DRAFT

Moreno Valley College Welcome Center Project Initial Study and Mitigated Negative Declaration

Prepared for:

Riverside Community College District
3801 Market Street
Riverside, California 92501
Contact: Bart Doering, Facilities Development Director

Prepared by:

DUDEK
35544 University Avenue
Riverside, California 92501
Contact: Rachel Struglia, PhD, AICP, Project Manager

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
AB	Assembly Bill
AERMOD	American Meteorological Society/U.S. Environmental Protection Agency Regulatory Model
AQMP	Air Quality Management Plan
BMP	best management practice
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CH_4	methane
City	City of Moreno Valley
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
College	Moreno Valley College
Construction General Permit	General Permit for Discharges of Stormwater Associated with Construction Activity
dB	decibels
dBA	A-weighted decibel
District	Riverside Community College District
DPM	diesel particulate matter
EIR	Environmental Impact Report
EMWD	Eastern Municipal Water District
EPA	U.S. Environmental Protection Agency
FHWA	Federal Highway Administration
GHG	greenhouse gas
GWP	global warming potential
HRA	health risk assessment
HVAC	heating, ventilation, and air conditioning
IS	initial study
LACM	Natural History Museum of Los Angeles County
L_{dn}	day–night average noise level
L_{eq}	equivalent noise level
L_{max}	greatest sound level measured during a designated time interval or event
LOS	level of service
LST	localized significance threshold

Acronym/Abbreviation	Definition
MM	Mitigation Measure
MND	mitigated negative declaration
MRZ	Mineral Resource Zone
MS4	Municipal Separate Storm Sewer System
MSHCP	Western Riverside County Multiple Species Habitat Conservation Plan
MT	metric ton
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to 10 microns
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
PPV	peak particle velocity
project	Moreno Valley College Welcome Center
RCNM	Roadway Construction Noise Model
RTA	Riverside Transit Authority
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
RWRF	regional water reclamation facility
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SO_x	sulfur oxides
SWPPP	Stormwater Pollution Prevention Plan
TAC	toxic air contaminant
TNM	Traffic Noise Model
USFWS	U.S. Fish and Wildlife Service
VMT	vehicle miles traveled
VOC	volatile organic compound
WQMP	Water Quality Management Plan

1 INTRODUCTION

1.1 Project Overview

The Riverside Community College District (District) is proposing to construct a new 17,305-square-foot Moreno Valley College Welcome Center (project) located on an approximately 0.95-acre project site within the southwestern portion of the Moreno Valley College (College) campus.

1.2 California Environmental Quality Act Compliance

The District is the California Environmental Quality Act (CEQA) lead agency responsible for the review and approval of the proposed project. Based on the findings of the initial study (IS) for the project, the District has determined that a mitigated negative declaration (MND) is the appropriate environmental document to prepare in compliance with CEQA (California Public Resources Code, Section 21000 et seq.). As stated in CEQA, Section 21064.5, an MND may be prepared for a project subject to CEQA when an IS has identified no potentially significant effects on the environment.

This MND has been prepared for the District and complies with Section 15070(a) of the CEQA Guidelines (14 CCR 15000 et seq.). The purpose of the MND and the IS checklist (see Chapter 3 of this MND) is to determine any potentially significant impacts associated with the proposed project and to incorporate mitigation measures into the project design as necessary to reduce or eliminate the significant or potentially significant effects of the project.

1.3 Other Agencies that May Use this Mitigated Negative Declaration

This MND is also intended for use by responsible agencies that may have an interest in reviewing the project. The City of Moreno Valley (City) may review the document for any permit approvals regarding city property, for example, if an encroachment permit is needed for any construction for placement of utilities in city streets.

1.4 Public Review Process

In accordance with CEQA, a good-faith effort has been made during the preparation of this MND to contact affected agencies, organizations, and persons who may have an interest in this project.

In reviewing the MND, public agencies and the interested public should focus on the sufficiency of the document in identifying and analyzing the project's possible impacts on the environment. A copy of the draft MND and related documents are available for review at the District offices (see address below) between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday.

Riverside Community College District
3801 Market Street
Riverside, California 92501

Printed copies of the MND are also available for review at the Moreno Valley Public Library located at:

Moreno Valley Public Library
25480 Alessandro Boulevard,
Moreno Valley, California 92553.

The document is also available on the District's website at:

www.rccd.edu.

Comments on the MND may be made in writing before the end of the public review period. A 30-day review and comment period from June 5, 2019, to July 5, 2019, has been established in accordance with Section 15072(a) of the CEQA Guidelines. Following the close of the public comment period, the District will consider this MND and comments in determining whether to approve the proposed project.

Written comments on the MND should be received at the following address by 5:00 p.m., June 5, 2019.

Riverside Community College District
3801 Market Street
Riverside, California 92501
Contact: Bart Doering, Facilities Development Director
Telephone: 951.222.8962
Email: Bart.Doering@rccd.edu

2 PROJECT DESCRIPTION

The District is proposing to construct a new welcome center on its existing College campus. The proposed new campus building would provide a space for the College to offer new, continuing, transferring, and returning students expanded access to academic planning services, including enrollment assistance, academic counselling, financial aid support, and campus tours. The center would include offices, collaboration spaces, a presentation room, an outdoor seating area, and associated landscaping and parking. The proposed location is on an open lawn area of the campus. No buildings would need to be demolished to construct the Welcome Center.

2.1 Project Location

The proposed project site is located in the City, in the northwestern portion of Riverside County (Figure 1, Regional and Vicinity Map). The City is located about 50 miles south and east of Los Angeles and regional access is provided via Interstate 215 and State Route 60. Nearby communities include Corona, Eastvale, Norco, Perris, and Riverside. The proposed project would be constructed on a 0.95-acre project site situated within the southwestern portion of the existing College. More specifically, the proposed location for the Welcome Center is north and east of College Drive, south of the Science and Technology Building, and north and west of the Student Activities Center (Figure 2, Aerial). Additional areas immediately surrounding the project site within the campus may be temporarily disturbed (areas of temporary impact) to allow for the connection of underground utilities to the project site. The project site and the areas of temporary impact (collectively the “study area”) are delineated in solid black outline (project site) and dashed black outline (study area) on Figure 2 and encompasses 4.39 acres. Upon completion of project construction, all areas of temporary impact would be restored to the existing conditions.

2.2 Environmental Setting

The College is located in a developed urban area of the City and is surrounded by residential communities to the north, west, and south. The campus is also located at the foothills of the Russel Mountains, an expansive natural hillside area that is part of the Lake Perris State Recreation Area (RCCD 2015).

The proposed project site is located on the College campus at 16130 Lasselle Street. The College consists of an approximately 132-acre parcel owned by the District and currently supports the existing College campus buildings (RCCD 2015). The majority of the College’s development occurs within the western area of the campus due to the area’s relatively flat topography. The eastern and less developed campus area contains cross-country trails used for high school competitions, community trail connections, unpaved overflow parking, and a retention basin (RCCD 2015). There are three vehicular entry points into campus; the main entrance is at Lasselle Street and College Drive.

The proposed project site is designated as Public Facilities in the City General Plan (City of Moreno Valley 2017a), and the zoning designation is Moreno Valley Ranch Specific Plan—Community Facility (SP 193 CF) (City of Moreno Valley 2017b; City of Moreno Valley 2012a). According to the College Comprehensive Master Plan, the project site has not yet been designated for a specific use on campus (RCCD 2015).

The project site is currently undeveloped and consists of an open grass field with several ornamental trees located throughout. A concrete sidewalk traverses through the middle of the project site and connects the main campus area with the parking lot located to the south. Outside of the project site, the study area includes concrete walkways, a parking lot, campus driveways, actively maintained landscaped areas, and undeveloped and unmaintained barren ground.

2.3 Project Characteristics

The proposed project would involve the construction of an approximately 17,305 square-foot, one-story welcome center building on the southwestern portion of the College campus (Figure 3, Site Plan). Construction of the campus building would require the removal of an existing landscaped area currently consisting of campus walkways and ornamental landscaping. The project would also require temporary trenching within areas of the campus surrounding the project site to allow for the connection of underground utilities to the project site. Once operational, the new campus building would include office spaces, collaboration spaces, private study areas, restrooms, and utility spaces.

The project would also include exterior site improvements, such as landscaping, stairways, American with Disabilities Act–compliant access ramps, and an entry plaza. Landscaping would be designed consistent with the surrounding campus and would feature a mix of native and drought tolerant plants.

The campus building and associated site work would be American with Disabilities Act compliant and include accessible restrooms and drinking fountains.

2.3.1 Proposed Operation

Once operational, the new Welcome Center building would provide a centralized location where students can access a variety of academic planning–related services. These services would include assistance with enrollment, orientation, progress assessment, class selection, and financial aid. The new campus building would also provide additional study and collaboration spaces. The proposed center would operate year-round and would typically be open from 9:00 a.m. to 7:00 p.m. Monday through Thursday, and 8:00 a.m. to 12:00 p.m. on Fridays. Similar to many other student resource centers on campus, the Welcome Center may occasionally be open after hours throughout the year (e.g., providing study spaces during finals week or hosting weekend events at the beginning of the school year).

2.3.2 Project Construction and Schedule

Construction of the proposed project would include minor demolition of the existing sidewalk and landscaping, site preparation, grading, underground utility construction (trenching), building construction, and architectural coating. Construction is anticipated to begin when school is not in session, in June 2020, and end in May 2021, for an approximate construction duration of 12 months. Construction equipment would be staged either on site or within a portion of the existing parking lot south of the project site. All construction areas and staging areas would be fenced off and isolated from the school. Construction phasing is anticipated to proceed as follows:

- Site preparation (June 3 to June 4, 2020)
- Grading (June 5 to June 10, 2020)
- Trenching (June 11 to July 8, 2020)
- Building construction (July 9, 2020, to April 14, 2021)
- Paving (April 15 to April 28, 2021)
- Architectural coating (April 29 to May 12, 2021)

Site preparation would involve the removal of existing concrete and landscaping located on the site. Additional site clearing and rough grading would occur during the site preparation phase. After grading, there would be trenching of soil for the placement of underground utilities. Building construction would involve the construction of the Welcome Center and associated exterior hardscape features (i.e., sidewalks, access ramps, stairways). The paving phase would involve paving walkways and hardscape around the building. The architectural coating phase would involve the application of interior and exterior paints and coatings. More specific information about the construction phasing can be found in Section 3.3, Air Quality.

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3 INITIAL STUDY CHECKLIST

1. Project title:

Moreno Valley College Welcome Center

2. Lead agency name and address:

Riverside Community College District
3801 Market Street
Riverside, California 92501

3. Contact person and phone number:

Bart Doering, Facilities Development Director
951.222.8962

4. Project location:

16130 Lasselle Street,
Moreno Valley, California 92551

5. Project sponsor's name and address:

Riverside Community College District
3801 Market Street
Riverside, California 92501

6. General plan designation:

Public Facilities

7. Zoning:

Moreno Valley Ranch Specific Plan – Community Facility (SP 193 CF)

8. Description of project:

The proposed project would involve the construction of an approximately 17,500 square-foot, one-story welcome center building on the southwestern portion of the College campus. Construction of the campus building would necessitate removal of the existing landscaped area, currently consisting of walkways and ornamental landscaping. The

Welcome Center would include office spaces, collaboration spaces, restrooms, and utility spaces. The project would also include exterior site improvements, such as landscaping, stairways, access ramps, and an entry plaza.

9. Surrounding land uses and setting:

The proposed project site is located on the College campus. The campus is located in a developed urban area of the City and is surrounded by residential communities to the north, west, and south. The foothills of the Russel Mountains are located to the east of the campus. Additionally, Laselle Elementary School borders the campus to the south. Within the campus, the project site is located north and east of College Drive and Parking Lot B, south of the Science and Technology Building, and north and west of the Student Activity Center.

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

Division of State Architect approval of the site plan.

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, has consultation begun?

Yes. Refer to Section 3.18, Tribal Cultural Resources, for further discussion regarding the Assembly Bill (AB) 52 tribal consultation process.

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 following checklist.

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

DETERMINATION: (To be completed by the Lead Agency)

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.

Bart T Doering

Signature

6-4-19

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 will 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 (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
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.

		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?	☐	☐	☒	☐

3.1 Aesthetics

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

No Impact. The proposed Welcome Center building is planned for the College campus in an area surrounded by other campus development. As shown in Figure 2, there are existing buildings surrounding the site, including the Science and Technology building, the Lion's Den Café, and the Student Activities Center, as well as parking. The proposed building is one story and would be consistent with the height of existing buildings on campus, and thus would not block any scenic vistas. Mount Russell and the foothills to the southeast of the campus are identified as scenic resources in the City General Plan (City of Moreno Valley 2006a). However, because the proposed Welcome Center would be one story in height and is an infill development on the Moreno Valley campus, no scenic vistas toward Mount Russell would be affected.

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. As stated above in 3.1(a), the only scenic resources in the project vicinity are Mount Russell and the foothills to the southeast. There are no designated state scenic highways near the project site (Caltrans 2018). The closest designated state scenic highway is a portion of Route 74 from the western boundary of the San Bernardino National Forest to State Route 111 in Palm Desert, which is approximately 20 miles to the southeast at its closest point. Mount Russell and the foothills also intervene such that there is no direct view from the campus to the scenic portion of Route 74. Because the proposed building is one story in height and is a campus infill project surrounded by other buildings, there would be no damage to scenic resources.

c) Would the project, 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?

Less-than-Significant Impact. The College campus is in an urbanized area and the proposed Welcome Center building is a campus infill project surrounded by other buildings. Figures 4a, Schematic Design, and 4b, Perspective Views, depict the proposed design of the building and show that the proposed building is a low profile one-story building that would be compatible with the existing buildings on campus. Therefore, the proposed project would not substantially degrade the existing visual character or change the quality of public views of the site and its surroundings. While Mount Russell and the foothills are to the southeast of the campus, the low-profile nature of this building would not impede public views toward Mount Russell and the foothills. Thus, the proposed project would have a less-than-significant impact to the existing visual character and quality of public views.

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. Construction activities would be conducted Monday through Friday from 7:00 a.m. to 6:00 p.m. and Saturday from 8:00 a.m. to 5:00 p.m. Although nighttime lighting would not generally be needed for construction activities, lighting may be needed during winter months when the hours of daylight are shorter than in other seasons of the year. When in use, nighttime lighting for construction would be focused on construction areas and would not spill over into other areas of campus. In addition, construction lighting would be shielded and directed downward and would be of the minimum required intensity to provide for safe construction activity. Therefore, lighting necessary to conduct construction activities is not anticipated to result in substantial lighting that could affect nighttime views in the area. Impacts would be less than significant.

Similar to existing campus buildings, the proposed Welcome Center building would include interior lighting for illumination of offices, meeting rooms, restrooms, and other areas and exterior lighting for safety and security purposes. Figures 4a and 4b depict the proposed design of the building and show lighting in the overhead entry, but minimal outdoor lighting. Thus, lighting and glare impacts resulting from the proposed Welcome Center would be less than significant.

	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 Department of 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?	☐	☐	☐	☒

3.2 Agriculture and Forestry Resources

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. Based on farmland maps prepared by the California Department of Conservation, the project site is not located in an area designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The site is designated as Other Land (DOC n.d.a). Therefore, no impacts associated with conversion of important farmland would occur.

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

No Impact. The project site is entirely designated as Public Facilities under the City General Plan and zoned as Moreno Valley Ranch Specific Plan—Community Facility (SP 193 CF), which is not an agricultural zoning designation. In addition, according to the California Department of Conservation's Williamson Act Parcel map for Riverside County, the project site is not located on or adjacent to any lands under a Williamson Act contract. The Riverside County Williamson Act Fiscal Year 2015/2016 Map designates the project site and surrounding land as non-Williamson Act Land (DOC 2016). As such, implementation of the proposed project would not conflict with existing zoning for agricultural use or land under a Williamson Act contract. Therefore, no impacts associated with agricultural zoning or Williamson Act contracts would occur.

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 located on the College campus and within a developed part of the City. According to the City's Zoning Map, the project site is not located on or adjacent to forestland, timberland, or timberland zoned Timberland Production (City of Moreno Valley 2017b). Therefore, no impacts associated with forestland or timberland would occur.

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

No Impact. The project site is located on the College campus and within a developed part of the City. The project site is not located on or adjacent to forestland. No private timberlands or public lands with forests are located in the City. Therefore, no impact associated with the loss or conversion of forestland 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. As discussed previously in Sections 3.2(b–c), the project is located on the College campus and within a developed part of the City. The project site is not located on or adjacent to any parcels identified as important farmland or forestland. In addition, the proposed project would not involve changes to the existing environment that would result in the indirect conversion of important farmland or forestland located away from the project site. Therefore, no impacts associated with the conversion of farmland or forestland would occur.

	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?	☐	☐	☒	☐

3.3 Air Quality

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

Less-than-Significant Impact. The project area is located in the City, within the South Coast Air Basin (SCAB), which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties and all of Orange County. The SCAB is within the jurisdictional boundaries of the South Coast Air Quality Management District (SCAQMD).

The SCAQMD administers the SCAB's Air Quality Management Plan (AQMP), which is a comprehensive document outlining an air pollution control program for attaining the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). The most recently adopted AQMP for the SCAB is the 2016 AQMP (SCAQMD 2017a). The 2016 AQMP focuses on available, proven, and cost-effective alternatives to traditional air quality strategies while seeking to achieve multiple goals in partnership with other entities seeking to promote reductions in greenhouse gases (GHGs) and toxic risk, as well as efficiencies in energy use, transportation, and goods movement (SCAQMD 2017a).

The purpose of a consistency finding with regard to the AQMP is to determine if a project is consistent with the assumptions and objectives of the 2016 AQMP, and if it would interfere with the region's ability to comply with federal and state air quality standards. The SCAQMD has established criteria for determining consistency with the currently applicable AQMP in Chapter 12, Sections 12.2 and 12.3 of the SCAQMD CEQA Air Quality Handbook. These criteria are as follows (SCAQMD 1993):

- **Consistency Criterion No. 1:** Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the ambient air quality standards or interim emission reductions in the AQMP.
- **Consistency Criterion No. 2:** Whether the project would exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

To address the first criterion, project-generated criteria air pollutant emissions have been estimated and analyzed for significance and are addressed under Section 3.3(b). Detailed results of this analysis are included in Appendix A-1, Air Quality and Greenhouse Gas Emissions CalEEMod Output Files. As presented in Section 3.3(b), the proposed project would not generate criteria air pollutant emissions that exceed the SCAQMD's thresholds, and the project would therefore be consistent with Criterion No. 1.

The second criterion regarding the potential of the proposed project to exceed the assumptions in the AQMP or increments based on the year of project buildout and phase is primarily assessed by determining consistency between the proposed project's land use designations and its potential to generate population growth. In general, projects are considered consistent with, and not in conflict with or obstructing implementation of, the AQMP if the growth they produce in socioeconomic factors is consistent with the underlying regional plans used to develop the AQMP (SCAQMD 1993). The SCAQMD primarily uses demographic growth forecasts for various socioeconomic categories (e.g., population, housing, and employment by industry) developed by the Southern California Association of Governments (SCAG) for its 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (SCAG 2016). SCAQMD uses this document, which is based on general plans for cities and counties in the SCAB, to develop the AQMP emissions inventory (SCAQMD 2017a).[1] The SCAG RTP/SCS and associated Regional Growth Forecast are generally consistent with the local plans; therefore, the 2016 AQMP is generally consistent with local government plans.

The proposed project site is designated as Public Facilities (P) in the City General Plan (City of Moreno Valley 2017a), and the zoning designation is Moreno Valley Ranch Specific Plan – Community Facility (SP 193 CF) (City of Moreno Valley 2012a; City of Moreno Valley 2017b). According to the College Comprehensive Master Plan, the project site is not located within a campus-designated zone (RCCD 2015). The project would be consistent with the existing zoning of the proposed project site. The SCAG RTP/SCS growth projections for employment for the City show 31,400 persons in 2012 and 83,200 in 2040, or an additional 1,850 jobs per year. The project is expected to employ up to 50 persons. As such, since the proposed project is not anticipated to result in residential population growth or generate an increase in employment that would conflict with existing employment population projections, it would not conflict with or exceed the assumptions in the 2016 AQMP. Accordingly, the proposed project is consistent with the SCAG RTP/SCS forecasts used in the SCAQMD AQMP development.

In summary, based on the considerations presented for the two criteria, impacts relating to the proposed 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. A quantitative analysis was conducted to determine whether the proposed project might result in emissions of criteria air pollutants that may cause exceedances of the NAAQS or CAAQS, or cumulatively contribute to existing nonattainment of ambient air quality standards. Criteria air pollutants include ozone (O_3), nitrogen dioxide

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[1] Information necessary to produce the emissions inventory for the South Coast Air Basin (SCAB) is obtained from the South Coast Air Quality Management District (SCAQMD) and other governmental agencies, including the California Air Resources Board (CARB), California Department of Transportation, and Southern California Association of Governments (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. SCAG's socioeconomic and transportation activities projections in their 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy are integrated in the 2016 Air Quality Management Plan (SCAQMD 2017a).

(NO_2), carbon monoxide (CO), sulfur dioxide, particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}; course particulate matter), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$; fine particulate matter), and lead. Pollutants that are evaluated herein include volatile organic compounds (VOCs) and oxides of nitrogen (NO_x), which are important because they are precursors to O_3, as well as CO, sulfur oxides (SO_x), PM_{10}, and $PM_{2.5}$.

Regarding NAAQS and CAAQS attainment status,[2] the SCAB is designated as a nonattainment area for federal and state O_3 and $PM_{2.5}$ standards (CARB 2017a; EPA 2018a). The SCAB is also designated as a nonattainment area for state PM_{10} standards; however, it is designated as an attainment area for federal PM_{10} standards. The SCAB is designated as an attainment area for federal and state CO and NO_2 standards, as well as for state sulfur dioxide standards. Although the SCAB has been designated as nonattainment for the federal rolling 3-month average lead standard, it is designated attainment for the state lead standard.[3]

The proposed project would result in emissions of criteria air pollutants for which the California Air Resources Board (CARB) and U.S. Environmental Protection Agency (EPA) have adopted ambient air quality standards (i.e., the NAAQS and CAAQS). Projects that emit these pollutants have the potential to cause, or contribute to, violations of these standards. The SCAQMD CEQA Air Quality Significance Thresholds, as revised in March 2015, set forth quantitative emission significance thresholds for criteria air pollutants, which, if exceeded, would indicate the potential for a project to contribute to violations of the NAAQS or CAAQS. Table 3.3-1 lists the revised SCAQMD Air Quality Significance Thresholds (SCAQMD 2015).

Table 3.3-1
South Coast Air Quality Management District Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds		
Pollutant	*Construction (in pounds/day)*	*Operation (in pounds/day)*
VOC	75	55
NO_x	100	55

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[2] An area is designated as in attainment when it is in compliance with the National Ambient Air Quality Standards and/or the California Ambient Air Quality Standards. These standards 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 are set by the U.S. Environmental Protection Agency and CARB, respectively. Attainment = meets the standards; attainment/maintenance = achieves the standards after a nonattainment designation; nonattainment = does not meet the standards.

[3] The phase-out of leaded gasoline started in 1976. Since gasoline no longer contains lead, the project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.

Table 3.3-1
South Coast Air Quality Management District Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds		
CO	550	550
SO_x	150	150
PM_{10}	150	150
$PM_{2.5}$	55	55
Lead[a]	3	3
Toxic Air Contaminants and Odor Thresholds		
Toxic air contaminants[b]	Maximum incremental cancer risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic and Acute Hazard index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	

Source: SCAQMD 2015.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = particulate matter with a diameter less than or equal to 10 microns (coarse particulate matter); $PM_{2.5}$ = particulate matter with a diameter less than or equal to 2.5 microns (fine particulate matter); SCAQMD = South Coast Air Quality Management District;

[a] The phaseout of leaded gasoline started in 1976. Since gasoline no longer contains lead, the proposed project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.

[b] Toxic air contaminants include carcinogens and noncarcinogens.

The project would result in a substantial contribution to an existing air quality violation of the NAAQS or CAAQS for O_3, which is a nonattainment pollutant, if the proposed project's construction or operational emissions would exceed the SCAQMD VOC or NO_x thresholds shown in Table 3.3-1. These 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, and the effects of an individual project's emissions of O_3 precursors (i.e., VOCs and NO_x) on O_3 levels in ambient air cannot be determined through air quality models or other quantitative methods.

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from construction and operation of the project. CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant emissions associated with construction and operational activities from a variety of land use projects, including colleges. The following discussion quantitatively evaluates project-generated construction and operational emissions and impacts that would result from implementation of the proposed project.

Construction Emissions

Construction of the proposed project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (e.g., off-road construction equipment, soil disturbance, and VOC off-gassing from architectural coatings and asphalt pavement application) and off-site sources (e.g., vendor trucks, haul trucks, and worker vehicle trips). Specifically, entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. Internal combustion engines used by construction equipment, haul trucks, vendor trucks (i.e., delivery trucks), and worker vehicles would result in emissions of VOC, NO_x, CO, PM_{10}, and $PM_{2.5}$. Application of architectural coatings, such as exterior paint and other finishes, and application of asphalt pavement would also produce VOC emissions. Construction emissions can vary substantially from day to day depending on the level of activity; the specific type of operation; and, for dust, the prevailing weather conditions.

For purposes of estimating proposed project emissions, and based on information provided by the District, it is assumed that construction of the project would commence in June 2020[4] and would last approximately 12 months. The analysis contained herein is based on the following subset area schedule assumptions (duration of phases is approximate). The majority of the phases listed below would occur concurrently and would not occur sequentially in isolation. Detailed construction equipment modeling assumptions are provided in Appendix A-1.

- Site preparation: 2 days.
- Grading: 5 days.
- Trenching: 1 month.
- Building Construction: 10 months.
- Paving: 10 days.
- Architectural coating: 10 days.

General construction equipment modeling assumptions are provided in Table 3.3-2. Default values for equipment mix, horsepower, and load factor provided in CalEEMod were used for all construction equipment. For the analysis, it was generally assumed that heavy-duty construction equipment would be operating at the site 5 days per week, up to a maximum of 7 hours per day. Detailed construction equipment modeling assumptions are provided in Appendix A-1.

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[4] The analysis assumes a construction start date of June 2020, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

Table 3.3-2
Construction Workers, Vendor Trips, and Equipment Use per Day

	One-Way Vehicle Trips			Equipment		
Construction Phase	*Average Daily Worker Trips*	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Site preparation	8	0	0	Graders	1	7
				Rubber Tired Dozers	1	7
				Tractors/Loaders/Backhoes	1	7
Grading	8	0	0	Graders	1	6
				Rubber Tired Dozers	1	6
				Tractors/Loaders/Backhoes	1	7
Trenching	6	0	364	Tractors/Loaders/Backhoes	1	7
				Trenchers	1	7
Building Construction	22	8	0	Cranes	1	6
				Forklifts	1	6
				Tractors/Loaders/Backhoes	1	6
				Welders	3	7
Paving	14	0	0	Cement and Mortar Mixers	1	6
				Pavers	1	6
				Paving Equipment	1	7
				Rollers	1	7
				Tractors/Loaders/Backhoes	1	7
Architectural coating	4	0	0	Air Compressors	1	6

See Appendix A-1 for additional details.

VOC off-gassing emissions result from evaporation of solvents contained in surface coatings such as in paints and primers used during construction of the project. CalEEMod calculates the VOC evaporative emissions from application of surface coatings based on the VOC emissions factor, the building square footage, and the assumed fraction of surface area. VOC rates of 100 grams per liter for interior and exterior coatings were assumed consistent with CalEEMod default values. Table 3.3-3 shows the estimated maximum daily construction emissions associated with the construction phase of the proposed project.

Table 3.3-3
Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	VOCs	NO_x	CO	SO_x	PM_{10}[a]	$PM_{2.5}$[a]
	Pounds per Day					
2020	1.64	17.32	9.92	0.02	3.13	1.89
2021	17.22	10.73	9.58	0.02	0.79	0.55
Maximum	*17.22*	*17.32*	*9.92*	*0.02*	*3.13*	*1.89*
SCAQMD threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: SCAQMD 2015.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = particulate matter with a diameter less than or equal to 10 microns (coarse particulate matter); $PM_{2.5}$ = particulate matter with a diameter less than or equal to 2.5 microns (fine particulate matter); SCAQMD = South Coast Air Quality Management District.
See Appendix A-1 for detailed results.

[a] These estimates reflect control of fugitive dust (watering three times daily) required by SCAQMD Rule 403 (SCAQMD 2005).

As shown in Table 3.3-3, the proposed project’s maximum daily construction emissions would not exceed the SCAQMD thresholds for any criteria air pollutant.

Operational Emissions

Operation of the proposed project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from area sources, energy sources, and mobile sources, which are discussed below. Operational year 2021 was assumed based upon construction completion.

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. The model also calculates the emissions from the combustion of wood or natural gas in stoves and fireplaces. The project does not include stoves or fireplaces.

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 2017). Consumer product VOC emissions are estimated in CalEEMod based on the floor area of non-residential buildings and on the 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 using during building maintenance. CalEEMod calculates the VOC evaporative emissions from 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 emission factor is based on the VOC content of the surface coatings, and SCAQMD's Rule 1113 (Architectural Coatings) governs the VOC content for interior and exterior coatings. The model default reapplication rate of 10% of area per year is assumed. Consistent with CalEEMod defaults, it is assumed that the surface area for painting equals 2.7 times the floor square footage, with 75% assumed for interior coating and 25% assumed for exterior surface coating (CAPCOA 2017). As a conservative measure, CalEEMod default VOC contents were assumed for the reapplication of architectural coatings.

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chainsaws, and hedge trimmers. The emissions associated from landscape equipment use are estimated based on CalEEMod default values for emission factors (grams per square foot of building space per day) and number of summer days (when landscape maintenance would generally be performed) and winter days. For the SCAB, the average annual number of summer days is estimated at 250 days (CAPCOA 2017).

Energy Sources

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage (non-hearth). Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod, since criteria pollutant emissions occur at the power plant, which is typically off site.

CalEEMod default values for energy consumption for the land use was applied for the project analysis. The energy use from non-residential land uses is calculated in CalEEMod based on the California Commercial End-Use Survey database. Energy use in buildings (both natural gas and electricity) is divided by the program into end-use categories subject to Title 24 requirements (end uses associated with the building envelope, such as the heating, ventilation, and air conditioning (HVAC) system, water heating system, and integrated lighting) and those not subject to Title 24 requirements (such as appliances, electronics, and miscellaneous "plug-in" uses).

Title 24 of the California Code of Regulations serves to enhance and regulate California's building standards. The current Title 24, Part 6 standards, referred to as the 2016 Title 24 Building Energy Efficiency Standards, became effective on January 1, 2017. The Title 24

2016 standards are assumed within the CalEEMod (CAPCOA 2017). The 2019 Title 24 Building Energy Efficiency Standards, which will be effective January 1, 2020, will further reduce energy used and associated emissions compared to current standards.

Mobile Sources

Following the completion of construction activities, the project would generate criteria pollutant emissions from mobile sources (vehicular traffic), as a result of staff, students, and employee trips to and from the project. The maximum weekday trip rates were taken from Section 3.17, Transportation, and were assumed to be 350 one-way trips per day. The maximum weekday trip rate was then scaled up or down according to the CalEEMod default ratio according to the land use for the weekend. CalEEMod was used to estimate emissions from proposed vehicular sources (refer to Appendix A-1). CalEEMod default data, including trip characteristics, emissions factors, and trip distances, were conservatively used for the model inputs. Project-related traffic was assumed to include a mixture of vehicles in accordance with CalEEMod default values. Emission factors representing the vehicle mix and emissions for 2021 were used to estimate emissions associated with vehicular sources. The 2021 operational year represents the first year of project build out and would represent maximum daily operational emissions.

Table 3.3-4 presents the maximum daily emissions associated with operation of the proposed project in 2021 at build out. The values shown are the maximum summer and winter daily emissions results from CalEEMod. Complete details of the emissions calculations are provided in Appendix A-1.

Table 3.3-4
Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Emission Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	pounds per day					
Area	0.40	0.00	0.00	0.00	0.00	0.00
Energy	0.01	0.06	0.05	0.00	0.01	0.01
Mobile	0.62	3.14	7.93	0.03	2.27	0.62
Total	**1.03**	**3.21**	**7.99**	**0.03**	**2.28**	**0.63**
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes:
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = particulate matter with a diameter less than or equal to 10 microns (coarse particulate matter); $PM_{2.5}$ = particulate matter with a diameter less than or equal to 2.5 microns (fine particulate matter); SCAQMD = South Coast Air Quality Management District.
See Appendix A-1 for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod, output and operational year 2021. The total values may not add up exactly due to rounding.

As shown in Table 3.3-4, maximum daily operational emissions of VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ generated by the proposed project would not exceed the SCAQMD's significance thresholds.

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SCAQMD 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 used in the determination of whether a project's individual emissions would have a cumulatively considerable contribution on air quality. If a project's emissions would exceed the SCAQMD significance thresholds, it would be considered to have a cumulatively considerable contribution. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant (Goss and Kroeger 2003).

As previously discussed, the SCAB has been designated as a federal nonattainment area for O_3 and $PM_{2.5}$, and a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The nonattainment status is the result of cumulative emissions from various sources of air pollutants and their precursors within the SCAB, including motor vehicles, off-road equipment, and commercial and industrial facilities. Construction and operational activities of the proposed project would generate VOC and NO_x emissions (precursors to O_3) and emissions of PM_{10} and $PM_{2.5}$. However, as indicated in Tables 3.3-3 and 3.3-4, project-generated emissions would not exceed the SCAQMD emission-based significance thresholds for VOCs, NO_x, PM_{10}, or $PM_{2.5}$.

Cumulative localized impacts would potentially occur if a project were to occur concurrently with another off-site project. Schedules for potential future projects near the project area are currently unknown; therefore, potential impacts associated with two or more simultaneous projects would be considered speculative.[5] However, future projects would be subject to CEQA and would require air quality analysis and, where necessary, mitigation. Criteria air pollutant emissions associated with construction activity of future projects would be reduced through implementation of control measures required by the SCAQMD. Cumulative PM_{10} and $PM_{2.5}$ emissions would be reduced because all future projects would be subject to SCAQMD Rule 403 (Fugitive Dust), which sets forth general and specific requirements for all sites in the SCAQMD.

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[5] The California Environmental Quality Act (CEQA) Guidelines state that if a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact (14 CCR 15145).

Therefore, the proposed project would not result in a cumulatively considerable increase in emissions of nonattainment pollutants, and impacts would be less than significant during construction and operation.

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

Less-than-Significant Impact. The project would not expose sensitive receptors to substantial pollutant concentrations as evaluated below.

Sensitive Receptors

Sensitive receptors are those individuals more susceptible to the effects of air pollution than the population at large. People most likely to be affected by air pollution include children, the elderly, and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors include sites such as residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993).

There is an existing playground located 522 feet south of the proposed project site and residences 660 feet west and 730 feet south of the proposed project site.

Localized Significance Thresholds

The SCAQMD recommends a localized significance threshold (LST) analysis to evaluate localized air quality impacts to sensitive receptors in the immediate vicinity of the project as a result of proposed project activities. The impacts were analyzed using methods consistent with those in the SCAQMD's Final Localized Significance Threshold Methodology (2008). The project is located within Source-Receptor Area 24 (Perris Valley). This analysis applies the SCAQMD LST values for a 1-acre site within Source-Receptor Area 24 with a receptor distance of 100 meters (330 feet), given that daily disturbed area for the proposed project would be less than 1 acre. This is conservative since the closest sensitive receptor is 522 feet away.

Project construction activities would result in temporary sources of on-site criteria air pollutant emissions associated with off-road equipment exhaust and fugitive dust generation. According to the Final Localized Significance Threshold Methodology, "off-site mobile emissions from the project should not be included in the emissions compared to the LSTs" (SCAQMD 2008a). Trucks and worker trips associated with the proposed project are not expected to cause substantial air quality impacts to sensitive receptors along off-site roadways since emissions would be relatively brief in nature and would cease once the vehicles pass through the main streets. Therefore, off-site emissions from trucks and worker vehicle trips are not included in the LST analysis. The maximum daily on-site emissions generated construction of the proposed project in each construction year are presented in Table 3.3-5 and compared to the SCAQMD localized significance criteria for Source-Receptor Area 24 to determine whether project-generated on-site emissions would result in potential LST impacts.

Table 3.3-5
Construction Localized Significance Thresholds Analysis

Year	NO_2	CO	PM_{10}	$PM_{2.5}$
	Pounds per Day (On Site)[a]			
2020	17.30	9.06	3.04	1.87
2021	10.40	8.79	0.49	0.47
Maximum	*17.30*	*9.06*	*3.04*	*1.87*
SCAQMD LST Criteria	*212*	*1,746*	*30*	*8*
Threshold Exceeded?	**No**	**No**	**No**	**No**

Source: SCAQMD 2008a.
Notes: NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = particulate matter with a diameter less than or equal to 10 microns (coarse particulate matter); $PM_{2.5}$ = particulate matter with a diameter less than or equal to 2.5 microns (fine particulate matter); SCAQMD = South Coast Air Quality Management District; LST = localized significance threshold.
See Appendix A-1 for detailed results.
[a] Localized significance thresholds are shown for a 1-acre disturbed area corresponding to a distance to a sensitive receptor of 100 meters in Source-Receptor Area 24 (Perris Valley).

As shown in Table 3.3-5, proposed construction activities would not generate emissions in excess of site-specific LSTs; therefore, localized impacts of the proposed project would be less than significant.

CO Hotspots

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed federal and/or state standards for CO are termed “CO hotspots.” The transport of CO is extremely limited, as it disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors. Typically, high CO concentrations are associated with severely congested intersections operating at an unacceptable level of service (LOS) (LOS E or worse is unacceptable). Projects contributing to adverse traffic impacts may result in the formation of a CO hotspot. Additional analysis of CO hotspot impacts would be conducted if a project would result in a significant impact or contribute to an adverse traffic impact at a signalized intersection that would potentially subject sensitive receptors to CO hotspots. As provided in Section 3.17, the proposed project would not cause the LOS to operate at an unacceptable level.

Accordingly, the proposed project would not generate traffic that would contribute to potential adverse traffic impacts that may result in the formation of CO hotspots. This conclusion is supported by the analysis in Section 3.17, which demonstrates that traffic impacts would be less than significant. In addition, due to 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 SCAB is steadily decreasing. Based on these considerations, the proposed project would result in a less-than-significant impact to air quality with regard to potential CO hotspots.

Toxic Air Contaminants

As a precautionary measure, a health risk assessment (HRA) was performed to assess the impact of construction on sensitive receptors proximate to the project site (see Appendix A-2, Construction Health Risk Assessment Files). A HRA was performed to evaluate emissions from construction of the project based on the methodologies prescribed in the Office of Environmental Health Hazard Assessment (OEHHA) Air Toxics Hot Spots Program Risk Assessment Guidelines – Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2015). To implement the OEHHA Guidelines based on project information, the SCAQMD has developed a three-tiered approach; each successive tier is progressively more refined, with fewer conservative assumptions. The SCAQMD Modeling Guidance for the American Meteorological Society/EPA Regulatory Model (AERMOD) provides guidance with which to perform HRAs within the SCAB (SCAQMD 2017b).

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SCAQMD recommends a carcinogenic (cancer) risk threshold of 10 in 1 million. Additionally, some toxic air contaminants (TACs) increase non-cancer health risk due to long-term (chronic) exposures. The Chronic Hazard Index is the sum of the individual substance chronic hazard indices for all TACs affecting the same target organ system. The SCAQMD recommends a Chronic Hazard Index significance threshold of 1.0 (project increment). The exhaust from diesel engines is a complex mixture of gases, vapors, and particles, many of which are known human carcinogens. Diesel particulate matter (DPM) has established cancer risk factors and relative exposure values for long-term chronic health hazard impacts. No short-term, acute relative exposure level has been established for DPM; therefore, acute impacts of DPM are not addressed in this assessment. This HRA evaluated the risk to existing residents from diesel emissions from exhaust from on-site construction equipment and diesel haul and vendor trucks.

The dispersion modeling of DPM was performed using AERMOD, which is the model SCAQMD requires for atmospheric dispersion of emissions. AERMOD is a steady-state Gaussian plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of surface and elevated sources, building downwash, and simple and complex terrain (EPA 2018b). For the project, AERMOD was run with all sources emitting unit emissions (1 gram per second) to obtain the "X/Q" values. X/Q is a dispersion factor that is the average effluent concentration normalized by source strength and is used as a way to simplify the representation of emissions from many sources. The X/Q values of ground-level concentrations were determined for construction emissions using AERMOD and the maximum concentrations determined for the 1-hour and period-averaging periods. Principal parameters of this modeling are presented in Table 3.3-6.

Table 3.3-6
American Meteorological Society/EPA Regulatory Model Principal Parameters

Parameter	Details
Meteorological Data	The latest 5-year meteorological data (2010, 2011, and 2014–2016) for the Perris Station from SCAQMD were downloaded and then input to AERMOD. For cancer or chronic non-cancer risk assessments, the average cancer risk of all years modeled was used.
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 SCAQMD guidelines and the project location, the urban dispersion option was selected.
Terrain Characteristics	The terrain in the vicinity of the modeled project site is relatively flat. The elevation of the modeled site is 1,555 feet above sea level. Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate.
Elevation Data	Digital elevation data were imported into AERMOD, and elevations were assigned to the emission sources and receptors. Digital elevation data were obtained through AERMOD View in the United States Geological Survey's National Elevation Dataset format with a 10-meter resolution.
Emission Sources and Release Parameters	Air dispersion modeling of DPM from construction equipment and diesel vehicles was conducted using emissions estimated using the CalEEMod, assuming emissions would occur up to 8 hours per day, 5 days per week. The project site was modeled as a series of volume sources.
Source Release Characterizations	The source release height was assumed to be 5 meters. The length of the volume sources were assumed to be 10 meters on each side with an initial lateral and vertical dimension of 4.65 meters.
Receptors	A uniform Cartesian grid of 20-meter spacing was placed over the residential receptors nearest to the project site and then converted to discrete receptors.

Notes: See Appendix A-2.
EPA = U.S. Environmental Protection Agency; SCAQMD = South Coast Air Quality Management District; AERMOD = American Meteorological Society/EPA Regulatory Model; DPM = diesel particulate matter; CalEEMod = California Emissions Estimator Model.

Dispersion model plot files from AERMOD were then imported into CARB's Hotspots Analysis and Reporting Program Version 2 to determine health risk, which requires peak 1-hour emission rates and annual-averaged emission rates for all pollutants for each modeling source. For the residential health risk, the HRA assumes exposure would start in the third trimester of pregnancy. Based on the HRA included in Appendix A-2, the maximally exposed individual resident would be located at the east of the project site. The results of the HRA are provided below, and detailed results and methodology are provided in Appendix A-2.

"Incremental cancer risk" is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period would contract cancer based on the use of standard OEHHA risk-assessment methodology (OEHHA 2015). In addition, some TACs have non-carcinogenic effects. TACs that would potentially be emitted during construction activities would be DPM, emitted from heavy-duty construction equipment and heavy-duty trucks. Heavy-duty construction equipment and diesel trucks are subject to CARB Airborne Toxic Control Measures to reduce DPM emissions. According to the OEHHA, HRAs, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period for the maximally exposed individual resident; however, such assessments should be limited to the period/duration of activities associated with the project (OEHHA 2015). Thus, the duration of proposed construction activities (approximately 12 months) would only constitute a small percentage of the total long-term exposure period and would not result in exposure of proximate sensitive receptors to substantial TACs.

Because the project would involve construction activities in several areas across the site, the project would not require the extensive use of heavy-duty construction equipment or diesel trucks in any one location over the duration of development, which would limit the exposure of any proximate individual sensitive receptor to TACs. In addition, due to the relatively short period of exposure at any individual sensitive receptor (less than 1 year) and minimal particulate emissions generated on site, TACs generated during construction would not be expected to result in concentrations that could cause significant health risks.

However, as a precautionary measure a HRA was performed to evaluate the risk from diesel exhaust emissions on existing sensitive receptors from construction activities. The HRA detailed assessment is provided in Appendix A-2. The results of the HRA for project construction are summarized in Table 3.3-7.

Table 3.3-7
Construction Activity Health Risk Assessment Results

Impact Parameter	Units	Proposed Project Impact	CEQA Threshold	Level of Significance
Cancer Risk	Per Million	9.5	10.0	Less than Significant
HIC	Not Applicable	0.01	1.0	Less than Significant

Source: Appendix A-2.
Notes: CEQA = California Environmental Quality Act; HIC = Chronic Hazard Index.

The results of the HRA demonstrate that the TAC exposure from construction diesel exhaust emissions would result in an on-site cancer risk less than the 10 in 1 million threshold, as well as a Chronic Hazard Index less than 1, resulting in a less-than-significant impact.

