298	725
Mov Cap-2 Maneuver	-	-	-	-	-	-	383	306	-	367	298	-
Stage 1	-	-	-	-	-	-	573	598	-	534	589	-
Stage 2	-	-	-	-	-	-	710	588	-	703	585	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.7	14.4	17.6
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	383	306	807	815	-	-	1136	-	-	-	298	-
HCM Lane V/C Ratio	0.052	0.069	0.02	-	-	-	0.028	-	-	-	0.042	-
HCM Control Delay (s)	14.9	17.6	9.6	0	-	-	8.3	-	-	0	17.6	0
HCM Lane LOS	B	C	A	A	-	-	A	-	-	A	C	A
HCM 95th %tile Q(veh)	0.2	0.2	0.1	0	-	-	0.1	-	-	-	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑↑	↱	↰↰	↑↑↑	↱	↰↰	↑↑	↱	↰↰	↑↑↑	↱
Traffic Volume (veh/h)	25	388	30	148	406	35	19	114	97	44	166	56
Future Volume (veh/h)	25	388	30	148	406	35	19	114	97	44	166	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	26	408	32	156	427	37	20	120	102	46	175	59
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	106	894	308	300	1181	357	85	1273	694	163	1945	592
Arrive On Green	0.03	0.17	0.17	0.09	0.23	0.23	0.02	0.35	0.35	0.05	0.38	0.38
Sat Flow, veh/h	3510	5187	1561	3510	5187	1569	3510	3610	1579	3510	5187	1579
Grp Volume(v), veh/h	26	408	32	156	427	37	20	120	102	46	175	59
Grp Sat Flow(s),veh/h/ln	1755	1729	1561	1755	1729	1569	1755	1805	1579	1755	1729	1579
Q Serve(g_s), s	0.4	3.7	0.9	2.2	3.6	1.0	0.3	1.2	2.0	0.7	1.1	1.3
Cycle Q Clear(g_c), s	0.4	3.7	0.9	2.2	3.6	1.0	0.3	1.2	2.0	0.7	1.1	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	106	894	308	300	1181	357	85	1273	694	163	1945	592
V/C Ratio(X)	0.25	0.46	0.10	0.52	0.36	0.10	0.24	0.09	0.15	0.28	0.09	0.10
Avail Cap(c_a), veh/h	335	1779	574	368	1829	553	335	1273	694	335	1945	592
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.9	19.5	17.3	23.0	17.0	16.0	25.1	11.4	8.9	24.2	10.6	10.6
Incr Delay (d2), s/veh	1.2	0.4	0.1	1.4	0.2	0.1	1.4	0.1	0.4	0.9	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.2	0.3	0.8	1.1	0.3	0.1	0.4	0.5	0.3	0.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	19.9	17.4	24.4	17.2	16.1	26.5	11.5	9.3	25.1	10.7	11.0
LnGrp LOS	C	B	B	C	B	B	C	B	A	C	B	B
Approach Vol, veh/h		466			620			242			280	
Approach Delay, s/veh		20.1			19.0			11.8			13.1	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	23.0	9.0	13.5	5.8	24.2	6.1	16.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	18.5	5.5	18.0	5.0	18.5	5.0	18.5
Max Q Clear Time (g_c+I1), s	2.7	4.0	4.2	5.7	2.3	3.3	2.4	5.6
Green Ext Time (p_c), s	0.0	0.7	0.1	1.9	0.0	0.9	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	17.2
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	6.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↱			↰
Traffic Vol, veh/h	32	0	0	10	0	0
Future Vol, veh/h	32	0	0	10	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	35	0	0	11	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	7	6	0	0	11	0
Stage 1	6	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	1019	1083	-	-	1621	-
Stage 1	1022	-	-	-	-	-
Stage 2	1028	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1019	1083	-	-	1621	-
Mov Cap-2 Maneuver	1019	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	1028	-	-	-	-	-

Approach	WB		NB		SB	
HCM Control Delay, s	8.7		0		0	
HCM LOS	A					

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1019	1621	-
HCM Lane V/C Ratio	-	-	0.034	-	-
HCM Control Delay (s)	-	-	8.7	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↱		↰↱	
Traffic Vol, veh/h	3	178	162	27	91	12
Future Vol, veh/h	3	178	162	27	91	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	193	176	29	99	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	205	0	-	0	390	191
Stage 1	-	-	-	-	191	-
Stage 2	-	-	-	-	199	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1378	-	-	-	618	856
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	839	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1378	-	-	-	617	856
Mov Cap-2 Maneuver	-	-	-	-	728	-
Stage 1	-	-	-	-	844	-
Stage 2	-	-	-	-	839	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1378	-	-	-	741
HCM Lane V/C Ratio	0.002	-	-	-	0.151
HCM Control Delay (s)	7.6	-	-	-	10.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Appendix C

SimTraffic Queuing Worksheet

Intersection: 2: W Ave H & 35th St W

Movement	EB	EB	WB	WB	SB
Directions Served	L	T	T	TR	LR
Maximum Queue (ft)	44	123	105	48	31
Average Queue (ft)	6	62	50	20	4
95th Queue (ft)	27	108	87	46	20
Link Distance (ft)		1087	544		1192
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	205			175	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 4: SR-14 SB Ramp & W Ave H

Movement	SB	SB
Directions Served	L	R
Maximum Queue (ft)	97	53
Average Queue (ft)	46	30
95th Queue (ft)	77	40
Link Distance (ft)	677	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		380
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: SR-14 NB Ramp & W Ave H

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	T	R	L	L	R
Maximum Queue (ft)	43	48	42	70	77	89	47	93	73
Average Queue (ft)	20	19	11	29	32	42	19	47	38
95th Queue (ft)	40	41	34	61	64	74	45	80	61
Link Distance (ft)	762	762	762	672	672	672		1079	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)							800		800
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 8: 35th St W & Project Dwy 1

Movement	WB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	5
95th Queue (ft)	23
Link Distance (ft)	632
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: W Ave H & Project Dwy 2

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	34	40
Average Queue (ft)	3	17
95th Queue (ft)	17	42
Link Distance (ft)		741
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 0

Intersection: 2: W Ave H & 35th St W

Movement	EB	EB	WB	WB	SB
Directions Served	L	T	T	TR	LR
Maximum Queue (ft)	10	99	82	31	52
Average Queue (ft)	0	40	41	9	12
95th Queue (ft)	4	76	73	30	39
Link Distance (ft)		1087	544		1192
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	205			175	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 4: SR-14 SB Ramp & W Ave H