As determined in Table 3.3-7, the cancer risk at the maximally exposed individual resident exceeds 1 in 1 million; therefore the cancer burden, for which the SCAQMD significance threshold is 0.5, is evaluated. Unlike cancer risk, which is the lifetime probability (chance) of an individual developing cancer due to exposure to a carcinogenic compound, cancer burden estimates the number of theoretical cancer cases in a defined population resulting from a lifetime exposure to carcinogenic TACs. As described in the OEHHA guidance manual (OEHHA 2015):

> The cancer burden can be calculated by multiplying the cancer risk at a census block centroid by the number of people who live in the census block, and adding up the estimated number of potential cancer cases across the zone of impact. The result of this calculation is a single number that is intended to estimate of the number of potential cancer cases within the population that was exposed to the emissions for a lifetime (70 years).

The SCAQMD has established a procedural screening approach for estimating cancer burden (SCAQMD 2017b), which includes the following steps:

- Recalculate cancer risk from all TACs using a 70-year exposure duration;
- Estimate the distance at which the at which maximum individual cancer risk from a 70-year exposure duration falls below 1 in a million;
- Define a zone of impact in the shape of a circle, with the radius equal to the distance between the TAC source and the point at which the risk falls below 1 in a million;
- Estimate the residential population within this zone of impact based on census data or a worse-case estimate;
- Calculate the screening level cancer burden by multiplying the total residential population in the zone of impact by the maximum individual cancer risk.

Accordingly, the maximum estimated 70-year cancer risk for the project was estimated at 52.6 in 1 million with HARP2 using the Population-Wide option in the model, which is specified for use in cancer burden estimates. The zone of impact was estimated to be 3.08 square-kilometers. The total population in this area was estimated to be approximately 5,417 persons, based on the average densities of the census tracts that would be within the zone of impact (Census Tracts 483, 490, and 511) (U.S. Census Bureau 2016). Multiplying the maximum estimated 70-year cancer risk by the project population gives a cancer burden of 0.28.

Accordingly, the cancer burden indicates that less than one person could contract cancer assuming a 70-year exposure under the modeled scenario of TAC emissions and provided that other factors related to an individual's susceptibility to contracting cancer would occur. This would be less than the SCAQMD cancer burden threshold of 0.5. Thus, the impact with respect to potential cancer burden due to construction of the project would be less than significant.

Health Impacts of Criteria Air Pollutants

Operation of the proposed project would generate criteria air pollutant emissions; however, the project would not exceed the SCAQMD mass-emission thresholds.

The SCAB is designated as nonattainment for O_3 for the NAAQS and CAAQS. Thus, existing O_3 levels in the SCAB are at unhealthy levels during certain periods. The health effects associated with O_3 generally result in reduced lung function. Because the proposed project would not involve activities that would result in O_3 precursor emissions (i.e., VOCs or NO_x) that would exceed the SCAQMD thresholds, as shown in Tables 3.3-3 and 3.3-4, the proposed project is not anticipated to substantially contribute to regional O_3 concentrations and its associated health impacts during construction or operation.

In addition to O_3, NO_x emissions contribute to potential exceedances of the NAAQS and CAAQS for NO_2. Exposure to NO_2 and NO_x can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. As shown in Tables 3.3-3 and 3.3-4, proposed project construction and operations would not exceed the SCAQMD NO_x threshold, and existing ambient NO_2 concentrations would be below the NAAQS and CAAQS. Thus, the proposed project is not expected to result in exceedances of the NO_2 standards or contribute to associated health effects.

CO tends to be a localized impact associated with congested intersections. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, thereby reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. CO hotspots were discussed previously as a less-than-significant impact. Thus, the proposed project's CO emissions would not contribute to the health effects associated with this pollutant.

The SCAB is designated as nonattainment for PM_{10} under the CAAQS and nonattainment for $PM_{2.5}$ under the NAAQS and 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 n.d.). As with O_3 and NO_x, and as shown in Tables 3.3-3 and 3.3-4, the proposed project would not generate emissions of PM_{10} or $PM_{2.5}$ that would exceed the SCAQMD's thresholds. Accordingly, the proposed project's PM_{10} and $PM_{2.5}$ emissions are not expected to cause any increase in related regional health effects for this pollutant.

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

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. 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.

Odors would be potentially generated from vehicles and equipment exhaust emissions during construction of the project. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment, architectural coatings, and asphalt pavement application. Such odors would disperse rapidly from the project site and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be less than significant.

Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (SCAQMD 1993). The project entails operation of an educational welcome center. Therefore, project operations would result in an odor impact that is less than significant.

	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 Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

3.4 Biological Resources

The following analysis relies on a biological resources assessment conducted by Dudek in November 2018. This assessment included a review of the latest available relevant literature, published research, maps, soil data, data on biological baselines, special-status habitats, and species distributions to determine those resources that have the potential to occur within the 191,452 square-foot project site and surrounding 500-foot buffer (the biological study area) (Figure 5, Biological Study Area). Dudek searched the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2018a–d), the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2018), and the U.S. Fish and Wildlife Service (USFWS) occurrence data (USFWS 2018a) to identify special-status biological resources from the region. The CNDDB and

CNPS were searched based on the U.S. Geological Survey 7.5-minute topographic quadrangle maps for Sunnymead, where the project site is located, as well as the surrounding eight U.S. Geological Survey 7.5-minute quadrangle maps (i.e., El Casco, Lakeview, Perris, Redlands, Riverside East, San Bernardino South, Steele Peak, and Yucaipa). Potential and/or historic drainages and aquatic features were investigated based on a review of U.S. Geological Survey topographic maps (1:24,000 scale), aerial photographs, the National Wetland Inventory database (USFWS 2018b), and the Natural Resource Conservation Service Web Soil Survey (USDA 2018a). In addition, Dudek conducted a Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) consistency assessment including the following requirements of the MSHCP (relevant MSHCP sections are identified in parentheses): Riparian/Riverine, Vernal Pool, and Fairy Shrimp Requirements (Section 6.1.2); Species Survey Requirements (Sections 6.1.3 and 6.3.2); and Urban/Wildlife Interface Guidelines (Section 6.1.4).

Special-status biological resources include those species that are (1) listed, proposed for listing, or candidates for listing under the federal Endangered Species Act as threatened or endangered; (2) listed or candidates for listing under the California Endangered Species Act as threatened or endangered; (3) a state fully protected species; (4) a CDFW Species of Special Concern; (5) a species listed on the CNPS Inventory of Rare and Endangered Plants with a California Rare Plant Rank of 1B or 2B; or (6) an MSHCP covered species. Special-status vegetation communities are those communities identified as high priority for inventory in the CDFW List of Vegetation Alliances and Associations (or Natural Communities List; CDFG 2010), which is based on A Manual of California Vegetation, Second Edition (Sawyer et. al. 2009), by a state rarity ranking of S1, S2, or S3.

Following the literature review, Dudek biologist Ryan Henry conducted a reconnaissance-level survey of the site on November 15, 2018, to identify existing biological resources and confirm potential biological constraints. During the field survey, vegetation communities and land covers were catalogued and confirmed based on existing site conditions. Vegetation communities were mapped according to the CDFW Natural Communities List. Vegetation communities and/or land covers not included in the Natural Communities List followed the Orange County Habitat Classification System (Gray and Bramlet 1992). Dudek compiled a general inventory of plant and wildlife species detected by sight, calls, tracks, scat, or other field indicators, and made a determination concerning the potential for special-status species to occur within the biological study area. Additionally, Dudek conducted a preliminary investigation of the extent and distribution of U.S. Army Corps of Engineers jurisdictional waters of the United States, Regional Water Quality Control Board jurisdictional waters of the state, and CDFW jurisdictional streambed and associated riparian habitat.

Vegetation Communities and Plants

The biological study area contained several non-natural and disturbed land covers. Results from the general biological survey identified the following vegetation communities and land covers: black willow–mulefat association, brittle bush scrub alliance, disturbed brittle bush scrub alliance, non-urban commercial/industrial/institutional, parks and ornamental plantings, and ruderal grassland.

The black willow–mulefat association includes black willow (*Salix gooddingii*) as the dominant or co-dominant tree in the canopy; mulefat (*Baccharis salicifolia*) is dominant in the understory. This association has an open-to-intermittent tree canopy less than 66 feet (20 meters) in height with an open-to-intermittent shrub canopy and variable ground layer (Klein and Evens 2005). Species associated with the community include red willow (*Salix laevigata*), which is often present in the tree layer at low-to-moderate cover, and eucalyptus (*Eucalyptus* sp.) and western sycamore (*Platanus racemosa*), which are occasionally present at trace cover (Klein and Evens 2005). Other shrub species include arroyo willow (*Salix lasiolepis*), Emory’s Baccharis (*Baccharis salicina* (*emoryi*)), and salt cedar (*Tamarix* sp.). This vegetation community occurs outside of the project site within the eastern portion of the biological study area and is associated with a constructed retention basin.

The brittle bush scrub alliance includes brittle bush (*Encelia farinosa*) as the dominant or co-dominant shrub in the canopy. This alliance has an open-to-intermittent shrub canopy with a sparse ground layer of seasonal annuals (Sawyer et al. 2009). Some species associated with the brittle bush scrub alliance include burrobush (*Ambrosia dumosa*), California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), chaparral yucca (*Hesperoyucca* (*Yucca*) *whipplei*), and white sage (*Salvia apiana*) (Sawyer et al. 2009). A variety of cactus species may be sparse to abundant (NatureServe 2009). This vegetation community occurs outside of the project site within the northeastern portion of the biological study area and is associated with the natural and restored habitat associated with the Edmund C. Jaeger Desert Institute.

The disturbed brittle bush scrub mapping unit is not recognized by the Natural Communities List (CDFG 2010). This mapping unit was used to differentiate areas dominated by brittle bush, but characterized by areas of disturbance. This vegetation community occurs outside of the project site within the northwestern portion of the biological study area and is associated with a disturbed, vacant parcel.

The non-urban commercial/industrial/institutional land cover consists of buildings, pavement, roads, parking areas, and generally lacks vegetation with the exception of some ornamental plantings that included species identified below for parks and ornamental plantings. This land cover type occurs throughout a majority of the biological study area.

The parks and ornamental plantings land cover includes introduced plantings of exotic, and sometimes native, species as actively maintained landscaping. This land cover occurs throughout the central portion of the biological study area and surrounds the campus buildings, sidewalks, and access roads. Vegetation includes Aleppo pine (*Pinus halepensis*), Bermuda grass (*Cynodon dactylon*), big-leaf periwinkle (*Vinca major*), blue jacaranda (*Jacaranda mimosifolia*), blue palo verde (*Parkinsonia florida*), Brazilian peppertree (*Schinus terebinthifolius*), brome fescue (*Festuca bromoides*), California fan palm (*Washingtonia filifera*), California sycamore (*Platanus racemosa*), callery pear (*Pyrus calleryana*), camphor tree (*Cinnamomum camphora*), cherry plum (*Prunus cerasifera*), Chinese banyan (*Ficus microcarpa*), Chinese elm (*Ulmus parvifolia*), crimson bottlebrush (*Melaleuca citrina*), date palm (*Phoenix dactylifera*), deer grass (*Muhlenbergia rigens*), milkweed (*Asclepias* sp.), desert willow (*Chilopsis linearis*), Italian stone pine (*Pinus pinea*), Mexican sage (*Salvia longistyla*), oleander (*Nerium oleander*), Peruvian peppertree (*Schinus molle*), Queen palm (*Syagrus romanzoffiana*), river redgum (*Eucalyptus camaldulensis*), silk tree (*Albizia julibrissin*), sweetgum (*Liquidambar styraciflua*), Sydney golden wattle (*Acacia longifolia*), white alder (*Alnus rhombifolia*), and white flower kurrajong (*Brachychiton populneum*).

The ruderal grassland mapping unit is not recognized by the Natural Communities List (CDFG 2010). According to Gray and Bramlet (1992), ruderal grassland consists of early successional grasslands dominated by non-native, pioneering herbaceous plants and is associated with disturbed areas. This community is similar to annual grassland in that non-native species predominate over natives. However, the type of non-native species that dominate ruderal areas are generally forbs as opposed to grasses and include species in the genera *Amaranthus*, *Atriplex*, *Brassica*, *Centaurea*, *Eremocarpus*, *Malva*, and *Salsola* (Gray and Bramlet 1992).

A complete list of plants detected within the biological study area is included in Appendix B-1, Plant Compendium, of this document.

Wildlife

Several wildlife species were observed or detected during the general field survey of the biological study area, including 17 bird species, 7 mammal species, and 1 reptile species. Bird species detected within the biological study area were American crow (*Corvus brachyrhynchos*), Anna's hummingbird (*Calypte anna*), California quail (*Callipepla californica*), California towhee (*Melozone crissalis*), cliff swallow (*Petrochelidon pyrrhonota*), common raven (*Corvus corax*), great egret (*Ardea alba*), great horned owl (*Bubo virginianus*), greater roadrunner (*Geococcyx californianus*), house finch (*Haemorhous mexicanus*), lesser goldfinch (*Spinus psaltria*), mourning dove (*Zenaida macroura*), northern harrier (*Circus hudsonius*), northern mockingbird (*Mimus polyglottos*), song sparrow (*Melospiza melodia*), white-crowned sparrow (*Zonotrichia *leucophrys*), and yellow-rumped warbler (*Setophaga coronata*). No active bird nests were detected within the biological study area. Mammal species detected included bobcat (*Lynx rufus*), Botta's pocket gopher (*Thomomys bottae*), brush rabbit (*Sylvilagus bachmani*), coyote (*Canis latrans*), domestic dog (*Canis lupus familiaris*), mule deer (*Odocoileus hemionus*), and raccoon (*Procyon lotor*). The reptile species detected was western fence lizard (*Sceloporus occidentalis*). A complete list of wildlife detected within the biological study area is included in Appendix B-2, Wildlife Compendium, of this document.

Western Riverside MSHCP

The project site is located in the Reche Canyon/Badlands Area Plan and must comply with relevant sections of the MSHCP. The project site is not within an MSHCP Criteria Cell; therefore, no Reserve Assembly requirements would apply to the project site. However, the project site occurs within the San Jacinto Habitat Management Unit and survey areas for burrowing owl (*Athene cunicularia*) and Los Angeles pocket mouse (*Perognathus longimembris brevinasus*). The project's compliance with the relevant sections of the MSHCP is discussed below.

- Riparian/Riverine, Vernal Pool, and Fairy Shrimp Requirements – The project site contains several unvegetated v-ditches that drain local surface water from the campus buildings, parking lots, and grounds. These features are artificially created, do not rely on a freshwater source, and do not convey flow to downstream aquatic resources; therefore, they are not considered riparian or riverine features as defined by the MSHCP. Additionally, there are no areas that meet the MSHCP's definitions of a vernal pool or of fairy shrimp habitat.

- Species Survey Requirements – To meet requirements in the MSHCP, habitat assessments were conducted to identify suitable habitat specifically for burrowing owl and Los Angeles pocket mouse within the project site. The project site does not contain suitable habitat for burrowing owl or the Los Angeles pocket mouse. As a result, no focused surveys were conducted for these MSHCP-covered species.

- Urban/Wildlife Interface Guidelines – According to the MSHCP, the Urban/Wildlands Interface Guidelines are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area (County of Riverside 2003, Vol.1, Section 6.1.4, pp. 6–42). The project site is not within the boundaries of an MSHCP-designated conserved land, but is located approximately 0.25 miles from the Perris Lake State Recreation Area public/quasi-public conserved land. The proposed project includes the construction of a new campus building within the existing College campus on a previously disturbed site. The completed development would avoid discharge of surface water runoff or toxic substances to the Perris Lake State Recreation Area. Proposed landscaping would be consistent with the existing planting palette and would not result in a significant increased risk of invasive species invasion or barriers to the nearby conserved land. Additionally, there would not be a significant increase in night lighting or noise effects that would affect the nearby conserved land.

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

Less-than-Significant Impact. The biological study area includes the construction footprint plus a 500-foot buffer around the project site (Figure 5). Due to the developed condition of the project site and surrounding area, the potential for special-status species is low.

Plant Species

The project site is entirely developed and characterized by disturbed areas. No plant species listed or proposed for listing as rare, threatened, or endangered by the CDFW or USFWS were detected within the biological study area during the reconnaissance survey in November 2018. Additionally, no plant species considered sensitive by the CNPS were detected. Although the survey was not conducted during the peak bloom period for most flowering plants, special-status plant species would be unlikely to survive with the current amount of disturbance, non-native plant competition, and development already in place. Dudek performed a review of the literature, existing documentation, and geographic information systems data to evaluate the potential for special-status plant species to occur within the project site and biological study area. Each special-status plant species was given a rating of not expected, low, medium, or high based on relative location to known occurrences, vegetation communities, soils, and elevation. Based on the results of the literature review and database searches, 46 special-status plant species were identified as previously occurring within the region. However, none of these species are expected to occur within the project site based on the soils, current disturbance levels, vegetation communities (habitat) present, elevation ranges, and previous known locations based on the CNDDB and CNPS records. The complete results of this potential-to-occur evaluation for special-status plants are included as Appendix B-3, Special-Status Plants Potential to Occur Table, of this document. Additionally, there is no USFWS-designated critical habitat for listed plant species within the project site. As a result, direct and indirect impacts to special-status plant species would be less than significant.

Wildlife Species

The project site is entirely restricted to developed and disturbed areas. No wildlife species listed or proposed for listing as rare, threatened, or endangered by the CDFW or USFWS were detected within the biological study area during the reconnaissance survey conducted in November 2018. Dudek performed a review of literature, existing documentation, and geographic information systems data to evaluate the potential for special-status wildlife species to occur within the biological study area. Each special-status wildlife species was given a rating of not expected, low, moderate, or high based on relative location to known occurrences, vegetation communities, and elevation. Based on the results of the literature review and database searches, 54 special-status wildlife species were identified as occurring within the region. However, these species are not expected or they have low potential to occur within the project site and biological study area based on the vegetation communities (habitat) present, elevation ranges, and previous known locations based on the CNDDB. The complete results of this potential-to-occur evaluation for special-status wildlife are included as Appendix B-4, Special-Status Wildlife Potential to Occur Table, of this document. Additionally, there is no USFWS-designated critical habitat for listed wildlife species within the project site. As a result, direct and indirect impacts to special-status wildlife species would be less than significant.

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

No Impact. The project site is located entirely on disturbed/developed land. No natural vegetation communities, riparian habitat, or sensitive natural communities are present within the impact footprint. As a result, there would be no impact to riparian habitat or sensitive vegetation communities.

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?

No Impact. No state-defined or federally defined wetlands or waters of the United States/state (e.g., drainages, streams, or riparian habitat) occur within the project site. Several concrete-lined v-ditches traverse the College campus and one storm retention basin occurs outside the project site but within the biological study area. As a result, no direct impacts to state or federally protected waters or wetlands would occur as a result of the project.

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less-than-Significant Impact. The project site contains trees and shrubs that may be used by migratory birds for breeding. Direct impacts to migratory nesting birds must be avoided to comply with the Migratory Bird Treaty Act and California Fish and Game Code. Although the project would be limited to disturbed or developed areas, removal of trees or other nesting habitat would occur as a result of project implementation. Therefore, direct impacts to nesting birds could occur if conducted during the breeding and nesting season (i.e., February through August). Additionally, indirect impacts to nesting birds from short-term, construction-related noise could result in decreased reproductive success or abandonment of an area as nesting habitat if conducted during the breeding/nesting season. To avoid potential direct and indirect impacts to nesting birds in conformance with the Migratory Bird Treaty Act and California Fish and Game Code, a qualified biologist would conduct a nesting bird survey within 1 week prior to any vegetation clearing, cutting, or removal activities during the breeding/nesting season for native birds. The survey would consist of full coverage of the proposed project footprint and an appropriate buffer, as determined by the biologist. If no occupied nests are found, no additional steps would be required. If nests are found being used for breeding or rearing young by a native bird, the nest locations would be mapped by the biologist using Global Positioning System equipment. The species of the nesting bird and, to the degree feasible, the nesting stage (e.g., incubation of eggs, feeding of young, near fledging) would be documented. The biologist may establish an avoidance buffer around occupied nests if there is a significant potential for take of the species or potential for inadvertent destruction of the nest. The buffer would be determined by the biologist based on the species present, surrounding habitat, and existing environmental setting/level of disturbance. No construction or ground-disturbing activities would be conducted within the buffer until the biologist has determined that the nest is no longer being used for breeding or rearing and has informed the construction supervisor that activities may resume. With implementation of this project design feature, impacts to nesting birds from construction-related activities would be less than significant.

Project Design Feature-1

To avoid potential impacts to nesting birds in conformance with the Migratory Bird Treaty Act and California Fish and Game Code, a qualified biologist will conduct a nesting bird survey within 1 week of vegetation clearing, cutting, or removal activities during the breeding/nesting season for native birds. The survey would consist of full coverage of the proposed project footprint and an appropriate buffer, as determined by the biologist. If no occupied nests are found, no additional steps would be required. If nests are found being used for breeding or rearing young by a native bird, the nest locations will be mapped by the biologist using Global Positioning System equipment. The species of the nesting bird and, to the degree feasible, the nesting stage (e.g., incubation of eggs, feeding of young, near fledging) would be documented. The biologist may establish an avoidance buffer around occupied nests if there is a significant potential for take of the species or potential for inadvertent destruction of the nest. The buffer will be determined by the biologist based on the species present, surrounding habitat, and existing environmental setting/level of disturbance. No construction or ground-disturbing activities would be conducted within the buffer until the biologist has determined that the nest is no longer being used for breeding or rearing and has informed the construction supervisor that activities may resume.

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

Less-than-Significant Impact. The City has adopted a grading policy (Municipal Code Chapter 9.16.210 Grading) that affords protection to trees with 4-inch or larger trunk diameters. Trees that meet this criterion must be shown on grading plans with appropriate protection and relocation notes. Trees with 4-inch or larger trunk diameters that are removed must be replaced with at least 24-inch box size trees of the same species at a ratio of three new trees for each mature tree removed. While local ordinances are not applicable to projects led by state-funded agencies, the District will make every effort to comply with the City’s tree ordinance policy As a result, compliance with the City’s grading policy that protects larger trees has been included as a project design feature.

The proposed project would include the removal of several ornamental trees within the project footprint that are associated with the developed/disturbed land cover and are protected by the tree ordinance. These trees would need to be replaced at a 3:1 ratio. With implementation of this project design feature, impacts to large trees from construction-related activities would be less than significant.

Project Design Feature-2

To be consistent with the City’s grading ordinance, if there are any trees in the project footprint with 4-inch or larger trunk diameters they will be identified on grading plans with avoidance, relocation, and/or replacement notes. Trees that are removed will be replaced with at least 24-inch box size trees of the same species at a ratio of three new trees for each mature tree removed.

f) ***Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?***

Less-than-Significant Impact. The project site is within the MSHCP Plan Area. As described above, the project site does not support riparian/riverine resources, vernal pools or fairy shrimp habitat, narrow endemic plant habitat, or criteria area species habitat; therefore, there are no requirements under the MSHCP for these resources. The project site is not within, but is adjacent to a conservation area (Perris Lake State Recreation Area public/quasi-public conserved land). Development of the new campus building would not result in significant indirect effects associated with drainage, toxic substances, lighting, noise, invasive species, or barriers to the conserved land. Therefore, the proposed project would have less-than-significant impacts to habitat conservation plans.

	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 §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

3.5 Cultural Resources

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

Less-than-Significant Impact. Historic maps and aerial photographs were consulted to understand the development of the study area and surrounding properties. Topographic maps from 1954 show the study area and general vicinity as undeveloped land. There are a few roads running through the general area. The nearest development in 1954 was March Air Force Base to the west. The study area remained undeveloped until sometime between 1985 and 2015. Topographic maps indicate that development in the entire Moreno Valley area was slow during most of the 20th century. By 1968 the first planned subdivisions appear, located to the northwest of the project site.

Development continued slowly and the area did not see major development until 1985, when the majority of the City was developed through 2015. The earliest available aerial for the study area dates to 1966 and shows the area as primarily agricultural land. Today, the proposed site for the project is an open grassy area with no buildings on it. There is landscaping and a concrete walking path that goes through the middle of the site. No cultural resources, including historic resources, were identified on the site during the records search or the pedestrian survey. Therefore, the likelihood of historic resources, even subsurface, is low, and the proposed project would have a less-than-significant impact on historic resources.

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

Less-than-Significant Impact With Mitigation Incorporated. The records search from the Eastern Information Center at the University of California, Riverside, indicated that 17 previous cultural resources technical investigations have been conducted within 1.0 mile of the project area. Of these, two studies intersect the project area and the remaining 15 are within the 1.0-mile search buffer. All of these resources are bedrock milling stations.

On November 8, 2018, Dudek requested a search of the Sacred Lands Files from the Native American Heritage Commission (NAHC). A response letter was received via email from the NAHC on December 6, 2018, stating a negative finding for any cultural resources within the Sacred Lands File. Because the Sacred Lands File search does not include an exhaustive list of Native American cultural resources, the NAHC suggested contacting Native American individuals and/or tribal organizations who may have direct knowledge of cultural resources in or near the proposed project. The NAHC provided the contact information of nine individuals and/or entities to contact along with the Sacred Lands File search results. Dudek sent letters to each contact listed by the NAHC on December 10, 2018. This outreach was conducted for informational purposes only and did not constitute formal government-to-government consultation as specified by AB 52, which is discussed in detail in Section 3.18, Tribal Cultural Resources.

No archaeological resources were identified within the project site or immediate vicinity as a result of the records search or Native American coordination. The project site is situated within the College campus and the proposed project consists of constructing a new building and trenching for new utility lines, which means much of the ground disturbance would be within previously disturbed areas. Therefore, the area is considered to be of low sensitivity for encountering archaeological deposits. Despite the low probability of encountering archaeological deposits, it is always possible that such deposits exist subsurface. Therefore, **Mitigation Measure (MM) CUL-1** would reduce potential impacts to unanticipated archaeological resources during construction to less than significant.

MM-CUL-1 All construction crew members should be alerted to the potential to encounter sensitive archaeological material. In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the proposed project, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist who meets the Secretary of the Interior's Professional Qualification Standards can evaluate the significance of the find and determine whether additional study is warranted. Prehistoric archaeological deposits may be indicated by the presence of discolored or dark soil, fire-affected material, concentrations of fragmented or whole marine shell, burned or complete bone, non-local lithic materials, or characteristics observed to be atypical of the surrounding area. Common prehistoric artifacts may include modified or battered lithic materials; lithic or bone tools that appeared to have been used for chopping, drilling, or grinding; projectile points; fired clay ceramics or non-functional items; and other items. Historic-age deposits are often indicated by the presence of glass bottles and shards, ceramic material, building or domestic refuse, ferrous metal, or old features such as concrete foundations or privies. 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.

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

Less-than-Significant Impact with Mitigation Incorporated. As discussed above, no cultural resources were identified within the study area as a result of the California Historical Resources Information System records search, Native American outreach, or the pedestrian survey. The study area was agricultural land for several decades prior to being developed for the College between 1985 and 2015. Today the study area is developed and landscaped with grass and concrete pathways. As a result, the project site is considered to be of low sensitivity for encountering archaeological deposits. However, in accordance with Section 7050.5 of the California Health and Safety Code and **MM-TRC-2**, as discussed in Section 3.18, Tribal Cultural Resources, 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, within 2 working days of notification of the discovery, 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 notify the NAHC in Sacramento within 24 hours. In accordance with California Public Resources Code, Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendants from the deceased Native American. The most likely descendants shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains. As a result, impacts would be less than significant.

	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?	☐	☐	☒	☐

3.6 Energy

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?

Less-than-Significant Impact. The electricity and natural gas used for construction of the proposed project would be temporary, would be substantially less than that required for project operation, and would have a negligible contribution to the project's overall energy consumption. Additionally, although natural gas and electricity usage would increase due to the implementation of the project, the project's energy efficiency would meet the current Title 24 standards. Although the project would see an increase in petroleum use during construction and operation, vehicles would use less petroleum due to advances in fuel economy and potential reduction in vehicle miles traveled (VMT) over time.

Construction

Electricity

Temporary electric power for as-necessary lighting and electronic equipment such as computers inside temporary construction trailers would be provided by Southern California Edison (SCE). The electricity used for such activities would be temporary, would be substantially less than that required for project operation, and would have a negligible contribution to the project's overall energy consumption.

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 below under the Petroleum subsection. Any minor amounts of natural gas that may be consumed as a result of project construction would be substantially less than that required for project operation and would have a negligible contribution to the project's overall energy consumption.

Petroleum

Heavy-duty construction equipment associated with demolition and construction activities for construction would rely on diesel fuel, as would vendor trucks involved in delivery of materials to the project site. 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 to and from the site in gasoline-powered light-duty vehicles.

Heavy-duty construction equipment of various types would be used during each phase of project construction. Appendix A-1 lists the assumed equipment usage for each phase of construction. The project's construction equipment is estimated to operate a total combined 8,588 hours.

Fuel consumption from construction equipment was estimated by converting the total carbon dioxide (CO_2) emissions from each construction phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. Construction is estimated to occur in 2020 and 2021 based on the construction phasing schedule. The conversion factor for gasoline is 8.78 kilograms per metric ton CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per metric ton CO_2 per gallon (The Climate Registry 2018). The estimated diesel fuel usage from construction equipment is shown in Table 3.6-1.

Table 3.6-1
Construction Equipment Diesel Demand

Phase	Pieces of Equipment	Equipment CO_2 (MT)	kg/CO_2/Gallon	Gallons
Site Preparation	3	1.41	10.21	137.68
Grading	3	2.48	10.21	242.69
Trenching	2	4.98	10.21	487.92
Building Construction	6	117.97	10.21	11,553.89
Paving	5	5.49	10.21	537.53
Architectural Coating	1	1.28	10.21	125.03
			Total	**13,084.75**

Sources: Pieces of equipment and equipment CO_2 (Appendix A-1); kg/CO_2/Gallon (The Climate Registry 2018).
Notes: CO_2 = carbon dioxide; MT = metric ton; kg = kilogram.

Fuel consumption from worker-, vendor-, and haul-truck trips are 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. Worker vehicles are assumed to be gasoline and vendor/hauling vehicles are assumed to be diesel. Calculations for total worker-, vendor-, and haul-truck fuel consumption are provided in Tables 3.6-2, 3.6-3, and 3.6-4.

Table 3.6-2
Construction Worker Gasoline Demand

Phase	Trips	Vehicle MT CO_2	kg/CO_2/ Gallon	Gallons
Site Preparation	16	0.08	8.78	9.00
Grading	32	0.16	8.78	18.00
Trenching	120	0.59	8.78	67.49
Building Construction	4,400	21.47	8.78	2,445.13
Paving	140	0.67	8.78	76.20
Architectural Coating	40	0.19	8.78	21.77
			Total	**2,637.57**

Sources: Trips and vehicle CO_2 (Appendix A-1); kg/CO_2/Gallon (The Climate Registry 2018).
Notes: MT = metric ton; CO_2 = carbon dioxide; kg = kilogram.

Table 3.6-3
Construction Vendor Diesel Demand

Phase	Trips	Vehicle MT CO_2	kg/CO_2/Gallon	Gallons
Site Preparation	0	0.00	10.21	0.00
Grading	0	0.00	10.21	0.00
Trenching	0	0.00	10.21	0.00
Building Construction	8	19.62	10.21	1,921.91
Paving	0	0.00	10.21	0.00
Architectural Coating	0	0.00	10.21	0.00
			Total	**1,921.91**

Sources: Trips and vehicle CO_2 (Appendix A-1); kg/CO_2/Gallon (The Climate Registry 2018).
Notes: MT = metric ton; CO_2 = carbon dioxide; kg = kilogram.

Table 3.6-4
Construction Haul Truck Diesel Demand

Phase	Trips	Vehicle MT CO_2	kg/CO_2/Gallon	Gallons
Site Preparation	0	0.00	10.21	0.00
Grading	0	0.00	10.21	0.00
Trenching	364	13.73	10.21	1,345.20
Building Construction	0	0.00	10.21	0.00
Paving	0	0.00	10.21	0.00
Architectural Coating	0	0.00	10.21	0.00
			Total	**1,345.20**

Sources: Trips and vehicle CO_2 (Appendix A-1); kg/CO_2/Gallon (The Climate Registry 2018).
Notes: MT = metric ton; CO_2 = carbon dioxide; kg = kilogram.

In summary, construction of the project is conservatively anticipated to consume 2,638 gallons of gasoline and 16,352 gallons of diesel, which would last approximately 12 months. By comparison, California's consumption of petroleum is approximately 74.8 million gallons per day. Based on these assumptions, approximately 27.3 billion gallons of petroleum would be consumed in California over the course of the construction period (EIA 2017). Within Riverside County, approximately 986 million gallons of petroleum would be consumed over the course of the construction period (CARB 2018). Therefore, impacts associated during construction would be less than significant.

Operation

Electricity

The operation of the project buildout would require electricity for multiple purposes, including cooling, lighting, appliances, and various equipment. Additionally, the supply, conveyance, treatment, and distribution of water would indirectly result in electricity usage. Electricity consumption associated with project operation is based on the CalEEMod outputs presented in Appendix A-1.

CalEEMod default values for energy consumption for each land use were applied for the project analysis. The energy use from non-residential land uses is calculated in CalEEMod based on the California Commercial End-Use Survey database. Energy use in buildings (both natural gas and electricity) is divided by the program into end-use categories subject to Title 24 requirements (end uses associated with the building envelope, such as the HVAC system, water heating system, and integrated lighting) and those not subject to Title 24 requirements (such as appliances, electronics, and miscellaneous “plug-in” uses).

Title 24 of the California Code of Regulations serves to enhance and regulate California’s building standards. The most recent amendments to Title 24, Part 6, referred to as the 2016 standards, became effective on January 1, 2017. According to these estimations, the proposed project would consume approximately 136,363 kilowatt hours per year during operation. For comparison, in 2017 the non-residential electricity demand in Riverside County was 8,346,370,176 kilowatt hours (CEC 2018).

Natural Gas

The operation would require natural gas for various purposes, including water heating and natural gas appliances. Natural gas consumption associated with operation is based on the CalEEMod outputs presented in Appendix A-1.

CalEEMod default values for energy consumption for each land use were applied for the project analysis. The energy use from non-residential land uses is calculated in CalEEMod based on the California Commercial End-Use Survey database. Energy use in buildings (both natural gas and electricity) is divided by the program into end-use categories subject to Title 24 requirements (end uses associated with the building envelope, such as the HVAC system, water heating system, and integrated lighting) and those not subject to Title 24 requirements (such as appliances, electronics, and miscellaneous “plug-in” uses).

Title 24 of the California Code of Regulations serves to enhance and regulate California's building standards. The most recent amendments to Title 24, Part 6, referred to as the 2016 standards, became effective on January 1, 2017. According to these estimations, the proposed project would consume approximately 239,328 kilo-British Thermal Units per year. For comparison, in 2017 the non-residential natural gas use within Riverside County was 13,916,621,100 kilo-British Thermal Units (CEC 2018).

Petroleum

During operations, the majority of fuel consumption resulting from the project would involve the use of motor vehicles traveling to and from the project site, as well as fuels used for alternative modes of transportation that may be used by students and employees.

Petroleum fuel consumption associated with motor vehicles traveling to and from the project site is a function of the VMT as a result of project operation. As shown in Appendix A-1 and as discussed in Section 3.3, Air Quality, and Section 3.8, Greenhouse Gas Emissions, the annual VMT attributable to the proposed project is expected to be 823,429 VMT. Similar to the construction worker and vendor trips, fuel consumption from worker and vendor trips are estimated by converting the total CO_2 emissions from operation of the project to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. Based on the annual fleet mix provided in CalEEMod, 93.3% of the fleet range from light-duty to medium-duty vehicles and motorcycles, which are assumed to run on gasoline. The remaining 6.6% of vehicles represent medium-heavy duty to heavy-duty vehicles and buses and are assumed to run on diesel.

Calculations for annual mobile source fuel consumption are provided in Tables 3.6-5 (gasoline) and 3.6-6 (diesel).

Table 3.6-5
Annual Mobile Source Gasoline Demand

	Vehicle MT CO_2	kg/CO_2/Gallon	Gallons
Operation	143.64	8.78	16,359.91

Sources: Trips and vehicle CO_2 (Appendix A-1); kg/CO_2/Gallon (The Climate Registry 2018).
Notes: MT = metric ton; CO_2 = carbon dioxide; kg = kilogram

Table 3.6-6
Annual Mobile Source Diesel Demand

	Vehicle MT CO_2	kg/CO_2/Gallon	Gallons
Operation	8.81	10.21	863.20

Sources: Trips and vehicle CO_2 (Appendix A-1; kg/CO_2/Gallon (The Climate Registry 2018).
Notes: MT = metric ton; CO_2 = carbon dioxide; kg = kilogram

Summary

Statewide emission reduction measures proposed in the CARB-adopted amendments to the Pavley regulations include measures aimed at reducing GHG emissions associated with transportation. These amendments are part of California’s commitment to a nationwide program to reduce new passenger-vehicle GHGs from 2012 through 2016. Pavley regulations reduced GHG emissions from California passenger vehicles by about 22% in 2012. It is expected that Pavley regulations will reduce GHG emissions from California passenger vehicles by about 30% in 2016, while improving fuel efficiency and reducing motorists’ costs. As such, vehicle trips associated with the project are expected to use less petroleum due to advances in fuel economy over time.

CARB has adopted a new approach to passenger vehicles—cars and light trucks—by combining the control of smog-causing pollutants and GHG emissions into a single coordinated package of standards. The new approach also includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emission vehicles in California (CARB 2017b).

The proposed project would create additional electricity and natural gas demand by adding recreational and commercial facilities. New facilities associated with the proposed project would be subject to the State Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations. The efficiency standards apply to new construction of nonresidential buildings and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting.

In summary, although natural gas and electricity usage would increase due to the implementation of the project, the project’s energy efficiency would be in accordance with state Title 24 standards. Although the project would see an increase in petroleum use during construction and operation, vehicles would use less petroleum due to advances in fuel economy and potential reduction in VMT over time. Therefore, 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 proposed project would be subject to and would comply with, at a minimum, the 2016 California Building Code Title 24 (24 CCR, Part 6). The City developed the Energy Efficiency and Climate Action Strategy in October 2012 to reduce energy use and thereby reduce their jurisdiction's contribution to global climate change concerns (City of Moreno Valley 2012b).

The proposed project would not conflict with existing energy standards and regulations; therefore, impacts during construction and operation of the proposed project would be less than significant.

	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?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

3.7 Geology and Soils

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.

Less-than-Significant Impact. According to the City General Plan EIR (City of Moreno Valley 2006b), the City lies primarily on bedrock known as the Perris Block. This structural unit is located within the Peninsular Range Geomorphic Province, one of the major geologic provinces of Southern California. The Perris Block is a large mass of granitic rock generally bounded by the San Jacinto Fault, the Elsinore Fault, the Santa Ana River, and a non-defined southeast boundary. The nearest fault zone is the San Jacinto Fault, which is located approximately 5 miles northeast of the project site. This fault zone has experienced significant activity in the recent geologic past. Additionally, the San Andreas Fault is located approximately 16 miles northeast of the site. According to the City's General Plan and the General Plan EIR, the site is not located within an existing fault zone, and no faults appear to run under the project area (City of Moreno Valley 2006a, Figure 6-3, Geologic Faults & Liquefaction; City of Moreno Valley 2006b, Figure 5.6-2, Seismic Hazards). Therefore, damage resulting from surface rupture or fault displacement is not expected at the project site. Impacts would be less than significant.

ii) Strong seismic ground shaking?

Less-than-Significant Impact. Because the project site is located in seismically active Southern California, it is subject to moderate to severe ground shaking in the event of a major earthquake along any of the active faults in the region. The known regional active faults that could produce the most significant ground shaking at the site include the San Jacinto, San Andreas, and Elsinore-Glen Ivy faults. The site, however, does not possess any greater seismic risk than that of the surrounding developments. No active or potentially active fault is known to exist at the project site, nor is the site situated within an Alquist-Priolo Earthquake Fault Zone, a State of California Special Studies Zone, or a County of Riverside designated fault zone. Additionally, the proposed project would be designed in accordance with all applicable provisions established in the current California Building Code, which sets forth specific engineering requirements to ensure structural integrity during a seismic event. Compliance with these requirements would reduce the potential risk to both people and structures with respect to strong seismic ground shaking. Therefore, 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 City's General Plan Safety Element, the project site is located in an area identified as having low liquefaction susceptibility (City of Moreno Valley 2006a, Figure 6-3, Geologic Faults & Liquefaction). Additionally, per the current California Building Code, a geotechnical investigation report would be prepared for the project site and will provide relevant design recommendations to ensure structural integrity during seismic activity. Given these considerations, impacts associated with liquefaction would be less than significant.

iv) Landslides?

Less-than-Significant Impact. There is no evidence of ancient landslides or slope instabilities at the site and there are no significant slopes located on or near the project site that may be considered susceptible to seismically induced landslides. The proposed project is located on relatively flat land, and during the grading phase of the project, the project site would be further leveled. As a result, impacts resulting from landslides would be less than significant.

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

Short-Term Construction Impacts

Less-than-Significant Impact. Construction activities such as grading may have the potential to cause soil erosion or the loss of topsoil. Because the project would result in more than 1 acre of ground disturbance, the project would be subject to the National Pollutant Discharge Elimination System (NPDES) stormwater program, which includes obtaining coverage under the State Water Resources Control Board’s General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit; Order 2009-0009-DWQ). Construction activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground, such as stockpiling or excavation. The Construction General Permit requires development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). Among the required items that must be included within a SWPPP are project design features intended to protect against substantial soil erosion as a result of water and wind erosion, commonly known as best management practices (BMPs). Typical BMPs include maintaining or creating drainages to convey and direct surface runoff from bare areas and installing physical barriers, such as berms, silt fencing, wattles, straw bales, and gabions. The implementation of a Construction General Permit, including preparation of a SWPPP and implementation of BMPs, would reduce both stormwater runoff and soil erosion impacts to acceptable levels. Therefore, short-term construction impacts associated with soil erosion would be less than significant.

Long-Term Operational Impacts

Less-than-Significant Impact. Once developed, the project site would include a single-story structure and paved surfaces, all of which would stabilize and help retain on-site soils. The project site would also contain pervious landscape areas that would include a mix of trees, shrubs, plants, and groundcover, which would also help retain on-site soils while preventing wind and water erosion from occurring. Therefore, long-term operational impacts associated with soil erosion 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 site is not susceptible to landslide or liquefaction. Additionally, the proposed project would be designed in accordance with all applicable provisions established in the current California Building

Code, which sets forth specific engineering requirements to ensure structural integrity, regardless of the specific characteristics of the underlying soils. Compliance with these requirements would reduce the potential risk to both people and structures with respect to a variety of geotechnical constraints. Therefore, impacts associated with unstable geologic units/soils 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 direct or indirect substantial risks to life or property?***

Less-than-Significant Impact. According to the U.S. Department of Agriculture Web Soil Survey, the soil beneath the project site consists of Ramona very fine sandy loam, 0% to 8% slopes. This type of soil has a low runoff class, and well-drained drainage class (USDA 2019). Based on the type of soils at the project site, expansive soils are not anticipated at the project site; therefore, impacts would be less than significant. Nonetheless, the proposed project will remove undocumented artificial fill and ensure proper fill placement and compaction to further reduce this already less-than-significant impact.

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

No Impact. The project would connect directly to the municipal sewer system and would not require septic tanks or any other alternative wastewater disposal system. Therefore, no impacts associated with the adequacy of soils and septic systems 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. The proposed project is located within the northernmost Peninsular Ranges Geomorphic Province (Norris and Webb 1990; CGS 2002). This geomorphic province is characterized by northwest trending mountain ranges and valleys that extend over 900 miles from the tip of the Baja Peninsula to the Transverse Ranges (i.e., the San Bernardino and San Gabriel Mountains in Southern California). Regionally, the Peninsular Ranges are bounded to the east by the Colorado Desert and the west by the continental shelf and offshore islands (Santa Catalina, Santa Barbara, San Nicholas, and San Clemente) (Norris and Webb 1990; CGS 2002). Regional mountain ranges in the Peninsular Ranges Geomorphic Province include the Santa Ana, San Jacinto, and Santa Rosa Mountains. Geologically, these mountains are dominated by

Mesozoic, plutonic igneous and metamorphic rocks that are part of the Peninsular Ranges Batholith (Southern California Batholith) (Jahns 1954).

More specifically, the proposed project is located within the Perris Structural Block, between the Elsinore and San Jacinto fault zones (Kennedy 1977). The Elsinore and San Jacinto fault zones are part of the greater San Andreas fault system, which is characterized by numerous strike-slip faults. According to surficial geological mapping by Dibblee and Minch (2003) at a scale of 1:24,000, the study area is almost entirely underlain by older Quaternary alluvium (map unit Qoa) that is Pleistocene age (~2.58 million years ago–12,000 years ago). The northeastern extension of the proposed project is underlain by Cretaceous (~145 million years ago–66 million years ago), plutonic quartz diorites (map unit qdx).

Dudek cross-trained archaeologist/paleontologist, Erica Nicolay, conducted an archaeological and paleontological resources survey of the study area on November 13, 2018, using standard procedures and techniques. The survey methods consisted of a pedestrian survey conducted in 15-meter wide transects across the study area. The majority of the study area is landscaped and either covered with concrete, asphalt, or grass. Areas of exposed bedrock were limited, but any areas where surface exposures were observed were carefully inspected for paleontological resources. No paleontological resources were identified during the field survey.

A paleontological records search request was sent to the Natural History Museum of Los Angeles County (LACM) on November 09, 2018, (McLeod 2018) and the results were received on November 27, 2018. According to the records search, no paleontological localities are documented within a 1-mile radius buffer of the proposed project boundaries (McLeod 2018). However, localities are documented nearby from similar geological units that may occur beneath portions of the proposed project site. The nearest locality to the proposed project area, LACM 4540, was recovered almost due east of the proposed project area from deposits similar to those that occur at the surface throughout most of the proposed project area. The specimen consisted of a fossil horse (*Equus*) recovered from an unspecified depth below the surface (McLeod 2018). The LACM did not recommend paleontological monitoring of portions of the proposed project area underlain by igneous rocks because they do not preserve recognizable fossils; nor did they recommend monitoring of shallow excavations into older Quaternary alluvial deposits because, being so close to the source area, they are likely coarse grained, which is not conducive to fossil preservation (McLeod 2018). However, the LACM recommended paleontological monitoring of deeper excavations that could potentially encounter finer-grained fossiliferous Pleistocene strata along with sediment sampling to determine the microfossil potential (McLeod 2018).

Past excavation activities in the area surrounding the proposed project site have encountered paleontological resources in older Quaternary alluvial deposits. Review of the paleontological literature revealed numerous Pleistocene older alluvial fossil vertebrate localities within Riverside County. For instance, in his compilation of Pleistocene vertebrate localities in California, Jefferson (1991) lists many Pleistocene older alluvial or equivalent localities from Riverside County that have yielded fossil fish, amphibians, reptiles, birds, and mammals. The Diamond Valley Lake Local Fauna, which was recovered from older lacustrine and fluvial deposits near the city of Hemet in Riverside County, yielded over 100,000 fossil specimens including plants, invertebrates, and vertebrates (Jefferson 1991; Springer et al. 2009). With the exclusion of asphaltic localities such as the La Brea Tar Pits, the Diamond Valley Lake Local Fauna represents the largest late Pleistocene vertebrate fauna in the southwest and continues to yield important scientific data (Springer et al. 2009).

No paleontological resources were identified within the proposed project area as a result of the field survey, institutional records search, and desktop geological and paleontological review, and the proposed project site is not anticipated to be underlain by unique geologic features. While the majority of the proposed project area is mapped as being underlain by older Quaternary alluvial deposits, they are likely too coarse grained on the surface to yield significant paleontological resources. However, intact paleontological resources may be present within finer-grained soils of these deposits at depth. The plutonic igneous rocks have no paleontological sensitivity, but given the proximity of past fossil discoveries in the surrounding area and the potential for intact, undisturbed, fine-grained Pleistocene age deposits at depth, the proposed project is moderately to highly sensitive for supporting paleontological resources in areas underlain by older Quaternary alluvium. In the event that intact paleontological resources are located beneath the proposed project site, ground-disturbing activities associated with construction of the proposed project, such as grading during site preparation and large diameter drilling (more than 2 feet diameter), have the potential to destroy a unique paleontological resource or site. Without mitigation, the potential damage to paleontological resources during construction would be a potentially significant impact. However, upon implementation of **MM-GEO-1**, impacts would be reduced to below the level of significance. Impacts of the proposed project are considered less than significant with mitigation incorporated during construction**.**

MM-GEO-1 Prior to commencement of any grading activity on site, the Riverside Community College District shall retain a certified Riverside County paleontologist. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the proposed project.

The PRIMP shall be consistent with the guidelines of the Society of Vertebrate Paleontology (SVP 2010) and shall outline the following:

- Requirements for a preconstruction meeting that shall include a worker environmental awareness training.
- Requirements for the number of construction workers that shall attend the preconstruction meeting.
- Locations within the proposed project at which paleontological monitoring shall be required 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 certified paleontologist shall attend the preconstruction meeting and a paleontological monitor shall be on site during all rough grading and other significant ground-disturbing activities in previously undisturbed, fine-grained older Quaternary alluvial deposits. These deposits may be encountered at depths as shallow as 5–10 feet below ground surface. 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.

	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?	☐	☐	☒	☐

3.8 Greenhouse Gas Emissions

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

Less-than-Significant Impact. Climate change refers to any significant change in measures of climate (e.g., temperature, precipitation, or wind patterns) lasting for an extended period of time (i.e., decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system, and many factors (natural and human) can cause changes in Earth's energy balance. The greenhouse effect is the trapping and buildup of heat in the atmosphere near the Earth's surface (the troposphere). The greenhouse effect is a natural process that contributes to regulating the Earth's temperature, and it creates a livable environment on 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. Global climate change is a cumulative impact; a project contributes to this impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. Thus, GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008).

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 CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride (see also CEQA Guidelines section 15364.5).[6] The three GHGs evaluated herein are CO_2, CH_4, and N_2O because these gases would be emitted during proposed project maintenance.

The Intergovernmental Panel on Climate Change 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 reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons (MT) of CO_2 equivalent (CO_2e). Consistent with CalEEMod Version 2016.3.2, this GHG emissions analysis assumed the GWP for CH_4 is 25 (i.e., 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 Intergovernmental Panel on Climate Change's Fourth Assessment Report (IPCC 2007).

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[6] Climate-forcing substances include greenhouse gases (GHGs) and other substances such as black carbon and aerosols. This discussion focuses on the seven GHGs identified in the California Health and Safety Code Section 38505; impacts associated with other climate-forcing substances are not evaluated herein.

As discussed in Section 3.3, Air Quality, the proposed project is located within the jurisdictional boundaries of the SCAQMD. In October 2008, the SCAQMD proposed recommended numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects as presented in its Draft Guidance Document—Interim CEQA Greenhouse Gas (GHG) Significance Threshold (SCAQMD 2008b). This document, which builds on the previous guidance prepared by the California Air Pollution Control Officers Association, explored various approaches for establishing a significance threshold for GHG emissions. The draft interim CEQA thresholds guidance document was not adopted or approved by the Governing Board. However, in December 2008, the SCAQMD adopted an interim 10,000 MT CO_2e per-year screening level threshold for stationary source/industrial projects for which the SCAQMD is the lead agency (SCAQMD 2008c). The 10,000 MT CO_2e per-year threshold, which was derived from GHG reduction targets established in Executive Order S-3-05, was based on the conclusion that the threshold was consistent with achieving an emissions capture rate of 90% of all new or modified stationary source projects.

The SCAQMD formed a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds until statewide significance thresholds or guidelines are established. From December 2008 to September 2010, the SCAQMD hosted working group meetings and revised the draft threshold proposal several times, although it did not officially provide these proposals in a subsequent document. The SCAQMD has continued to consider adoption of significance thresholds for residential and general land-use development projects. The most recent proposal issued by SCAQMD, issued in September 2010, uses the following tiered approach to evaluate potential GHG impacts from various uses (SCAQMD 2010):

Tier 1. Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.

Tier 2. Consider whether or not the proposed project is consistent with a locally adopted GHG reduction plan that has gone through public hearing and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.

Tier 3. Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MT CO_2e per-year threshold for industrial uses would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MT CO_2e per year), commercial projects (1,400 MT CO_2e per year), and mixed-use projects (3,000 MT CO_2e per year). Under option 2, a single numerical screening threshold of 3,000

MT CO_2e per year would be used for all non-industrial projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.

Tier 4. Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency targets were established based on the goal of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2020 efficiency targets are 4.8 MT CO_2e per-service population for project-level analyses and 6.6 MT CO_2e per-service population for plan-level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.

Tier 5. Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

To determine the proposed project's potential to generate GHG emissions that would have a significant impact on the environment, its GHG emissions were compared to the SCAQMD recommended commercial project quantitative threshold of 1,400 MT CO_2e per year.

Construction Greenhouse Gas Emissions

Construction of the project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road haul and vendor trucks, and worker vehicles. The SCAQMD Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold (2009) recommends that "construction emissions be amortized over a 30-year project lifetime, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies." Thus, the total construction GHG emissions were calculated, amortized over 30 years, and added to the total operational emissions for comparison with the GHG significance threshold of 1,400 MT CO_2e per year. The determination of significance, therefore, is addressed in the operational emissions discussion following the estimated construction emissions.

CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described in Section 3.3. Construction of the project is anticipated to commence in June 2020, lasting a total of 12 months. On-site sources of GHG emissions include off-road equipment and off-site sources include haul trucks, vendor trucks, and worker vehicles. Table 3.8-1 presents construction GHG emissions for the project in 2020 and 2021 from on-site and off-site emission sources.

Table 3.8-1
Estimated Annual Construction GHG Emissions

Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
2020	123.83	0.02	0.00	124.42
2021	66.28	0.01	0.00	66.61
			Total	**191.03**
			Amortized Emissions (over 30 years)	**6.37**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
See Appendix A-1 for complete results.

As shown in Table 3.8-1, the estimated total GHG emissions during construction of would be approximately 191 MT CO_2e. Estimated project-generated construction emissions amortized over 30 years would be approximately 6 MT CO_2e per year. As with project-generated construction air quality pollutant emissions, GHG emissions generated during construction of the project would be short-term in nature, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions. Because there is no separate GHG threshold for construction, the evaluation of significance is discussed in the operational emissions analysis in the following text.

Operational Emissions

CalEEMod Version 2016.3.2 was used to estimate potential project-generated operational GHG emissions from vehicular sources, area sources (natural gas combustion and landscape maintenance), electrical generation (including electrical generation associated with water supply and wastewater treatment), and solid waste. Emissions from each category—area sources, energy sources, mobile sources, solid waste, and water supply and wastewater treatment—is discussed in the following text with respect to the project. For additional details, see Section 3.3 for a discussion of operational emission calculation methodology and assumptions, specifically for area, energy (natural gas), and mobile sources. Operational year 2021 was assumed to be the first full year of operation following completion of construction.

Area Sources

CalEEMod was used to estimate GHG emissions from the project’s area sources, which include operation of gasoline-powered landscape maintenance equipment, which produce minimal GHG emissions. It was assumed that 100% of the landscaping equipment would be gasoline powered. Consumer product use and architectural coatings result in VOC emissions, which are analyzed in air quality analysis only, and low-to-no GHG emissions.

Energy Sources

The estimation of operational energy emissions was based on CalEEMod land use defaults and units or total area (i.e., square footage) of the project's land uses. For nonresidential buildings, CalEEMod energy intensity value (electricity or natural gas usage per square foot per year) assumptions were based on the California Commercial End-Use Survey database. Emissions are calculated by multiplying the energy use by the utility carbon intensity (pounds of GHGs per kilowatt-hour for electricity or 1,000 British thermal units for natural gas) for CO_2 and other GHGs. Annual natural gas (non-hearth) and electricity emissions were estimated in CalEEMod using the emissions factors for SCE, which would be the energy source provider for the project. CalEEMod default energy intensity factors (CO_2, CH_4, and N_2O mass emissions per kilowatt-hour) for SCE is based on the value for SCE's energy mix in 2012.

Mobile Sources

All details for criteria air pollutants discussed in Section 3.3 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 EPA have established corporate fuel economy standards and GHG emission standards, respectively, for automobiles and light-, medium-, and heavy-duty vehicles. Implementation of these standards and fleet turnover (replacement of older vehicles with newer ones) will gradually reduce emissions from the project's motor vehicles. The effectiveness of fuel economy improvements was evaluated to the extent it was captured in the EMFAC2014 emission factors for motor vehicles in 2021.

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.

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 proposed project requires the use of electricity for conveyance and treatment, along with GHG emissions 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 estimated operational (year 2021) project-generated GHG emissions from area sources, energy usage, motor vehicles, solid waste generation, and water usage and wastewater generation are shown in Table 3.8-2.

Table 3.8-2
Estimated Annual Operational GHG Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2e
	metric tons per year			
Area	0.00	0.00	0.00	0.00
Energy	56.22	0.00	0.00	56.45
Mobile	356.56	0.02	0.00	357.00
Solid waste	4.57	0.27	0.00	11.31
Water supply and wastewater	8.49	0.03	0.00	9.40
			Total	**434.17**
			Amortized Construction Emissions	*6.37*
			Operation + Amortized Construction Total	**440.54**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent
See Appendix A-1 for detailed results.

As shown in Table 3.8-2, estimated annual project-generated GHG emissions would be approximately 434 MT CO_2e per year as a result of project operation. Estimated annual project-generated operational emissions in 2021 and amortized project construction emissions would be approximately 441 MT CO_2e per year. Annual operational GHG emissions with amortized construction emissions would not exceed the SCAQMD threshold of 1,400 MT CO_2e per year. Therefore, the project's GHG contribution would not be cumulatively considerable and is less than significant.

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

Less-than-Significant Impact. The City has developed the Energy Efficiency and Climate Action Strategy in October 2012 to reduce GHG emissions and thereby reduce their jurisdiction's contribution to global climate change concerns (City of Moreno Valley 2012b). However, this plan is not considered a Qualified GHG Emissions Reduction Plan under CEQA per the requirements outlined in CEQA Section 15183.5(D); therefore, no CEQA document can tier from the City's plan. While there is currently no local guidance that would be specifically applicable to the CEQA analysis of the proposed project, and no mandatory GHG plans, policies, regulations, or finalized agency guidelines that would apply to implementation of the proposed project, a description of the relevant plans with GHG reduction strategies is provided below.

The City adopted the Energy Efficiency and Climate Action Strategy, which set forth the goal of reducing City GHGs by to 15% below 1990 levels by 2020 (City of Moreno Valley 2012b), in accordance with AB 32. The GHG reductions set out in the plan are based on actions in key sectors, including mobile sources, transportation demand management, energy efficiency, renewable energy, heat island, water efficiency, and solid waste. The project would not conflict with any of the GHG reduction measures provided within the City's plan.

The Climate Change Scoping Plan, approved by CARB in 2008 and updated in 2014 and 2017, 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, and it is not intended to be used for project-level evaluations.[7] Under the Scoping Plan, however, there are several state regulatory measures aimed at identifying and reducing 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 and high-GWP GHGs in consumer products) and changes to the vehicle fleet (e.g., hybrid, electric, and more fuel-efficient vehicles) and associated fuels, among others.

Regarding consistency with Senate Bill 32 (goal of reducing GHG emissions to 40% below 1990 levels by 2030) and Executive Order S-3-05 (goal of reducing GHG emissions to 80% below 1990 levels by 2050), there are no established protocols or thresholds of significance for that future-year analysis. However, CARB has expressed optimism with regard to both the 2030 and 2050 goals. It states in the First Update to the Climate Change Scoping Plan: Building on the Framework that "California is on track to meet the near-term 2020 GHG emissions limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32" (CARB 2014). With regard to the 2050 target for reducing GHG emissions to 80% below 1990 levels, CARB (2014) states the following:

> This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000

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[7] The Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (California Natural Resources Agency 2009).

> megawatts of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under Assembly Bill 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80% below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions.

In other words, CARB believes that the state is on a trajectory to meet the 2030 and 2050 GHG reduction targets set forth in AB 32, Senate Bill 32, and Executive Order S-3-05. This is confirmed in the 2017 Climate Change Scoping Plan Update, which states (CARB 2017b):

> The Proposed Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while also identifying new, technologically feasibility and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Proposed Plan is developed to be consistent with requirements set forth in AB 32, SB [Senate Bill] 32, and AB 197.

The proposed project would not interfere with implementation of GHG reduction goals for 2030 or 2050 because it would not exceed the SCAQMD's recommended threshold of 1,400 MT CO_2e per year. In addition, the proposed project would not conflict with the state's trajectory toward future GHG reductions. Therefore, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs; therefore, the impact would be less than significant.

	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?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

3.9 Hazards and Hazardous Materials

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

Short-Term Construction Impacts

Less-than-Significant Impact. A variety of hazardous substances and wastes would be transported to, stored, used, and generated on the project site during construction of the project. These would include fuels for machinery and vehicles, new and used motor oils, cleaning solvents, paints, and storage containers and applicators containing such materials. Accidental spills, leaks, fires, explosions, or pressure releases involving hazardous materials represent a potential threat to human health and the environment if not properly treated. However, these materials would be transported, used, and disposed of in accordance with all federal, state, and local laws regulating the management and use of hazardous materials. For example, hazardous materials would not be disposed of or released onto the ground or into the underlying groundwater or any surface water during construction or operation of the project, and completely enclosed containment would be required for all refuse generated on the project site. Additionally, all construction waste, including trash, litter, garbage, solid waste, petroleum products, and any other potentially hazardous materials, would be removed to a waste facility permitted to treat, store, or dispose of such materials. Use of these materials during construction for their intended purpose would not pose a significant risk to the public or the environment.

The transport and use of hazardous materials would be required to comply with the guidelines set forth by each product's manufacturer, as well as with all applicable federal, state, and local regulations. The United States Department of Transportation, the California Department of Health Services, the California Department of Transportation, and the California Highway Patrol all have interrelated programs designed to prevent disasters during the transportation of hazardous materials. Additionally, the EPA and the Occupational Safety and Health Administration have interrelated programs designed to prevent the misuse of hazardous materials in the work place. Therefore, with compliance with all applicable federal, state, and local regulations, construction of the project would have a less-than-significant impact with regard to hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Long-Term Operational Impacts

Less-than-Significant Impact. Potentially hazardous materials associated with project operations would include those materials used during typical cleaning and maintenance activities. Although these potential hazardous materials would vary, they would generally include household cleaning products, paints, fertilizers, and herbicides and pesticides. Many of these materials are considered household hazardous wastes, common wastes, and/or universal wastes by the EPA; the EPA considers these types of wastes to be common to businesses and households and to pose a lower risk to people and the environment than other hazardous wastes when properly handled, transported, used, and disposed of. Federal, state, and local regulations typically allow these types of wastes to be handled and disposed of with less stringent standards than other hazardous wastes, and many of these wastes do not have to be managed as hazardous waste.

Additionally, any potentially hazardous material handled on the project site would be limited in both quantity and concentrations, consistent with other similar uses on the College campus and in the City, and any handling, transport, use, and disposal would comply with applicable federal, state, and local regulations. Additionally, as mandated by the Occupational Safety and Health Administration, all hazardous materials stored on the project site would be accompanied by a Material Safety Data Sheet, which would inform employees and first responders as to the necessary remediation procedures in the case of accidental release. Therefore, operational impacts associated with hazards to the public or the environment through the routine transport, use, or disposal 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. Construction activities on the project site would involve the transport of gasoline and other materials to the site during construction. Relatively small amounts of commonly used hazardous substances, such as gasoline, diesel fuel, lubricating oil, grease, and solvents would be used on site for construction and maintenance. The materials alone and use of these materials for their intended purpose would not pose a significant risk to the public or environment; however, accidental spills of hazardous materials during construction could potentially result in soil contamination or water quality impacts. To minimize/eliminate fuel spillage, all construction vehicles would be adequately maintained and equipped. All equipment maintenance work, including refueling, would occur off site or within the designated construction staging area. All potentially hazardous construction waste, including trash, litter, garbage, other solid wastes, petroleum products, and other potentially hazardous materials, would be removed to a hazardous waste facility permitted to treat, store, or dispose of such materials. Additionally, any potentially hazardous material handled on the project site during operation of the project would be limited in both quantity and concentration, consistent with other similar uses on the College campus, and any handling, transport, use, and disposal would comply with applicable federal, state, and local regulations. Therefore, with compliance with all applicable federal, state, and local regulations, the project would not 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, 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?

Less-than-Significant Impact. Lasselle Elementary School is located approximately 100 feet south of the proposed limits of temporary disturbance. As noted in responses (a) and (b), limited amounts of hazardous materials could be used during construction and operation of the project, including the use of standard construction materials (e.g., lubricants, solvents, and paints), cleaning and other maintenance products (used in the maintenance of buildings, pumps, pipes, and equipment), diesel and other fuels (used in construction and maintenance equipment and vehicles), and the limited application of pesticides associated with landscaping. These materials would be transported and handled in accordance with all federal, state, and local laws regulating the management and use of hazardous materials. None of these activities would result in the routine transport of, emission, or disposal of hazardous materials, and no acutely hazardous materials would be used on site during construction or operation of the project. All construction activity would be performed in compliance with state and federal regulations, and compliance with these regulations would ensure that the general public would not be exposed to any unusual or excessive risks related to hazardous materials during construction on the project site. Impacts would be less than significant. All equipment maintenance work, including refueling, would occur off site or within the designated construction staging area. All potentially hazardous construction waste, including trash, litter, garbage, other solid wastes, petroleum products, and other potentially hazardous materials, would be removed to a hazardous waste facility permitted to treat, store, or dispose of such materials. Once construction is complete, fuels and other petroleum products would no longer remain on site, and the use of the site as a welcome center and office/classroom space would not release any hazardous materials or emissions that would unduly affect the school.

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. As indicated on Figure 5.5-1 of the City General Plan EIR, the project site is not located on a hazardous waste site (City of Moreno Valley 2006b, Figure 5.5-1, Hazardous Materials Sites). Additionally, according to a review of regulatory databases, the project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Cortese List). The site has been vacant and no previous land uses warrant additional hazardous evaluations. Therefore, the project would not result in a significant hazard to the public or to the environment. While no impacts are anticipated due to contaminated soils on the project site, if contaminated soils are found during the course of construction for the proposed project, all standard hazardous remediation and removal procedures would be followed. No impacts related to on-site hazardous materials are anticipated.

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?

No Impact. The proposed project site is located approximately 2 miles east of the March Air Reserve Base area of flight operations. However, as identified on Figure 6-5, Airport Crash Hazards, of the City General Plan, the site is not located within an Accident Potential Zone (City of Moreno Valley 2006a, Section 6.10, Safety). Additionally, the project site is located outside of all Air Reserve Base compatibility zones, which consider noise generated by airport operations (March Joint Powers Authority 2010). As such, the proposed project would not expose people residing or working in the project area to excessive noise levels, and no impacts would occur.

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

Less-than-Significant Impact. Implementation of the proposed project would not result in interference with any existing emergency response plan or emergency evacuation plan. The major roadway to access the site is via Lasselle Street. While not identified in the City General Plan as a major evacuation route, the roadway would likely act as a major thoroughfare for the immediate area under such circumstances. The proposed project would not interfere substantially with the use of Lasselle Street and is not anticipated to result in any actions that would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Multiple entry and evacuation routes would remain on the College campus and any potential impacts are anticipated to be less than significant.

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. The proposed project is located in an area where urban development currently exists and it is not susceptible to the threat of wildland fires. While Figure 5.5-2 of the General Plan EIR (City of Moreno Valley 2006b) does identify areas of substantial wildfire risk east of the College, primarily around the open areas of Lake Perris, the proposed project itself is not located within a fire hazard area. Additionally, numerous access points to the eastern boundary of the College exist, and the College Park Fire Station is located due north of the College. Impacts would be less than significant.

	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?	☐	☐	☒	☐

3.10 Hydrology and Water Quality

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

Short-Term Construction Impacts

Less-than-Significant Impact. Construction of the project would include earthwork activities that could potentially result in erosion and sedimentation, which could subsequently degrade downstream receiving waters and violate water quality standards.

Stormwater runoff during the construction phase may contain silt and debris, resulting in a short-term increase in the sediment load of the municipal storm drain system. Substances such as oils, fuels, paints, and solvents may be inadvertently spilled on the project site and subsequently conveyed via stormwater to nearby drainages, watersheds, and groundwater.

Because the project would result in more than 1 acre of ground disturbance, the project would be subject to the NPDES stormwater program, which includes obtaining coverage under the State Water Resources Control Board's Construction General Permit. Construction activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground such as stockpiling or excavation. The Construction General Permit requires development and implementation of a SWPPP. Among the required items that must be included within a SWPPP are project design features intended to protect against substantial soil erosion as a result of water and wind erosion, commonly known as BMPs. The implementation of a Construction General Permit, including preparation of a SWPPP and implementation of BMPs, would reduce stormwater runoff during project construction impacts to acceptable levels. It follows that because construction of the project would not violate any water quality standards or waste discharge requirements, the project would not otherwise substantially degrade surface or groundwater quality. Therefore, short-term construction impacts associated with water quality would be less than significant.

Long-Term Operational Impacts

Less-than-Significant Impact. The project would be subject to the Municipal Separate Storm Sewer System (MS4) Permit, issued by the Santa Ana Regional Water Quality Control Board (RWQCB). The MS4 Permit requires implementation of Low Impact Development BMPs to prevent pollutants from being discharged off site by mimicking pre-development site hydrology and feasible source control. The Low Impact Development Ordinance is designed to reduce runoff from impervious surfaces, including new development, through landscape design that promotes water retention, permeable surface design, natural drainage systems, and on-site retention where feasible (RWQCB 2010). These project-specific designs would reduce impacts to water quality associated with redevelopment.

Additionally, a project-specific Water Quality Management Plan (WQMP) would be prepared for the proposed project. The WQMP would ensure appropriate BMPs are implemented for postconstruction and operations of the project. The combination of Low Impact Development BMPs, source control, and other treatment control BMPs addressed within the WQMP would address identified pollutants and hydrologic concerns from new development that could result in impacts to water quality standards (RWQCB 2010).

Further, the project would be required to comply with sections of the City Municipal Code that set forth regulations to protect and enhance the quality of watercourses, water bodies, and wetlands within the City in a manner consistent with the federal Clean Water Act, the California Porter-Cologne Water Quality Control Act, and the municipal NPDES permit. Applicable sections of the Municipal Code include Section 8.10, which outlines the requirements of the City's Storm Water and Urban Runoff Management and Discharge Controls, and Section 8.21 (Grading Regulations), which, among other things, requires verification by the City Engineer that all drainage facilities have been appropriately installed and that all erosion control measures have been completed in accordance with the approved grading plan and the required reports. Therefore, long-term impacts associated with water quality, including surface water quality and groundwater quality, would be 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. As discussed in the City General Plan, groundwater only provides a small fraction of the local water supply. Nonetheless, it is a valuable natural resource that needs to be protected (City of Moreno Valley 2006a, Section 6.7, Water Quality). While undeveloped, the project site consists of a grass field and does not contain a groundwater recharge basin or other facilities that promote groundwater recharge. Thus, under the existing condition, the project site is not considered an important location for groundwater recharge.

Although the project would add impervious surfaces to the project site, once operational, the project site would contain landscaped areas and other pervious surfaces that would allow for water to percolate into the subsurface soils. Additionally, the project would incorporate structural and treatment control BMPs to ensure that the project would not adversely affect water quality.

In addition, groundwater was not encountered during subsurface explorations performed for a separate project within the College (Leighton Consulting Inc. 2009). The subsurface explorations consisted of exploratory bores to a maximum depth of 50.5 feet. Furthermore, the Riverside County Geologic Hazard Map (2004, cited in Leighton Consulting Inc. 2009) shows historically shallowest groundwater levels within the Moreno Valley floor 0.5 miles to the west of the site at a depth of approximately 150 feet below ground surface.

During construction, the proposed project would use only limited amounts of water resources for construction activities and landscaping activities. Minimal water use will be required for any of the additional office space or classroom facilities, and the City has adequate supply to currently meet their municipal, commercial, and industrial demands, as described in Section 3.19, Utilities and Service Systems. As such, impacts associated with groundwater recharge would be less than significant.

The project is not expected to encounter groundwater and would not involve permanent pumping of groundwater; therefore, the project would not substantially deplete groundwater supplies. Due to the incorporation of structural and treatment control BMPs, the proposed project would not substantially interfere with groundwater recharge. Impacts 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 <u>or through the addition of impervious surfaces</u>, in a manner which:***

i) ***Would result in substantial erosion or siltation on- or off-site;***

Less-than-Significant Impact. Refer to the previous response under section 3.10(a). Under existing conditions, the majority of the ground surface is covered with grass. Thus, implementation of the project would increase the amount of impervious areas on site and alter the existing drainage patterns; however, the project site does not currently have infiltration basins or capture systems in place to control stormwater runoff. The project would be required to conform to all applicable federal, state, and local requirements, including the current MS4 Permit adopted by the Santa Ana RWQCB. Compliance with these requirements would ensure the new drainage system is designed with adequate capacity to capture stormwater flow to prevent erosion or on-site or off-site siltation impacts.

As such, altering the on-site drainage pattern would be conducted in a manner consistent with all applicable standards related to the collection and treatment of stormwater; therefore, impacts associated with altering the existing drainage pattern of the project site 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. Refer to the previous response under section 3.10(a). Under existing conditions, the majority of the ground surface is covered with grass landscaping. Thus, implementation of the project would increase the amount of impervious areas on site and alter the existing drainage patterns; however, the project site does not currently have infiltration basins or capture systems in place to control stormwater runoff. The project would be required to conform to all applicable federal, state, and local requirements, including the current MS4 Permit adopted by the Santa Ana RWQCB. Compliance with these requirements would ensure the new drainage system is designed with adequate capacity to capture stormwater flow to prevent erosion or on-site or off-site siltation impacts.

As such, altering the on-site drainage pattern would be conducted in a manner consistent with all applicable standards related to the collection and treatment of stormwater; therefore, impacts associated with altering the existing drainage pattern of the project site would be 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; or***

Less-than-Significant Impact. Under the existing condition, the majority of the ground surface is covered with grass landscaping. The project site does not currently have infiltration basins or capture systems in place to control stormwater runoff. Although the project would increase the amount of impervious surfaces on the project site, the proposed drainage system would be designed to conform to all applicable federal, state, and local requirements, including the current MS4 Permit adopted by the Santa Ana RWQCB. Compliance with these requirements would ensure the new drainage system is designed to have adequate capacity to capture stormwater flow to prevent the conveyance of sediment, debris, and other constituents potentially contained in on-site stormwater from leaving the project site and impacting off-site and downstream receiving waters; therefore, impacts associated with water quality standards and runoff waters would be less than significant.

iv) ***Impede or redirect flood flows?***

No Impact. According to the Federal Emergency Management Agency Flood Insurance Rate Map No. 06065C0765G (FEMA 2008), the project site is located outside of both a 1% Annual Chance Flood Hazard Zone (100-year floodplain) and 0.2% Annual Chance Flood Hazard Zone (500-year floodplain). In addition, per the City General Plan, Figure 6-4 Flood Hazards, and the County of Riverside Land Information System (County of Riverside 2019), the project site is located outside of a dam inundation area; therefore, no impacts associated with flooding would occur. Therefore, the placement of an approximately 17,305 square foot building located within the existing College would have no effect on flood flows, and no impacts would occur in this regard.

d) ***Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?***

No Impact. Refer to Section 3.10(c)(iv). The project site is not near a lake that could be vulnerable to a seiche during high winds. Also, the project site is not within a coastal area or river delta that could be impacted by a tsunami. Finally, the topography of the site and project area is relatively flat and would not be subject to significant impacts from mudflow. Thus, no impact would occur.

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

Less-than-Significant Impact. The proposed project would comply with regional and local regulations requiring preparation of an SWPPP, and would not obstruct existing water quality control plans or groundwater sustainable management plans. In addition, the proposed project is not considered a suitable site for groundwater recharge and would not introduce impervious areas over a significant groundwater recharge zone. Therefore, impacts associated with conflict with a water quality control plan or sustainable groundwater management plan would be less than significant.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
X.	**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 applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

3.11 Land Use and Planning

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

No Impact. The proposed project is located within the existing College campus. The proposed project is compatible with adjacent land uses and facilities for College use. The proposed project would not divide an established community and is not expected to result in additional physical barriers between nearby land uses. As a result, there would be no impact.

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

No Impact. The project site is designated under the City General Plan as Public Facilities. Under the existing conditions, the project site consists of a grass landscaped field. The use of the site as a student welcome center would be consistent with the District's plan for the College and would further the overall goal of providing the City and the surrounding residents with quality education options. As discussed in the City General Plan, Objective 2.15 commands that the "Moreno Valley residents have access to high-quality educational facilities, regardless of their socioeconomic status or location within the City" (City of Moreno Valley 2006a). By increasing office space and classroom/conference area, the District is helping further this objective by providing access to high-quality educational facilities, regardless of residents' socioeconomic status or location within the City. The proposed project is therefore consistent with the City General Plan.

The project site is currently zoned as Moreno Valley Ranch Specific Plan – Community Facility (SP 193 CF). According to the Moreno Valley Ranch Specific Plan, the Community Facilities designation allows, among other uses, the principal use of the site as a community college and accessory buildings, structures, and uses related and incidental to this use of the site. Clearly, the use of the site as a welcome center in order to support the existing operations of the College is an acceptable use of the site under the Moreno Valley Ranch Specific Plan.

Development on the Moreno Valley College has traditionally been guided by iterations of the College Comprehensive Master Plan, which serves as a planning document for the College. While the proposed project is not explicitly envisioned in the 2015 Moreno Valley College Comprehensive Master Plan, the development of a welcome center located centrally within the campus aligns with the Master Plan's goals of developing high-quality facilities to support existing on-campus programs and student needs. Additionally, the design of the structure would meet the design guidelines for creating a unified yet varied college environment and would carry on the overall aesthetic theme as envisioned within the Master Plan.

Overall, the proposed project provides a benefit to the operations of the College and does not violate any policies within the City General Plan, Municipal Code, or any applicable specific plans in the area. Therefore, the project would not conflict with any applicable land use plan, policy, or regulation and would not represent a significant impact to the physical environment. No impact would occur.

	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?	☐	☐	☐	☒

3.12 Mineral Resources

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?

No Impact. The State Mining and Reclamation Act of 1975 (California Public Resources Code Section 2710 et seq.) requires that the California State Geologist implement a mineral land classification system to identify and protect mineral resources of regional or statewide significance in areas where urban expansion or other irreversible land uses may occur, thereby potentially restricting or preventing future mineral extraction on such lands.

As mandated by the State Mining and Reclamation Act, aggregate mineral resources within the state are classified by the State Mining & Geology Board through application of the Mineral Resource Zone (MRZ) system. The MRZ system is used to map all mineral commodities within identified jurisdictional boundaries, with priority given to areas where future mineral resource extraction may be prevented or restricted by land use compatibility issues, or where mineral resources may be mined during the 50-year period following their classification. The MRZ system classifies lands that contain mineral deposits and identifies the presence or absence of substantial sand and gravel deposits and crushed rock source areas (i.e., commodities used as, or in the production of, construction materials). The State Geologist classifies MRZs within a region based on the following factors (DOC 2000):

MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.

MRZ-2: Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.

> **MRZ-2a:** Areas underlain by mineral deposits where geologic data show that significant measured or indicated resources are present
>
> **MRZ-2b:** Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present.

MRZ-3: Areas containing mineral deposits for which the significance cannot be determined from available data.

> **MRZ-3a:** Areas containing known mineral deposits that may qualify as a mineral resource
>
> **MRZ-3b:** Areas containing inferred mineral deposits that may qualify as mineral resources.

MRZ-4: Areas where available information is inadequate for assignment of any other MRZ category.

According to maps prepared by the California Department of Conservation (CGS 2008), most of the City, including the project site, has been designated as MRZ-3. This designation indicates that the State of California has determined this is an area where mineral deposits are likely; however, their significance has not been determined. Further, according to the City General Plan EIR (City of Moreno Valley 2006b), the California Department of Conservation, Division of Mines and Geology, has not identified significant mineral resources within the City.

The City General Plan (City of Moreno Valley 2006a) does not identify any mineral recovery sites within the City or any active mining areas beyond the Jack Rabbit Canyon Quarry located northeast of Jack Rabbit Trail and Gilman Springs Road next to the Quail Ridge Golf Course. The quarry has been inactive since 2001. The proposed site is not currently being used for mineral resource extraction, has no history of such use, and is currently developed in an urbanized area designated for public facilities. The proposed project site is located within the designated boundary of the College and is part of the District's plans for continued growth and improvement of the College in order to enhance higher education opportunities to the surrounding area. No mining operations would be impacted by this development and the site would likely never be used for any mining operations in the future. Nowhere in the area has the City designated or zoned land for mining uses. Given these factors, the proposed project would not result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the state, and impacts 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?

No Impact. Please refer to Section 3.11(a). The proposed project would not 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.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. 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?	☐	☐	☐	☒

3.13 Noise

Noise is defined as unwanted sound. Sound may be described in terms of level or amplitude (measured in decibels (dB)), frequency or pitch (measured in hertz or cycles per second), and duration (measured in seconds or minutes). 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 (dBA) scale 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. These descriptors include the equivalent noise level over a given period (L_{eq}), the statistical sound level, the day–night average noise level (L_{dn}), and the community noise equivalent level (CNEL). Each of these descriptors uses units of dBA. Table 3.13-1 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 the sound level.

Table 3.13-1
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 kilometers per hour (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

Source: Caltrans 2013a.

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. L_{max} is the greatest sound level measured during a designated time interval or event.

Unlike the L_{eq} metrics, L_{dn} and CNEL metrics always represent 24-hour periods, usually on an annualized basis. L_{dn} and CNEL also differ from L_{eq} because they apply a time-weighted factor designed to emphasize noise events that occur during the evening and nighttime hours (when speech and sleep disturbance is of more concern). “Time weighted” refers to the fact that L_{dn} and CNEL penalize noise that occurs during certain sensitive periods. In the case of CNEL, noise occurring during the daytime (7:00 a.m.–7:00 p.m.) receives no penalty. Noise during the evening (7:00 p.m.–10:00 p.m.) is penalized by adding 5 dB, while nighttime (10:00 p.m.–7:00 a.m.) noise is penalized by adding 10 dB. L_{dn} differs from CNEL in that the daytime period is defined as 7:00 a.m.–10:00 p.m., thus eliminating the evening period. L_{dn} and CNEL are the predominant criteria used to measure roadway noise affecting residential receptors. These two metrics generally differ from one another by no more than 0.5 dB to 1 dB and, as such, are often treated as equivalent to one another.

Vibration

Vibration is an oscillatory motion through a solid medium in which the motion’s amplitude can be described in terms of displacement, velocity, or acceleration. Vibration can be a serious concern, causing buildings to shake and rumbling sounds to be heard. In contrast to noise, vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of vibration are trains, buses on rough roads, and construction activities such as blasting, pile driving, and heavy earthmoving.

Several different methods are used to quantify vibration. Peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. PPV is most frequently used to describe vibration impacts to buildings and is usually measured in inches per second. The root mean square amplitude is most frequently used to describe the effect of vibration on the human body and is defined as the average of the squared amplitude of the signal. Decibel notation is commonly used to measure root mean square. 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.

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 near the project site include residential uses located to the northwest, west, and southeast, as well as the on-site child care facility to the south, the on-site classrooms to the north, and the elementary school to the south. These sensitive receptors represent the nearest sensitive land uses with the potential to be impacted by construction and operation of the proposed project.

Existing Noise Conditions

Noise measurements were conducted near the project site on November 8, 2018, to characterize the existing noise levels (Figure 6, Noise Measurement and Modeling Locations). Table 3.13-2 provides the location, date, and time the noise measurements were taken. The noise measurements were taken using a Soft dB Piccolo sound level meter equipped with a 0.5-inch, pre-polarized condenser microphone with pre-amplifier. The sound level meter meets the current American National Standards Institute standard for a Type 2 (General Use) sound level meter. The accuracy of the sound level meter was verified using a field calibrator before and after the measurements, and the measurements were conducted with the microphone positioned approximately 5 feet above the ground.

Table 3.13-2
Measured Noise Levels

Receptors	Location	Date	Time	L_{eq} (dBA)	L_{max} (dBA)
ST1	On campus, in quad in front of student Academic Services Building.	11/08/18	11:22 a.m.–11:37 a.m.	58.3	75.2
ST2	On campus, on pathway between Science and Technology Building and student parking lot.	11/08/18	11:42 a.m.–11:57 a.m.	54.5	67.1
ST3	On Campus, adjacent to childcare facility, and across street from Lasselle Elementary School.	11/08/18	12:09 p.m.–12:24 p.m.	60.8	74.4
ST4	Adjacent to play area north of residences on Clydesdale Lane	11/08/18	12:28 p.m.–12:43 p.m.	64.6	85.3
ST5	On Lasselle Street at edge of on-site parking lot; across street from residences on west side of street.	11/08/18	1:00 p.m.–1:15 p.m.	70.8	83.8
ST6	On Lasselle Street adjacent to residential complex.	11/08/18	1:37 p.m.–1:52 p.m.	73.4	85.9

L_{eq} = equivalent continuous sound level (time-averaged sound level); L_{max} = maximum sound level during the measurement interval; dBA = A-weighted decibels.

Six short-term noise measurements (ST1–ST6) were conducted on site and adjacent to nearby noise-sensitive land uses. The measured energy-averaged (L_{eq}) and maximum (L_{max}) noise levels are provided in Table 3.13-2. The field noise measurement data sheets are provided in Appendix D-1. The primary noise sources consisted of traffic on the local roadways (Lasselle cStreet, Krameria Avenue, Cahuilla Drive), distant conversations, rustling leaves, and bird song. As shown in Table 3.13-2, the measured sound levels ranged from approximately 55 to 73 dBA L_{eq}.

Estimated Vehicular Noise

The existing 24-hour, time-weighted (CNEL) traffic noise levels were modeled using the Federal Highway Administration (FHWA) Traffic Noise Model (TNM) version 2.5 (FHWA 2004) and existing traffic volumes from the proposed project's traffic impact study (see Section 3.17). Traffic noise levels were modeled at representative on-site and off-site noise-sensitive receivers. The receivers, which represent noise-sensitive receivers with the most potential to be impacted by project-related traffic noise, are shown in Figure 6. As shown in Figure 6, sites ST1 through ST3 represent on-campus uses and sites ST4 through ST6 and M1 through M4[8] represent existing off-site receivers.

The results of the traffic modeling for the existing conditions are summarized in Table 3.13-3 (Traffic Noise – Existing), and the traffic noise modeling data is shown in Appendix D-2. As shown in Table 3.13-3, the existing modeled traffic noise levels range from approximately 44 dBA CNEL at receiver ST2 to 73 dBA CNEL at receiver ST6.

Table 3.13-3
Traffic Noise – Existing

Modeled Receiver	Description	Existing (dBA CNEL)
ST1	On campus, in quad in front of student Academic Services Building	51
ST2	On campus, on pathway between Science and Technology Building and student parking lot	44
ST3	On Campus, adjacent to childcare facility, and across street from Lasselle Elementary School	57
ST4	Adjacent to play area north of residences on Clydesdale Lane	62
ST5	On Lasselle Street at edge of on-site parking lot; across street from residences on west side of street	72
ST6	On Lasselle Street adjacent to residential complex	73
M1	Adjacent to Laselle Street, rear yard residences northwest of project site	64
M2	Adjacent to Krameria Avenue, rear yard residences southeast of project site	60

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[8] Receivers M1 through M4 are modeled-only locations, intended to supplement the analysis of potentially affected noise-sensitive land uses, whereas ST1 through ST6 are measured and modeled locations.

Table 3.13-3
Traffic Noise – Existing

Modeled Receiver	Description	Existing (dBA CNEL)
M3	Adjacent to Krameria Avenue and Cahuilla Drive, at Laselle Elementary School south of project site	56
M4	Adjacent to Laselle Street, rear yard residences southwest of project site	61

Source: Appendix D-2.
Note: dBA = A-weighted decibel; CNEL = community noise equivalent level.

Regulatory Setting

City of Moreno Valley

The project site is located within the City, as are the existing residences and other noise-sensitive land uses in the surrounding area. The City outlines its noise regulations and standards as they pertain to this project in the Municipal Code (City of Moreno Valley 2007a). As a state-funded agency, the District is not regulated by City noise standards; although the District will make every effort to adhere to the Municipal Code regulations, it is not bound by them. The information provided below is presented for informational purposes.

The City Municipal Code, Chapter 11.80, Noise Regulation, provides performance standards and noise control guidelines for determining and mitigating non-transportation or stationary-source noise impacts from operations at private properties. The City Municipal Code defines maximum sound levels (in terms of dBA L_{eq}) for source land uses in Table 11.80.030-2 for residential and commercial land uses. As defined by the Municipal Code, Section 11.80.020, Definitions, commercial land use means all uses of land not otherwise classified as residential, and residential land use means all uses of land primarily for dwelling units, hospitals, schools, colleges and universities, and places of religious assembly. Based on this classification, the operational noise level limits for the adjacent noise-sensitive land uses (residences and the elementary school) would be 60 dBA L_{eq} during the daytime hours (8:00 a.m. to 10:00 p.m.) and 55 dBA L_{eq} during the nighttime hours (10:01 p.m. to 7:59 a.m.) at a distance of 200 feet or more from the real property line of the source of the sound, if the sound occurs on privately owned property, or from the source of the sound, if the sound occurs on public right-of-way, public space, or other publicly owned property. These noise standards are shown in Table 3.13-4.