Movement	SB	SB
Directions Served	L	R
Maximum Queue (ft)	80	35
Average Queue (ft)	41	28
95th Queue (ft)	70	36
Link Distance (ft)	677	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		380
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: SR-14 NB Ramp & W Ave H

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	T	T	R	L	L	R
Maximum Queue (ft)	43	41	29	62	74	72	33	69	58
Average Queue (ft)	18	11	3	20	26	34	11	37	36
95th Queue (ft)	39	33	15	45	57	61	34	61	55
Link Distance (ft)	762	762	762	672	672	672		1079	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)							800		800
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 8: 35th St W & Project Dwy 1

Movement	WB
Directions Served	LR
Maximum Queue (ft)	40
Average Queue (ft)	20
95th Queue (ft)	45
Link Distance (ft)	632
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: W Ave H & Project Dwy 2

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	11	72
Average Queue (ft)	0	36
95th Queue (ft)	6	59
Link Distance (ft)		741
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 0

Appendix K

Vehicle Miles Traveled (VMT) Analysis

DRAFT

Vehicle Miles Traveled (VMT) Analysis

35th Street & Avenue H Industrial Project

MARCH 2023

Prepared for:

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FIGURES

APPENDICES

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1 Introduction

1.1 Purpose of the VMT Analysis

The purpose of this Vehicle Miles Traveled (VMT) Analysis is to identify VMT impacts associated with the proposed 35th Street & Avenue H Industrial Project (proposed Project or Project), an industrial development in the City of Lancaster (City), in Los Angeles County (County), relative to the City of Lancaster VMT thresholds. This VMT Analysis has been prepared per the City of Lancaster Department of Development Services Local Transportation Assessment Guidelines (January 2021).

1.2 Project Description

The Project involves the construction and operation of up to approximately 395,390 square feet of industrial/warehouse space on approximately 18 acres of vacant land within the City of Lancaster (see Figure 1, Project Location and Figure 2, Site Plan). The Project site is bound to the south by West Avenue H, to the west by 35th Street West and an existing Michaels Distribution Center, and to the north and east by vacant land. Access to the Project site would be provided via State Route 14 (SR-14) to the north and south ramps at West Avenue H. The Project site has a General Plan and Zoning designation of “SP – Specific Plan” and is subject to the Fox Field Industrial Corridor Specific Plan (Specific Plan).

On-Site and Off-Site Improvements

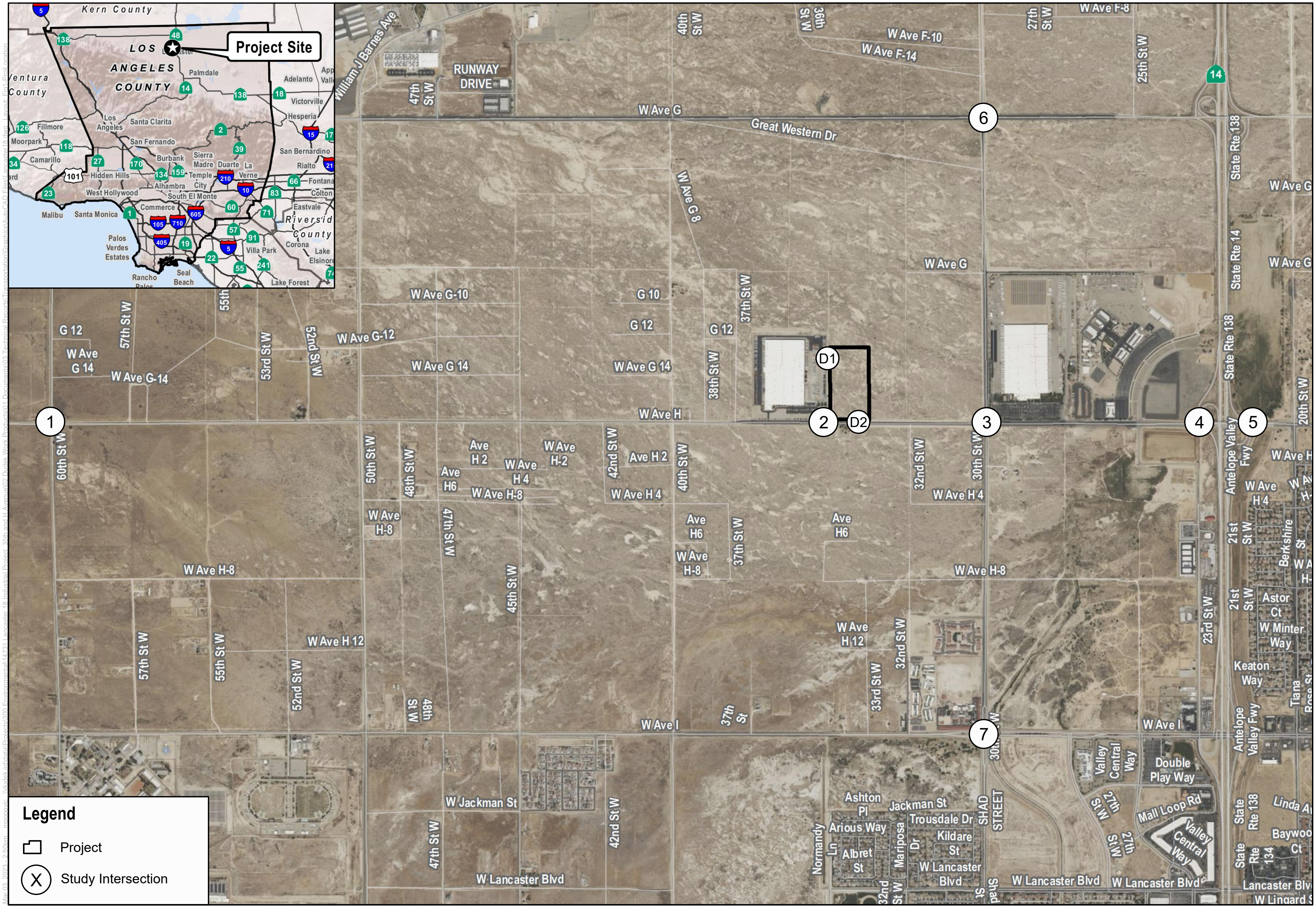
The Project would include frontage improvements along West Avenue H and 35th Street West, including landscaping and pedestrian improvements. A variety of trees, shrubs, plants, and land covers would be planted within the Project frontage’s landscape setback area, as well as within the landscape areas found around the proposed industrial/warehouse building and throughout the Project site.