Table 3.13-4
Operational Noise Standards at 200 feet from Source

Land Use	Time Period	Maximum Permissible Exterior Noise Level at 200 feet (dBA L_{eq})
Residential	Daytime (8:00 a.m. to 10:00 p.m.)	60
	Nighttime (10:01 p.m. to 7:59 a.m.)	55
Commercial	Daytime (8:00 a.m. to 10:00 p.m.)	65
	Nighttime (10:01 p.m. to 7:59 a.m.)	60

Source: City of Moreno Valley Municipal Code, Chapter 11.80 Noise Regulation, Table 11.80.030-2, Maximum Sound Levels (in dBA) for Source Land Uses when measured at a distance of 200 feet from the property line of the source land use.
Note: dBA = A-weighted decibel; L_{eq} = equivalent noise level.

Construction Noise Regulation

In subsection D(7), Specific Prohibitions, of Section 11.80.030, Prohibited Acts, the City requires that no person shall operate or cause the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work between the hours of 8:00 p.m. and 7:00 a.m. the following day such that the sound there from creates a noise disturbance.

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?

Less-than-Significant Impact With Mitigation Incorporated.

Construction of the Proposed Project

Construction noise and vibration levels are temporary phenomena that can vary from hour to hour and day to day, depending on the equipment in use, the operations being performed, and the distance between the source and receptor.

Equipment that would be in operation during proposed construction would include, in part, excavators, concrete saws, compressors, welders, and paving equipment. Table 3.13-5 presents typical maximum noise levels for various pieces of construction equipment at a distance of 50 feet (note that these are maximum noise levels). Typically, construction equipment operates in alternating cycles of full power and low power, producing average noise levels less than the maximum noise level presented in Table 3.13-5. The average sound level of construction activity also depends on the amount of time that the equipment operates and the intensity of construction activities during that time.

Table 3.13-5
Typical Construction Equipment Noise Emission Levels

Equipment	Typical Sound Level (dBA) 50 Feet from Source
Air compressor	81
Backhoe	80
Compactor	82
Concrete mixer	85
Concrete pump	82
Concrete vibrator	76
Crane, mobile	83
Dozer	85
Generator	81
Grader	85
Impact wrench	85
Jackhammer	88
Loader	85
Paver	89
Pneumatic tool	85
Pump	76
Roller	74
Saw	76
Truck	88

Source: DOT, Federal Transit Administration, Office of Planning and Environment 2006.
Note: dBA = A-weighted decibels.

For the equipment typically used to complete a development project such as the proposed project, the maximum noise levels at 50 feet would be approximately 89 dBA, although the hourly noise levels would vary. Construction noise in a well-defined area typically attenuates at approximately 6 dB per doubling of distance. Project construction would take place within approximately 30 feet of the nearest noise-sensitive land uses (residences to the east) during trenching work, but would otherwise be located approximately 640 feet or more away from other noise-sensitive land uses. Because of the linear nature of the trenching phase, the amount of time that trenching work would occur immediately adjacent to any one noise-sensitive receiver would generally be relatively short (typically, 1 to 2 days).

The FHWA Roadway Construction Noise Model (RCNM) (FHWA 2008) was used to estimate construction noise levels. Although the model was funded and promulgated by the FHWA, the RCNM is often used for non-roadway projects because the same types of construction equipment used for roadway projects are often used for other types of construction. Input variables for the RCNM consist of the receiver/land use types, the equipment type and number of each (e.g., two graders, a loader, a tractor), the duty cycle for each piece of equipment (e.g., percentage of hours the equipment typically works per day), and the distance from the noise-sensitive receiver. No topographical or structural shielding was assumed in the modeling. 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 used for this noise analysis.

Construction scenario assumptions, including phasing and equipment mix, were based on information from the District and the CalEEMod default values developed for the air quality and GHG emissions impacts analysis. Table 3.13-6 summarizes the estimated construction noise, with separate calculations provided for the different types of construction activities that would occur for this project. The RCNM inputs and outputs are provided in Appendix D-3.

Table 3.13-6
Construction Noise Model Results Summary

Construction Phase	**Construction Noise at Representative Receiver Distances (L_{eq} (dBA))**			
	Elementary School to the south	*Residences to the west*	*Residences to the southeast*	*Residences to the northwest*
Site Preparation	61	61	60	58
Grading	64	63	62	60
Building Construction	57	56	56	54
Paving	61	60	59	58
Architectural Coating	52	61	50	48
Trenching	68	52	83	53
Summary of Noise Model Results				
Highest Construction Noise Levels	68	63	83	60
Lowest Construction Noise Levels	52	52	50	48
Ambient Noise Levels*	57	72	62	73

Source: Appendix D-3.
Notes: L_{eq} = equivalent noise level; dBA = A-weighted decibel.
* - Measured noise levels from Table 3.13-3

As shown in Table 3.13-6, the construction noise levels at nearby noise-sensitive land uses are predicted to range from approximately 83 dBA L_{eq} when open-trench construction would take place adjacent to residences to the southeast, to approximately 48 dBA L_{eq} at residences to the northwest during the architectural coating phase. Compared to the ambient noise levels measured in the project vicinity, noise levels from construction would (during the loudest phases) result in substantial temporary noise level increases at Lasselle Elementary School and at the residences to the southwest of the project site. During other project phases, construction noise, though audible, would not result in substantial temporary noise increases. With implementation of **MM-NOI-1**, noise levels from construction activities would be reduced to a less-than-significant level.

Operation of the Proposed Project

Less-than-Significant Impact. Long-term (i.e., operational) noise associated with the proposed project would include traffic noise from additional vehicle trips, as well as noise from on-site mechanical equipment such as HVAC equipment. The proposed project does not include any outdoor activities areas, outdoor performance spaces, or other areas where exterior noise would be generated.

Traffic Noise. The proposed project would generate additional traffic trips along several existing roads in the area including Lasselle Street, Kameria Avenue, and Cahuilla Drive (Dudek 2019). Potential noise effects from vehicular traffic associated with a variety of project-related operational scenarios were assessed using FHWA TNM version 2.5 (FHWA 2004). Data used to model noise from vehicular traffic was derived from the project-specific Traffic Impact Analysis report prepared by Dudek (Appendix E-1, Traffic Counts, and Appendix E-2, LOS Worksheets). Information used in the model consisted of project geometry, traffic volumes (aggregated turn movements), and speeds (posted speed limits) for the following scenarios:

- Existing PM[9] Peak Hour
- Existing plus Project PM Peak Hour
- Opening Year (2021) PM Peak Hour
- Opening Year (2021) plus Project PM Peak Hour

Noise levels were modeled at representative noise-sensitive receivers (ST1 through ST6 and M1 through M4). The receivers were modeled to be 5 feet above the local ground elevation. TNM modeling input and output files are provided in Appendix D-2. Traffic noise impacts were calculated by comparing the various existing baseline modeled noise results with the existing plus project results. The results are presented in Table 3.13-7.

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[9] Based upon examination of the traffic data, the PM peak hour volumes were generally greater than the AM peak hour volumes. Therefore, the PM peak hour volumes were used for the traffic noise modeling.

Table 3.13-7
Modeled Traffic Noise With and Without Project (CNEL (dBA))

Modeled Receiver	Description	Existing	Existing with Project	Difference	Opening Year	Opening Year with Project	Difference
ST1	On campus, in quad in front of student Academic Services Building	51	51	0	51	51	0
ST2	On campus, on pathway between Science and Technology Building and student parking lot	44	44	0	44	44	0
ST3	On Campus, adjacent to childcare facility, and across street from Lasselle Elementary School	57	57	0	57	57	0
ST4	Adjacent to play area north of residences on Clydesdale Lane	62	62	0	62	62	0
ST5	On Lasselle Street at edge of on-site parking lot; across street from residences on west side of street	72	72	0	73	73	0
ST6	On Lasselle Street adjacent to residential complex	73	73	0	74	74	0
M1	Adjacent to Lasselle Street, rear yard residences northwest of project site	64	64	0	64	64	0
M2	Adjacent to Krameria Avenue, rear yard residences southeast of project site	60	60	0	60	60	0
M3	Adjacent to Krameria Avenue and Cahuilla Drive, at Lasselle Elementary School south of project site	56	56	0	57	57	0
M4	Adjacent to Lasselle Street, rear yard residences southwest of project site	61	61	0	62	62	0

Source: Appendix D-2.
Note: CNEL = community noise equivalent level; dBA = A-weighted decibels.

As shown in Table 3.13-7, typical existing traffic noise levels would not increase as a result of the proposed project. At the nearby modeled receivers, project-related noise levels would increase by less than 1 dB. This is because additional project trips associated with the proposed project would be relatively few in number compared to existing traffic along Lasselle Street, Krameria Avenue, and the other nearby arterial roadways. Changes in noise level of this order (less than 1 dB) would not be audible. Therefore, the traffic noise level increase associated with the project is considered less than significant.

On-Site Mechanical Equipment Noise. HVAC equipment would have the potential to create noise impacts. The specific details (location, size, manufacturer, and model) of the HVAC equipment have not yet been determined. However, based on examination of several major manufacturers' HVAC equipment specifications for representative models (details of which are provided in Appendix D-4, Mechanical Noise Data), the dimensionless sound power levels[10] were found to range from approximately 68 dBA to 92 dBA.

The nearest existing off-site noise-sensitive use (the elementary school) would be approximately 640 feet to the south of the proposed project site. Conservatively assuming a sound power level of 92 dBA, the noise level at a distance of 200 feet would be approximately 49 dBA. The noise level would be approximately 38 dBA at the elementary school, 640 feet away. Furthermore, all HVAC or other mechanical equipment would be shielded from direct view by a rooftop parapet barrier, which would provide additional noise reduction. Therefore, noise from on-site mechanical equipment would not exceed the City's stationary-source noise standard (60 dBA L_{eq} daytime, 55 dBA L_{eq} nighttime) as detailed previously in Table 3.13-4, nor would it result in a substantial noise increase. Therefore, impacts associated with on-site mechanical noise would be less than significant.

Mitigation Measure

To reduce potentially significant impacts related to construction of the proposed project, the following mitigation is provided.

MM-NOI-1: Prior to grading permit issuance, the Riverside Community College District shall ensure the following:

- All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers.

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[10] Sound power or acoustic power is the rate at which sound energy is emitted, reflected, transmitted, or received, per unit time. It is calculated and expressed in watts and as sound power level (L_W) in decibels. It is the power of the sound force on a surface of the medium of propagation of the sound wave. For a sound source, unlike sound pressure (L_P), sound power is neither room-dependent nor distance-dependent. Sound pressure is a measurement at a point in space near the source, whereas the sound power of a source is the total power emitted by that source in all directions. The relation between sound power and sound pressure used for this analysis was the following:

$$L_P = L_W – 20*Log(R) + 2.5,$$

where R is the source–receiver distance of interest, in feet—as for a free field above a reflecting plane (Diehl 1973).

- Construction noise reduction methods such as shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, maximizing the distance between construction equipment staging areas and occupied residential areas, and use of electric air compressors and similar power tools, rather than diesel equipment, shall be used where feasible.
- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from or shielded from sensitive noise receivers.
- During construction, stockpiling and vehicle staging areas shall be located as far as practical from noise sensitive receptors.
- Construction activities should be limited to the hours of 7:00 a.m. to 5:00 p.m., Monday through Saturday.

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Less-than-Significant Impact. Construction activities have the potential to expose persons to excessive ground-borne vibration or ground-borne noise. The California Department of Transportation has collected ground-borne vibration information related to construction activities indicating that continuous vibrations with a PPV of approximately 0.1 inches/second begin to annoy people (Caltrans 2013b). The heavier pieces of construction equipment, such as an excavator, would have PPVs of approximately 0.089 inches/second or less at a distance of 25 feet (DOT, Federal Transit Administration, Office of Planning and Environment 2006). Ground-borne vibration is typically attenuated over short distances. At the distance from the nearest residences to the nearest construction work (off-site trenching; approximately 30 feet), and with the anticipated construction equipment, the PPV vibration level would be approximately 0.0677 inches/second. This vibration level would be below the vibration threshold of potential annoyance of 0.1 inches/second. During the majority of the rest of the construction work, the distances to the nearest off-site noise- and vibration-sensitive land uses would be substantially greater (approximately 640 feet or more).

The major concern with regard to construction vibration is related to building damage. Construction vibration as a result of the proposed project would not result in structural building damage, which typically occurs at vibration levels of 0.5 inches/second or greater for buildings of reinforced-concrete, steel, or timber construction. The heavier pieces of construction equipment used would include typical construction equipment for this type of project, such as backhoes, front-end loaders, and flatbed trucks. Pile driving, blasting, and other special construction techniques would not be used for construction of the proposed project; therefore, excessive ground-borne vibration and ground-borne noise would not be generated. Vibration levels from project construction would be less than the thresholds of annoyance and potential for structural damage. Operation of the proposed project would not result in any sources of vibration. Therefore, impacts would be less than significant.

c) Would the project be located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The closest airport to the project site is March Air Reserve Base/Inland Port Airport, which is located approximately 2.5 miles west of the project site. According to Riverside County's March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan (Riverside County Airport Land Use Commission 2014), the project site is located just outside of the March Air Reserve Base/Inland Port Airport's influence area boundary. No private airstrips are located within the broader vicinity of the City (AirNav.com 2019). Thus, air traffic noise associated with the airport would not expose construction workers or District or City employees to excessive noise levels. Therefore, no impacts associated with public airport and air traffic noise would occur.

	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?	☐	☐	☐	☒

3.14 Population and Housing

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 proposed project would not directly induce substantial population growth in the area, as no residential units are proposed. However, the proposed project involves construction and operation of a welcome center building, which would require temporary construction and permanent operational workforces, both of which could potentially induce population growth in the project area. The temporary workforce would be needed to construct the Welcome Center building and associated on-site improvements. The number of construction workers needed during any given period would largely depend on the specific stage of construction but would likely be, on 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 area vicinity; therefore, construction of the proposed project would not generate a permanent increase in population within the project area.

Once operational, the project would consist of a new building that would house existing College student services. The District, as the lead agency, has anticipated the addition of such a space as part of its master planning efforts for the College. The proposed project would provide the College with a larger and state-of-the-art space that would allow it to continue to provide services to its student body. These services would include financial aid, academic counseling, tutoring, study spaces, and other support services. Obtaining these goals would have no direct or indirect impact on population growth. Once operational, the new Welcome Center building would be operated by the existing school staff and no new staff would be required. Therefore, the proposed project would not directly or indirectly induce substantial population growth in the area. Impacts 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 proposed project consists of the construction of a new welcome center on an existing lot within the College boundaries. The proposed project would not displace existing housing and would not necessitate the construction of replacement housing elsewhere. Therefore, there would be no impact.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES				
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?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

3.15 Public Services

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 County of Riverside Fire Department in order to provide fire services, including to the proposed project site. The City is served by five stations within its boundary, along with another station that is shared with the City of Riverside. According to the City General Plan (City of Moreno Valley 2006a), there are a total of five first-line municipal fire engines, three second-line municipal fire engines, one wildland fire engine, two aerial ladder trucks, five rescue squads, and one breathing support unit.

The closest fire station is Station 91 (College Park Fire Station), located at 16110 Lasselle Street, which was opened in 2003 and is located approximately one block north of the project site. The station houses one 75-foot ladder truck, one second-line engine, and one breathing support unit. Although the proposed project would require fire protection and/or paramedic services in the event of an emergency, the project is not expected to result in the need for new or physically altered fire facilities, or to result in the station's inability to maintain acceptable service ratios, response times, or other performance objectives. The increase in demand for fire protection services due to the proposed project would result in a less-than-significant impact.

Police protection?

Less-than-Significant Impact. The proposed project site is currently served by the City of Moreno Valley Police Department. According to the department website (City of Moreno Valley 2019), the City of Moreno Valley Police Department has an Administrative Division, Patrol Division, Special Enforcement Division, Traffic/Community Services Division, and a Detective Division. The Patrol Division has 9 supervising sergeants, 64 sworn patrol officers, 3 K-9 teams, and 10 non-sworn officers.

The Moreno Valley Police Department has adopted a "Zone Policing" strategy. The intent of Zone Policing is to improve response times to calls for service, make officers more familiar with community areas, and connect the department with citizens and business owners within their assigned zones. To facilitate this concept, the City has been divided into four zones and police officers are assigned to a specific zone. Each zone is comprised of a team that consists of a Zone Commander, Zone Supervisor, and Zone Coordinator. The proposed project falls within Zone 4.

While the City is served by ample police in order to address any issues in and around the College, the District has its police department, consisting of Chief of Police, three Sergeants, six Corporals, Police Officers, Reserve Officers, one Community Service Coordinator, and Community Service Aids. The bulk of these resources are located at the main Riverside City College in Riverside; however, there are four full-time officers assigned to the College, as well as a number of community service officers and part-time officers for shift overlap and special services. The proposed project is not anticipated to add a new strain on the existing police functions given the nominal increase in office/classroom space on the campus. Therefore, while the proposed project would require police protection services, the project is not expected to result in the need for new or physically altered police facilities, or to result in an inability to maintain acceptable service ratios, response times, or other performance objectives. The increase in demand for police protection services due to the proposed project would result in a less-than-significant impact.

Schools?

Less-than-Significant Impact. The construction and operation of the proposed project would not increase the population within the area. The proposed project is required for the existing staff and students located at the College. Therefore, the project would not generate the need for additional school capacity. Impacts would be less than significant.

Parks?

No Impact. The construction and operation of the proposed project would not increase the population within the area. The proposed project would not eliminate any parks or recreational opportunities. The proposed project is needed for the existing staff and students and would not dramatically increase the number of students attending this College, creating additional demand for parks in the surrounding community. Therefore, the project would not generate the need for additional parks. No impacts to parks are anticipated.

Other public facilities?

No Impact. The proposed project would not result in adverse impacts related to the provision of other public facilities, such as libraries or medical services. The proposed project is needed under existing conditions and would not contribute to a significant growth in the surrounding community and would also not exert undue pressure on other public facilities. In addition, the campus has a library and health services are provided on campus. No impacts to other public facilities are anticipated.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. RECREATION				
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.16 Recreation

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 proposed project is a new building on campus that would not result in significant new employment on the campus. The functions that would be housed in the new

Welcome Center are already occurring on campus, but are not efficiently housed in one building with enough space for students. Therefore, because the proposed project would not result in new employment on campus or bring new employees to the City, there would be no impact to existing neighborhood and regional parks. Construction workers hired to construct the project would come from the local and regional area, likely not resulting in new residents to the City of Moreno Valley, given the short-term nature of the construction. In summary, the proposed project would not increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of those facilities would occur or be accelerated. No impact is anticipated.

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 proposed project does not include recreational facilities nor would it require the construction or expansion of recreational facilities. The proposed project is a new welcome center building on the College campus that is proposed for an open grassy area. No significant new employment would be required as part of this project resulting in new employees who would require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. Therefore, the proposed project would have no impact on recreational facilities.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII.TRANSPORTATION– Would the project:				
a) Conflict with program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)(1)??	☐	☐	☒	☐
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?	☐	☐	☒	☐

3.17 Transportation

a) ***Would the project conflict with program plan, ordinance or policy addressing the performance of the circulation system, including transit, roadway, bicycle and pedestrian facilities?***

Less-than-Significant Impact. The following assessment describes the existing and project traffic conditions and identifies potential traffic-related impacts associated with the proposed project per current operational traffic policies in the City. A traffic analysis has been prepared that evaluated the proposed project pursuant to CEQA and in accordance with the City Traffic Impact Analysis Preparation Guide (City of Moreno Valley 2007b). The traffic analysis follows the City's traffic study guidelines and is consistent with traffic impact assessment guidelines set forth in the Riverside County Congestion Management Program (RCTC 2011).

Methodology

To evaluate the effect that the project would have on traffic conditions, a level of service (LOS) analysis was conducted at two study area intersections, Lasselle Street/College Drive and Krameria Avenue/Cahuilla Drive, for the following scenarios:

- Existing Conditions
- Existing plus Project
- Opening Year 2021 Baseline (includes existing traffic plus the addition of a 2% annual growth rate and traffic from cumulative projects in the study area)
- Opening Year 2021 plus Project

The City utilizes the Highway Capacity Manual methodology to analyze the operation of signalized and unsignalized study intersections. The Highway Capacity Manual 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 for unsignalized intersections. Table 3.17-1 shows the levels and ranges of LOS for unsignalized and signalized intersections under the Highway Capacity Manual methodology.

Table 3.17-1
Levels of Service for Intersections Using Highway Capacity Manual 2010 Methodology

Level of Service	Unsignalized Intersections Control Delay (in seconds)	Signalized Intersections Control Delay (in seconds)
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: TRB 2010.

Significance Criteria

The minimum acceptable LOS for the City is LOS D for intersections that are adjacent to freeway on/off ramps and/or adjacent to employment generating land uses. LOS C is applicable at all other intersections. For the study area intersections analyzed, LOS C is the minimum acceptable LOS.

Deficient intersection LOS conditions occur once project-related trips cause the peak hour LOS to change from acceptable “pre-project” LOS (LOS C or better) to an unacceptable LOS (LOS D or worse). For intersections operating at an unacceptable LOS (LOS D or worse), the addition of 50 or more project trips would result in a significant impact.

County of Riverside Congestion Management Program

The Riverside County Transportation Commission is designated as the Congestion Management Agency for the region and prepares the Congestion Management Program. None of the study area intersections are in proximity to Congestion Management Program roadways or intersections; therefore, they would not add the minimum number of vehicle trips needed for an additional Congestion Management Program analysis.

Existing Circulation Network

Figure 7, Existing Traffic Controls and Geometrics, identifies the project’s two study intersections, the number of through traffic lanes for existing roadways, and intersection traffic controls. All intersection count data is presented in Appendix E-1.

Transit Service

The study area is served by the Riverside Transit Authority (RTA), which serves the College via Routes 18, 19, 20, and 41.

RTA Route 18 has stops along Lasselle Street directly west of the project and on College Drive. Route 18 provides access to the Moreno Valley Mall and the College and operates from 5:34 a.m. to 9:59 p.m. in the northbound direction and from 6:58 a.m. to 8:36 p.m. in the southbound direction during weekday service. The route also offers weekend/holiday service ranging from approximately 7:00 a.m. to 8:00 p.m.

RTA Route 19 has stops along Lasselle Street, providing access to the Moreno Valley Mall, the College, and the Perris Station Transit Center. Route 19 operates from 3:16 a.m. to 10:29 p.m. in the northbound direction and from 4:29 a.m. to 11:27 p.m. in the southbound direction during weekday service. The route also offers weekend/holiday service ranging from approximately 6:00 a.m. to 10:30 p.m.

RTA Route 20 has stops along Lasselle Street, providing access to Riverside University Medical Center, Kaiser Permanente Hospital, the College, and the Moreno Valley/March Field Metrolink Station. Route 20 operates from 4:18 a.m. to 10:37 p.m. in the eastbound direction and from 3:42 a.m. to 11:14 p.m. in the westbound direction during weekday service. The route also offers weekend/holiday service ranging from approximately 7:00 a.m. to 9:30 p.m.

RTA Route 41 has stops along Lasselle Street, providing access to the Riverside University Medical Center, the College, and the Mead Valley Community Center. Route 41 operates from 5:52 a.m. to 6:02 p.m. in the eastbound direction and from 5:56 a.m. to 6:58 p.m. in the westbound direction during weekday service. The route also offers weekend/holiday service ranging from approximately 7:00 a.m. to 7:00 p.m.

Bicycle and Pedestrian Facilities

There is currently a Class III bicycle route (i.e., a signed and shared roadway that provides for shared used with motor vehicle traffic) along Lasselle Street, west of the project between Iris Avenue and Krameria Avenue. Sidewalks currently exist along both sides of College Drive and Lasselle Street and on Krameria Avenue, south of Cahuilla Drive. These sidewalks currently serve pedestrians related to the College and the adjacent Lasselle Elementary School to the south of the College campus.

Project Trip Generation, Distribution, and Assignment

The project would result in construction of a new welcome center on the existing College campus. The Welcome Center would not result in significant new employment on campus, as functions within the new Welcome Center are already occurring in other areas of campus. The project is not anticipated to generate new traffic, as it would serve the College's existing and planned future enrollment. Therefore, the analysis of potential transportation impacts would be considered conservative.

For purposes of this analysis, the project's trip generation estimates for the daily and peak hour conditions are based on the trip generation rates identified by the Institute of Transportation Engineers.

Table 3.17-2
Project Trip Generation

Land Use	**Quantity (TSF)²**	**Daily**	**AM Peak Hour**			**PM Peak Hour**		
			In	*Out*	*Total*	*In*	*Out*	*Total*
Junior/Community College (ITE Code 540)	17.305	350	28	8	36	16	16	32
Total Trips		**350**	**28**	**8**	**36**	**16**	**16**	**32**

Sources: ITE 2017.
1. TSF = thousand square feet

As presented in Table 3.17-2, the proposed project would generate 350 daily trips, 36 AM peak hour trips (28 inbound trips and 8 outbound trips) and 32 PM peak hour trips (16 inbound trips and 16 outbound trips).

The project's trip generation was used to create a trip distribution and trip assignment based on logical routes of travel within the study area. Figure 9 displays the project trip assignment and distribution.

Existing Conditions

As indicated in Table 3.17-3, both study intersections are presently operating with satisfactory LOS at LOS C or better during the weekday AM and PM peak hours under existing conditions. Figure 8 displays the existing weekday AM and PM peak hour volumes. LOS reports are provided in Appendix E-2.

Existing Plus Project

The project trip assignment was added to the existing condition's volumes to analyze the Existing plus Project condition.

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Table 3.17-3
Existing plus Project Peak Hour Levels of Service

Intersection	Existing Conditions				Existing plus Project				Delay Change		Number of Project Trips Added		Significant Impact?	
	AM Peak Hour		*PM Peak Hour*		*AM Peak Hour*		*PM Peak Hour*							
	Delay[1]	*LOS*	*Delay*[1]	*LOS*	*Delay*[1]	*LOS*	*Delay*[1]	*LOS*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
1. Lasselle Street/College Drive	31.2	C	19.3	B	32.1	C	20.2	C	0.9	0.9	20	19	no	no
2. Krameria Avenue/Cahuilla Drive	10.7	B	8.1	A	10.8	B	8.1	A	0.1	0.0	11	10	no	no

Notes: LOS = level of service.

Bold = Unsatisfactory LOS. **Bold and highlighted** = significant impact.

[1] Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control.

As shown in Table 3.17-3, application of the City's threshold criteria to the Existing plus Project scenario indicates that that the proposed project would not create a significant impact at any of the study intersections, as intersection LOS would continue to operate at LOS C or better. Therefore, no traffic mitigation measures are required under the Existing plus Project condition. Figure 10 displays the Existing plus Project weekday AM and PM peak hour volumes. LOS worksheets are provided in Appendix E-2.

Opening Year 2021 Baseline

The Opening Year 2021 Baseline condition is based on the addition of traffic generated by cumulative (approved but not yet constructed or related development) projects in the area, as well as a growth rate of 2% per year. Cumulative projects were provided by the City's Planning Department. Figure 11 displays the locations of cumulative projects evaluated and Table 3.17-4 displays the trips generated by cumulative projects.

Table 3.17-4
Cumulative Projects Trips Generation Summary

No.	Project[1]	Daily	AM Peak Hour			PM Peak Hour		
			In	*Out*	*Total*	*In*	*Out*	*Total*
1	Continental East Phase II – Multifamily	915	14	44	58	44	26	70
2	36401 Continental East Fund II – Single Family	868	17	51	68	57	19	76
3	Villa Annette Apartments – Multifamily	1,610	23	78	101	78	46	124
4	South Moreno Valley Walmart Project	9,625	218	170	388	411	423	834
5	32142 GHA – Multifamily	454	7	22	29	22	13	35
6	PEN16-0130 ROCIII CA Belago LLC – Multifamily	3,052	44	148	192	147	87	234
7	33024 Adam Wisler – Single Family	76	1	5	6	5	3	8
8	2716 Bob Rogers – Single Family	538	11	32	43	36	21	57
9	31442 SKG Pacific Enterprises Inc – Single Family	595	12	35	47	39	24	63
Total Trip Generation		**17,773**	**347**	**585**	**932**	**839**	**661**	**1,500**

Sources: ITE 2017; Urban Crossroads 2015.

As indicated in Table 3.17-5, the intersection of Laselle Street/College Drive would degrade to an unsatisfactory LOS D in the AM peak hour in the cumulative (without project) condition. Krameria Avenue/Cahuilla Drive would continue to operate with satisfactory LOS at LOS B or better in both peak hours. Figure 12 displays the Opening Year 2021 Baseline weekday AM and PM peak hour volumes. LOS reports are provided in Appendix E-2.

Opening Year 2021 Plus Project

The project's trip generation was added to the Opening Year 2021 Baseline volumes to analyze the Opening Year 2021 plus Project condition.

As shown in Table 3.17-5, application of the City's threshold criteria to the Opening Year 2021 plus Project scenario indicates that that the proposed project would not create a significant impact at the study intersections. Although the intersection of Lasselle Street/College Drive is forecast to operate at LOS D in the AM peak hour, the project adds fewer than the 50 trips to the intersection, which is not considered to be a significant impact. Because there are no significant impacts, no traffic mitigation measures are required under the Opening Year plus Project condition. Figure 13 displays the Opening Year 2021 plus Project weekday AM and PM peak hour volumes. LOS reports are provided in Appendix E-2.

Table 3.17-5

Opening Year 2021 plus Project Peak Hour Levels of Service

Intersection	Opening Year 2021 Baseline				Opening Year 2021 plus Project				Delay Change		Number of Project Trips Added		Significant Impact?	
	AM Peak Hour		*PM Peak Hour*		*AM Peak Hour*		*PM Peak Hour*							
	Delay[1]	*LOS*	*Delay*[1]	*LOS*	*Delay*[1]	*LOS*	*Delay*[1]	*LOS*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
1. Lasselle Street/College Drive	**43.2**	**D**	22.4	C	**44.7**	**D**	23.4	C	1.5	1.0	20	19	no	no
2. Krameria Avenue/Cahuilla Drive	11.1	B	8.1	A	11.3	B	8.2	A	0.2	0.1	11	10	no	no

Notes: LOS = level of service.

Bold = Unsatisfactory LOS; **Bold and highlighted** = significant impact.

[1] Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control.

For the reasons described above, the project traffic would not generate significant impacts at any of the study area intersections. As such, it would not conflict with the City's criteria for the performance of intersections. Impacts related to vehicular traffic generated by the proposed project would therefore be less than significant.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)(1)?

Less-than-Significant Impact. As previously discussed within Section 3.6, the annual vehicle miles traveled (VMT) as a result of the project is expected to be 823,429 VMT. This value is based on the project's daily trip generation provided in Table 3.17-2. The project site is not within the necessary 0.5 mile distance of an existing major transit stop, nor is it within the vicinity of a stop along an existing high-quality transit corridor. At this moment, the City has not developed specific significance criteria nor have they adopted a methodology to analyze VMT-related impacts. However, for purposes of this analysis, a proposed project equaling or exceeding 15% of the existing regional VMT (per employee) may indicate a significant impact.

As previously discussed, the project is not expected to result in the hiring of more employees for the College, nor would it increase planned student enrollment; therefore, the increase in VMT as a result of the project is entirely attributable to the planned (and approved) increase in student population. These increases in student population will have already been included within local or regional transportation models, and as result, the project will not be adding VMT beyond what the baseline year already reflects. Therefore, impacts to CEQA Guidelines section 15064.3, subdivision (b)(1) would be less than significant.

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)?

No Impact. The proposed project would not include any new roadway design features, nor would it alter any existing geometric design features. The site access for the College would remain the same as existing conditions. This would ensure the safety of persons using the streets and sidewalks to the extent feasible. As such, the project would not substantially increase hazards due to a roadway design feature. No impact would occur.

d) Would the project result in inadequate emergency access?

Less-than-Significant Impact. As previously discussed, all project-related traffic would access existing parking lots for the College via College Drive, Cahuilla Drive, or Krameria Avenue. The project would not adjust or alter these roadways or access to the parking area and therefore would not create significant impediments for emergency access. Additionally, vehicular trips for the project would be low and not cause any adverse traffic impacts. Therefore, impacts to emergency access would be less than significant.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES				
a) 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:				
i) 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	☐	☐	☐	☒
ii) 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?	☐	☒	☐	☐

3.18 Tribal Cultural Resources

a) ***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:***

i) ***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 previously addressed in Section 3.5, Cultural Resources, no historic built environment resources were identified within the project site as a result of the California Historical Resources Information System records search. Therefore, the likelihood of historic resources, even subsurface, is low. No tribal cultural resources (either listed or eligible for listing) were identified within the project site as a result of the California Historical Resources Information System records search, NAHC Sacred Lands File search, or Native American outreach efforts. Therefore, there would be no impacts associated with historical resources listed or eligible for listing in the California Register of Historical Resources or a local register of historical resources.

ii) ***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 Sacred Lands Files search conducted by the NAHC failed to indicate the presence of Native American cultural resources in the immediate project area. The NAHC provided a list of nine Native American groups and individuals who may have knowledge of cultural resources in the project area. Letters were sent to each of the nine representatives on November 8, 2018, requesting any knowledge of resources in the project area.

Additionally, in compliance with AB 52, the District contacted all NAHC-listed California Native American tribal representatives that have previously requested project notification on January 4, 2019 with an invitation for formal consultation. To date, the District received responses from eight tribes:

- **Gabrieleno Band of Mission Indians—Kizh Nation:** Declined to initiate formal consultation; deferred to other tribes within the area.
- **Morongo Band of Mission Indians:** Declined to initiate formal consultation.
- **Agua Caliente Band of Cahuilla Indians:** Declined to initiate formal consultation; deferred to the Soboba and Morongo Band of Mission Indians.
- **Pechanga Band of Luiseño Indians:** Declined to initiate formal consultation.
- **Augustine Band of Cahuilla Indians:** Declined to initiate formal consultation.
- **Twenty-Nine Palm Band of Mission Indians:** Declined to initiate formal consultation.
- **Rincon Band of Luiseño Indians:** Requested formal consultation.
- **Soboba Band of Luiseño Indians:** Requested formal consultation.

District staff initiated formal consultation pursuant to AB 52 with the Rincon Band of Luiseño Indians on March 21, 2019 and the Soboba Band of Luiseño Indians on March 28, 2019. Mr. Bart Doering represented the District. The representative of the Rincon Band of Luiseño Indians stated that the proposed project is within the ancestral territory and traditional use area of the Rincon Band of Luiseño Indians and that the project area is potentially sensitive for buried deposits. Similarly, the Soboba Band of Luiseño Indians stated that project site is considered to be culturally sensitive by the people of Soboba. Therefore, both tribes requested that the District include mitigation measures as part of the project to preserve cultural resources in the event of the unanticipated discovery of archaeological resources or unanticipated discovery of human remains. During the formal consultation process, the District provided each tribe with proposed mitigation, and after consultation with both tribes, determined that implementation of **MM-TRC-1** and **MM-TRC-2** would appropriately mitigate impacts to tribal cultural resources to less than significant levels. Upon acknowledgment by the District that it would implement **MM-TRC-1** and **MM-TRC-2**, both the Rincon Band of Luiseño Indians and the Soboba Band of Luiseño Indians concluded formal consultation with the District. Therefore, with implementation of **MM-TRC-1** and **MM-TRC-2**, the project would have a less than significant impact with respect to tribal cultural resources.

MM-TRC-1 Worker Environmental Awareness (WEAP) Training shall be provided for all construction personnel involved in the new ground disturbance. In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the proposed project, all construction work occurring within 100 feet of the find shall 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 CEQA (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 (e.g., preparation of an archaeological treatment plan, testing, or data recovery) may be warranted. If Native American resources are discovered or are suspected, Native American tribes, as indicated by the Native American Heritage Commission, shall be notified to evaluate the significance of the resource.

MM-TRC-2 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, within 2 working days of notification of the discovery, 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 notify the NAHC in Sacramento within 24 hours. In accordance with California PRC, Section 5097.98, the NAHC must immediately notify those persons it believes to be the MLD from the deceased Native American. The MLD shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

	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 expaned water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities or expansion of existing facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project from existing entitlements and resources, 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?	☐	☐	☒	☐
g) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

3.19 Utilities and Service Systems

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

Less-than-Significant Impact. As part of the proposed project, utility service lines, including those for water, wastewater, stormwater drainage, electric power, natural gas, and telecommunications services, would be extended from their current locations within the College campus to the project site for operation of the proposed Welcome Center. Given that the activity of connecting utilities from their current locations on campus to the proposed Welcome Center would require ground disturbance and the use of heavy machinery associated with trenching, the connection of these utility services to the proposed Welcome Center could potentially result in environmental effects. However, the extension of these utility lines is part of the proposed project analyzed herein. As such, any potential environmental impacts related to these components of the proposed project are already accounted for in this IS/MND as part of the impact assessment conducted for the entirety of the proposed project. No adverse physical effects beyond those already disclosed in this IS/MND would occur as a result of implementation of the proposed project's utility system connections. Additionally, the project would constitute a nominal increase in utility usage, which has already been accounted for in growth projections for the College, City, and by each utility provider. No modifications to utility infrastructure would be necessary outside of the project site. 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 from existing entitlements and resources, and reasonably foreseeable future development during normal, dry and multiple dry years or are new or expanded entitlements needed?

Less-than-Significant Impact. The proposed project would be served by Eastern Municipal Water District (EMWD), which serves an area of approximately 555 square miles in western Riverside County. EMWD has four sources of water supply: local groundwater, desalinated groundwater, recycled water, and imported water from Metropolitan Water District.

As an urban water supplier, EMWD is required to assess the reliability of its water supply service under the multiple-dry year scenario. Based on historical extraction and estimated population growth rates, the projected water supply and demand for the single- and multiple-year dry year scenarios were calculated for the 2015 Urban Water Management Plan. Table 3.19-1 provides the EMWD supply-and-demand comparison.

Table 3.19-1
Multiple-Dry Year Supply-and-Demand Comparison (acre-feet per year)

Dry Year Scenario	Supply and Demand	2020	2025	2030	2035	2040
First Year	Supply totals	166,300	182,400	197,400	212,000	225,700
	Demand totals	166,300	182,400	197,400	212,000	225,700
	Difference	**0**	**0**	**0**	**0**	**0**
Second Year	Supply totals	142,500	155,400	167,400	179,000	190,100
	Demand totals	142,500	155,400	167,400	179,000	190,100
	Difference	**0**	**0**	**0**	**0**	**0**
Third Year	Supply totals	149,500	162,700	175,100	186,900	198,600
	Demand totals	149,500	162,700	175,100	186,900	198,600

Table 3.19-1
Multiple-Dry Year Supply-and-Demand Comparison (acre-feet per year)

Dry Year Scenario	Supply and Demand	2020	2025	2030	2035	2040
	Difference	0	0	0	0	0

Source: EMWD 2016, Table 7-8.

As shown in Table 3.19-1, EMWD has the ability to meet current and projected water demands through 2040 during historic multiple-dry year periods using imported water from Metropolitan Water District with existing supply resources. However, in the unlikely event of a drought, an earthquake that damages delivery facilities, or a regional power outage, EMWD has prepared a water shortage contingency plan. This plan involves five stages depending on the water supply conditions, with Stage 1 equating to a 10% supply reduction and Stage 5 equating to a 50% or greater supply reduction. Each stage towards Stage 5 includes further restrictions and prohibitions on water use to ensure adequacy of water supply. Based on the future and existing capacity, and water management measures, it is anticipated there are sufficient water supplies to serve the proposed project. Therefore, impacts associated with water supplies 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. EMWD manages wastewater for the proposed project service area. According to EMWD's updated Urban Water Management Plan (EMWD 2016), EMWD maintains a regional recycled water system that provides tertiary-treated recycled water to customers for agricultural, landscape irrigation, environmental, and industrial use. EMWD's recycled water system consists of four regional water reclamation facilities (RWRFs) that treat municipal sewage and produce water for recycling. The four RWRFs, the San Jacinto Valley RWRF, the Moreno Valley RWRF, the Temecula Valley RWRF, and the Perris Valley RWRF, are spread throughout EMWD's service area. While the majority of the project's wastewater would be treated at the Moreno Valley RWRF, interconnections between the local collections systems serving each treatment plant allow system operators to route wastewater to other RWRFs for operational flexibility and improved reliability. In 2015, the four RWRFs treated 48,665 acre-feet of wastewater flows; they have a combined capacity of 81,800 acre-feet per year.

The proposed project would generate the same types of municipal wastewater that are currently generated throughout EMWD's service area. Effluent produced by the proposed project would not require special treatment prior to entering the municipal sewer system, and no atypical measures would be required to treat the proposed project's wastewater. Based on the existing capacity, the future anticipated demand for wastewater treatment services would not result in significant impacts to wastewater treatment facilities. Therefore, impacts associated with wastewater treatment capacity 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. The Riverside County Waste Management Department manages Riverside County's solid waste system through the provision of facilities and programs that meet or exceed all applicable local, state, federal, and land use regulations. The department manages several Riverside County Sanitary Landfills: Badlands, Blythe, Desert Center, El Sobrante, Lamb Canyon, Mecca II, and Oasis. Each of these landfills has sufficient capacity to accommodate the project's minimal solid waste disposal needs and are permitted to receive non-hazardous municipal solid waste (Cal Recycle 2018). According to the City General Plan EIR (City of Moreno Valley 2006b), solid waste generated within the City planning area is typically deposited in the Riverside County Waste Management Department's Badlands Landfill, a Class III (i.e., municipal waste) landfill located in Moreno Valley. However, other landfills typically utilized by the City include the Lamb Canyon Landfill and the El Sobrante Landfill. As of January 2015, the Badlands Landfill is anticipated to reach capacity in 2022; however, the landfill site has potential for further expansion. Additionally, both the Lamb Canyon and El Sobrante Landfills have additional storage capacity beyond the Badlands Landfill.

Construction of the proposed project would include the demolition of the existing sidewalk and some landscaping. Expected waste materials would include concrete and landscape materials. The District will make a good faith effort to recycle as much of the demolition material as feasible. Any number of local landfills typically utilized by the City have sufficient capacity to accommodate this volume of non-hazardous waste. Only minimal waste is anticipated once the proposed Welcome Center building is built. This waste can easily be folded into the existing College's handling of its day-to-day waste stream. Any impacts related to solid waste will be less than significant.

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

Less-than-Significant Impact. The proposed project would be required to comply with all applicable federal, state, and local agency regulations related to solid waste. Under AB 939, the Integrated Waste Management Act of 1989, local jurisdictions are required to develop source reduction, reuse, recycling, and composting programs to reduce the amount of solid waste entering landfills. Local jurisdictions are mandated to divert at least 50% of their solid waste generation into recycling. The proposed project would be subject to compliance with AB 939.

In addition, the state has set an ambitious goal of 75% recycling, composting, and source reduction of solid waste by 2020. To help reach this goal, the state has adopted AB 341 and AB 1826. AB 341 is a mandatory commercial recycling bill, and AB 1826 is mandatory organic recycling. Waste generated by the proposed project would enter the City's waste stream but would not adversely affect the City's ability to meet AB 939, AB 341, or AB 1826, since the proposed project's waste generation would represent a nominal percentage of the waste created within the City. Therefore, impacts related to compliance with solid waste regulations would be less than significant.

	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?	☐	☐	☒	☐

3.20 Wildfire

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

Less-than-Significant Impact. As discussed in Section 3.9(f), due to the local and regional connectivity of the project site, in the unlikely event of an emergency, the project-adjacent roadway facilities would serve as emergency evacuation routes for first responders and persons at the College. The proposed project would not adversely affect operations on the local or regional circulation system, and as such, would not impact the use of these facilities as emergency response routes. Therefore, impacts associated with an emergency response plan or emergency evacuation plan would be less than significant.

b) ***Would the project, 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?***

Less-than-Significant Impact. While Figure 5.5-2 of the General Plan EIR (City of Moreno Valley 2006b) does identify areas of substantial wildfire risk east of the College primarily around the open areas of Lake Perris, the proposed project itself is not located within a fire hazard area. Numerous access points to the eastern boundary of the College exist, and the project would not adversely affect the use of existing emergency response or evacuation plans. As such, in the unlikely event of a wildfire in the areas proximate to the project site, all occupants at the project site and College would evacuate the area, as directed by local fire officials. Additionally, the project would be located within the middle of the existing College campus, on a flat project site, surrounded by existing development. As such, the proposed project would not exacerbate wildfire risks due to slope, prevailing winds, and other factors. Therefore, impacts 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. Under the existing conditions, the project site contains a landscaped grass field within the existing College campus. The proposed project would not involve installation or maintenance of infrastructure that would exacerbate fire risk. Although the proposed project would involve installation of utilities within the project site, any potential environmental impacts related to these components of the proposed project are already accounted for in this IS/MND as part of the impact assessment conducted for the entirety of the proposed project. Therefore, impacts associated with installation or maintenance of associated infrastructure resulting in exacerbated fire risk 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?***

Less-than-Significant Impact. As discussed in Section 3.20(b), while the project site would be located at the base of the hills of the Lake Perris State Recreation Area, the proposed project itself is not located within a fire hazard area. The nearest slopes to the project site are located to the north and east of the project site. However, the proposed project would be located centrally within the existing College campus surrounded by existing campus buildings. In the unlikely event that any of the surrounding hillsides would be denuded as a result of wildfire, existing development within the College would block the project site from any damage associated with downslope or downstream flooding or landslides as a result of runoff, post-slope instability, or drainage changes. Additionally, as discussed in Section 3.7(a)(iv), there is no evidence of ancient landslides or slope instabilities at the site and there are no significant slopes located on or near the project site that may be considered susceptible to landslides. As such, impacts would be less than significant.

	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)?	☐	☒	☐	☐

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

3.21 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?

Less-than-Significant Impact With Mitigation Incorporated. As discussed in Section 3.4, through compliance with local, state, and federal regulations and Project Design Feature-1, the project would not result in significant impacts to biological resources. In addition, because of the low potential for the inadvertent discovery of cultural resources within the project site, the project archaeologist determined that no additional management recommendations are necessary beyond standard measures to address unanticipated discoveries of cultural and paleontological resources and human remains, as outlined in **MM-CUL-1**, **MM-TRC-1**, **MM-TRC-2** and **MM-GEO-1**. Based on compliance with **MM-CUL-1**, **MM-TRC-1**, **MM-TRC-2**, and **MM-GEO-1**, impacts to buried, currently unrecorded/unknown archaeological and paleontological resources would be less than significant; therefore, with mitigation incorporated, the project would not 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, 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)?

Less-than-Significant Impact with Mitigation Incorporated. When evaluating cumulative impacts, it is important to remain consistent with Section 15064(h) of the CEQA Guidelines, which states that an EIR must be prepared if the cumulative impact may be significant and the project's incremental effect, though individually limited, is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

Alternatively, a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable through mitigation measures set forth in an MND or if the project will comply with the requirements in a previously approved plan or mitigation program (including, but not limited to, water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, plans or regulations for the reduction of greenhouse gas emissions) that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located.

The proposed project would potentially result in project-related cultural resources, geological resources, and tribal cultural resources impacts that could be potentially significant without the incorporation of mitigation. Thus, when coupled with cultural resources, geological resources, and tribal cultural resources impacts related to the implementation of other related projects throughout the broader project area, the project would potentially result in cumulative-level impacts if these significant impacts are left unmitigated.

However, with the incorporation of mitigation identified herein, the project's cultural resources, geological resources, and tribal cultural resources impacts would be reduced to less-than-significant levels and would not considerably contribute to cumulative impacts in the greater project region. In addition, these other related projects would presumably be bound by their applicable lead agency to (1) comply with the all applicable federal, state, and local regulatory requirements; and (2) incorporate all feasible mitigation measures, consistent with CEQA, to further ensure that their potentially cumulative impacts would be reduced to less-than-significant levels.

Although cumulative impacts are always possible, the project, by incorporating all mitigation measures outlined herein, would reduce its contribution to any such cumulative impacts to less than cumulatively considerable; therefore, the project would result in individually limited, but not cumulatively considerable, impacts.

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

Less-than-Significant Impact With Mitigation Incorporated. As evaluated throughout this document, with incorporation of mitigation, environmental impacts associated with the proposed project would be reduced to less-than-significant levels. Thus, the proposed project would not directly or indirectly cause substantial adverse effects on human beings. Impacts would be less than significant with incorporation of mitigation.

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4.2 List of Preparers

Riverside Community College District

Bart Doering, Facilities Development Director, Riverside Community College District

Dudek

Rachel Struglia, PhD, AICP, Project Manager
Patrick Cruz, Environmental Analyst
Adam Poll, Air Quality Analyst
Mike Greene, Acoustician
Mladen Popovic, Traffic Analyst
Curtis Battle, Geographic Information Systems Specialist
Hannah Wertheimer, Technical Editor
David Mueller, Senior Publications Specialist

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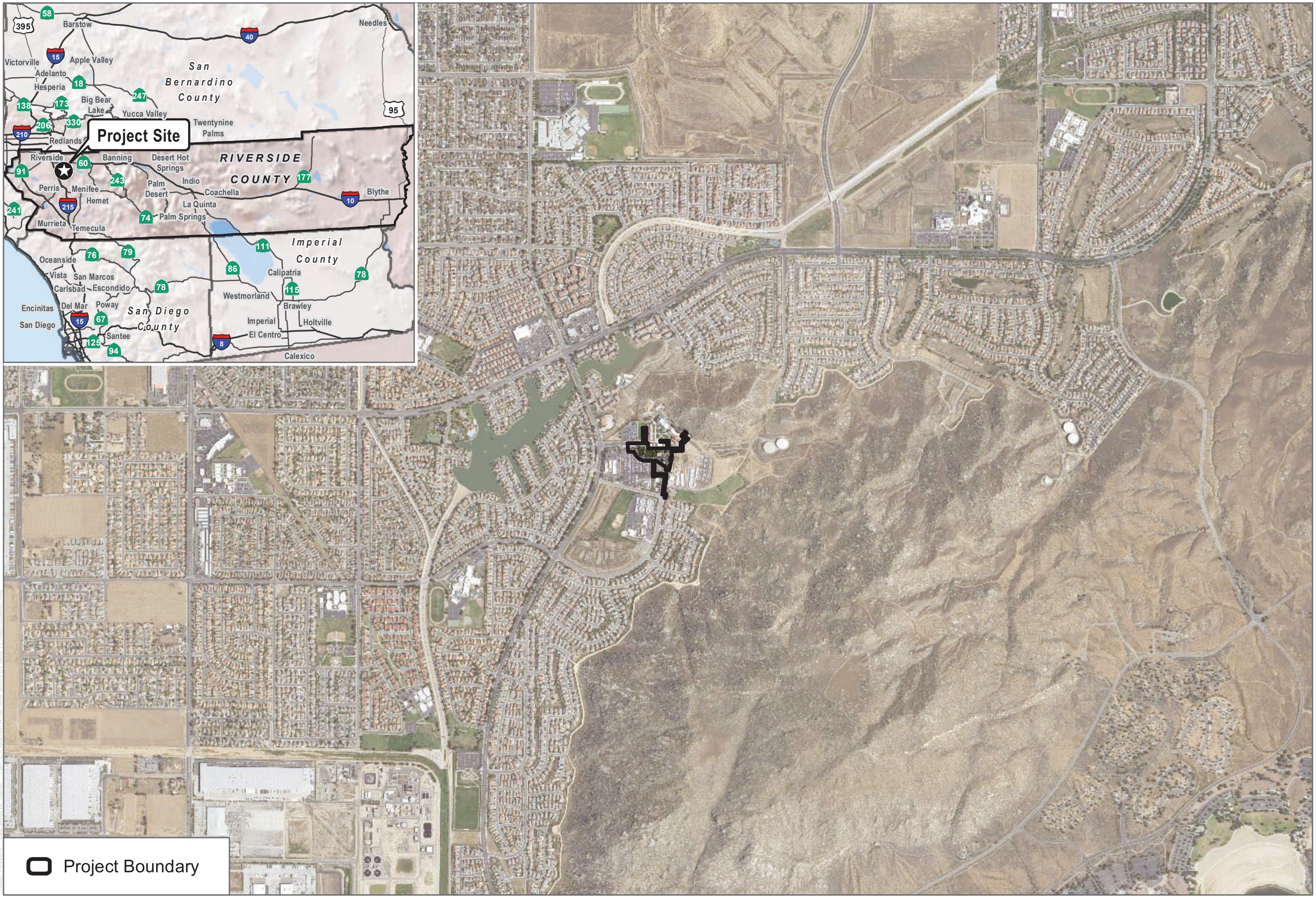

Date: 1/30/2019 - Last saved by: cbattle - Path: Z:\Projects\j1141301\MAPDOC\PD\Figure 1 Project Location.mxd

SOURCE: USDA 2016

DUDEK

0 1,000 2,000
Feet

FIGURE 1

Regional and Vicinity Map

Moreno Valley College Welcome Center

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SOURCE: Bing Maps 2018

FIGURE 2

Aerial

Moreno Valley College Welcome Center

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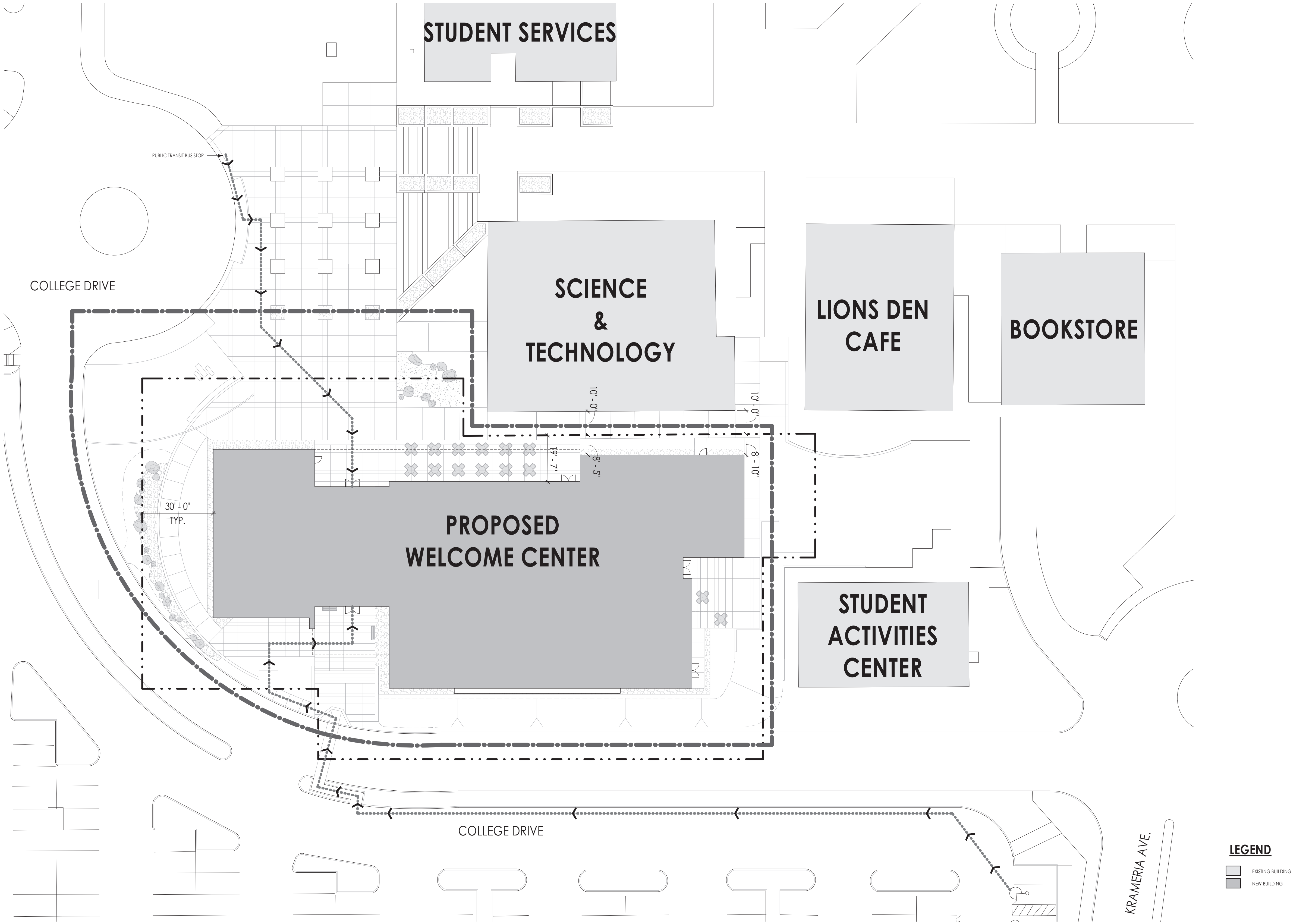

SOURCE: HPI 2018

FIGURE 3

Site Plan

Moreno Valley College Welcome Center

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SOURCE: HPI 2018

FIGURE 4a

Schematic Design

Moreno Valley College Welcome Center

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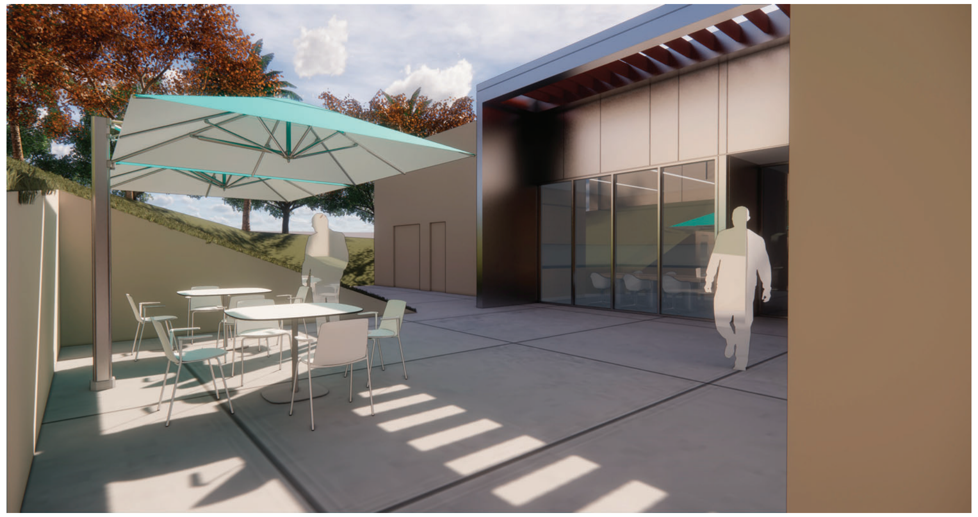
VIEW 1 - WEST PERSPECTIVE

VIEW 2 - NORTH PERSPECTIVE

VIEW 3 - NORTH ENTRANCE

VIEW 4 - SOUTH WEST PERSPECTIVE



VIEW 5 - EAST ENTRANCE

VIEW 6 - VIEW FROM SOUTH

SOURCE: HPI 2018

FIGURE 4b

Perspective Views

Moreno Valley College Welcome Center

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SOURCE: Bing 2018

DUDEK

0 125 250 Feet

FIGURE 5

Biological Study Area

Moreno Valley College Welcome Center

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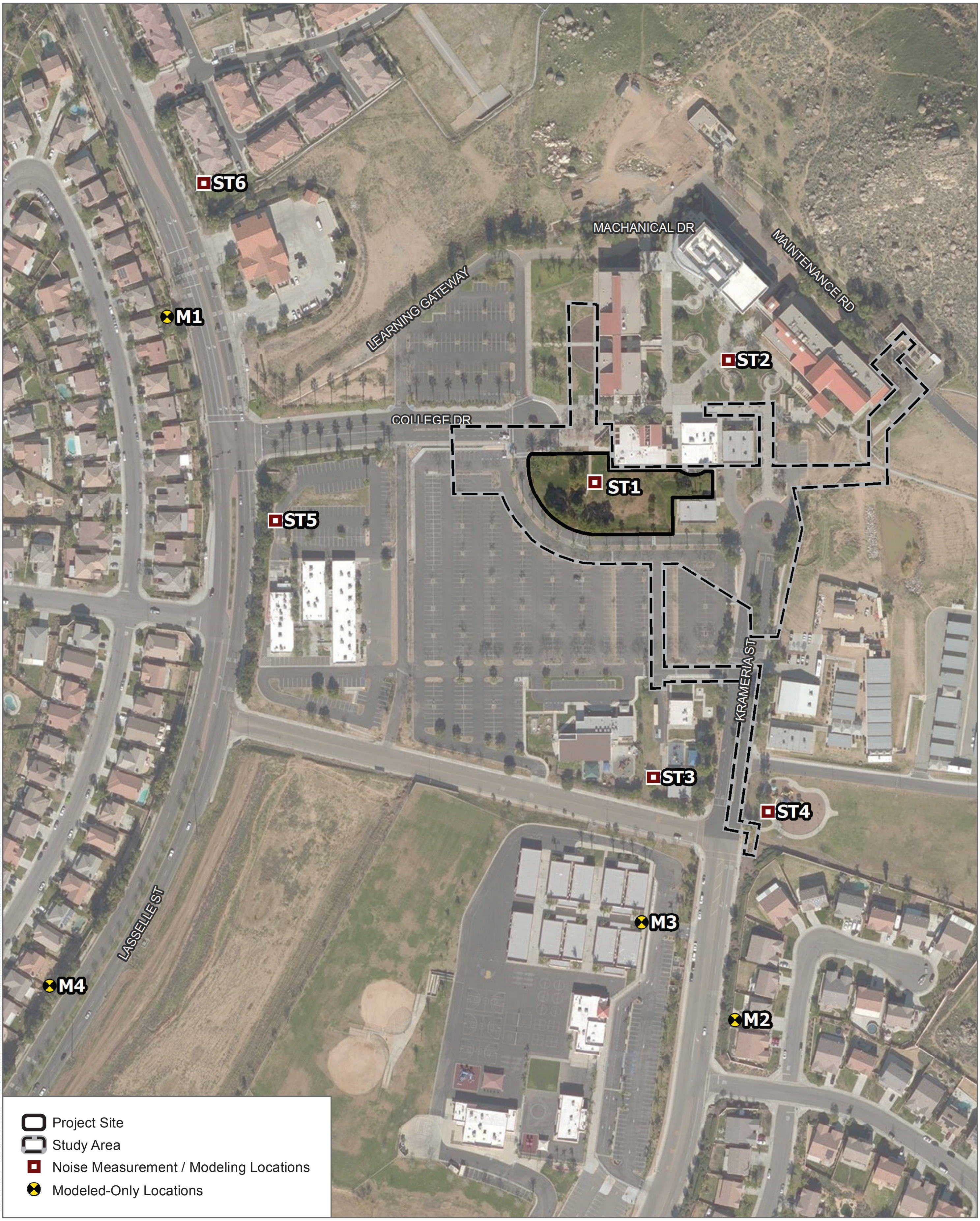

SOURCE: Bing Maps 2019

DUDEK

FIGURE 6

Noise Measurement and Modeling Locations

Moreno Valley College Welcome Center

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Source: Google Maps, 02/2018

FIGURE 7

Existing Traffic Controls and Geometrics

Moreno Valley College Welcome Center

DUDEK

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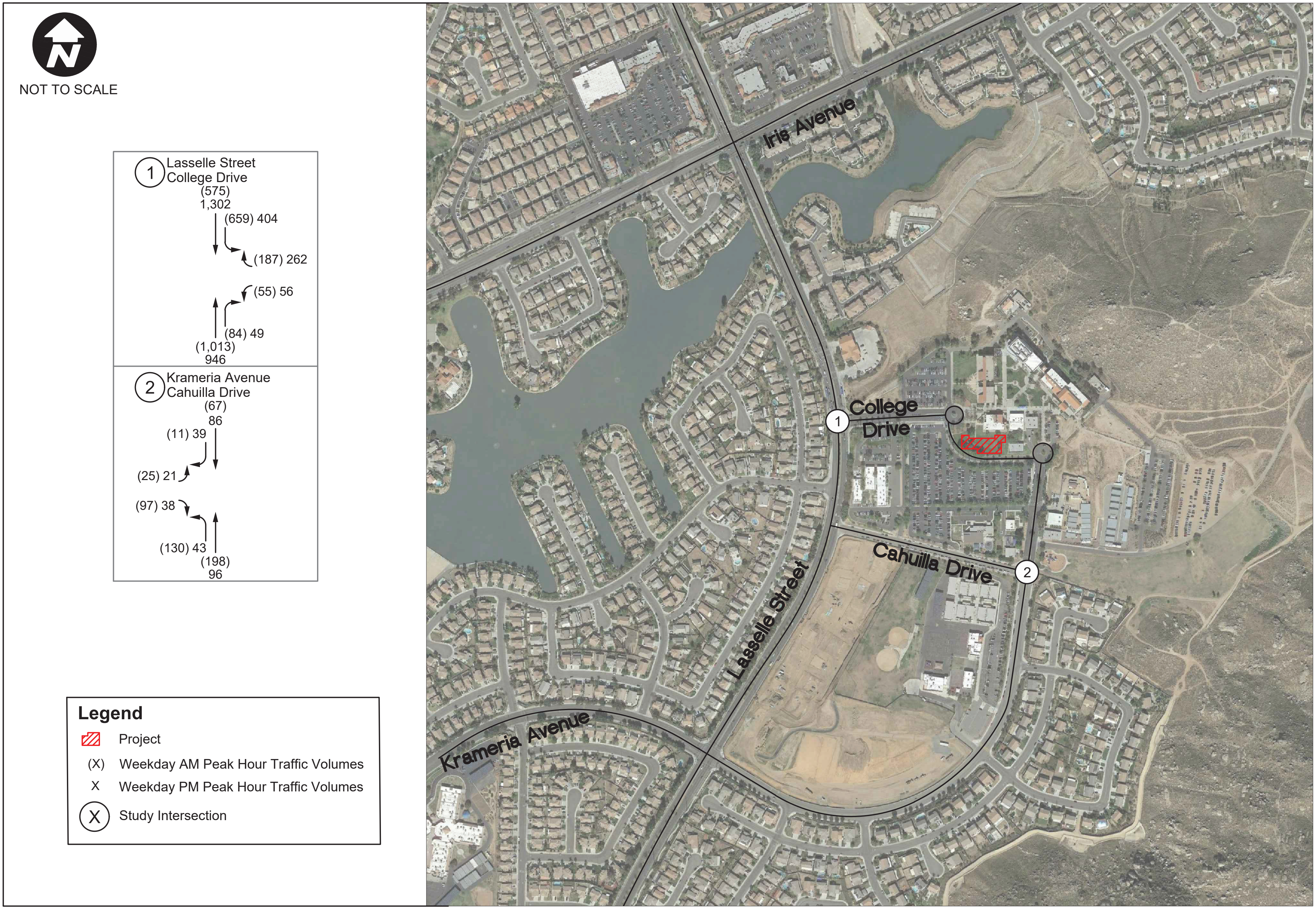

Source: Google Maps, 02/2018

FIGURE 8

Existing AM and PM Peak Hour Traffic Volumes

Moreno Valley College Welcome Center

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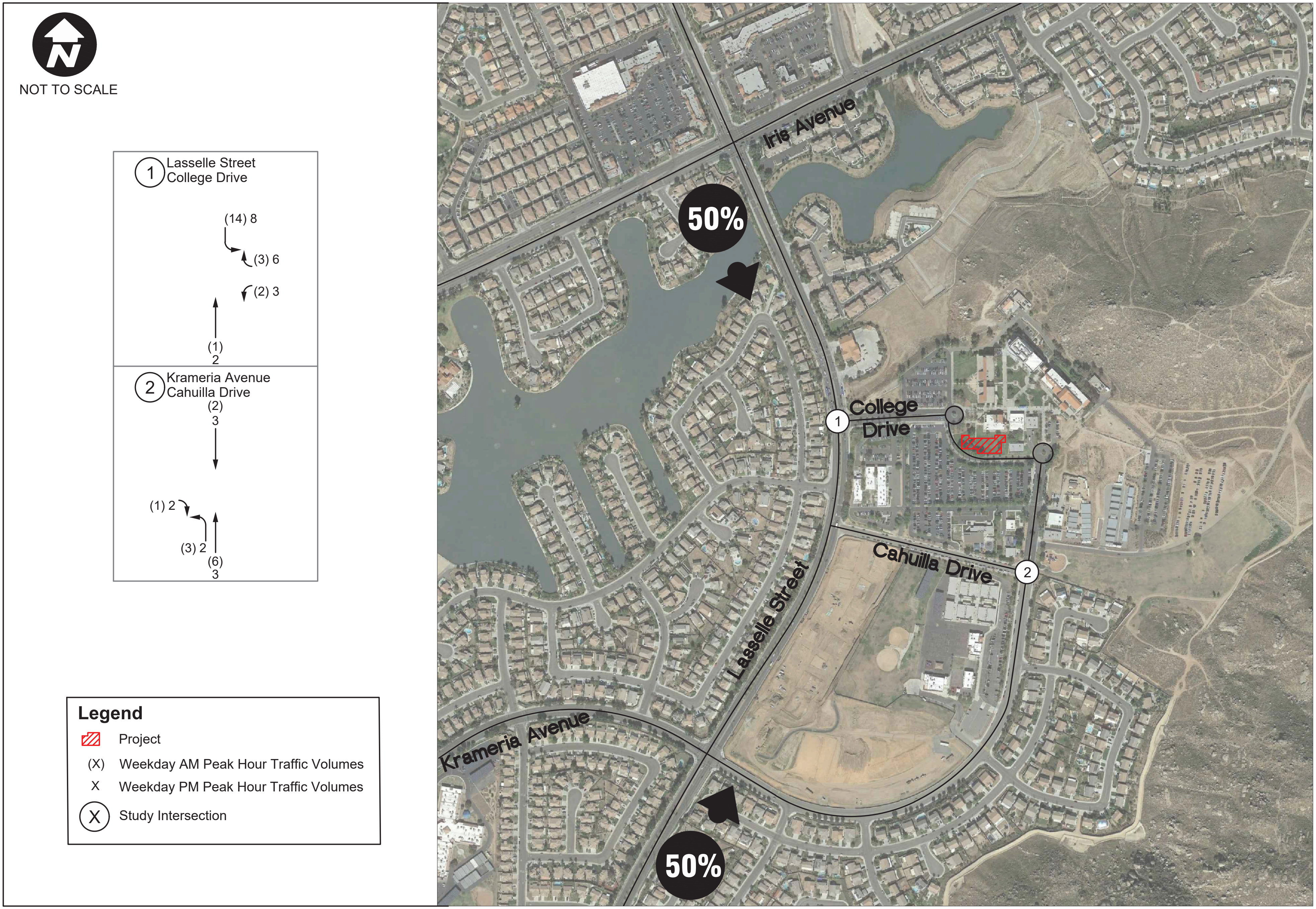

Source: Google Maps, 02/2018

FIGURE 9

Project Trip Assignment and Distribution

Moreno Valley College Welcome Center

DUDEK

Feb 06, 2019 - 12:21pm mpopovic \\dudekdata\Projects\3000.Environmental\11413 Moreno Valley Welcome Center MND\DUDEK WORK PRODUCTS\DOCUMENTS\07 Transportation\Graphics\Autocad Files\Base_MorenoWelcomeCenter_01.30.19.dwg Layout: Fig3.17-3_ProjTD

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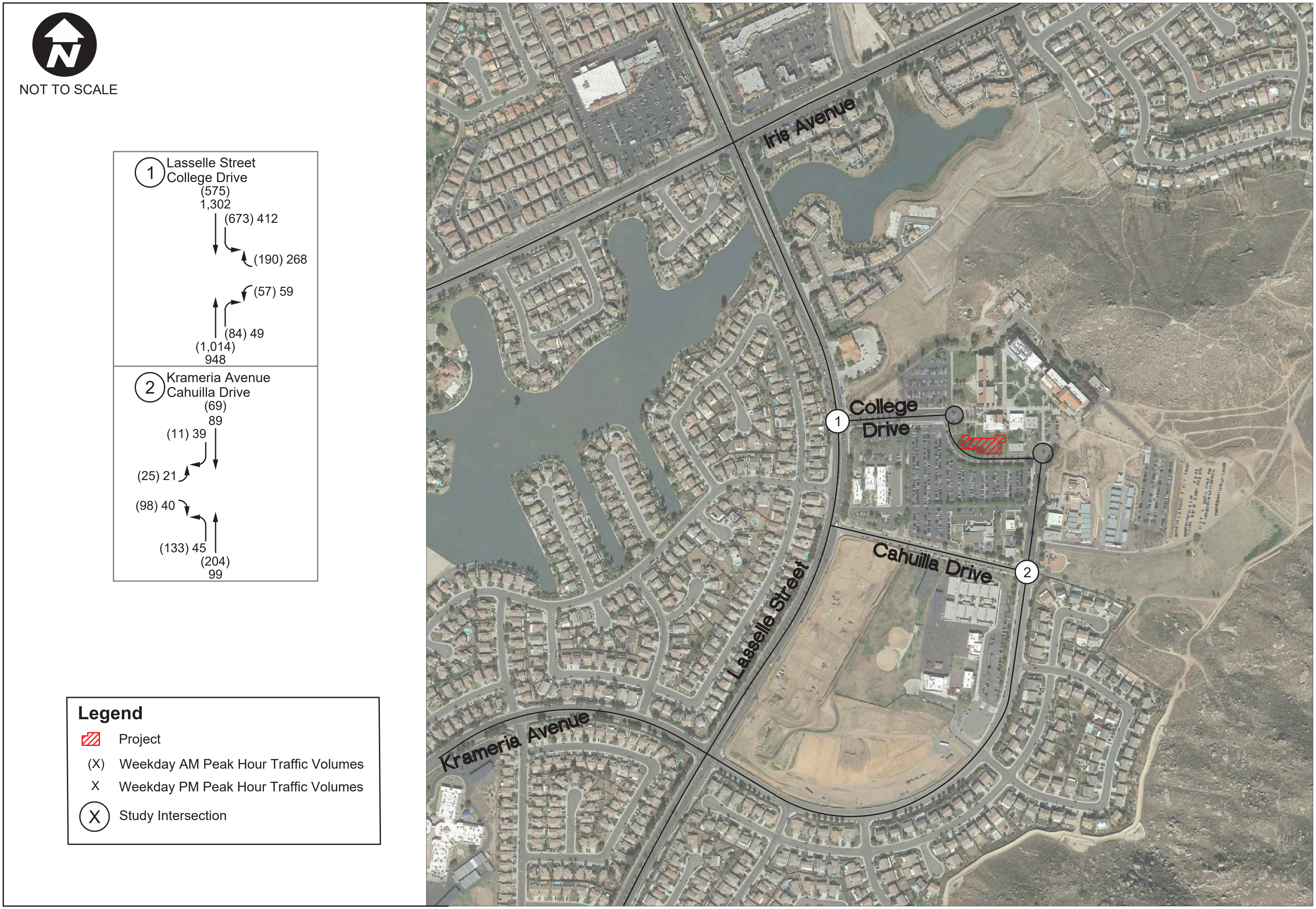

Source: Google Maps, 02/2018

FIGURE 10

Existing plus Project AM and PM Peak Hour Traffic Volumes

Moreno Valley College Welcome Center

DUDEK

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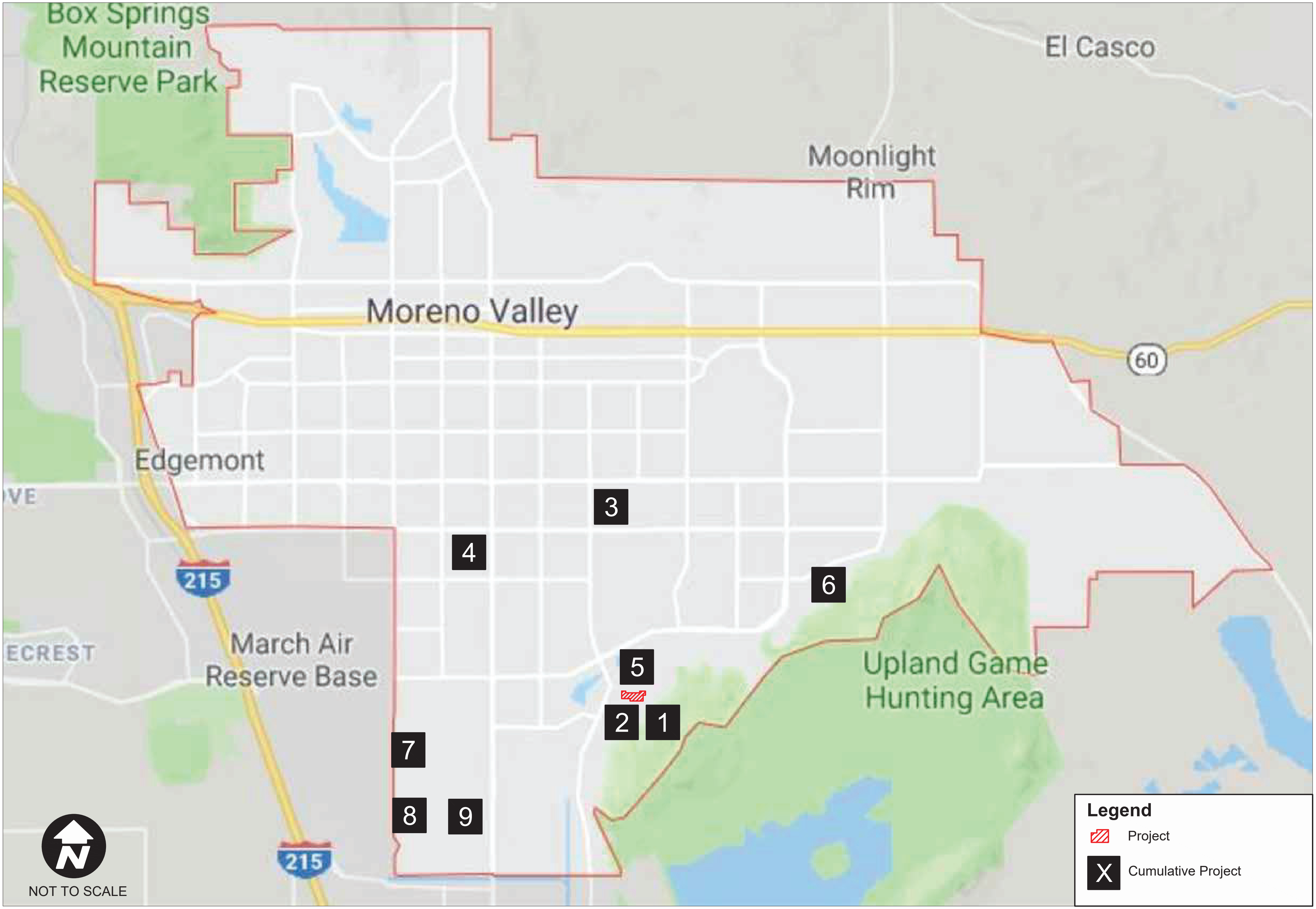

Source: Google Maps, 02/2019

DUDEK

FIGURE 11

Locations of Cumulative Projects

Moreno Valley College Welcome Center

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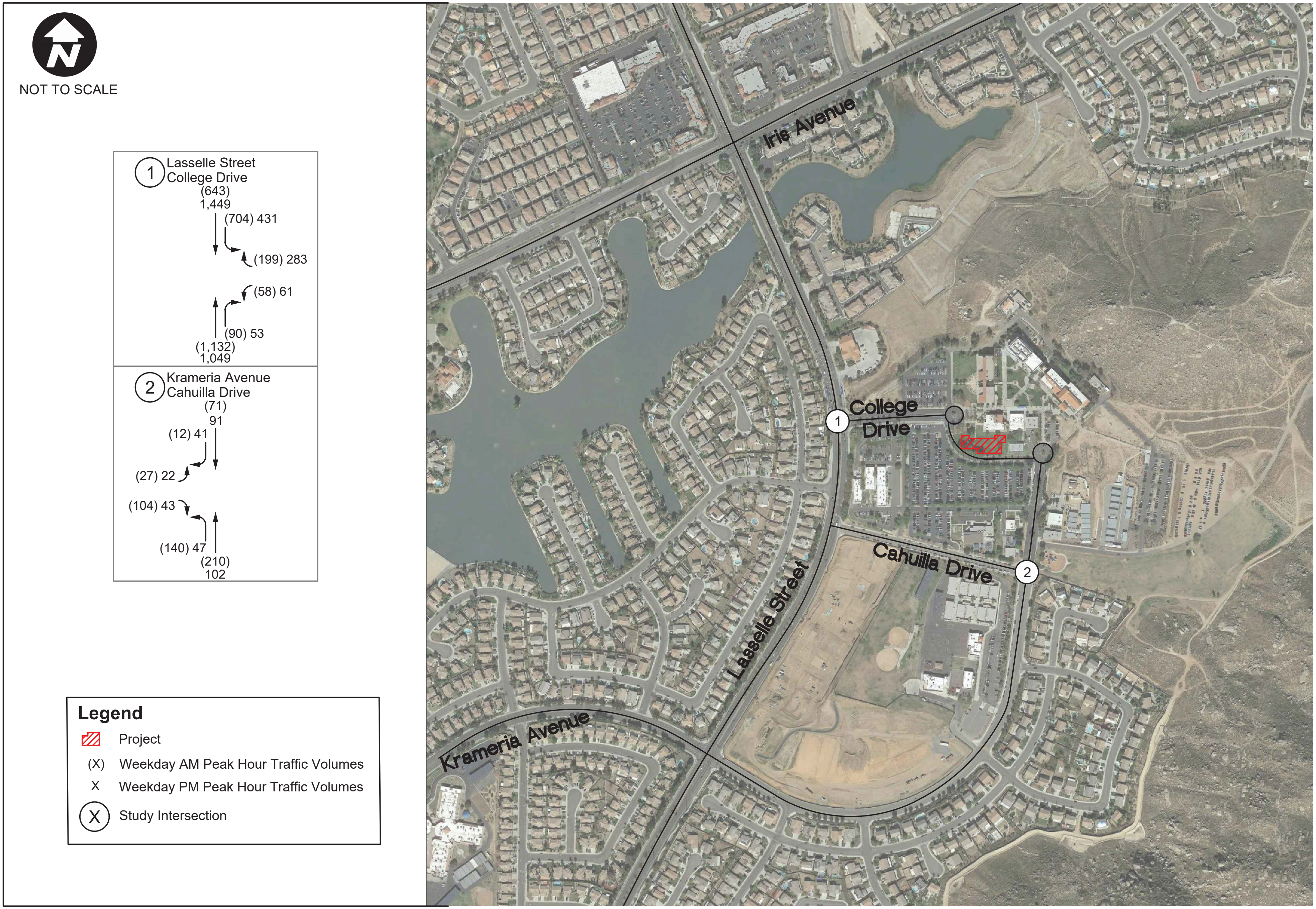

Source: Google Maps, 02/2018

DUDEK

FIGURE 12

Opening Year 2021 Baseline AM and PM Peak Hour Traffic Volumes

Moreno Valley College Welcome Center

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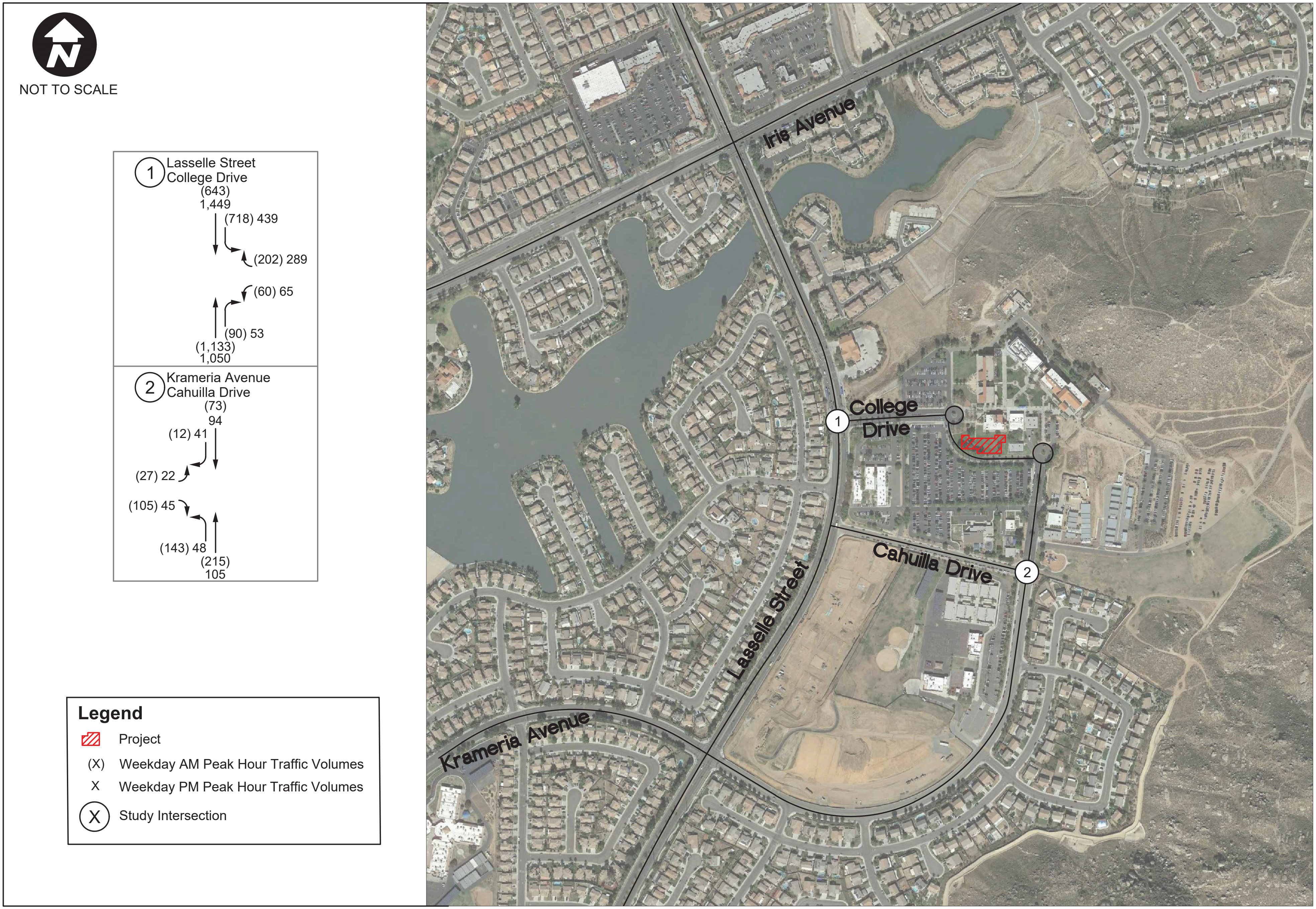
Feb 06, 2019 - 12:22pm mpopovic \\dudekdata\Projects\300 Environmental\11413 Moreno Valley Welcome Center MND\DUDEK WORK PRODUCTS\DOCUMENTS\07 Transportation\Graphics\Autocad Files\Base_MorenoWelcomeCenter_01.30.19.dwg Layout: Fig3.17-7_OYPVol



Source: Google Maps, 02/2018

FIGURE 13

Opening Year 2021 plus Project AM and PM Peak Hour Traffic Volumes

Moreno Valley College Welcome Center

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APPENDIX A-1

Air Quality and Greenhouse Gas Emissions CalEEMod Output Files

Moreno Valley College Welcome Center

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior College (2Yr)	17.30	1000sqft	0.40	17,305.00	0
Other Asphalt Surfaces	33.78	1000sqft	0.78	33,779.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on site plan.

Construction Phase - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Off-road Equipment - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Trips and VMT - CalEEMod defaults rounded up to nearest even number to account for whole round trips.

On-road Fugitive Dust - CalEEMod defaults.

Demolition - No demolition.

Grading - Import/Export for utilities.

Architectural Coating - CalEEMod defaults.

Vehicle Trips - Based on trip generation rate for the project.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust - CalEEMod defaults.

Woodstoves - No hearths.

Consumer Products - CalEEMod defaults.

Area Coating - CalEEMod defaults.

Landscape Equipment - CalEEMod defaults.

Energy Use - CalEEMod defaults.

Water And Wastewater - CalEEMod defaults.

Solid Waste - CalEEMod defaults.

Construction Off-road Equipment Mitigation - Water 3x per day in accordance with SCAQMD Rule 403.