Site Access and Circulation

Access to the Project site would be provided via a new full access driveway on 35th Street West at the north end of the site and a new full access driveway on West Avenue H on the east end of the site. Paved passenger vehicle parking areas would be provided along the southern edge of the building, while tractor-trailer stalls and loading docks would be provided along the eastern edge of the building. In total, the Project would provide 40 loading dock positions, 70 tractor-trailer stalls, 117 passenger vehicle spaces, and approximately 134,950 square feet of landscape area coverage.

Operations

Tenants for the Project have not been identified and the industrial warehouse building space is considered speculative. Business operations would be expected to be conducted within the enclosed building space, with the exception of trucks and passenger vehicles accessing the site, passenger and truck parking, the loading and unloading of trailers within designated truck courts/loading area, and the internal and external movement of materials around the Project site via forklifts, pallet jacks, yard hostlers, and similar equipment. It is anticipated that the facilities would be operated 24 hours a day, 7 days a week.



SOURCE: Bing Imagery 2021

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FIGURE 1

Project Location and Study Area

Lancaster 18 Warehouse Project

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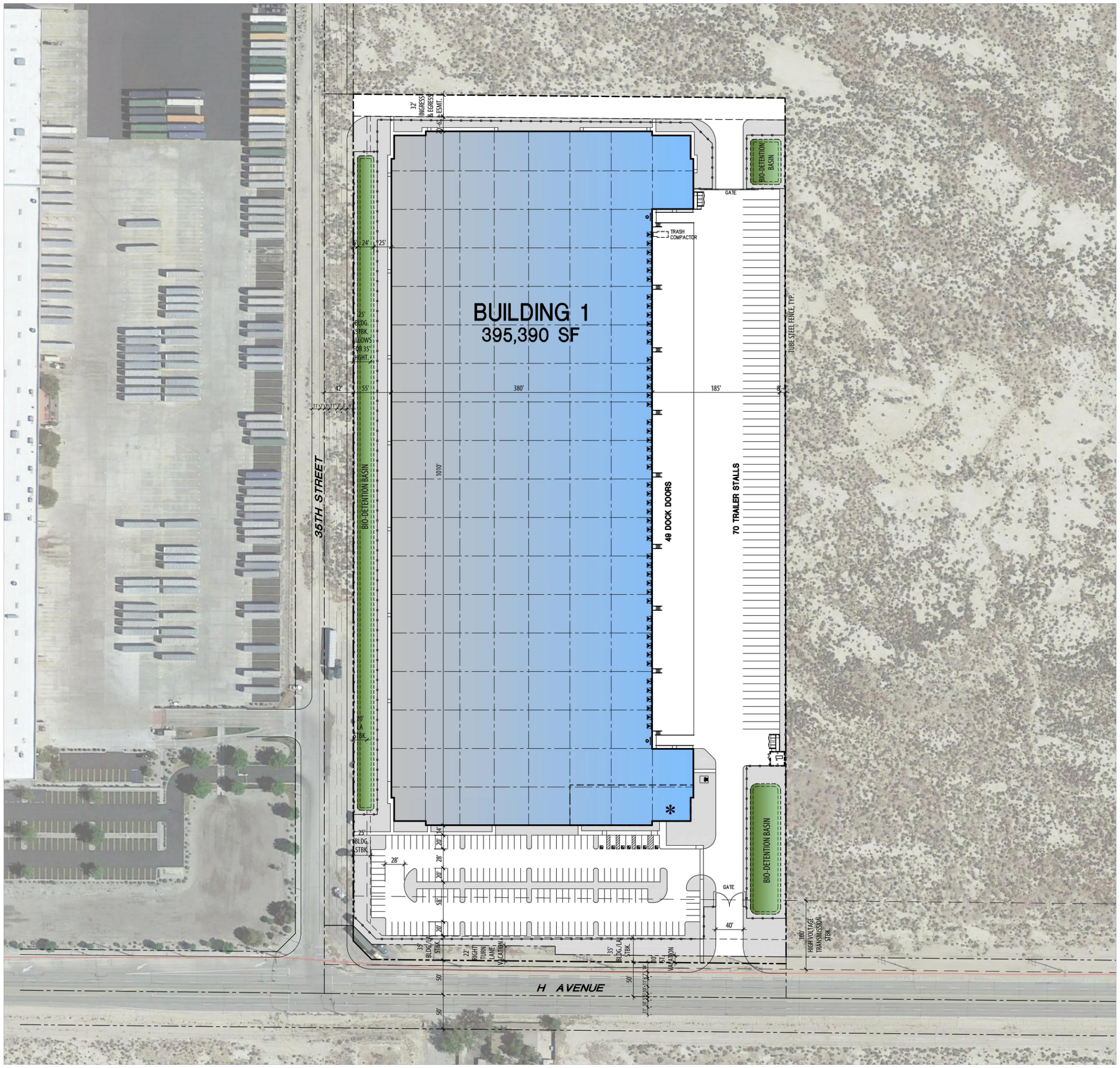

TABULATIONS

SITE AREA		SF	ACRES
Gross Site Area		877,553	20.15
Avenue H Dedication		35,985	0.83
35th Street Dedication		50,789	1.17
TOTAL		**790,779**	**18.15**
BUILDING AREA			**BUILDING 1**
	Ground Floor Office		10,000
	Warehouse		385,390
Total Building Footprint			**395,390**
	Mezzanine		0
TOTAL BUILDING AREA			**395,390**
COVERAGE (Based on Net Site)			**50.0%**
FAR (50% Max) (Based on Net Site)			**50.0%**
PARKING REQUIRED			
Office		1/250	40
Warehouse			
	0 - 25,000 sf		5
	25,000 sf +	1/5000	72
TOTAL PARKING REQUIRED			**117**
PARKING PROVIDED			**172**
PARKING RATIO			0.44/1000
DOCK DOORS			**49**
GRADE DOORS			**2**
TRAILER STALLS			**70**
LANDSCAPE (Based on Net Site Area)		15%	LA Area (S.F.)
Site Area		790,779	
Building Footprint		395,390	
Landscaping Required		395,389	59,308
Landscaping Provided		34.1%	134,950

NORTH

COVINGTON
DEVELOPMENT
PARTNERS

H AVENUE AND 35TH STREET WAREHOUSE
LANCASTER, CA

0 60 120

PROJECT NO.: CD005.01
DATE: 11/4/2022

SCHEME B.3
CONCEPTUAL SITE PLAN

NOTE: LAND AREA AND BUILDING SQUARE FOOTAGE ARE PRELIMINARY AND MAY BE SUBJECT TO CHANGE UPON REVIEW BY GOVERNING AGENCIES, CIVIL ENGINEER, AND OWNER.