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	0.88	1.00
tblGrading	MaterialExported	0.00	1,455.00
tblGrading	MaterialImported	0.00	1,455.00
tblLandUse	LandUseSquareFeet	17,300.00	17,305.00
tblLandUse	LandUseSquareFeet	33,780.00	33,779.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblTripsAndVMT	HaulingTripNumber	364.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	364.00
tblTripsAndVMT	WorkerTripNumber	5.00	6.00
tblTripsAndVMT	WorkerTripNumber	21.00	22.00
tblTripsAndVMT	WorkerTripNumber	13.00	14.00
tblVehicleTrips	ST_TR	11.23	8.26
tblVehicleTrips	SU_TR	1.21	0.89
tblVehicleTrips	WD_TR	27.49	20.23

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1141	0.8844	0.6980	1.4400e-003	0.0382	0.0421	0.0803	0.0141	0.0399	0.0540	0.0000	123.8311	123.8311	0.0236	0.0000	124.4214
2021	0.1449	0.4418	0.4061	7.9000e-004	0.0118	0.0206	0.0324	3.1700e-003	0.0196	0.0228	0.0000	66.2791	66.2791	0.0131	0.0000	66.6066
Maximum	**0.1449**	**0.8844**	**0.6980**	**1.4400e-003**	**0.0382**	**0.0421**	**0.0803**	**0.0141**	**0.0399**	**0.0540**	**0.0000**	**123.8311**	**123.8311**	**0.0236**	**0.0000**	**124.4214**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1141	0.8844	0.6980	1.4400e-003	0.0286	0.0421	0.0707	9.1900e-003	0.0399	0.0491	0.0000	123.8310	123.8310	0.0236	0.0000	124.4213
2021	0.1449	0.4418	0.4061	7.9000e-004	0.0118	0.0206	0.0324	3.1700e-003	0.0196	0.0228	0.0000	66.2791	66.2791	0.0131	0.0000	66.6065
Maximum	**0.1449**	**0.8844**	**0.6980**	**1.4400e-003**	**0.0286**	**0.0421**	**0.0707**	**9.1900e-003**	**0.0399**	**0.0491**	**0.0000**	**123.8310**	**123.8310**	**0.0236**	**0.0000**	**124.4213**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**19.28**	**0.00**	**8.54**	**28.39**	**0.00**	**6.38**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**6-3-2020**	**9-2-2020**	0.4225	0.4225
2	**9-3-2020**	**12-2-2020**	0.4312	0.4312
3	**12-3-2020**	**3-2-2021**	0.4032	0.4032
4	**3-3-2021**	**6-2-2021**	0.3225	0.3225
		Highest	0.4312	0.4312

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0733	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3500e-003
Energy	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	56.2198	56.2198	2.0400e-003	6.1000e-004	56.4511
Mobile	0.0820	0.4537	1.0728	3.8600e-003	0.3129	3.1400e-003	0.3160	0.0838	2.9400e-003	0.0868	0.0000	356.5553	356.5553	0.0178	0.0000	357.0010
Waste						0.0000	0.0000		0.0000	0.0000	4.5653	0.0000	4.5653	0.2698	0.0000	11.3103
Water						0.0000	0.0000		0.0000	0.0000	0.2692	8.2186	8.4878	0.0280	7.2000e-004	9.4030
Total	**0.1565**	**0.4654**	**1.0833**	**3.9300e-003**	**0.3129**	**4.0300e-003**	**0.3169**	**0.0838**	**3.8300e-003**	**0.0877**	**4.8345**	**420.9949**	**425.8294**	**0.3177**	**1.3300e-003**	**434.1667**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0733	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3500e-003
Energy	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	56.2198	56.2198	2.0400e-003	6.1000e-004	56.4511
Mobile	0.0820	0.4537	1.0728	3.8600e-003	0.3129	3.1400e-003	0.3160	0.0838	2.9400e-003	0.0868	0.0000	356.5553	356.5553	0.0178	0.0000	357.0010
Waste						0.0000	0.0000		0.0000	0.0000	4.5653	0.0000	4.5653	0.2698	0.0000	11.3103
Water						0.0000	0.0000		0.0000	0.0000	0.2692	8.2186	8.4878	0.0280	7.2000e-004	9.4030
Total	**0.1565**	**0.4654**	**1.0833**	**3.9300e-003**	**0.3129**	**4.0300e-003**	**0.3169**	**0.0838**	**3.8300e-003**	**0.0877**	**4.8345**	**420.9949**	**425.8294**	**0.3177**	**1.3300e-003**	**434.1667**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/3/2020	6/4/2020	5	2	
2	Grading	Grading	6/5/2020	6/10/2020	5	4	
3	Trenching	Trenching	6/11/2020	7/8/2020	5	20	
4	Building Construction	Building Construction	7/9/2020	4/14/2021	5	200	
5	Paving	Paving	4/15/2021	4/28/2021	5	10	
6	Architectural Coating	Architectural Coating	4/29/2021	5/12/2021	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.78

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 25,958; Non-Residential Outdoor: 8,653; Striped Parking Area: 2,027 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	7.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Trenching	Trenchers	1	7.00	78	0.50
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	0	7.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	7.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	7.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	6.00	0.00	364.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	6	22.00	8.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	14.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5400e-003	0.0173	7.2000e-003	2.0000e-005		7.8000e-004	7.8000e-004		7.2000e-004	7.2000e-004	0.0000	1.4057	1.4057	4.5000e-004	0.0000	1.4170
Total	**1.5400e-003**	**0.0173**	**7.2000e-003**	**2.0000e-005**	**5.8000e-003**	**7.8000e-004**	**6.5800e-003**	**2.9500e-003**	**7.2000e-004**	**3.6700e-003**	**0.0000**	**1.4057**	**1.4057**	**4.5000e-004**	**0.0000**	**1.4170**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0790	0.0790	0.0000	0.0000	0.0791
Total	**4.0000e-005**	**3.0000e-005**	**3.0000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0790**	**0.0790**	**0.0000**	**0.0000**	**0.0791**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.2600e-003	0.0000	2.2600e-003	1.1500e-003	0.0000	1.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5400e-003	0.0173	7.2000e-003	2.0000e-005		7.8000e-004	7.8000e-004		7.2000e-004	7.2000e-004	0.0000	1.4057	1.4057	4.5000e-004	0.0000	1.4170
Total	**1.5400e-003**	**0.0173**	**7.2000e-003**	**2.0000e-005**	**2.2600e-003**	**7.8000e-004**	**3.0400e-003**	**1.1500e-003**	**7.2000e-004**	**1.8700e-003**	**0.0000**	**1.4057**	**1.4057**	**4.5000e-004**	**0.0000**	**1.4170**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0790	0.0790	0.0000	0.0000	0.0791
Total	**4.0000e-005**	**3.0000e-005**	**3.0000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0790**	**0.0790**	**0.0000**	**0.0000**	**0.0791**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.9900e-003	0.0000	9.9900e-003	5.0800e-003	0.0000	5.0800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-003	0.0302	0.0129	3.0000e-005		1.3700e-003	1.3700e-003		1.2600e-003	1.2600e-003	0.0000	2.4779	2.4779	8.0000e-004	0.0000	2.4980
Total	**2.7000e-003**	**0.0302**	**0.0129**	**3.0000e-005**	**9.9900e-003**	**1.3700e-003**	**0.0114**	**5.0800e-003**	**1.2600e-003**	**6.3400e-003**	**0.0000**	**2.4779**	**2.4779**	**8.0000e-004**	**0.0000**	**2.4980**

3.3 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	5.0000e-005	6.1000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1580	0.1580	0.0000	0.0000	0.1581
Total	**7.0000e-005**	**5.0000e-005**	**6.1000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1580**	**0.1580**	**0.0000**	**0.0000**	**0.1581**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.9000e-003	0.0000	3.9000e-003	1.9800e-003	0.0000	1.9800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-003	0.0302	0.0129	3.0000e-005		1.3700e-003	1.3700e-003		1.2600e-003	1.2600e-003	0.0000	2.4779	2.4779	8.0000e-004	0.0000	2.4980
Total	**2.7000e-003**	**0.0302**	**0.0129**	**3.0000e-005**	**3.9000e-003**	**1.3700e-003**	**5.2700e-003**	**1.9800e-003**	**1.2600e-003**	**3.2400e-003**	**0.0000**	**2.4779**	**2.4779**	**8.0000e-004**	**0.0000**	**2.4980**

3.3 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	5.0000e-005	6.1000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1580	0.1580	0.0000	0.0000	0.1581
Total	**7.0000e-005**	**5.0000e-005**	**6.1000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1580**	**0.1580**	**0.0000**	**0.0000**	**0.1581**

3.4 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.5100e-003	0.0516	0.0430	6.0000e-005		3.6500e-003	3.6500e-003		3.3600e-003	3.3600e-003	0.0000	4.9817	4.9817	1.6100e-003	0.0000	5.0219
Total	**5.5100e-003**	**0.0516**	**0.0430**	**6.0000e-005**		**3.6500e-003**	**3.6500e-003**		**3.3600e-003**	**3.3600e-003**	**0.0000**	**4.9817**	**4.9817**	**1.6100e-003**	**0.0000**	**5.0219**

3.4 Trenching - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.4000e-003	0.0511	0.0102	1.4000e-004	3.1300e-003	1.6000e-004	3.2900e-003	8.6000e-004	1.5000e-004	1.0100e-003	0.0000	13.7345	13.7345	9.5000e-004	0.0000	13.7581
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	2.1000e-004	2.2700e-003	1.0000e-005	6.6000e-004	1.0000e-005	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5926	0.5926	2.0000e-005	0.0000	0.5930
Total	**1.6700e-003**	**0.0513**	**0.0125**	**1.5000e-004**	**3.7900e-003**	**1.7000e-004**	**3.9500e-003**	**1.0300e-003**	**1.5000e-004**	**1.1900e-003**	**0.0000**	**14.3271**	**14.3271**	**9.7000e-004**	**0.0000**	**14.3511**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.5100e-003	0.0516	0.0430	6.0000e-005		3.6500e-003	3.6500e-003		3.3600e-003	3.3600e-003	0.0000	4.9816	4.9816	1.6100e-003	0.0000	5.0219
Total	**5.5100e-003**	**0.0516**	**0.0430**	**6.0000e-005**		**3.6500e-003**	**3.6500e-003**		**3.3600e-003**	**3.3600e-003**	**0.0000**	**4.9816**	**4.9816**	**1.6100e-003**	**0.0000**	**5.0219**

3.4 Trenching - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.4000e-003	0.0511	0.0102	1.4000e-004	3.1300e-003	1.6000e-004	3.2900e-003	8.6000e-004	1.5000e-004	1.0100e-003	0.0000	13.7345	13.7345	9.5000e-004	0.0000	13.7581
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	2.1000e-004	2.2700e-003	1.0000e-005	6.6000e-004	1.0000e-005	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5926	0.5926	2.0000e-005	0.0000	0.5930
Total	**1.6700e-003**	**0.0513**	**0.0125**	**1.5000e-004**	**3.7900e-003**	**1.7000e-004**	**3.9500e-003**	**1.0300e-003**	**1.5000e-004**	**1.1900e-003**	**0.0000**	**14.3271**	**14.3271**	**9.7000e-004**	**0.0000**	**14.3511**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0947	0.6754	0.5557	9.1000e-004		0.0357	0.0357		0.0340	0.0340	0.0000	74.3168	74.3168	0.0186	0.0000	74.7810
Total	**0.0947**	**0.6754**	**0.5557**	**9.1000e-004**		**0.0357**	**0.0357**		**0.0340**	**0.0340**	**0.0000**	**74.3168**	**74.3168**	**0.0186**	**0.0000**	**74.7810**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6900e-003	0.0538	0.0133	1.3000e-004	3.1800e-003	2.6000e-004	3.4400e-003	9.2000e-004	2.5000e-004	1.1700e-003	0.0000	12.3960	12.3960	8.1000e-004	0.0000	12.4163
Worker	6.1900e-003	4.7400e-003	0.0525	1.5000e-004	0.0152	1.2000e-004	0.0153	4.0400e-003	1.1000e-004	4.1500e-003	0.0000	13.6891	13.6891	3.9000e-004	0.0000	13.6989
Total	**7.8800e-003**	**0.0585**	**0.0658**	**2.8000e-004**	**0.0184**	**3.8000e-004**	**0.0188**	**4.9600e-003**	**3.6000e-004**	**5.3200e-003**	**0.0000**	**26.0850**	**26.0850**	**1.2000e-003**	**0.0000**	**26.1152**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0947	0.6754	0.5557	9.1000e-004		0.0357	0.0357		0.0340	0.0340	0.0000	74.3167	74.3167	0.0186	0.0000	74.7809
Total	**0.0947**	**0.6754**	**0.5557**	**9.1000e-004**		**0.0357**	**0.0357**		**0.0340**	**0.0340**	**0.0000**	**74.3167**	**74.3167**	**0.0186**	**0.0000**	**74.7809**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6900e-003	0.0538	0.0133	1.3000e-004	3.1800e-003	2.6000e-004	3.4400e-003	9.2000e-004	2.5000e-004	1.1700e-003	0.0000	12.3960	12.3960	8.1000e-004	0.0000	12.4163
Worker	6.1900e-003	4.7400e-003	0.0525	1.5000e-004	0.0152	1.2000e-004	0.0153	4.0400e-003	1.1000e-004	4.1500e-003	0.0000	13.6891	13.6891	3.9000e-004	0.0000	13.6989
Total	**7.8800e-003**	**0.0585**	**0.0658**	**2.8000e-004**	**0.0184**	**3.8000e-004**	**0.0188**	**4.9600e-003**	**3.6000e-004**	**5.3200e-003**	**0.0000**	**26.0850**	**26.0850**	**1.2000e-003**	**0.0000**	**26.1152**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0496	0.3665	0.3171	5.4000e-004		0.0181	0.0181		0.0172	0.0172	0.0000	43.6484	43.6484	0.0106	0.0000	43.9130
Total	**0.0496**	**0.3665**	**0.3171**	**5.4000e-004**		**0.0181**	**0.0181**		**0.0172**	**0.0172**	**0.0000**	**43.6484**	**43.6484**	**0.0106**	**0.0000**	**43.9130**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.4000e-004	0.0286	7.1000e-003	7.0000e-005	1.8700e-003	6.0000e-005	1.9200e-003	5.4000e-004	6.0000e-005	5.9000e-004	0.0000	7.2267	7.2267	4.6000e-004	0.0000	7.2382
Worker	3.3900e-003	2.5100e-003	0.0284	9.0000e-005	8.9300e-003	7.0000e-005	9.0000e-003	2.3700e-003	6.0000e-005	2.4300e-003	0.0000	7.7791	7.7791	2.1000e-004	0.0000	7.7843
Total	**4.2300e-003**	**0.0312**	**0.0355**	**1.6000e-004**	**0.0108**	**1.3000e-004**	**0.0109**	**2.9100e-003**	**1.2000e-004**	**3.0200e-003**	**0.0000**	**15.0058**	**15.0058**	**6.7000e-004**	**0.0000**	**15.0225**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0496	0.3665	0.3171	5.4000e-004		0.0181	0.0181		0.0172	0.0172	0.0000	43.6483	43.6483	0.0106	0.0000	43.9130
Total	**0.0496**	**0.3665**	**0.3171**	**5.4000e-004**		**0.0181**	**0.0181**		**0.0172**	**0.0172**	**0.0000**	**43.6483**	**43.6483**	**0.0106**	**0.0000**	**43.9130**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.4000e-004	0.0286	7.1000e-003	7.0000e-005	1.8700e-003	6.0000e-005	1.9200e-003	5.4000e-004	6.0000e-005	5.9000e-004	0.0000	7.2267	7.2267	4.6000e-004	0.0000	7.2382
Worker	3.3900e-003	2.5100e-003	0.0284	9.0000e-005	8.9300e-003	7.0000e-005	9.0000e-003	2.3700e-003	6.0000e-005	2.4300e-003	0.0000	7.7791	7.7791	2.1000e-004	0.0000	7.7843
Total	**4.2300e-003**	**0.0312**	**0.0355**	**1.6000e-004**	**0.0108**	**1.3000e-004**	**0.0109**	**2.9100e-003**	**1.2000e-004**	**3.0200e-003**	**0.0000**	**15.0058**	**15.0058**	**6.7000e-004**	**0.0000**	**15.0225**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6300e-003	0.0363	0.0413	6.0000e-005		1.9500e-003	1.9500e-003		1.8000e-003	1.8000e-003	0.0000	5.4882	5.4882	1.7400e-003	0.0000	5.5317
Paving	1.0200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.6500e-003**	**0.0363**	**0.0413**	**6.0000e-005**		**1.9500e-003**	**1.9500e-003**		**1.8000e-003**	**1.8000e-003**	**0.0000**	**5.4882**	**5.4882**	**1.7400e-003**	**0.0000**	**5.5317**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	2.2000e-004	2.4400e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.6690	0.6690	2.0000e-005	0.0000	0.6694
Total	**2.9000e-004**	**2.2000e-004**	**2.4400e-003**	**1.0000e-005**	**7.7000e-004**	**1.0000e-005**	**7.7000e-004**	**2.0000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6690**	**0.6690**	**2.0000e-005**	**0.0000**	**0.6694**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6300e-003	0.0363	0.0413	6.0000e-005		1.9500e-003	1.9500e-003		1.8000e-003	1.8000e-003	0.0000	5.4882	5.4882	1.7400e-003	0.0000	5.5317
Paving	1.0200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.6500e-003**	**0.0363**	**0.0413**	**6.0000e-005**		**1.9500e-003**	**1.9500e-003**		**1.8000e-003**	**1.8000e-003**	**0.0000**	**5.4882**	**5.4882**	**1.7400e-003**	**0.0000**	**5.5317**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	2.2000e-004	2.4400e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.6690	0.6690	2.0000e-005	0.0000	0.6694
Total	**2.9000e-004**	**2.2000e-004**	**2.4400e-003**	**1.0000e-005**	**7.7000e-004**	**1.0000e-005**	**7.7000e-004**	**2.0000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6690**	**0.6690**	**2.0000e-005**	**0.0000**	**0.6694**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0849					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	**0.0860**	**7.6300e-003**	**9.0900e-003**	**1.0000e-005**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**9.0000e-005**	**0.0000**	**1.2788**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	6.0000e-005	7.0000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1911	0.1911	1.0000e-005	0.0000	0.1913
Total	**8.0000e-005**	**6.0000e-005**	**7.0000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**2.2000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1911**	**0.1911**	**1.0000e-005**	**0.0000**	**0.1913**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0849					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	**0.0860**	**7.6300e-003**	**9.0900e-003**	**1.0000e-005**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**9.0000e-005**	**0.0000**	**1.2788**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	6.0000e-005	7.0000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1911	0.1911	1.0000e-005	0.0000	0.1913
Total	**8.0000e-005**	**6.0000e-005**	**7.0000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**2.2000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1911**	**0.1911**	**1.0000e-005**	**0.0000**	**0.1913**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0820	0.4537	1.0728	3.8600e-003	0.3129	3.1400e-003	0.3160	0.0838	2.9400e-003	0.0868	0.0000	356.5553	356.5553	0.0178	0.0000	357.0010
Unmitigated	0.0820	0.4537	1.0728	3.8600e-003	0.3129	3.1400e-003	0.3160	0.0838	2.9400e-003	0.0868	0.0000	356.5553	356.5553	0.0178	0.0000	357.0010

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Junior College (2Yr)	350.00	142.98	15.41	823,429	823,429
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	350.00	142.98	15.41	823,429	823,429

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Junior College (2Yr)	16.60	8.40	6.90	6.40	88.60	5.00	92	7	1
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Junior College (2Yr)	0.548858	0.043235	0.200706	0.120309	0.016131	0.005851	0.021034	0.033479	0.002070	0.001877	0.004817	0.000707	0.000925
Other Asphalt Surfaces	0.548858	0.043235	0.200706	0.120309	0.016131	0.005851	0.021034	0.033479	0.002070	0.001877	0.004817	0.000707	0.000925

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	43.4483	43.4483	1.7900e-003	3.7000e-004	43.6037
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	43.4483	43.4483	1.7900e-003	3.7000e-004	43.6037
NaturalGas Mitigated	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	12.7715	12.7715	2.4000e-004	2.3000e-004	12.8474
NaturalGas Unmitigated	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	12.7715	12.7715	2.4000e-004	2.3000e-004	12.8474

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Junior College (2Yr)	239328	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	12.7715	12.7715	2.4000e-004	2.3000e-004	12.8474
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**1.2900e-003**	**0.0117**	**9.8500e-003**	**7.0000e-005**		**8.9000e-004**	**8.9000e-004**		**8.9000e-004**	**8.9000e-004**	**0.0000**	**12.7715**	**12.7715**	**2.4000e-004**	**2.3000e-004**	**12.8474**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Junior College (2Yr)	239328	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	12.7715	12.7715	2.4000e-004	2.3000e-004	12.8474
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**1.2900e-003**	**0.0117**	**9.8500e-003**	**7.0000e-005**		**8.9000e-004**	**8.9000e-004**		**8.9000e-004**	**8.9000e-004**	**0.0000**	**12.7715**	**12.7715**	**2.4000e-004**	**2.3000e-004**	**12.8474**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Junior College (2Yr)	136363	43.4483	1.7900e-003	3.7000e-004	43.6037
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**43.4483**	**1.7900e-003**	**3.7000e-004**	**43.6037**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Junior College (2Yr)	136363	43.4483	1.7900e-003	3.7000e-004	43.6037
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**43.4483**	**1.7900e-003**	**3.7000e-004**	**43.6037**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0733	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3500e-003
Unmitigated	0.0733	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.4900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0647					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3500e-003
Total	**0.0733**	**1.0000e-005**	**6.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.2700e-003**	**1.2700e-003**	**0.0000**	**0.0000**	**1.3500e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.4900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0647					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3500e-003
Total	**0.0733**	**1.0000e-005**	**6.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.2700e-003**	**1.2700e-003**	**0.0000**	**0.0000**	**1.3500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	8.4878	0.0280	7.2000e-004	9.4030
Unmitigated	8.4878	0.0280	7.2000e-004	9.4030

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Junior College (2Yr)	0.848548 / 1.32722	8.4878	0.0280	7.2000e-004	9.4030
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**8.4878**	**0.0280**	**7.2000e-004**	**9.4030**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Junior College (2Yr)	0.848548 / 1.32722	8.4878	0.0280	7.2000e-004	9.4030
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**8.4878**	**0.0280**	**7.2000e-004**	**9.4030**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	4.5653	0.2698	0.0000	11.3103
Unmitigated	4.5653	0.2698	0.0000	11.3103

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Junior College (2Yr)	22.49	4.5653	0.2698	0.0000	11.3103
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**4.5653**	**0.2698**	**0.0000**	**11.3103**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Junior College (2Yr)	22.49	4.5653	0.2698	0.0000	11.3103
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**4.5653**	**0.2698**	**0.0000**	**11.3103**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX A-2

Construction Health Risk Assessment Files

Moreno Valley College Welcome Center

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior College (2Yr)	17.30	1000sqft	0.40	17,305.00	0
Other Asphalt Surfaces	33.78	1000sqft	0.78	33,779.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on site plan.

Construction Phase - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Off-road Equipment - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Trips and VMT - CalEEMod defaults rounded up to nearest even number to account for whole round trips.

On-road Fugitive Dust - CalEEMod defaults.

Demolition - No demolition.

Grading - Import/Export for utilities.

Architectural Coating - CalEEMod defaults.

Vehicle Trips - Based on trip generation rate for the project.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust - CalEEMod defaults.

Woodstoves - No hearths.

Consumer Products - CalEEMod defaults.

Area Coating - CalEEMod defaults.

Landscape Equipment - CalEEMod defaults.

Energy Use - CalEEMod defaults.

Water And Wastewater - CalEEMod defaults.

Solid Waste - CalEEMod defaults.

Construction Off-road Equipment Mitigation - Water 3x per day in accordance with SCAQMD Rule 403.

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	0.88	1.00
tblGrading	MaterialExported	0.00	1,455.00
tblGrading	MaterialImported	0.00	1,455.00
tblLandUse	LandUseSquareFeet	17,300.00	17,305.00
tblLandUse	LandUseSquareFeet	33,780.00	33,779.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblTripsAndVMT	HaulingTripNumber	364.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	364.00
tblTripsAndVMT	WorkerTripNumber	5.00	6.00
tblTripsAndVMT	WorkerTripNumber	21.00	22.00
tblTripsAndVMT	WorkerTripNumber	13.00	14.00
tblVehicleTrips	ST_TR	11.23	8.26
tblVehicleTrips	SU_TR	1.21	0.89
tblVehicleTrips	WD_TR	27.49	20.23

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	1.6290	17.3169	9.9192	0.0205	5.8890	0.7797	6.6687	2.9774	0.7173	3.6948	0.0000	2,143.5572	2,143.5572	0.5038	0.0000	2,150.6062
2021	17.2175	10.7273	9.5800	0.0190	0.2971	0.4922	0.7893	0.0800	0.4684	0.5484	0.0000	1,761.9608	1,761.9608	0.3872	0.0000	1,770.3378
Maximum	**17.2175**	**17.3169**	**9.9192**	**0.0205**	**5.8890**	**0.7797**	**6.6687**	**2.9774**	**0.7173**	**3.6948**	**0.0000**	**2,143.5572**	**2,143.5572**	**0.5038**	**0.0000**	**2,150.6062**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	1.6290	17.3169	9.9192	0.0205	2.3513	0.7797	3.1310	1.1757	0.7173	1.8930	0.0000	2,143.5572	2,143.5572	0.5038	0.0000	2,150.6062
2021	17.2175	10.7273	9.5800	0.0190	0.2971	0.4922	0.7893	0.0800	0.4684	0.5484	0.0000	1,761.9608	1,761.9608	0.3872	0.0000	1,770.3378
Maximum	**17.2175**	**17.3169**	**9.9192**	**0.0205**	**2.3513**	**0.7797**	**3.1310**	**1.1757**	**0.7173**	**1.8930**	**0.0000**	**2,143.5572**	**2,143.5572**	**0.5038**	**0.0000**	**2,150.6062**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**57.19**	**0.00**	**47.44**	**58.93**	**0.00**	**42.46**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4016	5.0000e-005	5.2400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119
Energy	7.0700e-003	0.0643	0.0540	3.9000e-004		4.8900e-003	4.8900e-003		4.8900e-003	4.8900e-003		77.1404	77.1404	1.4800e-003	1.4100e-003	77.5988
Mobile	0.6222	3.0850	7.9322	0.0284	2.2478	0.0222	2.2699	0.6014	0.0207	0.6221		2,885.6420	2,885.6420	0.1395		2,889.1297
Total	**1.0309**	**3.1493**	**7.9914**	**0.0288**	**2.2478**	**0.0271**	**2.2748**	**0.6014**	**0.0256**	**0.6270**		**2,962.7936**	**2,962.7936**	**0.1410**	**1.4100e-003**	**2,966.7405**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4016	5.0000e-005	5.2400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119
Energy	7.0700e-003	0.0643	0.0540	3.9000e-004		4.8900e-003	4.8900e-003		4.8900e-003	4.8900e-003		77.1404	77.1404	1.4800e-003	1.4100e-003	77.5988
Mobile	0.6222	3.0850	7.9322	0.0284	2.2478	0.0222	2.2699	0.6014	0.0207	0.6221		2,885.6420	2,885.6420	0.1395		2,889.1297
Total	**1.0309**	**3.1493**	**7.9914**	**0.0288**	**2.2478**	**0.0271**	**2.2748**	**0.6014**	**0.0256**	**0.6270**		**2,962.7936**	**2,962.7936**	**0.1410**	**1.4100e-003**	**2,966.7405**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/3/2020	6/4/2020	5	2	
2	Grading	Grading	6/5/2020	6/10/2020	5	4	
3	Trenching	Trenching	6/11/2020	7/8/2020	5	20	
4	Building Construction	Building Construction	7/9/2020	4/14/2021	5	200	
5	Paving	Paving	4/15/2021	4/28/2021	5	10	
6	Architectural Coating	Architectural Coating	4/29/2021	5/12/2021	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.78

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 25,958; Non-Residential Outdoor: 8,653; Striped Parking Area: 2,027 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	7.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Trenching	Trenchers	1	7.00	78	0.50
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	0	7.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	7.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	7.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	6.00	0.00	364.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	6	22.00	8.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	14.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.5442	17.2926	7.1975	0.0160		0.7790	0.7790		0.7167	0.7167		1,549.4760	1,549.4760	0.5011		1,562.0043
Total	**1.5442**	**17.2926**	**7.1975**	**0.0160**	**5.7996**	**0.7790**	**6.5786**	**2.9537**	**0.7167**	**3.6704**		**1,549.4760**	**1,549.4760**	**0.5011**		**1,562.0043**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0362	0.0243	0.3271	9.2000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0362**	**0.0243**	**0.3271**	**9.2000e-004**	**0.0894**	**6.8000e-004**	**0.0901**	**0.0237**	**6.2000e-004**	**0.0243**		**91.5534**	**91.5534**	**2.6300e-003**		**91.6192**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.2618	0.0000	2.2618	1.1519	0.0000	1.1519			0.0000			0.0000
Off-Road	1.5442	17.2926	7.1975	0.0160		0.7790	0.7790		0.7167	0.7167	0.0000	1,549.4760	1,549.4760	0.5011		1,562.0043
Total	**1.5442**	**17.2926**	**7.1975**	**0.0160**	**2.2618**	**0.7790**	**3.0409**	**1.1519**	**0.7167**	**1.8687**	**0.0000**	**1,549.4760**	**1,549.4760**	**0.5011**		**1,562.0043**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0362	0.0243	0.3271	9.2000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0362**	**0.0243**	**0.3271**	**9.2000e-004**	**0.0894**	**6.8000e-004**	**0.0901**	**0.0237**	**6.2000e-004**	**0.0243**		**91.5534**	**91.5534**	**2.6300e-003**		**91.6192**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.9965	0.0000	4.9965	2.5381	0.0000	2.5381			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296		1,365.7183	1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.9965**	**0.6844**	**5.6809**	**2.5381**	**0.6296**	**3.1677**		**1,365.7183**	**1,365.7183**	**0.4417**		**1,376.7609**

3.3 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0362	0.0243	0.3271	9.2000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0362**	**0.0243**	**0.3271**	**9.2000e-004**	**0.0894**	**6.8000e-004**	**0.0901**	**0.0237**	**6.2000e-004**	**0.0243**		**91.5534**	**91.5534**	**2.6300e-003**		**91.6192**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.9486	0.0000	1.9486	0.9899	0.0000	0.9899			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296	0.0000	1,365.7183	1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**1.9486**	**0.6844**	**2.6330**	**0.9899**	**0.6296**	**1.6195**	**0.0000**	**1,365.7183**	**1,365.7183**	**0.4417**		**1,376.7609**

3.3 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0362	0.0243	0.3271	9.2000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0362**	**0.0243**	**0.3271**	**9.2000e-004**	**0.0894**	**6.8000e-004**	**0.0901**	**0.0237**	**6.2000e-004**	**0.0243**		**91.5534**	**91.5534**	**2.6300e-003**		**91.6192**

3.4 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5506	5.1640	4.3015	5.6700e-003		0.3652	0.3652		0.3360	0.3360		549.1330	549.1330	0.1776		553.5730
Total	**0.5506**	**5.1640**	**4.3015**	**5.6700e-003**		**0.3652**	**0.3652**		**0.3360**	**0.3360**		**549.1330**	**549.1330**	**0.1776**		**553.5730**

3.4 Trenching - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1382	4.9530	0.9855	0.0141	0.3180	0.0160	0.3340	0.0872	0.0153	0.1024		1,525.7592	1,525.7592	0.1024		1,528.3188
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0272	0.0183	0.2453	6.9000e-004	0.0671	5.1000e-004	0.0676	0.0178	4.7000e-004	0.0183		68.6651	68.6651	1.9700e-003		68.7144
Total	**0.1654**	**4.9712**	**1.2308**	**0.0148**	**0.3851**	**0.0165**	**0.4016**	**0.1050**	**0.0158**	**0.1207**		**1,594.4242**	**1,594.4242**	**0.1044**		**1,597.0332**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5506	5.1640	4.3015	5.6700e-003		0.3652	0.3652		0.3360	0.3360	0.0000	549.1330	549.1330	0.1776		553.5730
Total	**0.5506**	**5.1640**	**4.3015**	**5.6700e-003**		**0.3652**	**0.3652**		**0.3360**	**0.3360**	**0.0000**	**549.1330**	**549.1330**	**0.1776**		**553.5730**

3.4 Trenching - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1382	4.9530	0.9855	0.0141	0.3180	0.0160	0.3340	0.0872	0.0153	0.1024		1,525.7592	1,525.7592	0.1024		1,528.3188
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0272	0.0183	0.2453	6.9000e-004	0.0671	5.1000e-004	0.0676	0.0178	4.7000e-004	0.0183		68.6651	68.6651	1.9700e-003		68.7144
Total	**0.1654**	**4.9712**	**1.2308**	**0.0148**	**0.3851**	**0.0165**	**0.4016**	**0.1050**	**0.0158**	**0.1207**		**1,594.4242**	**1,594.4242**	**0.1044**		**1,597.0332**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5032	10.7204	8.8199	0.0145		0.5671	0.5671		0.5400	0.5400		1,300.3208	1,300.3208	0.3249		1,308.4435
Total	**1.5032**	**10.7204**	**8.8199**	**0.0145**		**0.5671**	**0.5671**		**0.5400**	**0.5400**		**1,300.3208**	**1,300.3208**	**0.3249**		**1,308.4435**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0263	0.8395	0.1999	2.0600e-003	0.0512	4.1600e-003	0.0554	0.0147	3.9800e-003	0.0187		219.5588	219.5588	0.0138		219.9034
Worker	0.0995	0.0669	0.8994	2.5300e-003	0.2459	1.8700e-003	0.2478	0.0652	1.7200e-003	0.0669		251.7718	251.7718	7.2400e-003		251.9528
Total	**0.1258**	**0.9064**	**1.0993**	**4.5900e-003**	**0.2971**	**6.0300e-003**	**0.3031**	**0.0800**	**5.7000e-003**	**0.0857**		**471.3306**	**471.3306**	**0.0210**		**471.8562**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5032	10.7204	8.8199	0.0145		0.5671	0.5671		0.5400	0.5400	0.0000	1,300.3208	1,300.3208	0.3249		1,308.4435
Total	**1.5032**	**10.7204**	**8.8199**	**0.0145**		**0.5671**	**0.5671**		**0.5400**	**0.5400**	**0.0000**	**1,300.3208**	**1,300.3208**	**0.3249**		**1,308.4435**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0263	0.8395	0.1999	2.0600e-003	0.0512	4.1600e-003	0.0554	0.0147	3.9800e-003	0.0187		219.5588	219.5588	0.0138		219.9034
Worker	0.0995	0.0669	0.8994	2.5300e-003	0.2459	1.8700e-003	0.2478	0.0652	1.7200e-003	0.0669		251.7718	251.7718	7.2400e-003		251.9528
Total	**0.1258**	**0.9064**	**1.0993**	**4.5900e-003**	**0.2971**	**6.0300e-003**	**0.3031**	**0.0800**	**5.7000e-003**	**0.0857**		**471.3306**	**471.3306**	**0.0210**		**471.8562**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3416	9.9041	8.5701	0.0145		0.4888	0.4888		0.4653	0.4653		1,300.3813	1,300.3813	0.3153		1,308.2649
Total	**1.3416**	**9.9041**	**8.5701**	**0.0145**		**0.4888**	**0.4888**		**0.4653**	**0.4653**		**1,300.3813**	**1,300.3813**	**0.3153**		**1,308.2649**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0223	0.7630	0.1811	2.0400e-003	0.0512	1.5400e-003	0.0527	0.0147	1.4700e-003	0.0162		217.9508	217.9508	0.0132		218.2804
Worker	0.0929	0.0602	0.8288	2.4500e-003	0.2459	1.8100e-003	0.2477	0.0652	1.6700e-003	0.0669		243.6287	243.6287	6.5500e-003		243.7925
Total	**0.1151**	**0.8232**	**1.0099**	**4.4900e-003**	**0.2971**	**3.3500e-003**	**0.3005**	**0.0800**	**3.1400e-003**	**0.0831**		**461.5795**	**461.5795**	**0.0197**		**462.0729**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3416	9.9041	8.5701	0.0145		0.4888	0.4888		0.4653	0.4653	0.0000	1,300.3813	1,300.3813	0.3153		1,308.2649
Total	**1.3416**	**9.9041**	**8.5701**	**0.0145**		**0.4888**	**0.4888**		**0.4653**	**0.4653**	**0.0000**	**1,300.3813**	**1,300.3813**	**0.3153**		**1,308.2649**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0223	0.7630	0.1811	2.0400e-003	0.0512	1.5400e-003	0.0527	0.0147	1.4700e-003	0.0162		217.9508	217.9508	0.0132		218.2804
Worker	0.0929	0.0602	0.8288	2.4500e-003	0.2459	1.8100e-003	0.2477	0.0652	1.6700e-003	0.0669		243.6287	243.6287	6.5500e-003		243.7925
Total	**0.1151**	**0.8232**	**1.0099**	**4.4900e-003**	**0.2971**	**3.3500e-003**	**0.3005**	**0.0800**	**3.1400e-003**	**0.0831**		**461.5795**	**461.5795**	**0.0197**		**462.0729**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7265	7.2627	8.2567	0.0126		0.3894	0.3894		0.3591	0.3591		1,209.9470	1,209.9470	0.3830		1,219.5220
Paving	0.2044					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9308**	**7.2627**	**8.2567**	**0.0126**		**0.3894**	**0.3894**		**0.3591**	**0.3591**		**1,209.9470**	**1,209.9470**	**0.3830**		**1,219.5220**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0591	0.0383	0.5274	1.5600e-003	0.1565	1.1500e-003	0.1576	0.0415	1.0600e-003	0.0426		155.0365	155.0365	4.1700e-003		155.1407
Total	**0.0591**	**0.0383**	**0.5274**	**1.5600e-003**	**0.1565**	**1.1500e-003**	**0.1576**	**0.0415**	**1.0600e-003**	**0.0426**		**155.0365**	**155.0365**	**4.1700e-003**		**155.1407**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7265	7.2627	8.2567	0.0126		0.3894	0.3894		0.3591	0.3591	0.0000	1,209.9470	1,209.9470	0.3830		1,219.5220
Paving	0.2044					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9308**	**7.2627**	**8.2567**	**0.0126**		**0.3894**	**0.3894**		**0.3591**	**0.3591**	**0.0000**	**1,209.9470**	**1,209.9470**	**0.3830**		**1,219.5220**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0591	0.0383	0.5274	1.5600e-003	0.1565	1.1500e-003	0.1576	0.0415	1.0600e-003	0.0426		155.0365	155.0365	4.1700e-003		155.1407
Total	**0.0591**	**0.0383**	**0.5274**	**1.5600e-003**	**0.1565**	**1.1500e-003**	**0.1576**	**0.0415**	**1.0600e-003**	**0.0426**		**155.0365**	**155.0365**	**4.1700e-003**		**155.1407**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	16.9817					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**17.2006**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0169	0.0110	0.1507	4.4000e-004	0.0447	3.3000e-004	0.0450	0.0119	3.0000e-004	0.0122		44.2961	44.2961	1.1900e-003		44.3259
Total	**0.0169**	**0.0110**	**0.1507**	**4.4000e-004**	**0.0447**	**3.3000e-004**	**0.0450**	**0.0119**	**3.0000e-004**	**0.0122**		**44.2961**	**44.2961**	**1.1900e-003**		**44.3259**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	16.9817					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**17.2006**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0169	0.0110	0.1507	4.4000e-004	0.0447	3.3000e-004	0.0450	0.0119	3.0000e-004	0.0122		44.2961	44.2961	1.1900e-003		44.3259
Total	**0.0169**	**0.0110**	**0.1507**	**4.4000e-004**	**0.0447**	**3.3000e-004**	**0.0450**	**0.0119**	**3.0000e-004**	**0.0122**		**44.2961**	**44.2961**	**1.1900e-003**		**44.3259**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.6222	3.0850	7.9322	0.0284	2.2478	0.0222	2.2699	0.6014	0.0207	0.6221		2,885.642 0	2,885.642 0	0.1395		2,889.129 7
Unmitigated	0.6222	3.0850	7.9322	0.0284	2.2478	0.0222	2.2699	0.6014	0.0207	0.6221		2,885.642 0	2,885.642 0	0.1395		2,889.129 7

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Junior College (2Yr)	350.00	142.98	15.41	823,429	823,429
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	350.00	142.98	15.41	823,429	823,429

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Junior College (2Yr)	16.60	8.40	6.90	6.40	88.60	5.00	92	7	1
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Junior College (2Yr)	0.548858	0.043235	0.200706	0.120309	0.016131	0.005851	0.021034	0.033479	0.002070	0.001877	0.004817	0.000707	0.000925
Other Asphalt Surfaces	0.548858	0.043235	0.200706	0.120309	0.016131	0.005851	0.021034	0.033479	0.002070	0.001877	0.004817	0.000707	0.000925

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	7.0700e-003	0.0643	0.0540	3.9000e-004		4.8900e-003	4.8900e-003		4.8900e-003	4.8900e-003		77.1404	77.1404	1.4800e-003	1.4100e-003	77.5988
NaturalGas Unmitigated	7.0700e-003	0.0643	0.0540	3.9000e-004		4.8900e-003	4.8900e-003		4.8900e-003	4.8900e-003		77.1404	77.1404	1.4800e-003	1.4100e-003	77.5988

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Junior College (2Yr)	655.694	7.0700e-003	0.0643	0.0540	3.9000e-004		4.8900e-003	4.8900e-003		4.8900e-003	4.8900e-003		77.1404	77.1404	1.4800e-003	1.4100e-003	77.5988
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**7.0700e-003**	**0.0643**	**0.0540**	**3.9000e-004**		**4.8900e-003**	**4.8900e-003**		**4.8900e-003**	**4.8900e-003**		**77.1404**	**77.1404**	**1.4800e-003**	**1.4100e-003**	**77.5988**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Junior College (2Yr)	0.655694	7.0700e-003	0.0643	0.0540	3.9000e-004		4.8900e-003	4.8900e-003		4.8900e-003	4.8900e-003		77.1404	77.1404	1.4800e-003	1.4100e-003	77.5988
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**7.0700e-003**	**0.0643**	**0.0540**	**3.9000e-004**		**4.8900e-003**	**4.8900e-003**		**4.8900e-003**	**4.8900e-003**		**77.1404**	**77.1404**	**1.4800e-003**	**1.4100e-003**	**77.5988**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.4016	5.0000e-005	5.2400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119
Unmitigated	0.4016	5.0000e-005	5.2400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0465					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.9000e-004	5.0000e-005	5.2400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119
Total	**0.4016**	**5.0000e-005**	**5.2400e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0112**	**0.0112**	**3.0000e-005**		**0.0119**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0465					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.9000e-004	5.0000e-005	5.2400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119
Total	**0.4016**	**5.0000e-005**	**5.2400e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0112**	**0.0112**	**3.0000e-005**		**0.0119**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Moreno Valley College Welcome Center

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior College (2Yr)	17.30	1000sqft	0.40	17,305.00	0
Other Asphalt Surfaces	33.78	1000sqft	0.78	33,779.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on site plan.

Construction Phase - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Off-road Equipment - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Trips and VMT - CalEEMod defaults rounded up to nearest even number to account for whole round trips.

On-road Fugitive Dust - CalEEMod defaults.

Demolition - No demolition.

Grading - Import/Export for utilities.

Architectural Coating - CalEEMod defaults.

Vehicle Trips - Based on trip generation rate for the project.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust - CalEEMod defaults.

Woodstoves - No hearths.

Consumer Products - CalEEMod defaults.

Area Coating - CalEEMod defaults.

Landscape Equipment - CalEEMod defaults.

Energy Use - CalEEMod defaults.

Water And Wastewater - CalEEMod defaults.

Solid Waste - CalEEMod defaults.

Construction Off-road Equipment Mitigation - Water 3x per day in accordance with SCAQMD Rule 403.

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	0.88	1.00
tblGrading	MaterialExported	0.00	1,455.00
tblGrading	MaterialImported	0.00	1,455.00
tblLandUse	LandUseSquareFeet	17,300.00	17,305.00
tblLandUse	LandUseSquareFeet	33,780.00	33,779.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblTripsAndVMT	HaulingTripNumber	364.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	364.00
tblTripsAndVMT	WorkerTripNumber	5.00	6.00
tblTripsAndVMT	WorkerTripNumber	21.00	22.00
tblTripsAndVMT	WorkerTripNumber	13.00	14.00
tblVehicleTrips	ST_TR	11.23	8.26
tblVehicleTrips	SU_TR	1.21	0.89
tblVehicleTrips	WD_TR	27.49	20.23

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	1.6392	17.3192	9.8526	0.0202	5.8890	0.7797	6.6687	2.9774	0.7173	3.6948	0.0000	2,111.0294	2,111.0294	0.5036	0.0000	2,118.1862
2021	17.2191	10.7306	9.5175	0.0188	0.2971	0.4922	0.7893	0.0800	0.4685	0.5484	0.0000	1,739.8684	1,739.8684	0.3869	0.0000	1,748.2586
Maximum	**17.2191**	**17.3192**	**9.8526**	**0.0202**	**5.8890**	**0.7797**	**6.6687**	**2.9774**	**0.7173**	**3.6948**	**0.0000**	**2,111.0294**	**2,111.0294**	**0.5036**	**0.0000**	**2,118.1862**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	1.6392	17.3192	9.8526	0.0202	2.3513	0.7797	3.1310	1.1757	0.7173	1.8930	0.0000	2,111.0294	2,111.0294	0.5036	0.0000	2,118.1862
2021	17.2191	10.7306	9.5175	0.0188	0.2971	0.4922	0.7893	0.0800	0.4685	0.5484	0.0000	1,739.8684	1,739.8684	0.3869	0.0000	1,748.2586
Maximum	**17.2191**	**17.3192**	**9.8526**	**0.0202**	**2.3513**	**0.7797**	**3.1310**	**1.1757**	**0.7173**	**1.8930**	**0.0000**	**2,111.0294**	**2,111.0294**	**0.5036**	**0.0000**	**2,118.1862**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**57.19**	**0.00**	**47.44**	**58.93**	**0.00**	**42.46**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4016	5.0000e-005	5.2400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119
Energy	7.0700e-003	0.0643	0.0540	3.9000e-004		4.8900e-003	4.8900e-003		4.8900e-003	4.8900e-003		77.1404	77.1404	1.4800e-003	1.4100e-003	77.5988
Mobile	0.5913	3.1433	7.4558	0.0268	2.2478	0.0223	2.2701	0.6014	0.0208	0.6223		2,731.5843	2,731.5843	0.1397		2,735.0757
Total	**1.0000**	**3.2077**	**7.5150**	**0.0272**	**2.2478**	**0.0272**	**2.2750**	**0.6014**	**0.0257**	**0.6272**		**2,808.7359**	**2,808.7359**	**0.1412**	**1.4100e-003**	**2,812.6865**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4016	5.0000e-005	5.2400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119
Energy	7.0700e-003	0.0643	0.0540	3.9000e-004		4.8900e-003	4.8900e-003		4.8900e-003	4.8900e-003		77.1404	77.1404	1.4800e-003	1.4100e-003	77.5988
Mobile	0.5913	3.1433	7.4558	0.0268	2.2478	0.0223	2.2701	0.6014	0.0208	0.6223		2,731.5843	2,731.5843	0.1397		2,735.0757
Total	**1.0000**	**3.2077**	**7.5150**	**0.0272**	**2.2478**	**0.0272**	**2.2750**	**0.6014**	**0.0257**	**0.6272**		**2,808.7359**	**2,808.7359**	**0.1412**	**1.4100e-003**	**2,812.6865**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/3/2020	6/4/2020	5	2	
2	Grading	Grading	6/5/2020	6/10/2020	5	4	
3	Trenching	Trenching	6/11/2020	7/8/2020	5	20	
4	Building Construction	Building Construction	7/9/2020	4/14/2021	5	200	
5	Paving	Paving	4/15/2021	4/28/2021	5	10	
6	Architectural Coating	Architectural Coating	4/29/2021	5/12/2021	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.78

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 25,958; Non-Residential Outdoor: 8,653; Striped Parking Area: 2,027 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	7.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Trenching	Trenchers	1	7.00	78	0.50
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	0	7.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	7.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	7.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	6.00	0.00	364.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	6	22.00	8.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	14.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.5442	17.2926	7.1975	0.0160		0.7790	0.7790		0.7167	0.7167		1,549.4760	1,549.4760	0.5011		1,562.0043
Total	**1.5442**	**17.2926**	**7.1975**	**0.0160**	**5.7996**	**0.7790**	**6.5786**	**2.9537**	**0.7167**	**3.6704**		**1,549.4760**	**1,549.4760**	**0.5011**		**1,562.0043**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0395	0.0266	0.2945	8.6000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0395**	**0.0266**	**0.2945**	**8.6000e-004**	**0.0894**	**6.8000e-004**	**0.0901**	**0.0237**	**6.2000e-004**	**0.0243**		**85.6292**	**85.6292**	**2.4600e-003**		**85.6906**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.2618	0.0000	2.2618	1.1519	0.0000	1.1519			0.0000			0.0000
Off-Road	1.5442	17.2926	7.1975	0.0160		0.7790	0.7790		0.7167	0.7167	0.0000	1,549.4760	1,549.4760	0.5011		1,562.0043
Total	**1.5442**	**17.2926**	**7.1975**	**0.0160**	**2.2618**	**0.7790**	**3.0409**	**1.1519**	**0.7167**	**1.8687**	**0.0000**	**1,549.4760**	**1,549.4760**	**0.5011**		**1,562.0043**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0395	0.0266	0.2945	8.6000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0395**	**0.0266**	**0.2945**	**8.6000e-004**	**0.0894**	**6.8000e-004**	**0.0901**	**0.0237**	**6.2000e-004**	**0.0243**		**85.6292**	**85.6292**	**2.4600e-003**		**85.6906**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.9965	0.0000	4.9965	2.5381	0.0000	2.5381			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296		1,365.7183	1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.9965**	**0.6844**	**5.6809**	**2.5381**	**0.6296**	**3.1677**		**1,365.7183**	**1,365.7183**	**0.4417**		**1,376.7609**

3.3 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0395	0.0266	0.2945	8.6000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0395**	**0.0266**	**0.2945**	**8.6000e-004**	**0.0894**	**6.8000e-004**	**0.0901**	**0.0237**	**6.2000e-004**	**0.0243**		**85.6292**	**85.6292**	**2.4600e-003**		**85.6906**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.9486	0.0000	1.9486	0.9899	0.0000	0.9899			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296	0.0000	1,365.7183	1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**1.9486**	**0.6844**	**2.6330**	**0.9899**	**0.6296**	**1.6195**	**0.0000**	**1,365.7183**	**1,365.7183**	**0.4417**		**1,376.7609**

3.3 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0395	0.0266	0.2945	8.6000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0395**	**0.0266**	**0.2945**	**8.6000e-004**	**0.0894**	**6.8000e-004**	**0.0901**	**0.0237**	**6.2000e-004**	**0.0243**		**85.6292**	**85.6292**	**2.4600e-003**		**85.6906**

3.4 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5506	5.1640	4.3015	5.6700e-003		0.3652	0.3652		0.3360	0.3360		549.1330	549.1330	0.1776		553.5730
Total	**0.5506**	**5.1640**	**4.3015**	**5.6700e-003**		**0.3652**	**0.3652**		**0.3360**	**0.3360**		**549.1330**	**549.1330**	**0.1776**		**553.5730**

3.4 Trenching - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1422	5.0166	1.0609	0.0139	0.3180	0.0162	0.3342	0.0872	0.0155	0.1027		1,497.674 4	1,497.674 4	0.1068		1,500.345 2
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0296	0.0200	0.2209	6.4000e-004	0.0671	5.1000e-004	0.0676	0.0178	4.7000e-004	0.0183		64.2219	64.2219	1.8400e-003		64.2679
Total	**0.1718**	**5.0366**	**1.2818**	**0.0145**	**0.3851**	**0.0167**	**0.4018**	**0.1050**	**0.0160**	**0.1209**		**1,561.896 3**	**1,561.896 3**	**0.1087**		**1,564.613 2**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5506	5.1640	4.3015	5.6700e-003		0.3652	0.3652		0.3360	0.3360	0.0000	549.1330	549.1330	0.1776		553.5730
Total	**0.5506**	**5.1640**	**4.3015**	**5.6700e-003**		**0.3652**	**0.3652**		**0.3360**	**0.3360**	**0.0000**	**549.1330**	**549.1330**	**0.1776**		**553.5730**

3.4 Trenching - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1422	5.0166	1.0609	0.0139	0.3180	0.0162	0.3342	0.0872	0.0155	0.1027		1,497.6744	1,497.6744	0.1068		1,500.3452
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0296	0.0200	0.2209	6.4000e-004	0.0671	5.1000e-004	0.0676	0.0178	4.7000e-004	0.0183		64.2219	64.2219	1.8400e-003		64.2679
Total	**0.1718**	**5.0366**	**1.2818**	**0.0145**	**0.3851**	**0.0167**	**0.4018**	**0.1050**	**0.0160**	**0.1209**		**1,561.8963**	**1,561.8963**	**0.1087**		**1,564.6132**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5032	10.7204	8.8199	0.0145		0.5671	0.5671		0.5400	0.5400		1,300.3208	1,300.3208	0.3249		1,308.4435
Total	**1.5032**	**10.7204**	**8.8199**	**0.0145**		**0.5671**	**0.5671**		**0.5400**	**0.5400**		**1,300.3208**	**1,300.3208**	**0.3249**		**1,308.4435**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0275	0.8386	0.2229	2.0000e-003	0.0512	4.2200e-003	0.0554	0.0147	4.0400e-003	0.0188		213.2103	213.2103	0.0148		213.5804
Worker	0.1086	0.0733	0.8098	2.3600e-003	0.2459	1.8700e-003	0.2478	0.0652	1.7200e-003	0.0669		235.4803	235.4803	6.7500e-003		235.6491
Total	**0.1361**	**0.9119**	**1.0327**	**4.3600e-003**	**0.2971**	**6.0900e-003**	**0.3032**	**0.0800**	**5.7600e-003**	**0.0857**		**448.6905**	**448.6905**	**0.0216**		**449.2295**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5032	10.7204	8.8199	0.0145		0.5671	0.5671		0.5400	0.5400	0.0000	1,300.3208	1,300.3208	0.3249		1,308.4435
Total	**1.5032**	**10.7204**	**8.8199**	**0.0145**		**0.5671**	**0.5671**		**0.5400**	**0.5400**	**0.0000**	**1,300.3208**	**1,300.3208**	**0.3249**		**1,308.4435**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0275	0.8386	0.2229	2.0000e-003	0.0512	4.2200e-003	0.0554	0.0147	4.0400e-003	0.0188		213.2103	213.2103	0.0148		213.5804
Worker	0.1086	0.0733	0.8098	2.3600e-003	0.2459	1.8700e-003	0.2478	0.0652	1.7200e-003	0.0669		235.4803	235.4803	6.7500e-003		235.6491
Total	**0.1361**	**0.9119**	**1.0327**	**4.3600e-003**	**0.2971**	**6.0900e-003**	**0.3032**	**0.0800**	**5.7600e-003**	**0.0857**		**448.6905**	**448.6905**	**0.0216**		**449.2295**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3416	9.9041	8.5701	0.0145		0.4888	0.4888		0.4653	0.4653		1,300.3813	1,300.3813	0.3153		1,308.2649
Total	**1.3416**	**9.9041**	**8.5701**	**0.0145**		**0.4888**	**0.4888**		**0.4653**	**0.4653**		**1,300.3813**	**1,300.3813**	**0.3153**		**1,308.2649**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0234	0.7606	0.2026	1.9800e-003	0.0512	1.5900e-003	0.0528	0.0147	1.5200e-003	0.0163		211.6402	211.6402	0.0142		211.9942
Worker	0.1015	0.0659	0.7448	2.2900e-003	0.2459	1.8100e-003	0.2477	0.0652	1.6700e-003	0.0669		227.8469	227.8469	6.1100e-003		227.9996
Total	**0.1249**	**0.8265**	**0.9474**	**4.2700e-003**	**0.2971**	**3.4000e-003**	**0.3005**	**0.0800**	**3.1900e-003**	**0.0831**		**439.4871**	**439.4871**	**0.0203**		**439.9938**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3416	9.9041	8.5701	0.0145		0.4888	0.4888		0.4653	0.4653	0.0000	1,300.3813	1,300.3813	0.3153		1,308.2649
Total	**1.3416**	**9.9041**	**8.5701**	**0.0145**		**0.4888**	**0.4888**		**0.4653**	**0.4653**	**0.0000**	**1,300.3813**	**1,300.3813**	**0.3153**		**1,308.2649**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0234	0.7606	0.2026	1.9800e-003	0.0512	1.5900e-003	0.0528	0.0147	1.5200e-003	0.0163		211.6402	211.6402	0.0142		211.9942
Worker	0.1015	0.0659	0.7448	2.2900e-003	0.2459	1.8100e-003	0.2477	0.0652	1.6700e-003	0.0669		227.8469	227.8469	6.1100e-003		227.9996
Total	**0.1249**	**0.8265**	**0.9474**	**4.2700e-003**	**0.2971**	**3.4000e-003**	**0.3005**	**0.0800**	**3.1900e-003**	**0.0831**		**439.4871**	**439.4871**	**0.0203**		**439.9938**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7265	7.2627	8.2567	0.0126		0.3894	0.3894		0.3591	0.3591		1,209.9470	1,209.9470	0.3830		1,219.5220
Paving	0.2044					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9308**	**7.2627**	**8.2567**	**0.0126**		**0.3894**	**0.3894**		**0.3591**	**0.3591**		**1,209.9470**	**1,209.9470**	**0.3830**		**1,219.5220**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0646	0.0420	0.4740	1.4500e-003	0.1565	1.1500e-003	0.1576	0.0415	1.0600e-003	0.0426		144.9935	144.9935	3.8900e-003		145.0907
Total	**0.0646**	**0.0420**	**0.4740**	**1.4500e-003**	**0.1565**	**1.1500e-003**	**0.1576**	**0.0415**	**1.0600e-003**	**0.0426**		**144.9935**	**144.9935**	**3.8900e-003**		**145.0907**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7265	7.2627	8.2567	0.0126		0.3894	0.3894		0.3591	0.3591	0.0000	1,209.9470	1,209.9470	0.3830		1,219.5220
Paving	0.2044					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9308**	**7.2627**	**8.2567**	**0.0126**		**0.3894**	**0.3894**		**0.3591**	**0.3591**	**0.0000**	**1,209.9470**	**1,209.9470**	**0.3830**		**1,219.5220**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0646	0.0420	0.4740	1.4500e-003	0.1565	1.1500e-003	0.1576	0.0415	1.0600e-003	0.0426		144.9935	144.9935	3.8900e-003		145.0907
Total	**0.0646**	**0.0420**	**0.4740**	**1.4500e-003**	**0.1565**	**1.1500e-003**	**0.1576**	**0.0415**	**1.0600e-003**	**0.0426**		**144.9935**	**144.9935**	**3.8900e-003**		**145.0907**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	16.9817					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**17.2006**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0185	0.0120	0.1354	4.2000e-004	0.0447	3.3000e-004	0.0450	0.0119	3.0000e-004	0.0122		41.4267	41.4267	1.1100e-003		41.4545
Total	**0.0185**	**0.0120**	**0.1354**	**4.2000e-004**	**0.0447**	**3.3000e-004**	**0.0450**	**0.0119**	**3.0000e-004**	**0.0122**		**41.4267**	**41.4267**	**1.1100e-003**		**41.4545**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	16.9817					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**17.2006**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0185	0.0120	0.1354	4.2000e-004	0.0447	3.3000e-004	0.0450	0.0119	3.0000e-004	0.0122		41.4267	41.4267	1.1100e-003		41.4545
Total	**0.0185**	**0.0120**	**0.1354**	**4.2000e-004**	**0.0447**	**3.3000e-004**	**0.0450**	**0.0119**	**3.0000e-004**	**0.0122**		**41.4267**	**41.4267**	**1.1100e-003**		**41.4545**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.5913	3.1433	7.4558	0.0268	2.2478	0.0223	2.2701	0.6014	0.0208	0.6223		2,731.5843	2,731.5843	0.1397		2,735.0757
Unmitigated	0.5913	3.1433	7.4558	0.0268	2.2478	0.0223	2.2701	0.6014	0.0208	0.6223		2,731.5843	2,731.5843	0.1397		2,735.0757

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Junior College (2Yr)	350.00	142.98	15.41	823,429	823,429
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	350.00	142.98	15.41	823,429	823,429

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Junior College (2Yr)	16.60	8.40	6.90	6.40	88.60	5.00	92	7	1
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Junior College (2Yr)	0.548858	0.043235	0.200706	0.120309	0.016131	0.005851	0.021034	0.033479	0.002070	0.001877	0.004817	0.000707	0.000925
Other Asphalt Surfaces	0.548858	0.043235	0.200706	0.120309	0.016131	0.005851	0.021034	0.033479	0.002070	0.001877	0.004817	0.000707	0.000925

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	7.0700e-003	0.0643	0.0540	3.9000e-004		4.8900e-003	4.8900e-003		4.8900e-003	4.8900e-003		77.1404	77.1404	1.4800e-003	1.4100e-003	77.5988
NaturalGas Unmitigated	7.0700e-003	0.0643	0.0540	3.9000e-004		4.8900e-003	4.8900e-003		4.8900e-003	4.8900e-003		77.1404	77.1404	1.4800e-003	1.4100e-003	77.5988

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Junior College (2Yr)	655.694	7.0700e-003	0.0643	0.0540	3.9000e-004		4.8900e-003	4.8900e-003		4.8900e-003	4.8900e-003		77.1404	77.1404	1.4800e-003	1.4100e-003	77.5988
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**7.0700e-003**	**0.0643**	**0.0540**	**3.9000e-004**		**4.8900e-003**	**4.8900e-003**		**4.8900e-003**	**4.8900e-003**		**77.1404**	**77.1404**	**1.4800e-003**	**1.4100e-003**	**77.5988**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Junior College (2Yr)	0.655694	7.0700e-003	0.0643	0.0540	3.9000e-004		4.8900e-003	4.8900e-003		4.8900e-003	4.8900e-003		77.1404	77.1404	1.4800e-003	1.4100e-003	77.5988
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**7.0700e-003**	**0.0643**	**0.0540**	**3.9000e-004**		**4.8900e-003**	**4.8900e-003**		**4.8900e-003**	**4.8900e-003**		**77.1404**	**77.1404**	**1.4800e-003**	**1.4100e-003**	**77.5988**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.4016	5.0000e-005	5.2400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119
Unmitigated	0.4016	5.0000e-005	5.2400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0465					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.9000e-004	5.0000e-005	5.2400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119
Total	**0.4016**	**5.0000e-005**	**5.2400e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0112**	**0.0112**	**3.0000e-005**		**0.0119**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0465					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.9000e-004	5.0000e-005	5.2400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119
Total	**0.4016**	**5.0000e-005**	**5.2400e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0112**	**0.0112**	**3.0000e-005**		**0.0119**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Moreno Valley College Welcome Center

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior College (2Yr)	17.30	1000sqft	0.40	17,305.00	0
Other Asphalt Surfaces	33.78	1000sqft	0.78	33,779.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on site plan.

Construction Phase - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Off-road Equipment - CalEEMod defaults. No generators needed, power is available onsite. Maximum 7 hours per day.

Off-road Equipment - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Off-road Equipment - CalEEMod defaults. Maximum 7 hours per day.

Trips and VMT - CalEEMod defaults rounded up to nearest even number to account for whole round trips.

On-road Fugitive Dust - CalEEMod defaults.

Demolition - No demolition.

Grading - Import/Export for utilities.

Architectural Coating - CalEEMod defaults.

Vehicle Trips - Based on trip generation rate for the project.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust - CalEEMod defaults.

Woodstoves - No hearths.

Consumer Products - CalEEMod defaults.

Area Coating - CalEEMod defaults.

Landscape Equipment - CalEEMod defaults.

Energy Use - CalEEMod defaults.

Water And Wastewater - CalEEMod defaults.

Solid Waste - CalEEMod defaults.

Construction Off-road Equipment Mitigation - Water 3x per day in accordance with SCAQMD Rule 403.

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	0.88	1.00
tblGrading	MaterialExported	0.00	1,455.00
tblGrading	MaterialImported	0.00	1,455.00
tblLandUse	LandUseSquareFeet	17,300.00	17,305.00
tblLandUse	LandUseSquareFeet	33,780.00	33,779.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripNumber	364.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	364.00
tblTripsAndVMT	VendorTripLength	6.90	0.19
tblTripsAndVMT	WorkerTripLength	14.70	0.00
tblTripsAndVMT	WorkerTripLength	14.70	0.00
tblTripsAndVMT	WorkerTripLength	14.70	0.00
tblTripsAndVMT	WorkerTripLength	14.70	0.00
tblTripsAndVMT	WorkerTripLength	14.70	0.00

tblTripsAndVMT	WorkerTripLength	14.70	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	6.00
tblTripsAndVMT	WorkerTripNumber	21.00	22.00
tblTripsAndVMT	WorkerTripNumber	13.00	14.00
tblVehicleTrips	ST_TR	11.23	8.26
tblVehicleTrips	SU_TR	1.21	0.89
tblVehicleTrips	WD_TR	27.49	20.23

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1070	0.8241	0.6355	1.0700e-003	0.0159	0.0416	0.0575	8.0800e-003	0.0394	0.0475	0.0000	88.5084	88.5084	0.0223	0.0000	89.0659
2021	0.1415	0.4284	0.3753	6.4000e-004	7.0000e-005	0.0205	0.0206	2.0000e-005	0.0195	0.0195	0.0000	52.3565	52.3565	0.0127	0.0000	52.6742
Maximum	**0.1415**	**0.8241**	**0.6355**	**1.0700e-003**	**0.0159**	**0.0416**	**0.0575**	**8.0800e-003**	**0.0394**	**0.0475**	**0.0000**	**88.5084**	**88.5084**	**0.0223**	**0.0000**	**89.0659**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1070	0.8241	0.6355	1.0700e-003	6.3100e-003	0.0416	0.0479	3.1800e-003	0.0394	0.0426	0.0000	88.5083	88.5083	0.0223	0.0000	89.0658
2021	0.1415	0.4284	0.3753	6.4000e-004	7.0000e-005	0.0205	0.0206	2.0000e-005	0.0195	0.0195	0.0000	52.3565	52.3565	0.0127	0.0000	52.6741
Maximum	**0.1415**	**0.8241**	**0.6355**	**1.0700e-003**	**6.3100e-003**	**0.0416**	**0.0479**	**3.1800e-003**	**0.0394**	**0.0426**	**0.0000**	**88.5083**	**88.5083**	**0.0223**	**0.0000**	**89.0658**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**60.15**	**0.00**	**12.33**	**60.49**	**0.00**	**7.32**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**6-3-2020**	**9-2-2020**	0.3798	0.3798
2	**9-3-2020**	**12-2-2020**	0.4146	0.4146
3	**12-3-2020**	**3-2-2021**	0.3882	0.3882
4	**3-3-2021**	**6-2-2021**	0.3153	0.3153
		Highest	0.4146	0.4146

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0733	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3500e-003
Energy	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	56.2198	56.2198	2.0400e-003	6.1000e-004	56.4511
Mobile	0.0820	0.4536	1.0727	3.8600e-003	0.3129	3.1400e-003	0.3160	0.0838	2.9400e-003	0.0868	0.0000	356.5189	356.5189	0.0178	0.0000	356.9645
Waste						0.0000	0.0000		0.0000	0.0000	4.5653	0.0000	4.5653	0.2698	0.0000	11.3103
Water						0.0000	0.0000		0.0000	0.0000	0.2692	8.2186	8.4878	0.0280	7.2000e-004	9.4030
Total	**0.1565**	**0.4653**	**1.0832**	**3.9300e-003**	**0.3129**	**4.0300e-003**	**0.3169**	**0.0838**	**3.8300e-003**	**0.0877**	**4.8345**	**420.9585**	**425.7930**	**0.3177**	**1.3300e-003**	**434.1303**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0733	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3500e-003
Energy	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	56.2198	56.2198	2.0400e-003	6.1000e-004	56.4511
Mobile	0.0820	0.4536	1.0727	3.8600e-003	0.3129	3.1400e-003	0.3160	0.0838	2.9400e-003	0.0868	0.0000	356.5189	356.5189	0.0178	0.0000	356.9645
Waste						0.0000	0.0000		0.0000	0.0000	4.5653	0.0000	4.5653	0.2698	0.0000	11.3103
Water						0.0000	0.0000		0.0000	0.0000	0.2692	8.2186	8.4878	0.0280	7.2000e-004	9.4030
Total	**0.1565**	**0.4653**	**1.0832**	**3.9300e-003**	**0.3129**	**4.0300e-003**	**0.3169**	**0.0838**	**3.8300e-003**	**0.0877**	**4.8345**	**420.9585**	**425.7930**	**0.3177**	**1.3300e-003**	**434.1303**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/3/2020	6/4/2020	5	2	
2	Grading	Grading	6/5/2020	6/10/2020	5	4	
3	Trenching	Trenching	6/11/2020	7/8/2020	5	20	
4	Building Construction	Building Construction	7/9/2020	4/14/2021	5	200	
5	Paving	Paving	4/15/2021	4/28/2021	5	10	
6	Architectural Coating	Architectural Coating	4/29/2021	5/12/2021	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.78

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 25,958; Non-Residential Outdoor: 8,653; Striped Parking Area: 2,027 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	7.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Trenching	Trenchers	1	7.00	78	0.50
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	0	7.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	7.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	7.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	0.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	0.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	6.00	0.00	364.00	0.00	6.90	0.19	LD_Mix	HDT_Mix	HHDT
Building Construction	6	22.00	8.00	0.00	0.00	0.19	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	14.00	0.00	0.00	0.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	0.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5400e-003	0.0173	7.2000e-003	2.0000e-005		7.8000e-004	7.8000e-004		7.2000e-004	7.2000e-004	0.0000	1.4057	1.4057	4.5000e-004	0.0000	1.4170
Total	**1.5400e-003**	**0.0173**	**7.2000e-003**	**2.0000e-005**	**5.8000e-003**	**7.8000e-004**	**6.5800e-003**	**2.9500e-003**	**7.2000e-004**	**3.6700e-003**	**0.0000**	**1.4057**	**1.4057**	**4.5000e-004**	**0.0000**	**1.4170**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	0.0000	4.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.6400e-003	1.6400e-003	0.0000	0.0000	1.6500e-003
Total	**1.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.6400e-003**	**1.6400e-003**	**0.0000**	**0.0000**	**1.6500e-003**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.2600e-003	0.0000	2.2600e-003	1.1500e-003	0.0000	1.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5400e-003	0.0173	7.2000e-003	2.0000e-005		7.8000e-004	7.8000e-004		7.2000e-004	7.2000e-004	0.0000	1.4057	1.4057	4.5000e-004	0.0000	1.4170
Total	**1.5400e-003**	**0.0173**	**7.2000e-003**	**2.0000e-005**	**2.2600e-003**	**7.8000e-004**	**3.0400e-003**	**1.1500e-003**	**7.2000e-004**	**1.8700e-003**	**0.0000**	**1.4057**	**1.4057**	**4.5000e-004**	**0.0000**	**1.4170**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	0.0000	4.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.6400e-003	1.6400e-003	0.0000	0.0000	1.6500e-003
Total	**1.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.6400e-003**	**1.6400e-003**	**0.0000**	**0.0000**	**1.6500e-003**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.9900e-003	0.0000	9.9900e-003	5.0800e-003	0.0000	5.0800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-003	0.0302	0.0129	3.0000e-005		1.3700e-003	1.3700e-003		1.2600e-003	1.2600e-003	0.0000	2.4779	2.4779	8.0000e-004	0.0000	2.4980
Total	**2.7000e-003**	**0.0302**	**0.0129**	**3.0000e-005**	**9.9900e-003**	**1.3700e-003**	**0.0114**	**5.0800e-003**	**1.2600e-003**	**6.3400e-003**	**0.0000**	**2.4779**	**2.4779**	**8.0000e-004**	**0.0000**	**2.4980**

3.3 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.2800e-003	3.2800e-003	0.0000	0.0000	3.2900e-003
Total	**2.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.2800e-003**	**3.2800e-003**	**0.0000**	**0.0000**	**3.2900e-003**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.9000e-003	0.0000	3.9000e-003	1.9800e-003	0.0000	1.9800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-003	0.0302	0.0129	3.0000e-005		1.3700e-003	1.3700e-003		1.2600e-003	1.2600e-003	0.0000	2.4779	2.4779	8.0000e-004	0.0000	2.4980
Total	**2.7000e-003**	**0.0302**	**0.0129**	**3.0000e-005**	**3.9000e-003**	**1.3700e-003**	**5.2700e-003**	**1.9800e-003**	**1.2600e-003**	**3.2400e-003**	**0.0000**	**2.4779**	**2.4779**	**8.0000e-004**	**0.0000**	**2.4980**

3.3 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.2800e-003	3.2800e-003	0.0000	0.0000	3.2900e-003
Total	**2.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.2800e-003**	**3.2800e-003**	**0.0000**	**0.0000**	**3.2900e-003**

3.4 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.5100e-003	0.0516	0.0430	6.0000e-005		3.6500e-003	3.6500e-003		3.3600e-003	3.3600e-003	0.0000	4.9817	4.9817	1.6100e-003	0.0000	5.0219
Total	**5.5100e-003**	**0.0516**	**0.0430**	**6.0000e-005**		**3.6500e-003**	**3.6500e-003**		**3.3600e-003**	**3.3600e-003**	**0.0000**	**4.9817**	**4.9817**	**1.6100e-003**	**0.0000**	**5.0219**

3.4 Trenching - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.4000e-004	0.0179	2.4600e-003	2.0000e-005	3.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	1.9941	1.9941	3.3000e-004	0.0000	2.0025
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	2.0000e-005	2.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0123	0.0123	0.0000	0.0000	0.0124
Total	**4.0000e-004**	**0.0179**	**2.7300e-003**	**2.0000e-005**	**3.0000e-005**	**1.0000e-005**	**4.0000e-005**	**1.0000e-005**	**1.0000e-005**	**2.0000e-005**	**0.0000**	**2.0065**	**2.0065**	**3.3000e-004**	**0.0000**	**2.0148**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.5100e-003	0.0516	0.0430	6.0000e-005		3.6500e-003	3.6500e-003		3.3600e-003	3.3600e-003	0.0000	4.9816	4.9816	1.6100e-003	0.0000	5.0219
Total	**5.5100e-003**	**0.0516**	**0.0430**	**6.0000e-005**		**3.6500e-003**	**3.6500e-003**		**3.3600e-003**	**3.3600e-003**	**0.0000**	**4.9816**	**4.9816**	**1.6100e-003**	**0.0000**	**5.0219**

3.4 Trenching - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.4000e-004	0.0179	2.4600e-003	2.0000e-005	3.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	1.9941	1.9941	3.3000e-004	0.0000	2.0025
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	2.0000e-005	2.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0123	0.0123	0.0000	0.0000	0.0124
Total	**4.0000e-004**	**0.0179**	**2.7300e-003**	**2.0000e-005**	**3.0000e-005**	**1.0000e-005**	**4.0000e-005**	**1.0000e-005**	**1.0000e-005**	**2.0000e-005**	**0.0000**	**2.0065**	**2.0065**	**3.3000e-004**	**0.0000**	**2.0148**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0947	0.6754	0.5557	9.1000e-004		0.0357	0.0357		0.0340	0.0340	0.0000	74.3168	74.3168	0.0186	0.0000	74.7810
Total	**0.0947**	**0.6754**	**0.5557**	**9.1000e-004**		**0.0357**	**0.0357**		**0.0340**	**0.0340**	**0.0000**	**74.3168**	**74.3168**	**0.0186**	**0.0000**	**74.7810**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.7000e-004	0.0313	7.6400e-003	3.0000e-005	1.0000e-004	2.0000e-005	1.2000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	3.0305	3.0305	5.0000e-004	0.0000	3.0430
Worker	1.3700e-003	4.3000e-004	6.2600e-003	0.0000	1.0000e-005	1.0000e-005	2.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.2845	0.2845	3.0000e-005	0.0000	0.2853
Total	**2.1400e-003**	**0.0318**	**0.0139**	**3.0000e-005**	**1.1000e-004**	**3.0000e-005**	**1.4000e-004**	**4.0000e-005**	**3.0000e-005**	**6.0000e-005**	**0.0000**	**3.3150**	**3.3150**	**5.3000e-004**	**0.0000**	**3.3283**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0947	0.6754	0.5557	9.1000e-004		0.0357	0.0357		0.0340	0.0340	0.0000	74.3167	74.3167	0.0186	0.0000	74.7809
Total	**0.0947**	**0.6754**	**0.5557**	**9.1000e-004**		**0.0357**	**0.0357**		**0.0340**	**0.0340**	**0.0000**	**74.3167**	**74.3167**	**0.0186**	**0.0000**	**74.7809**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.7000e-004	0.0313	7.6400e-003	3.0000e-005	1.0000e-004	2.0000e-005	1.2000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	3.0305	3.0305	5.0000e-004	0.0000	3.0430
Worker	1.3700e-003	4.3000e-004	6.2600e-003	0.0000	1.0000e-005	1.0000e-005	2.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.2845	0.2845	3.0000e-005	0.0000	0.2853
Total	**2.1400e-003**	**0.0318**	**0.0139**	**3.0000e-005**	**1.1000e-004**	**3.0000e-005**	**1.4000e-004**	**4.0000e-005**	**3.0000e-005**	**6.0000e-005**	**0.0000**	**3.3150**	**3.3150**	**5.3000e-004**	**0.0000**	**3.3283**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0496	0.3665	0.3171	5.4000e-004		0.0181	0.0181		0.0172	0.0172	0.0000	43.6484	43.6484	0.0106	0.0000	43.9130
Total	**0.0496**	**0.3665**	**0.3171**	**5.4000e-004**		**0.0181**	**0.0181**		**0.0172**	**0.0172**	**0.0000**	**43.6484**	**43.6484**	**0.0106**	**0.0000**	**43.9130**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2000e-004	0.0177	4.1700e-003	2.0000e-005	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	1.7635	1.7635	2.8000e-004	0.0000	1.7704
Worker	7.4000e-004	2.2000e-004	3.3100e-003	0.0000	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.1619	0.1619	2.0000e-005	0.0000	0.1623
Total	**1.1600e-003**	**0.0180**	**7.4800e-003**	**2.0000e-005**	**7.0000e-005**	**2.0000e-005**	**8.0000e-005**	**2.0000e-005**	**1.0000e-005**	**4.0000e-005**	**0.0000**	**1.9254**	**1.9254**	**3.0000e-004**	**0.0000**	**1.9327**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0496	0.3665	0.3171	5.4000e-004		0.0181	0.0181		0.0172	0.0172	0.0000	43.6483	43.6483	0.0106	0.0000	43.9130
Total	**0.0496**	**0.3665**	**0.3171**	**5.4000e-004**		**0.0181**	**0.0181**		**0.0172**	**0.0172**	**0.0000**	**43.6483**	**43.6483**	**0.0106**	**0.0000**	**43.9130**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2000e-004	0.0177	4.1700e-003	2.0000e-005	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	1.7635	1.7635	2.8000e-004	0.0000	1.7704
Worker	7.4000e-004	2.2000e-004	3.3100e-003	0.0000	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.1619	0.1619	2.0000e-005	0.0000	0.1623
Total	**1.1600e-003**	**0.0180**	**7.4800e-003**	**2.0000e-005**	**7.0000e-005**	**2.0000e-005**	**8.0000e-005**	**2.0000e-005**	**1.0000e-005**	**4.0000e-005**	**0.0000**	**1.9254**	**1.9254**	**3.0000e-004**	**0.0000**	**1.9327**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6300e-003	0.0363	0.0413	6.0000e-005		1.9500e-003	1.9500e-003		1.8000e-003	1.8000e-003	0.0000	5.4882	5.4882	1.7400e-003	0.0000	5.5317
Paving	1.0200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.6500e-003**	**0.0363**	**0.0413**	**6.0000e-005**		**1.9500e-003**	**1.9500e-003**		**1.8000e-003**	**1.8000e-003**	**0.0000**	**5.4882**	**5.4882**	**1.7400e-003**	**0.0000**	**5.5317**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	2.0000e-005	2.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0139	0.0139	0.0000	0.0000	0.0140
Total	**6.0000e-005**	**2.0000e-005**	**2.8000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0139**	**0.0139**	**0.0000**	**0.0000**	**0.0140**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6300e-003	0.0363	0.0413	6.0000e-005		1.9500e-003	1.9500e-003		1.8000e-003	1.8000e-003	0.0000	5.4882	5.4882	1.7400e-003	0.0000	5.5317
Paving	1.0200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.6500e-003**	**0.0363**	**0.0413**	**6.0000e-005**		**1.9500e-003**	**1.9500e-003**		**1.8000e-003**	**1.8000e-003**	**0.0000**	**5.4882**	**5.4882**	**1.7400e-003**	**0.0000**	**5.5317**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	2.0000e-005	2.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0139	0.0139	0.0000	0.0000	0.0140
Total	**6.0000e-005**	**2.0000e-005**	**2.8000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0139**	**0.0139**	**0.0000**	**0.0000**	**0.0140**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0849					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	**0.0860**	**7.6300e-003**	**9.0900e-003**	**1.0000e-005**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**9.0000e-005**	**0.0000**	**1.2788**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.9800e-003	3.9800e-003	0.0000	0.0000	3.9900e-003
Total	**2.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.9800e-003**	**3.9800e-003**	**0.0000**	**0.0000**	**3.9900e-003**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0849					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	**0.0860**	**7.6300e-003**	**9.0900e-003**	**1.0000e-005**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**9.0000e-005**	**0.0000**	**1.2788**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.9800e-003	3.9800e-003	0.0000	0.0000	3.9900e-003
Total	**2.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.9800e-003**	**3.9800e-003**	**0.0000**	**0.0000**	**3.9900e-003**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0820	0.4536	1.0727	3.8600e-003	0.3129	3.1400e-003	0.3160	0.0838	2.9400e-003	0.0868	0.0000	356.5189	356.5189	0.0178	0.0000	356.9645
Unmitigated	0.0820	0.4536	1.0727	3.8600e-003	0.3129	3.1400e-003	0.3160	0.0838	2.9400e-003	0.0868	0.0000	356.5189	356.5189	0.0178	0.0000	356.9645

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Junior College (2Yr)	349.98	142.90	15.40	823,345	823,345
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	349.98	142.90	15.40	823,345	823,345

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Junior College (2Yr)	16.60	8.40	6.90	6.40	88.60	5.00	92	7	1
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Junior College (2Yr)	0.548858	0.043235	0.200706	0.120309	0.016131	0.005851	0.021034	0.033479	0.002070	0.001877	0.004817	0.000707	0.000925
Other Asphalt Surfaces	0.548858	0.043235	0.200706	0.120309	0.016131	0.005851	0.021034	0.033479	0.002070	0.001877	0.004817	0.000707	0.000925

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	43.4483	43.4483	1.7900e-003	3.7000e-004	43.6037
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	43.4483	43.4483	1.7900e-003	3.7000e-004	43.6037
NaturalGas Mitigated	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	12.7715	12.7715	2.4000e-004	2.3000e-004	12.8474
NaturalGas Unmitigated	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	12.7715	12.7715	2.4000e-004	2.3000e-004	12.8474

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Junior College (2Yr)	239328	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	12.7715	12.7715	2.4000e-004	2.3000e-004	12.8474
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**1.2900e-003**	**0.0117**	**9.8500e-003**	**7.0000e-005**		**8.9000e-004**	**8.9000e-004**		**8.9000e-004**	**8.9000e-004**	**0.0000**	**12.7715**	**12.7715**	**2.4000e-004**	**2.3000e-004**	**12.8474**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Junior College (2Yr)	239328	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	12.7715	12.7715	2.4000e-004	2.3000e-004	12.8474
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**1.2900e-003**	**0.0117**	**9.8500e-003**	**7.0000e-005**		**8.9000e-004**	**8.9000e-004**		**8.9000e-004**	**8.9000e-004**	**0.0000**	**12.7715**	**12.7715**	**2.4000e-004**	**2.3000e-004**	**12.8474**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Junior College (2Yr)	136363	43.4483	1.7900e-003	3.7000e-004	43.6037
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**43.4483**	**1.7900e-003**	**3.7000e-004**	**43.6037**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Junior College (2Yr)	136363	43.4483	1.7900e-003	3.7000e-004	43.6037
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**43.4483**	**1.7900e-003**	**3.7000e-004**	**43.6037**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0733	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3500e-003
Unmitigated	0.0733	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.4900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0647					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3500e-003
Total	**0.0733**	**1.0000e-005**	**6.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.2700e-003**	**1.2700e-003**	**0.0000**	**0.0000**	**1.3500e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.4900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0647					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3500e-003
Total	**0.0733**	**1.0000e-005**	**6.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.2700e-003**	**1.2700e-003**	**0.0000**	**0.0000**	**1.3500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	8.4878	0.0280	7.2000e-004	9.4030
Unmitigated	8.4878	0.0280	7.2000e-004	9.4030

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Junior College (2Yr)	0.848548 / 1.32722	8.4878	0.0280	7.2000e-004	9.4030
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**8.4878**	**0.0280**	**7.2000e-004**	**9.4030**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Junior College (2Yr)	0.848548 / 1.32722	8.4878	0.0280	7.2000e-004	9.4030
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**8.4878**	**0.0280**	**7.2000e-004**	**9.4030**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	4.5653	0.2698	0.0000	11.3103
Unmitigated	4.5653	0.2698	0.0000	11.3103

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Junior College (2Yr)	22.49	4.5653	0.2698	0.0000	11.3103
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**4.5653**	**0.2698**	**0.0000**	**11.3103**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Junior College (2Yr)	22.49	4.5653	0.2698	0.0000	11.3103
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**4.5653**	**0.2698**	**0.0000**	**11.3103**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                   ***     MODEL SETUP OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for    46 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =   2189641.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.
        6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
        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:     46 Source(s);       1 Source Group(s); and    1251 Receptor(s)

              with:      0 POINT(s), including
                     0 POINTCAP(s) and      0 POINTHOR(s)
               and:     46 VOLUME source(s)
               and:      0 AREA type source(s)
               and:      0 LINE source(s)
               and:      0 OPENPIT source(s)
               and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.
```

```
 **The AERMET Input Meteorological Data Version Date:  16216

 **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) =   442.00 ;  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:   Moreno Valley College.err
 **File for Summary of Results:   Moreno Valley College.sum
```

```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  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,
```

```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                    *** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

  Surface file:   ..\PerrisADJU\PERI_V9_ADJU\PERI_v9.SFC                     Met Version:  16216
  Profile file:   ..\PerrisADJU\PERI_V9_ADJU\PERI_v9.PFL
  Surface format: FREE
  Profile format: FREE
  Surface station no.:     3171              Upper air station no.:     3190
            Name: UNKNOWN                              Name: UNKNOWN
            Year:   2010                          Year:   2010

 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
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 10 01 01   1 01   -7.9  0.125 -9.000 -9.000 -999.  106.     21.2  0.19   0.61   1.00    1.30  335.    9.1  282.5    5.5
 10 01 01   1 02   -3.9  0.088 -9.000 -9.000 -999.   62.     15.1  0.19   0.61   1.00    0.90  142.    9.1  280.9    5.5
 10 01 01   1 03   -3.9  0.088 -9.000 -9.000 -999.   62.     15.1  0.19   0.61   1.00    0.90  324.    9.1  280.4    5.5
 10 01 01   1 04   -1.3  0.064 -9.000 -9.000 -999.   39.     18.3  0.19   0.61   1.00    0.40  294.    9.1  278.8    5.5
 10 01 01   1 05   -3.9  0.088 -9.000 -9.000 -999.   62.     15.0  0.19   0.61   1.00    0.90  205.    9.1  278.1    5.5
 10 01 01   1 06   -1.3  0.065 -9.000 -9.000 -999.   39.     18.3  0.19   0.61   1.00    0.40    3.    9.1  277.0    5.5
 10 01 01   1 07   -8.0  0.125 -9.000 -9.000 -999.  106.     21.0  0.19   0.61   1.00    1.30   99.    9.1  277.0    5.5
 10 01 01   1 08   -3.3  0.086 -9.000 -9.000 -999.   61.     16.8  0.19   0.61   0.54    0.90  319.    9.1  278.8    5.5
 10 01 01   1 09   20.1  0.128  0.307  0.010   49.  110.     -9.0  0.19   0.61   0.33    0.90  239.    9.1  284.2    5.5
 10 01 01   1 10   56.7  0.087  0.560  0.010  107.   62.     -1.0  0.19   0.61   0.26    0.40  188.    9.1  289.2    5.5
 10 01 01   1 11   81.5  0.323  0.867  0.008  277.  441.    -35.9  0.19   0.61   0.23    2.70  310.    9.1  290.9    5.5
 10 01 01   1 12   97.1  0.281  1.058  0.008  421.  357.    -19.7  0.19   0.61   0.22    2.20  357.    9.1  293.1    5.5
 10 01 01   1 13   92.2  0.279  1.117  0.008  523.  354.    -20.4  0.19   0.61   0.22    2.20  356.    9.1  293.8    5.5
 10 01 01   1 14   77.6  0.275  1.102  0.008  595.  347.    -23.2  0.19   0.61   0.23    2.20   50.    9.1  294.2    5.5
 10 01 01   1 15   54.9  0.230  1.006  0.008  640.  266.    -19.2  0.19   0.61   0.27    1.80   53.    9.1  293.8    5.5
 10 01 01   1 16   12.3  0.206  0.613  0.008  648.  225.    -61.5  0.19   0.61   0.36    1.80   11.    9.1  292.5    5.5
 10 01 01   1 17   -3.6  0.087 -9.000 -9.000 -999.   71.     15.6  0.19   0.61   0.64    0.90  351.    9.1  290.4    5.5
 10 01 01   1 18   -3.8  0.087 -9.000 -9.000 -999.   62.     15.2  0.19   0.61   1.00    0.90  186.    9.1  287.5    5.5
 10 01 01   1 19   -3.8  0.087 -9.000 -9.000 -999.   62.     15.2  0.19   0.61   1.00    0.90  275.    9.1  285.9    5.5
 10 01 01   1 20   -1.2  0.064 -9.000 -9.000 -999.   39.     18.1  0.19   0.61   1.00    0.40  181.    9.1  285.4    5.5
 10 01 01   1 21   -7.8  0.125 -9.000 -9.000 -999.  106.     21.3  0.19   0.61   1.00    1.30  318.    9.1  284.9    5.5
 10 01 01   1 22   -3.8  0.088 -9.000 -9.000 -999.   62.     15.1  0.19   0.61   1.00    0.90  196.    9.1  283.1    5.5
 10 01 01   1 23   -3.8  0.088 -9.000 -9.000 -999.   62.     15.1  0.19   0.61   1.00    0.90  330.    9.1  281.4    5.5
 10 01 01   1 24   -7.9  0.125 -9.000 -9.000 -999.  106.     21.2  0.19   0.61   1.00    1.30  332.    9.1  280.9    5.5