GAA
ARCHITECTS
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Suite 200,
Irvine, CA 92618
T 949 474 1775
www.GAAarchitects.com

SOURCE: GAA Architects 2022

FIGURE 2

Project Site Plan

Lancaster 18 Warehouse Project

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2 Study Area

This section provides a summary of the existing street network, including the major roadways serving the site, the existing transit service, and bicycle and pedestrian facilities in the study area.

2.1 Existing Street Network

Primary access to the site would be provided from SR-14 to 35th Street West and West Avenue H. Characteristics of the primary roadways within the study area are described below.

- **SR-14** (Antelope Valley Freeway) is a north-south freeway that extends from the northern Mojave Desert to Los Angeles. In the Project vicinity, SR-14 has two lanes in each direction. Northbound and southbound on- and off- ramps are provided at West Avenue H, approximately 0.50 miles east of the Project Site. SR-14 is a designated truck route on the National Network (STAA).
- **West Avenue H** is an east-west roadway. Within the Project study area, West Avenue H is designated as a Regional Arterial by the City and a designated truck route (Los Angeles County 2020). West Avenue H has two to three lanes in each direction and a two-way-left turn lane between SR 14 to the east and 35th Street West to the west. West of 35th Street, West Avenue H narrows to two-lanes. Sidewalks are provided where development has occurred, primarily along the northern boundary of the road. A Class II bike lane (on-street painted bike lane) is provided on both sides of Avenue H, between approximately 25th Street West and 40th Street West.
- **35th Street West** is a two-lane north-south road that extends from Avenue H approximately 450 feet to the north. It currently provides access to the Michaels Distribution Center immediately west of the project.

2.2 Rail and Transit System

The City of Lancaster is served by bus services provided by Antelope Valley Transit Authority (AVTA), which provides regional and local services throughout Antelope Valley. Regionally, the City is served by passenger rail services offered by the National Railroad Passenger Corporation (Amtrak), and commuter rail service provided by Metrolink. Antelope 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 Antelope Valley (Brightline West 2022). The rail and transit providers are described below.

Antelope Valley Transit Authority

The Antelope Valley Transit Authority (AVTA) provides local bus service for cities of Lancaster and Palmdale, and the communities of Quartz Hill, Lake Los Angeles, Littlerock, Pearblossom, and Sun Village. AVTA operates fifteen bus routes in Lancaster, providing bus connections between shopping centers, the Lancaster Post Office, schools and colleges, and residential areas. Route 9 shown in Figure 3, Existing Transit Facilities, is the closest bus route to the project site, with bus stops near the intersection of 25th Street West and W Avenue H, approximately one mile east of the project site. The route operates weekdays, between 6:15 a.m. and 8:05 p.m. and on Saturday and Sunday between 8:15 a.m. and 6:19 p.m. (AVTA 2023).

The AVTA also provides commuter bus service from Lancaster to the Los Angeles metropolitan area and San Fernando Valley via bus Routes 785, 786, and 787. The routes originate and end at Owen Memorial Park in Lancaster, approximately five miles southeast of the site.

AVTA also offers paratransit services for persons with special needs on any paved street within Lancaster as long as it is within their service boundaries. The AVTA paratransit services do not travel a fixed route and provide a flexible alternative to the fixed bus routes (AVTA 2023).

Amtrak

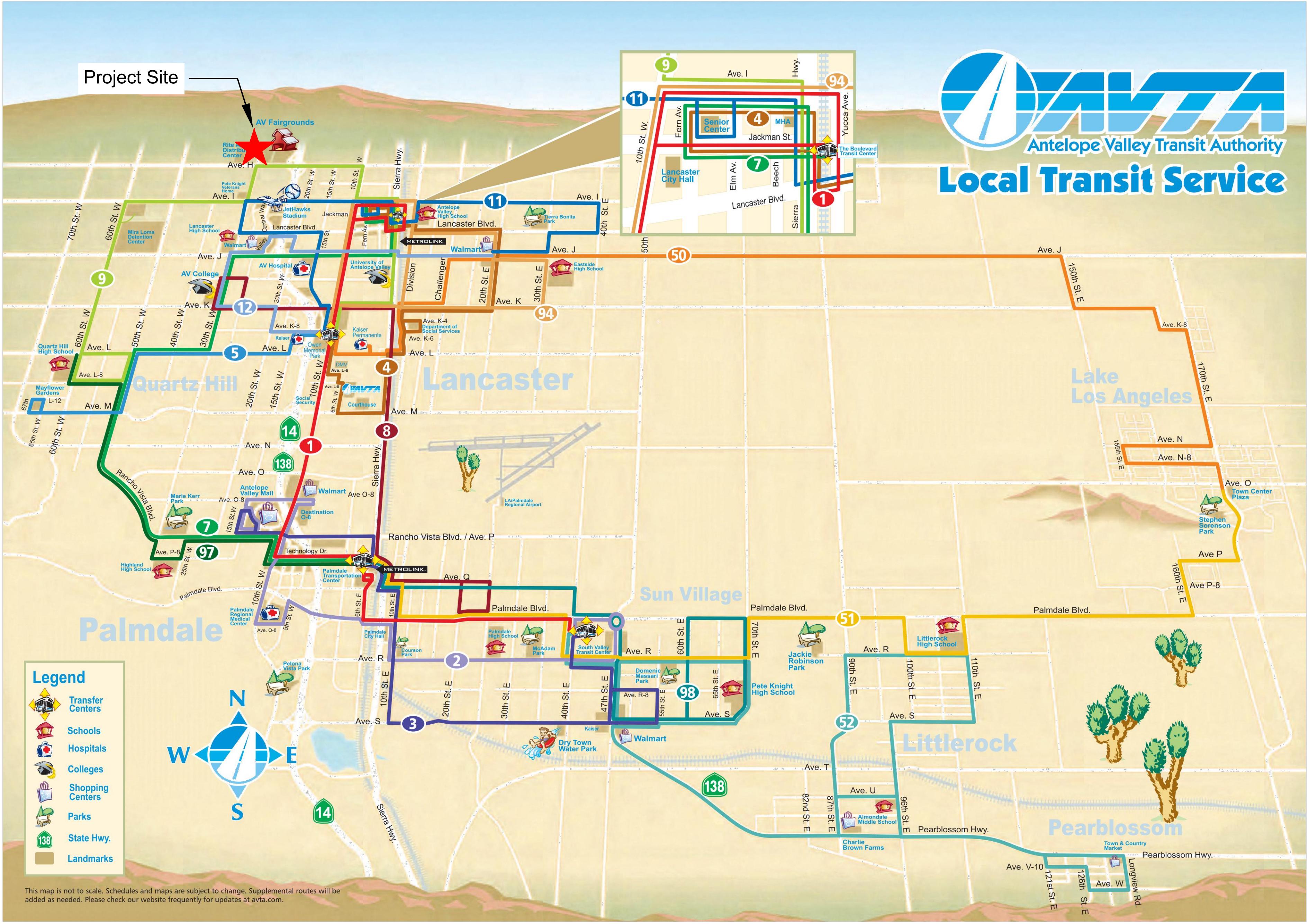
Amtrak is a national rail operator, with 21,000 route miles in 46 states, the District of Columbia, and three Canadian Provinces. Amtrak operates more than 300 trains each day to more than 500 destinations. Amtrak is the chosen operator for state-supported corridor services in 17 states and four commuter rail agencies (Amtrak 2022a). Amtrak does not operate rail service through Lancaster but provides thruway connecting bus services (Amtrak 2022b).

Metrolink

Metrolink is a commuter rail system in southern California that connects Lancaster to the greater southern California region via the Antelope Valley Line. The Lancaster station is located approximately four and half miles southeast of the site on Sierra Highway. Currently Metrolink operates 11 trains to and from Los Angeles, operating between 3:41 am and 11:52 pm (Metrolink 2023).

2.3 Pedestrian and Bicycle Facilities

The project site is located in a developing area of the City with limited pedestrian facilities in the immediate vicinity of the site. New sidewalks and bike lanes have generally been constructed where new development has occurred. The City's existing and proposed bicycle facilities are presented as Figure 4. Within the vicinity of the site, a Class II bike lane (on-street painted bike lane) is currently provided on both sides of West Avenue H, between approximately 25th Street West and Division Street, approximately two miles east of SR 14.



SOURCE: AVTA 2021

FIGURE 3

Existing Transit Facilities

Lancaster 18 Warehouse Project

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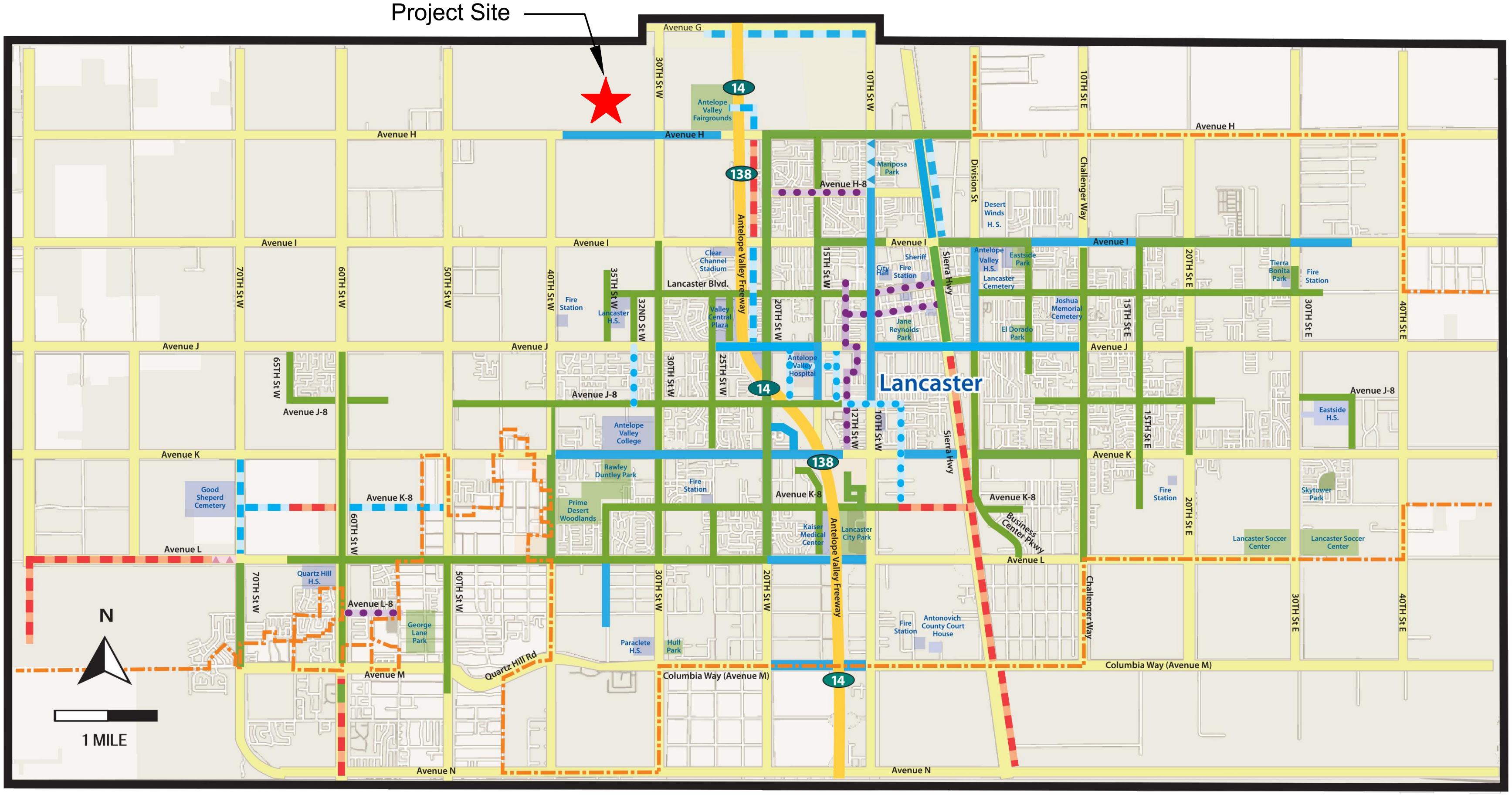
BIKEWAYS IN LANCASTER

BIKE LANE
BEGIN

Project Site



LEGEND

CITY LIMITS

PARKS

CLASS I BIKE PATH OR TRAIL

A SEPARATE RIGHT-OF-WAY FOR BICYCLES AND OTHER USERS. ACCESS MAY BE LIMITED TO DESIGNATED POINTS.

EXISTING

FUTURE

CLASS II BIKE LANE

A RESTRICTED RIGHT-OF-WAY FOR BICYCLES, MOST OFTEN DESIGNATED BY A PAINTED LINE AND USER SIGNS ON THE ROAD. MOTOR VEHICLES ARE PERMITTED TO USE THE BIKE LANE TO MAKE TURNS WITHIN 200 FEET OF AN INTERSECTION AND PARK (WHERE PERMITTED).

EXISTING

FUTURE

CLASS III BIKE ROUTE

A TRAVEL LANE SHARED BY BICYCLES AND MOTOR VEHICLES; DESIGNATED BY SIGNS AND SOMETIMES SUPPLEMENTED WITH SHARED LANE MARKINGS CALLED "SHARROWS". THIS TYPE OF BIKEWAY DOES NOT PROVIDE CYCLISTS WITH INCREASED PRIVILEGES, BUT RATHER, INFORMS MOTORISTS OF THE CYCLING ROUTE.

EXISTING

FUTURE

CLASS IV PROTECTED BIKE LANE

ON-STREET BICYCLE FACILITY THAT INCLUDES A VERTICAL PHYSICAL BARRIER BETWEEN THE BIKEWAY AND MOVING TRAFFIC.

EXISTING

FUTURE

APRIL 2020

SOURCE: City of Lancaster, 2020

FIGURE 4

Existing and Proposed Bicycle Facilities

Lancaster 18 Warehouse Project

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3 Project Trip Generation

The Project would include construction of an approximately 395,390 square foot industrial/warehouse building with associated office spaces, surface parking, and loading areas. Trip generation estimates for the proposed Project 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 the high percentage of truck traffic associated with the Project. Neither the City of Lancaster nor Los Angeles County specify the use of PCE rates, therefore, the San Bernardino County Congestion Management Plan (CMP) (SANBAG. 2016), which provides guidance on the application of PCE rates, was used. 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 2003 Fontana Truck Trip Generation Study (City of Fontana 2003) and the 2014 SCAQMD *Warehouse Truck Trip Study Data Results and Usage* (SCAQMD 2014). Trip generation rates, vehicle splits, and the resulting trip generation estimates for the Project are summarized in Table 1.

The layout of the building is most representative of a high-cube warehousing land use. However, as a specific end-user is not in place for the proposed Project, a 35% General Light Industrial and 65% High-Cube Fulfillment Center Warehousing split of the total building square footage, is applied to provide a conservative analysis for daily trip generation. As such, the following vehicle mix and land use assumptions provide a conservative analysis:

- **General Light Industrial (ITE Code 110)** trip rates were used to obtain trip generation estimates for 35% of the Project, totaling approximately 138,387 square feet of the total estimated building area.
- **High-Cube Fulfillment Center Warehouse (ITE Code 155)** trip rates were used to obtain trip generation estimates for 65% of the Project, totaling approximately 257,004 square feet of the total estimated building area.

As shown in Table 1, the proposed Project would generate 1,139 daily trips, 141 AM peak hour trips, and 131 PM peak hour trips. Accounting for truck traffic from warehousing and industrial land uses, the proposed project would generate 1,518 daily PCE trips, 185 AM peak hour PCE trips, and 172 PM peak hour PCE trips.

Table 1. Lancaster 18 Project Trip Generation Summary

Land Use	ITE Code	Size/Units		Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Trip Rates[1]										
General Light Industrial	110	TSF		4.87	0.65	0.09	0.74	0.09	0.56	0.65
High-Cube Fulfillment Center (non-sort)	155	TSF		1.81	0.12	0.03	0.15	0.06	0.10	0.16
Trip Generation										
General Light Industrial – 35%	110	138.387	TSF	674	90	12	102	13	77	90
High-Cube Fulfillment Center (non-sort) – 65%	155	257.004	TSF	465	31	8	39	16	25	41
	Project Total	**395.390**	**TSF**	**1,139**	**121**	**20**	**141**	**29**	**102**	**131**
Trip Generation Summary (Vehicle Mix, Non-PCE, by Vehicle Classification)										
ITE 110[2]										
Passenger Vehicles	78.6%			530	71	10	80	10	61	71
2-Axle Trucks	8.0%			44	7	1	8	1	6	7
3-Axle Trucks	3.9%			26	4	0	4	0	3	4
4+-Axle Trucks	9.5%			64	9	1	10	1	7	9
ITE 110 Total (Non-PCE)				*674*	*90*	*12*	*102*	*13*	*77*	*90*
ITE 155 (non-sort)[3]										
Passenger Vehicles	72.5%			337	23	6	28	12	18	30
2-Axle Trucks	4.6%			21	1	0	2	1	1	2
3-Axle Trucks	5.7%			27	2	0	2	1	1	2
4+-Axle Trucks	17.2%			80	5	1	7	3	4	7
ITE 155 (non-sort) Total (Non-PCE)				*465*	*31*	*8*	*39*	*16*	*25*	*41*
Total				**1,139**	**121**	**20**	**141**	**29**	**102**	**131**
Trip Generation Summary (PCE, by Vehicle Classification)										
Vehicle Mix	**PCE[4]**									
Passenger Vehicles	1.0			867	93	15	109	22	79	101
2-Axle Trucks	1.5			113	13	2	15	3	11	14
3-Axle Trucks	2.0			106	11	1	12	3	9	11

Table 1. Lancaster 18 Project Trip Generation Summary

Land Use	ITE Code	Size/Units	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
4+-Axle Trucks	3.0		432	42	8	49	12	35	47
Total Trip Generation (PCE)			**1,518**	**159**	**26**	**185**	**39**	**134**	**172**

Notes: Rounding discrepancies may occur. TSF = Thousand Square Feet; PCE = Passenger Car Equivalent

[1] Trip rates from the Institute of Transportation Engineers (ITE), *Trip Generation, 11th Edition, 2021.*

[2] Vehicle Mix and Percent from the Fontana Truck Trip Generation Study, August, 2003.

[3] Vehicle mix and percent from SCAQMD Warehouse Truck Trip Study Data Results and Usage, July 17, 2014.

[4] Passenger Car Equivalent (PCE) factors from the San Bernardino County CMP, Appendix B - Guidelines for CMP Traffic Impact Analysis Reports in Los Angeles County, 2016.

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4 Vehicle Miles Traveled Analysis

On September 27, 2013, Senate Bill (SB) 743 was signed into law, which creates a process to change the way that transportation impacts are analyzed under CEQA. SB 743 required the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to LOS for evaluating transportation impacts. Under the new transportation guidelines, LOS, or vehicle delay, is no longer considered an environmental impact under CEQA. OPR recommended Vehicle Miles Traveled (VMT) as the most appropriate measure of project transportation impacts for land use projects and land use plans. The updates to the CEQA Guidelines required under SB 743 were approved on December 28, 2018.

In accordance with SB 743, the City of Lancaster adopted the City's Local Transportation Assessment Guidelines (Lancaster 2021) which identify VMT-related screening criteria, methodologies, and impact criteria to be used to evaluate a project's potential impact on VMT. The screening criteria and project-level VMT analysis are presented below.

4.1 Project VMT Screening

The City's Guidelines (Lancaster 2021) identifies projects that can be screened from conducting a project-specific VMT analysis. A land use project need only to meet one of the screening thresholds identified in Table 2 to result in a less-than- significant impact.

Table 2. City of Lancaster VMT Screening Criteria

Screening Categories	Project Requirements to Meet Screening Criteria
Project Size	A project that generates 110 or fewer daily trips.
Locally Serving Retail	A project that has locally serving retail uses that are 50,000 square feet or less, including specialty retail, shopping center, grocery store, pharmacy, financial services/banks, fitness center or health club, restaurant, and café. If the project contains other land uses, those uses need to be considered under other applicable screening criteria.
Project Located in a Low VMT Area	A residential or office project that is located in a TAZ that is already 15% below the AVPA Baseline VMT.
Transit Proximity	A multifamily residential project providing higher density housing or a commercial project in an area already zoned for commercial use that is located within a ½ mile of the Metrolink station or within a ½ mile of a bus stop with service frequency of 15 minutes or less during commute periods.
Affordable Housing	A residential project that provides affordable housing units; if part of a larger development, only those units that meet the definition of affordable housing satisfy the screening criteria.
Transportation Facilities	Transportation projects that promote non-auto travel, improve safety, or improve traffic operations at current bottlenecks, such as transit, bicycle and pedestrian facilities, intersection traffic control (e.g., traffic signals or roundabouts), or widening at intersections to provide new turn lanes.

Source: City of Lancaster Local Transportation Assessment Guidelines, 2021

The proposed Project does not meet any of the screening criteria listed above. The Project does not generate less than 110 daily trips (as shown in Table 1) and is an industrial project that would not be considered a locally serving retail use and does not include affordable housing. The Project is also not located in a low VMT area as identified on the City's VMT maps (see Appendix A) or is it within a half-mile mile of an existing major transit stop, or along a high-quality transit corridor. Therefore, a project-level VMT analysis is required and is presented below.

4.2 Impact Thresholds

The City of Lancaster identifies significance thresholds for determining project impacts on VMT according to the type of project. The proposed Project would fall within the Employment (Commercial or Industrial) Project type and potential impacts would be based on the following threshold:

- Project exceeds 15% below Antelope Valley Planning Area Baseline VMT for home-based work VMT per employee

A less than significant impact under Existing/Baseline conditions would also result in a less than significant cumulative impact as long as the Project is consistent with the SCAG RTP/SCS.

4.3 VMT Analysis

The following section summarizes the VMT analysis approach and findings.

VMT Approach

Per City of Lancaster Guidelines, proposed Project VMT has been calculated using the most current version of the Southern California Association of Governments (SCAG) regional travel demand model, and includes an analysis of the baseline year 2020, with and without the project. As previously identified, based on the project type, the analysis is a measurement of home-based work (HBW) VMT per employee, which reflects all commute trips for places of employment for the Antelope Valley Planning Area (AVPA). All HBW auto vehicle VMT attracted by the Project is divided by the total employment to get the efficiency metric of HBW VMT per employee. The first model run included the existing land uses for the area with no changes and the second model run was conducted with socio-economic data from the proposed Project (e.g., population, households, employment).

Home-based VMT Per Employee

Table 3 presents the HBW VMT per employee for the baseline and Project conditions. As shown in the table, the baseline (no project) HBW VMT is 9.2 VMT per employee and the City's threshold (15% below existing) is 7.8 HBW VMT per employee. The Project generated HBW VMT is 13.3 per employee which exceeds the City's threshold. Therefore, the Project would result in a potentially significant VMT impact. To reduce the Project's potential VMT impact, the HBW VMT per employee would need to be reduced by 737 VMT. This equates to a reduction of 41%.

Table 3. Project VMT Summary

2020	Project	City of Lancaster[1]
Home-based Work VMT	1,780	477,689
Employment	134	51.868
Home-based Work VMT per Employee	13.3	9.2
City's Threshold (15% below existing)	7.8	
Potentially Significant	**Yes**	
Reduction Needed	41%	

Note: VMT = vehicle miles traveled
Source: Translutions

[1] Estimated from 2020 No Project model run by Translutions, Inc.

City of Lancaster VMT Impact Fee Mitigation Program

The City of Lancaster adopted Resolution No. 23-08 on January 24, 2023, which would allow new residential and nonresidential development to mitigate their project specific VMT impacts by making a "fair share" payment to cover the cost of the identified transportation demand management (TDM) strategies and VMT-reducing projects within the City of Lancaster. The proposed fee would apply to new residential and nonresidential development in the City that is subject to a VMT analysis under CEQA, and is shown to generate VMT over the City's established threshold of significance (Lancaster 2023). The City's Resolution states that a VMT Mitigation Fee of $150.00 per vehicle mile traveled above the City's VMT impact threshold shall be paid. Through the payment of fees that fund programs that reduce VMT in the City, payment of the fees will result in impacts that are less than significant. Therefore, the proposed Project would be able to pay the fee per VMT to reduce theProject's total VMT to a level that is less than significant.

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5 Summary

The following summarizes the key findings of the VMT analysis:

- The proposed Project would generate 1,139 daily trips, 141 AM peak hour trips, and 131 PM peak hour trips. Accounting for truck traffic from warehousing and industrial land uses, the proposed Project would generate 1,518 daily PCE trips, 185 AM peak hour PCE trips, and 172 PM peak hour PCE trips.
- The Project would provide frontage improvements along the northern side of Avenue H, adjacent to the Project's southern boundary. The current site plan identifies a 50-foot half-width right of way (ROW) along the extent of Avenue H bordering the Project site. This half-width is consistent with the Regional Arterial classification of this section of Avenue H in the Circulation Element and includes a center-two-way-left-turn lane, two travel lanes, a bike lane and sidewalk, curb and gutter. As the Project continues through design review, detailed roadway improvements will continue to be developed in coordination with the City.
- The Project generated HBW VMT is 13.3 per employee which exceeds the City's threshold of 7.8. To reduce the Project's potential VMT impact, the HBW VMT per employee would need to be reduced by 737 VMT, which equates to a reduction of 41%. To mitigate the Project impacts, the proposed Project should pay the City's VMT Mitigation Fee ($150.00 per vehicle mile traveled above the City's VMT impact) to reduce the Project's total VMT to a less than significant level.

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6 References

Antelope Valley Transit Authority (AVTA). 2023. System Map (avta.com)

Amtrak. 2022a. “Amtrak Facts.” Accessed June 3, 2022. https://www.amtrak.com/amtrak-facts.

Amtrak. 2022b. “Southwest Chief”. Accessed on June 3, 2022. https://www.amtrak.com/routes/southwest-chief-train.html.

Brightline. 2022. “Brightline West.” Accessed on June 3, 2022. https://www.gobrightline.com/brightline-west.

City of Fontana. Truck Trip Generation Study. 2003. August.

City of Lancaster. 2023. Resolution No. 23-08: Vehicle Miles Traveled Impact Fee Mitigation Program. January.

City of Lancaster. 2021. Department of Development Services Local Transportation Assessment Guidelines. January.

ITE (Institute of Transportation Engineers). 2021. *Trip Generation Manual*. 11th ed.

Los Angeles County Department of Public Works. 2020. Attachment No. 13. Incorporated Cities- Permit Issuance Authority. January.

Metrolink. 2023. Train Schedules | Metrolink (metrolinktrains.com)

San Bernardino Association of Governments (SANBAG). 2016. San Bernardino County Congestion Management Plan. June.

SCAQMD (Southern California Air Quality Management District). 2014. *SCAQMD High Cube Warehouse Truck Trip Study White Paper Summary of Business Survey Results*. June 2014. Accessed September 2020. http://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/business-survey-summary.pdf.

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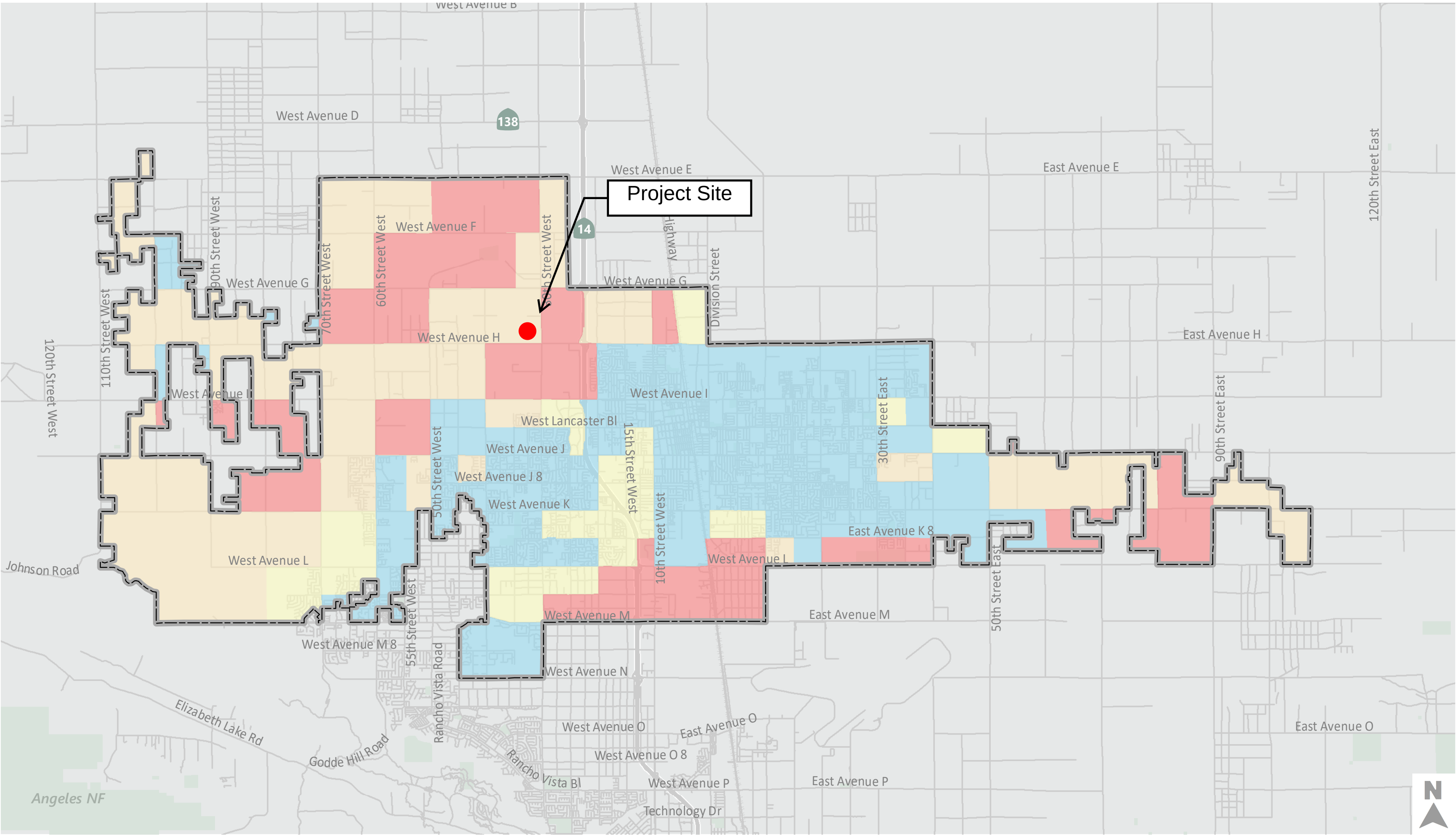
Appendix A

VMT Screening Map



Lancaster

🟦 >15% below AVPA Average

🟨 0 -15% below AVPA Average

🟥 Higher than AVPA Average

🟧 No Employee

Low VMT Area Screening:
Office