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 10 01 01 01     5.5 0 -999.  -99.00   282.6   99.0  -99.00  -99.00
 10 01 01 01     9.1 1  335.    1.30  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
```

```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  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     382.63322 AT (  481272.23,  3749575.34,   475.90,   782.90,    0.00)  GC
UCART1
         2ND HIGHEST VALUE IS      67.62759 AT (  481272.23,  3749707.43,   473.00,   782.90,    0.00)  GC
UCART1
         3RD HIGHEST VALUE IS      51.22978 AT (  481152.58,  3749575.34,   471.20,   782.90,    0.00)  GC
UCART1
         4TH HIGHEST VALUE IS      30.04443 AT (  481391.88,  3749575.34,   482.60,   782.90,    0.00)  GC
UCART1
         5TH HIGHEST VALUE IS      29.89318 AT (  481358.09,  3749445.76,   480.99,   782.86,    0.00)  DC
         6TH HIGHEST VALUE IS      28.77442 AT (  481152.58,  3749707.43,   469.50,   782.90,    0.00)  GC
UCART1
         7TH HIGHEST VALUE IS      28.50350 AT (  481272.23,  3749443.25,   478.10,   782.90,    0.00)  GC
UCART1
         8TH HIGHEST VALUE IS      26.56220 AT (  481381.03,  3749445.76,   481.75,   782.86,    0.00)  DC
         9TH HIGHEST VALUE IS      25.56719 AT (  481335.15,  3749422.67,   480.54,   782.86,    0.00)  DC
        10TH HIGHEST VALUE IS      24.71571 AT (  481358.09,  3749422.67,   481.37,   782.86,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
   *** AERMOD - VERSION  18081 ***    *** C:\Users\Public\Desktop\Lakes Environmental\Moreno Valley
College\Mo ***        02/21/19
 *** AERMET - VERSION  16216 ***    ***                                                        ***        15:40:51
                                                                                                  PAGE   5
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  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    6196.96324  ON 10020417: AT (  481272.23,  3749575.34,   475.90,   782.90,
0.00)  GC  UCART1
```

```
 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
```

```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of           0 Fatal Error Message(s)
 A Total of           4 Warning Message(s)
 A Total of        2028 Informational Message(s)

 A Total of       43824 Hours Were Processed

 A Total of         978 Calm Hours Identified

 A Total of        1050 Missing Hours Identified (  2.40 Percent)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
 ME W186     794      MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
 ME W187     794      MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET
 MX W450   17521       CHKDAT: Record Out of Sequence in Meteorological File at:     14010101
 MX W450   17521       CHKDAT: Record Out of Sequence in Meteorological File at:    2 year gap
```

```
HARP2 - HRACalc (dated 17023) 2/21/2019 3:56:58 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
**********************************
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

**********************************
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 1

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 1
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

**********************************
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments.  The remaining pathways are only used for cancer and
noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

**********************************
INHALATION

Daily breathing rate: LongTerm24HR

**Worker Adjustment Factors**
Worker adjustment factors enabled: NO
```

```
**Fraction at time at home**
3rd Trimester to 16 years: OFF
16 years to 70 years: ON

*****************************************
SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.05
Soil mixing depth (m): 0.01
Dermal climate: Mixed

*****************************************
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment.  Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: P:\300.Environmental\11413 Moreno Valley Welcome
Center MND\DUDEK WORK PRODUCTS\DOCUMENTS\03 AQGHG\HRA\Moreno Valley College\MORENO
VALLEY COLLEGE\hra\Res-1CancerRisk.csv
Cancer risk total by receptor saved to: P:\300.Environmental\11413 Moreno Valley Welcome Center MND\DUDEK
WORK PRODUCTS\DOCUMENTS\03 AQGHG\HRA\Moreno Valley College\MORENO VALLEY
COLLEGE\hra\Res-1CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: P:\300.Environmental\11413 Moreno Valley Welcome
Center MND\DUDEK WORK PRODUCTS\DOCUMENTS\03 AQGHG\HRA\Moreno Valley College\MORENO
VALLEY COLLEGE\hra\Res-1NCChronicRisk.csv
Chronic risk total by receptor saved to: P:\300.Environmental\11413 Moreno Valley Welcome Center MND\DUDEK
WORK PRODUCTS\DOCUMENTS\03 AQGHG\HRA\Moreno Valley College\MORENO VALLEY
COLLEGE\hra\Res-1NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: P:\300.Environmental\11413 Moreno Valley Welcome Center
MND\DUDEK WORK PRODUCTS\DOCUMENTS\03 AQGHG\HRA\Moreno Valley College\MORENO VALLEY
COLLEGE\hra\Res-1NCAcuteRisk.csv
Acute risk total by receptor saved to: P:\300.Environmental\11413 Moreno Valley Welcome Center MND\DUDEK
WORK PRODUCTS\DOCUMENTS\03 AQGHG\HRA\Moreno Valley College\MORENO VALLEY
COLLEGE\hra\Res-1NCAcuteRiskSumByRec.csv
HRA ran successfully
```

```
HARP2 - HRACalc (dated 17023) 2/21/2019 3:57:45 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
**********************************
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: Cancer
Calculation Method: Derived

**********************************
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 70

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 0
2<16 Years Bin: 14
16<30 Years Bin: 0
16 to 70 Years Bin: 54

**********************************
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments.  The remaining pathways are only used for cancer and
noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

**********************************
INHALATION

Daily breathing rate: LongTerm24HR

**Worker Adjustment Factors**
Worker adjustment factors enabled: NO
```

```
**Fraction at time at home**
3rd Trimester to 16 years: OFF
16 years to 70 years: ON

**********************************
SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.05
Soil mixing depth (m): 0.01
Dermal climate: Mixed

**********************************
TIER 2 SETTINGS
Tier2 not used.

**********************************

Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: P:\300.Environmental\11413 Moreno Valley Welcome
Center MND\DUDEK WORK PRODUCTS\DOCUMENTS\03 AQGHG\HRA\Moreno Valley College\MORENO
VALLEY COLLEGE\hra\Res-70-yr-cancer-burdenCancerRisk.csv
Cancer risk total by receptor saved to: P:\300.Environmental\11413 Moreno Valley Welcome Center MND\DUDEK
WORK PRODUCTS\DOCUMENTS\03 AQGHG\HRA\Moreno Valley College\MORENO VALLEY
COLLEGE\hra\Res-70-yr-cancer-burdenCancerRiskSumByRec.csv
HRA ran successfully
```

APPENDIX B-1

Plant Compendium

APPENDIX B-1
List of Plant Species Observed

EUDICOTS

VASCULAR SPECIES

ANACARDIACEAE—Sumac Or Cashew Family

*Schinus molle—Peruvian peppertree**
*Schinus terebinthifolius—Brazilian peppertree**

APOCYNACEAE—Dogbane Family

Asclepias erosa—desert milkweed
*Nerium oleander—oleander**
*Vinca major—bigleaf periwinkle**

ASTERACEAE—Sunflower Family

Ambrosia acanthicarpa—flatspine bur ragweed
Ambrosia psilostachya—western ragweed
Artemisia californica—California sagebrush
Artemisia douglasiana—Douglas' sagewort
Baccharis salicifolia—mulefat
Encelia farinosa—brittle bush
Heterotheca grandiflora—telegraphweed
Stephanomeria cichoriacea—chicoryleaf wirelettuce

BETULACEAE—Birch Family

Alnus rhombifolia—white alder

BIGNONIACEAE—Bignonia Family

Chilopsis linearis—desert willow
*Jacaranda mimosifolia—blue jacaranda**

BRASSICACEAE—Mustard Family

*Brassica nigra—black mustard**
*Hirschfeldia incana—shortpod mustard**

CHENOPODIACEAE—Goosefoot Family

*Salsola tragus—prickly Russian thistle**

FABACEAE—Legume Family

*Acacia longifolia—Sydney golden wattle**
*Albizia julibrissin—silktree**
Parkinsonia florida—blue palo verde
Senegalia greggii—Catclaw acacia thorn

GERANIACEAE—Geranium Family

*Erodium cicutarium—redstem stork's bill**

LAMIACEAE—Mint Family
Salvia apiana—white sage
*Salvia longistyla—Mexican sage**

LAURACEAE—Laurel Family
*Cinnamomum camphora—camphortree**

LINACEAE—Flax Family
*Liquidambar styraciflua—sweetgum**

MORACEAE—Mulberry Family
*Ficus microcarpa—Chinese banyan**

MYRTACEAE—Myrtle Family
*Eucalyptus camaldulensis—river redgum**
*Melaleuca citrina—crimson bottlebrush**

PLATANACEAE—Plane Tree, Sycamore Family
Platanus racemosa—California sycamores

POLYGONACEAE—Buckwheat Family
*Brachychiton populneum—whiteflower kurrajong**
Eriogonum fasciculatum—California buckwheat

ROSACEAE—Rose Family
*Prunus cerasifera—cherry plum**
*Pyrus communis—common pear**

SALICACEAE—Willow Family
Salix gooddingii—black willow

SOLANACEAE—Nightshade Family
*Datura stramonium—jimsonweed**
*Nicotiana glauca—tree tobacco**

TAMARICACEAE—Tamarisk Family
*Tamarix ramosissima—tamarisk**

ULMACEAE—Elm Family
*Ulmus parvifolia—Chinese elm**

ZYGOPHYLLACEAE—Caltrop Family
Larrea tridentata—creosote bush

GYMNOSPERMS AND GNETOPHYTES

VASCULAR SPECIES

PINACEAE—Pine Family

- *Pinus halepensis—aleppo pine**
- *Pinus pinea—Italian stone pine**

MONOCOTS

VASCULAR SPECIES

AGAVACEAE—Agave Family

- *Hesperoyucca whipplei—chaparral yucca*

ARECACEAE—Palm Family

- *Phoenix dactylifera—date palm**
- *Syagrus romanzoffiana—queen palm**
- *Washingtonia filifera—California fan palm*

POACEAE—Grass Family

- *Bromus diandrus—ripgut brome**
- *Bromus hordeaceus—soft brome**
- *Bromus madritensis ssp. rubens—red brome**
- *Cynodon dactylon—Bermudagrass**
- *Festuca bromoides—brome fescue**
- *Muhlenbergia rigens—deer grass beds*

APPENDIX B-2

Wildlife Compendium

APPENDIX B-2
List of Wildlife Species Observed

BIRD

FINCHES

FRINGILLIDAE—FRINGILLINE & CARDUELINE FINCHES & ALLIES

Haemorhous mexicanus—house finch
Spinus psaltria—lesser goldfinch

HAWKS

ACCIPITRIDAE—HAWKS, KITES, EAGLES, & ALLIES
Circus hudsonius—northern harrier

HERONS & BITTERNS

ARDEIDAE—HERONS, BITTERNS, & ALLIES
Ardea alba—great egret

HUMMINGBIRDS

TROCHILIDAE—HUMMINGBIRDS
Calypte anna—Anna's hummingbird

JAYS, MAGPIES & CROWS

CORVIDAE—CROWS & JAYS
Corvus brachyrhynchos—American crow
Corvus corax—common raven

MOCKINGBIRDS & THRASHERS

MIMIDAE—MOCKINGBIRDS & THRASHERS
Mimus polyglottos—northern mockingbird

NEW WORLD QUAIL

ODONTOPHORIDAE—NEW WORLD QUAIL
Callipepla californica—California quail

OWLS

STRIGIDAE—TYPICAL OWLS
Bubo virginianus—great horned owl

PIGEONS & DOVES

COLUMBIDAE—PIGEONS & DOVES
Zenaida macroura—mourning dove

ROADRUNNERS & CUCKOOS

CUCULIDAE—CUCKOOS, ROADRUNNERS, & ANIS
Geococcyx californianus—greater roadrunner

SWALLOWS

HIRUNDINIDAE—SWALLOWS
Petrochelidon pyrrhonota—cliff swallow

WOOD WARBLERS & ALLIES

PARULIDAE—WOOD-WARBLERS
Setophaga coronata—yellow-rumped warbler

NEW WORLD SPARROWS

PASSERELLIDAE—NEW WORLD SPARROWS
Melospiza melodia—song sparrow
Melozone crissalis—California towhee
Zonotrichia leucophrys—white-crowned sparrow

MAMMAL

CANIDS

CANIDAE—WOLVES & FOXES
Canis latrans—coyote

CATS

FELIDAE—CATS
Lynx rufus—bobcat

DOMESTIC

CANIDAE—WOLVES & FOXES
*Canis lupus familiaris—domestic dog**

HARES & RABBITS

LEPORIDAE—HARES & RABBITS
Sylvilagus bachmani—brush rabbit

POCKET GOPHERS

GEOMYIDAE—POCKET GOPHERS
Thomomys bottae—Botta's pocket gopher

UNGULATES

CERVIDAE—DEERS
Odocoileus hemionus—mule deer

RACCOONS

PROCYONIDAE—RACCOONS & RELATIVES
Procyon lotor—raccoon

REPTILE

LIZARDS

PHRYNOSOMATIDAE—IGUANID LIZARDS
Sceloporus occidentalis—western fence lizard

APPENDIX B-3

Special-Status Plants Potential to Occur Table

APPENDIX B-3
Special-Status Plants Potential to Occur Table

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Abronia villosa var. aurita	chaparral sand-verbena	None/None/1B.1	Chaparral, Coastal scrub, Desert dunes; sandy/annual herb/(Jan)Mar–Sep/245–5250	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Allium marvinii	Yucaipa onion	None/None/1B.2	Chaparral (clay, openings)/perennial bulbiferous herb/Apr–May/2490–3495	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Allium munzii	Munz's onion	FE/ST/1B.1	Chaparral, Cismontane woodland, Coastal scrub, Pinyon and juniper woodland, Valley and foothill grassland; mesic, clay/perennial bulbiferous herb/Mar–May/970–3510	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Arenaria paludicola	marsh sandwort	FE/SE/1B.1	Marshes and swamps (freshwateror brackish); sandy, openings/perennial stoloniferous herb/May–Aug/5–560	Not expected to occur. No suitable habitat present on the project site.
Astragalus hornii var. hornii	Horn's milk-vetch	None/None/1B.1	Meadows and seeps, Playas; lake margins, alkaline/annual herb/May–Oct/195–2790	Not expected to occur. No suitable habitat present on the project site.
Astragalus pachypus var. jaegeri	Jaeger's bush milk-vetch	None/None/1B.1	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland; sandy or rocky/perennial shrub/Dec–June/1195–3200	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Atriplex coronata var. notatior	San Jacinto Valley crownscale	FE/None/1B.1	Playas, Valley and foothill grassland (mesic), Vernal pools; alkaline/annual herb/Apr–Aug/455–1640	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Atriplex pacifica	South Coast saltscale	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Playas/annual herb/Mar–Oct/0–460	Not expected to occur. No suitable habitat present on the project site.
Atriplex parishii	Parish's brittlescale	None/None/1B.1	Chenopod scrub, Playas, Vernal pools; alkaline/annual herb/June–Oct/80–6235	Not expected to occur. No suitable habitat present on the project site.
Atriplex serenana var. davidsonii	Davidson's saltscale	None/None/1B.2	Coastal bluff scrub, Coastal scrub; alkaline/annual herb/Apr–Oct/30–655	Not expected to occur. No suitable habitat present on the project site.
Berberis nevinii	Nevin's barberry	FE/SE/1B.1	Chaparral, Cismontane woodland, Coastal scrub, Riparian scrub; sandy or gravelly/perennial evergreen shrub/(Feb)Mar–June/225–2705	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Brodiaea filifolia	thread-leaved brodiaea	FT/SE/1B.1	Chaparral (openings), Cismontane woodland, Coastal scrub, Playas, Valley and foothill grassland, Vernal pools; often clay/perennial bulbiferous herb/Mar–June/80–3675	Not expected to occur. No suitable habitat present on the project site.
Carex comosa	bristly sedge	None/None/2B.1	Coastal prairie, Marshes and swamps (lake margins), Valley and foothill grassland/perennial rhizomatous herb/May–Sep/0–2050	Not expected to occur. No suitable habitat present on the project site.
Centromadia pungens ssp. laevis	smooth tarplant	None/None/1B.1	Chenopod scrub, Meadows and seeps, Playas, Riparian woodland,	Not expected to occur. No suitable habitat present on the project site.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
			Valley and foothill grassland; alkaline/annual herb/Apr–Sep/0–2100	
Chloropyron maritimum ssp. maritimum	salt marsh bird's-beak	FE/SE/1B.2	Coastal dunes, Marshes and swamps (coastal salt)/annual herb (hemiparasitic)/May–Oct(Nov)/0–100	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Chorizanthe parryi var. parryi	Parry's spineflower	None/None/1B.1	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland; sandy or rocky, openings/annual herb/Apr–June/900–4005	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Chorizanthe polygonoides var. longispina	long-spined spineflower	None/None/1B.2	Chaparral, Coastal scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools; often clay/annual herb/Apr–July/95–5020	Not expected to occur. No suitable habitat present on the project site.
Chorizanthe xanti var. leucotheca	white-bracted spineflower	None/None/1B.2	Coastal scrub (alluvial fans), Mojavean desert scrub, Pinyon and juniper woodland; sandy or gravelly/annual herb/Apr–June/980–3935	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Cuscuta obtusiflora var. glandulosa	Peruvian dodder	None/None/2B.2	Marshes and swamps (freshwater)/annual vine (parasitic)/July–Oct/45–920	Not expected to occur. No suitable habitat present on the project site.
Cylindropuntia californica var. californica	snake cholla	None/None/1B.1	Chaparral, Coastal scrub/perennial stem succulent/Apr–May/95–490	Not expected to occur. No suitable habitat present on the project site.
Dodecahema leptoceras	slender-horned spineflower	FE/SE/1B.1	Chaparral, Cismontane woodland, Coastal scrub (alluvial fan); sandy/annual herb/Apr–June/655–2495	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	FE/SE/1B.1	Chaparral, Coastal scrub (alluvial fan); sandy or gravelly/perennial herb/Apr–Sep/295–2000	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Galium californicum ssp. primum	Alvin Meadow bedstraw	None/None/1B.2	Chaparral, Lower montane coniferous forest; granitic, sandy/perennial herb/May–July/4425–5575	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Helianthus nuttallii ssp. parishii	Los Angeles sunflower	None/None/1A	Marshes and swamps (coastal salt and freshwater)/perennial rhizomatous herb/Aug–Oct/30–5005	Not expected to occur. No suitable habitat present on the project site.
Horkelia cuneata var. puberula	mesa horkelia	None/None/1B.1	Chaparral (maritime), Cismontane woodland, Coastal scrub; sandy or gravelly/perennial herb/Feb–July(Sep)/225–2655	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Imperata brevifolia	California satintail	None/None/2B.1	Chaparral, Coastal scrub, Mojavean desert scrub, Meadows and seeps (often alkali), Riparian scrub; mesic/perennial rhizomatous	Not expected to occur. No suitable habitat present on the project site.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
			herb/Sep–May/0–3985	
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	None/None/1B.1	Marshes and swamps (coastal salt), Playas, Vernal pools/annual herb/Feb–June/0–4005	Not expected to occur. No suitable habitat present on the project site.
Lepechinia cardiophylla	heart-leaved pitcher sage	None/None/1B.2	Closed-cone coniferous forest, Chaparral, Cismontane woodland/perennial shrub/Apr–July/1705–4495	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Lycium parishii	Parish's desert-thorn	None/None/2B.3	Coastal scrub, Sonoran desert scrub/perennial shrub/Mar–Apr/440–3280	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Malacothamnus parishii	Parish's bush-mallow	None/None/1A	Chaparral, Coastal scrub/perennial deciduous shrub/June–July/1000–1495	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Monardella macrantha ssp. hallii	Hall's monardella	None/None/1B.3	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland/perennial rhizomatous herb/June–Oct/2395–7200	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Monardella pringlei	Pringle's monardella	None/None/1A	Coastal scrub (sandy)/annual herb/May–June/980–1310	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Nama stenocarpa	mud nama	None/None/2B.2	Marshes and swamps (lake margins, riverbanks)/annual / perennial herb/Jan–July/15–1640	Not expected to occur. No suitable habitat present on the project site.
Nasturtium gambelii	Gambel's water cress	FE/ST/1B.1	Marshes and swamps (freshwater or brackish)/perennial rhizomatous herb/Apr–Oct/15–1085	Not expected to occur. No suitable habitat present on the project site.
Navarretia fossalis	spreading navarretia	FT/None/1B.1	Chenopod scrub, Marshes and swamps (assorted shallow freshwater), Playas, Vernal pools/annual herb/Apr–June/95–2150	Not expected to occur. No suitable habitat present on the project site.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Ribes divaricatum var. parishii	Parish's gooseberry	None/None/1A	Riparian woodland/perennial deciduous shrub/Feb–Apr/210–985	Not expected to occur. No suitable habitat present on the project site.
Senecio aphanactis	chaparral ragwort	None/None/2B.2	Chaparral, Cismontane woodland, Coastal scrub; sometimes alkaline/annual herb/Jan–Apr(May)/45–2625	Not expected to occur. No suitable habitat present on the project site.
Sidalcea hickmanii ssp. parishii	Parish's checkerbloom	None/SR/1B.2	Chaparral, Cismontane woodland, Lower montane coniferous forest/perennial herb/(May)June–Aug/3280–8200	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Sidalcea neomexicana	salt spring checkerbloom	None/None/2B.2	Chaparral, Coastal scrub, Lower montane coniferous forest, Mojavean desert scrub, Playas; alkaline, mesic/perennial herb/Mar–June/45–5020	Not expected to occur. No suitable habitat present on the project site.
Sphenopholis obtusata	prairie wedge grass	None/None/2B.2	Cismontane woodland, Meadows and seeps; mesic/perennial herb/Apr–July/980–6560	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Streptanthus campestris	southern jewelflower	None/None/1B.3	Chaparral, Lower montane coniferous forest, Pinyon and juniper woodland; rocky/perennial herb/(Apr)May–July/2950–7545	Not expected to occur. The project site is outside of the species' known elevation range and there is no suitable habitat present on the project site.
Symphyotrichum defoliatum	San Bernardino aster	None/None/1B.2	Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps, Valley and foothill grassland (vernally mesic); near ditches, streams, springs/perennial rhizomatous herb/July–Nov/5–6695	Not expected to occur. No suitable habitat present on the project site.
Tortula californica	California screw-moss	None/None/1B.2	Chenopod scrub, Valley and foothill grassland; sandy, soil/moss/N.A./30–4790	Not expected to occur. No suitable habitat present on the project site.
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	None/None/2B.1	Meadows and seeps, Marshes and swamps, Riparian forest, Vernal pools; alkaline/annual herb/May–Sep/15–1425	Not expected to occur. No suitable habitat present on the project site.

Status Legend:
FE: Federally listed as endangered
FT: Federally listed as threatened
FC: Federal Candidate for listing
SE: State listed as endangered
ST: State listed as threatened
SR: State Rare
CRPR 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
CRPR 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
CRPR 2A: Plants Presumed Extirpated in California, But More Common Elsewhere
CRPR 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
.3 Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

APPENDIX B-4

Special-Status Wildlife Potential to Occur Table

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Amphibians				
Anaxyrus californicus	arroyo toad	FE/SSC	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering	Not expected to occur. No suitable habitat is present on the project site.
Lithobates pipiens (native populations only)	northern leopard frog	None/SSC	Adjacent to permanent and semi-permanent water in a range of habitats	Not expected to occur. No suitable habitat is present on the project site.
Spea hammondii	western spadefoot	None/SSC	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture	Not expected to occur. No suitable habitat is present on the project site.
Taricha torosa (Monterey Co. south only)	California newt	None/SSC	Wet forests, oak forests, chaparral, and rolling grassland	Not expected to occur. No suitable habitat is present on the project site.
Reptiles				
Actinemys 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. No suitable habitat is present on the project site.
Anniella stebbinsi	southern 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. No suitable habitat is present on the project site.
Arizona elegans occidentalis	California glossy snake	None/SSC	Commonly occurs in desert regions throughout southern California. Prefers open sandy areas with scattered brush. Also found in rocky areas.	Not expected to occur. No suitable habitat is present on the project site.
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail	None/SSC	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas.	Not expected to occur. No suitable habitat is present on the project site.
Chelonia mydas	green sea turtle	FT/None	Shallow waters of lagoons, bays, estuaries, mangroves, eelgrass, and seaweed beds	Not expected to occur. No suitable habitat is present on the project site.
Crotalus ruber	red diamondback rattlesnake	None/SSC	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats	Not expected to occur. No suitable habitat is present on the project site.
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. No suitable habitat is present on the project site.
Salvadora hexalepis virgultea	coast patch-nosed snake	None/SSC	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites	Not expected to occur. No suitable habitat is present on the project site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Thamnophis hammondii	two-striped gartersnake	None/SSC	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Not expected to occur. No suitable habitat is present on the project site.
Birds				
Agelaius tricolor (nesting colony)	tricolored blackbird	BCC/PSE, SSC	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberrry; forages in grasslands, woodland, and agriculture	Not expected to occur. No suitable habitat is present on the project site.
Ammodramus savannarum (nesting)	grasshopper sparrow	None/SSC	Nests and forages in moderately open grassland with tall forbs or scattered shrubs used for perches	Not expected to occur. No suitable habitat is present on the project site.
Aquila chrysaetos (nesting & wintering)	golden eagle	BCC/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	Not expected to occur. No suitable habitat is present on the project site.
Asio otus (nesting)	long-eared owl	None/SSC	Nests in riparian habitat, live oak thickets, other dense stands of trees, edges of coniferous forest; forages in nearby open habitats	Not expected to occur. No suitable habitat is present on the project site.
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	Not expected to occur. No suitable habitat is present on the project site.
Buteo swainsoni (nesting)	Swainson's hawk	BCC/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. No suitable habitat is present on the project site.
Campylorhynchus brunneicapillus sandiegensis (San Diego & Orange Counties only)	coastal cactus wren	BCC/SSC	Southern cactus scrub patches	Not expected to occur. No suitable habitat is present on the project site.
Charadrius alexandrinus 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. No suitable habitat is present on the project site.
Coccyzus americanus occidentalis (nesting)	western yellow-billed cuckoo	FT, BCC/SE	Nests in dense, wide riparian woodlands and forest with well-developed understories	Not expected to occur. No suitable habitat is present on the project site.
Coturnicops noveboracensis	yellow rail	BCC/SSC	Nesting requires wet marsh/sedge meadows or coastal marshes with wet soil and shallow, standing water	Not expected to occur. No suitable habitat is present on the project site.
Elanus leucurus (nesting)	white-tailed kite	None/FP	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	Not expected to occur. No suitable habitat is present on the project site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Empidonax traillii extimus (nesting)	southwestern willow flycatcher	FE/SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Not expected to occur. No suitable habitat is present on the project site.
Falco peregrinus anatum (nesting)	American peregrine falcon	FDL, BCC/SDL, FP	Nests on cliffs, buildings, and bridges; forages in wetlands, riparian, meadows, croplands, especially where waterfowl are present	Not expected to occur. No suitable habitat is present on the project site.
Haliaeetus leucocephalus (nesting & wintering)	bald eagle	FDL, BCC/SE, FP	Nests in forested areas adjacent to large bodies of water, including seacoasts, rivers, swamps, large lakes; winters near large bodies of water in lowlands and mountains	Not expected to occur. No suitable habitat is present on the project site.
Icteria virens (nesting)	yellow-breasted chat	None/SSC	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	Not expected to occur. No suitable habitat is present on the project site.
Laterallus jamaicensis coturniculus	California black rail	BCC/ST, FP	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	Not expected to occur. No suitable habitat is present on the project site.
Passerculus sandwichensis beldingi	Belding's savannah sparrow	None/SE	Nests and forages in coastal saltmarsh dominated by pickleweed (Salicornia spp.)	Not expected to occur. No suitable habitat is present on the project site.
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. No suitable habitat is present on the project site.
Rallus obsoletus levipes	Ridgway's rail	FE/SE, FP	Coastal wetlands, brackish areas, coastal saline emergent wetlands	Not expected to occur. No suitable habitat is present on the project site.
Riparia riparia (nesting)	bank swallow	None/ST	Nests in riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with sandy soils; open country and water during migration	Not expected to occur. No suitable habitat is present on the project site.
Rynchops niger (nesting colony)	black skimmer	BCC/SSC	Nests on barrier beaches, shell banks, spoil islands, and saltmarsh; forages over open water; roosts on sandy beaches and gravel bars	Not expected to occur. No suitable habitat is present on the project site.
Setophaga petechia (nesting)	yellow warbler	BCC/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	Not expected to occur. No suitable habitat is present on the project site.
Sternula antillarum browni (nesting colony)	California least tern	FE/SE, FP	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats	Not expected to occur. No suitable habitat is present on the project site.
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	Not expected to occur. No suitable habitat is present on the project site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
			adjacent shrubland late in nesting season	
Fish				
Catostomus santaanae	Santa Ana sucker	FT/None	Small, shallow, cool, clear streams less than 7 meters (23 feet) in width and a few centimeters to more than a meter (1.5 inches to more than 3 feet) in depth; substrates are generally coarse gravel, rubble, and boulder	Not expected to occur. No suitable habitat is present on the project site.
Rhinichthys osculus ssp. 3	Santa Ana speckled dace	None/SSC	Headwaters of the Santa Ana and San Gabriel Rivers; may be extirpated from the Los Angeles River system	Not expected to occur. No suitable habitat is present on the project site.
Mammals				
Antrozous pallidus	pallid bat	None/SSC	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	Not expected to occur. No suitable habitat is present on the project site.
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None/SSC	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon–juniper, and annual grassland	Not expected to occur. No suitable habitat is present on the project site.
Choeronycteris mexicana	Mexican long-tongued bat	None/SSC	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon–juniper woodland; roosts in caves, mines, and buildings	Not expected to occur. No suitable habitat is present on the project site.
Eumops perotis californicus	western mastiff bat	None/SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	Not expected to occur. No suitable habitat is present on the project site.
Lasiurus xanthinus	western yellow bat	None/SSC	Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms	Not expected to occur. No suitable habitat is present on the project site.
Microtus californicus stephensi	south coast marsh vole	None/SSC	Tidal marshes	Not expected to occur. No suitable habitat is present on the project site.
Neotoma lepida intermedia	San Diego desert woodrat	None/SSC	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	Not expected to occur. No suitable habitat is present on the project site.
Nyctinomops femorosaccus	pocketed free-tailed bat	None/SSC	Pinyon–juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases; roosts in high cliffs or rock outcrops with drop-offs, caverns, and buildings	Not expected to occur. No suitable habitat is present on the project site.
Nyctinomops macrotis	big free-tailed bat	None/SSC	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water	Not expected to occur. No suitable habitat is present on the project site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Onychomys torridus ramona	southern grasshopper mouse	None/SSC	Grassland and sparse coastal scrub	Not expected to occur. No suitable habitat is present on the project site.
Perognathus longimembris pacificus	Pacific pocket mouse	FE/SSC	fine-grained sandy substrates in open coastal strand, coastal dunes, and river alluvium	Not expected to occur. No suitable habitat is present on the project site.
Sorex ornatus salicornicus	southern California saltmarsh shrew	None/SSC	Saltmarsh, saltgrass, dense willow, bulrush	Not expected to occur. No suitable habitat is present on the project site.
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Not expected to occur. No suitable habitat is present on the project site.
Invertebrates				
Branchinecta sandiegonensis	San Diego fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. No suitable habitat is present on the project site.
Streptocephalus woottoni	Riverside fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. No suitable habitat is present on the project site.

Status Legend:
FE: Federally Endangered
FT: Federally Threatened
PFE: Proposed Federally Endangered
PFT: Proposed Federally Threatened
FC: Federal Candidate
FDL: Federally Delisted
BCC: U.S. Fish and Wildlife Service Bird of Conservation Concern
BLM: Bureau of Land Management Sensitive Species
USFS: U.S. Forest Service Sensitive Species
SSC: California Species of Special Concern
FP: California Fully Protected Species
WL: California Watch List Species
SE: State Endangered
ST: State Threatened
PSE: Proposed State Endangered
PST: Proposed State Threatened
SDL: State Delisted
SS: List Special Animals List, but no other status

APPENDIX C

Cultural Resources Inventory Report

CULTURAL RESOURCES INVENTORY REPORT FOR THE MORENO VALLEY COLLEGE WELCOME CENTER PROJECT

CITY OF MORENO VALLEY, RIVERSIDE COUNTY, CALIFORNIA

PREPARED FOR:

RIVERSIDE COMMUNITY COLLEGE DISTRICT
Bart Doering, Facilities Development Director
3801 Market Street
Riverside, California 92501

PREPARED BY:

Erica Nicolay, MA; Linda Kry, BA; Matthew DeCarlo, MA; and Micah Hale, PhD, RPA

DUDEK
38 North Marengo Avenue
Pasadena, California 91101

DECEMBER 2018

NATIONAL ARCHAEOLOGICAL DATABASE INFORMATION

Authors: Erica Nicolay, MA; Linda Kry, BA; Matthew DeCarlo, MA; and Micah Hale, PhD, RPA

Firm: Dudek

Project Proponent: Riverside Community College District

Report Date: December 2018

Report Title: Cultural Resources Report for the Moreno Valley Welcome Center Project, City of Moreno Valley, Riverside County, California

Type of Study: Cultural Resources Inventory, Pedestrian Survey

New Resources: N/A

Updated Sites: N/A

USGS Quads: Sunnymead 7.5' T3S/R3W Section 28

Acreage: 4.39

Permit Numbers: N/A

Keywords: California Environmental Quality Act (CEQA); City of Moreno Valley; cultural resources inventory, pedestrian survey; negative results

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EXECUTIVE SUMMARY

Dudek was retained by the Riverside Community College District (District) to prepare a cultural resource technical report in support of the proposed Moreno Valley College Welcome Center (proposed project), located in the City of Moreno Valley (City), Riverside County, California. The District is proposing the construction of an approximately 17,500-square-foot student services building on approximately 0.95 acres within the southwestern portion of the Moreno Valley College campus. Additionally, areas immediately surrounding the proposed project site, encompassing approximately 4.39 acres, within the campus may be temporarily disturbed (areas of temporary impact). For the purposes of this report, the proposed project site and areas of temporary impact will collectively be referred to as the study area. The District is the lead agency responsible for compliance with the California Environmental Quality Act (CEQA). All cultural resources fieldwork and reporting for this project has been conducted by archaeologists meeting the Secretary of the Interior's Professional Qualifications Standards. This study included the following components: (1) a California Historical Resources Information System (CHRIS) records search covering the study area plus a 1-mile radius at the Eastern Information Center (EIC), (2) a review of the California Native American Heritage Commission's (NAHC's) Sacred Lands File (SLF), (3) Native American outreach, (4) an intensive pedestrian survey of the study area for cultural resources, and (5) findings and recommendations.

This study is compliant with California Public Resources Code (PRC) Section 5024.1, Sections 21083.2 and 21084.1 of CEQA (PRC Section 21000 et seq.), and Section 15064.5 of the CEQA Guidelines (14 CCR Section 15000 et seq.).

On November 13, 2018, Dudek completed a records search for the study area and a surrounding 1.0-mile search buffer from the EIC. On December 6, 2018, a response letter dated December 5, 2018, was received via email from the NAHC stating that the results of the SLF search did not identify the presence of Native American cultural resources in the study area. The NAHC also provided a list of nine Native American groups and/or individuals who may have knowledge of cultural resources in or near the study area. On December 10, 2018, Dudek sent letters to all groups and/or individuals identified by the NAHC. To date, no responses have been received in connection with tribal outreach efforts.

No cultural resources were identified within the study area as a result of the CHRIS records search; though one cultural resource was mapped directly adjacent to the study area, and several prehistoric sites are mapped within the 1.0-mile search buffer. All of the sites located within the record search area are bedrock milling stations.

No cultural resources were identified during the intensive-level survey of the study area. The study area has been extensively developed, and very little native soils were visibly present. No additional cultural work is recommended for the proposed project beyond standard protection measures for unanticipated discoveries of archaeological resources and human remains (Chapter 6).

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
CEQA	California Environmental Quality Act
CHRIS	California Historical Resources Information System
City	City of Moreno Valley
CRHR	California Register of Historical Resources
District	Riverside Community College District
EIC	Eastern Information Center
MLD	most likely descendant
NAHC	Native American Heritage Commission
PRC	Public Resources Code
proposed project	proposed Moreno Valley College Welcome Center
SLC	Sacred Lands File
TCR	tribal cultural resource

APPENDICES

1 INTRODUCTION

Dudek was retained by the Riverside Community College District (District) to prepare a cultural resource technical report in support of the proposed Moreno Valley College Welcome Center (proposed project), located in the City of Moreno Valley (City), Riverside County, California. The District is proposing the construction of an approximately 17,500-square-foot student services within the southwestern portion of the Moreno Valley College campus. In addition, areas immediately surrounding the proposed project site, encompassing approximately 4.39 acres, within the campus may be temporarily disturbed (areas of temporary impact). For the purposes of this report, the proposed project site and areas of temporary impact will collectively be referred to as the study area. The District is the lead agency responsible for compliance with the California Environmental Quality Act (CEQA). All cultural resource fieldwork and reporting for this project has been conducted by archaeologists meeting the Secretary of the Interior's Professional Qualifications Standards. This study included the following components: (1) a California Historical Resources Information System (CHRIS) records search covering the study area plus a 1-mile radius at the Eastern Information Center (EIC), (2) a review of the California Native American Heritage Commission's (NAHC's) Sacred Lands File (SLF), (3) Native American outreach, (4) an intensive pedestrian survey of the project site for cultural resources, and (5) findings and recommendations.

This study is compliant with California Public Resources Code (PRC) Section 5024.1, Sections 21083.2 and 21084.1 of CEQA (PRC Section 21000 et seq.), and Section 15064.5 of the CEQA Guidelines (14 CCR Section 15000 et seq.).

1.1 Project Location

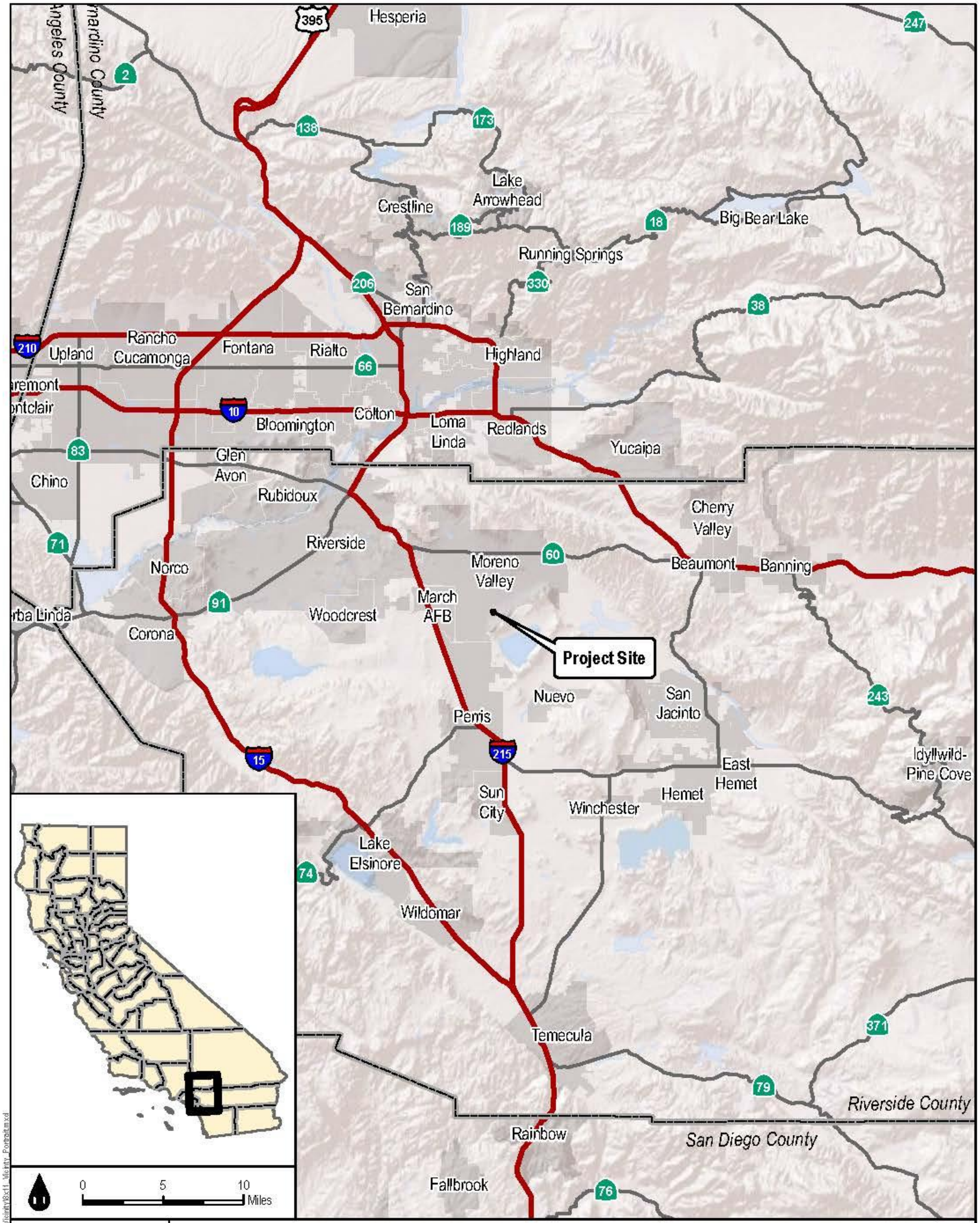
The proposed project is located at 16130 Lasselle Street on the campus of Moreno Valley College, in the southern portion of the City in the northwestern portion of Riverside County (Figure 1). The proposed project is within Section 28 of the public land survey system Township 3 South, Range 3 West as shown on the Sunnymead, California 7.5-minute U.S. Geological Survey Quadrangle (Figure 2). The proposed project would be constructed on a 0.95-acre project site situated within the southwestern portion of the existing Moreno Valley College. Additional areas immediately surrounding the proposed project site within the campus may be temporarily disturbed (areas of temporary impact) to allow for the connection of underground utilities to the proposed project site. The areas of temporary impact encompasses approximately 4.39 acres and is comprised of portions of landscaped areas, unmaintained natural areas, parking lots, and walkways associated with the college and is bordered on the north by buildings associated with the college, on the east by open land, and on the west and south by a parking lot (Figure 3). Under the existing conditions, the study area consists of an open grass field with several ornamental trees located throughout. A concrete sidewalk traverses through the middle of the proposed project site and connects the main campus area with a parking lot located to the south.

1.2 Project Description

The proposed project includes the construction of an approximately 17,500-square-foot student services building on the southwestern portion of the Moreno Valley College campus. Construction of the campus building would require the removal of an existing landscaped area currently consisting of campus walkways and ornamental landscaping. The proposed project would also require temporary trenching to allow for the connection of underground utilities to the proposed campus building. Once operational, the new campus building would include office spaces, collaboration spaces, private study areas, restrooms, and utility spaces. The proposed project would also include exterior site improvements such as landscaping, stairways, access ramps, and an entry plaza.

1.3 Project Personnel

Dudek Archaeologist Erica Nicolay, MA, authored the report, conducted the CHRIS records search and pedestrian survey, and facilitated Native American outreach. Linda Kry, BA, and Matthew DeCarlo, MA, contributed to the report and provided management oversight. This report was reviewed for quality assurance/quality control by Dudek Principal Investigator Micah Hale, PhD, RPA. Dr. Hale meets the Secretary of the Interior's Professional Qualifications Standards for archaeology.



DUDEK

FIGURE 1
Regional Map

Moreno Valley College Welcome Center

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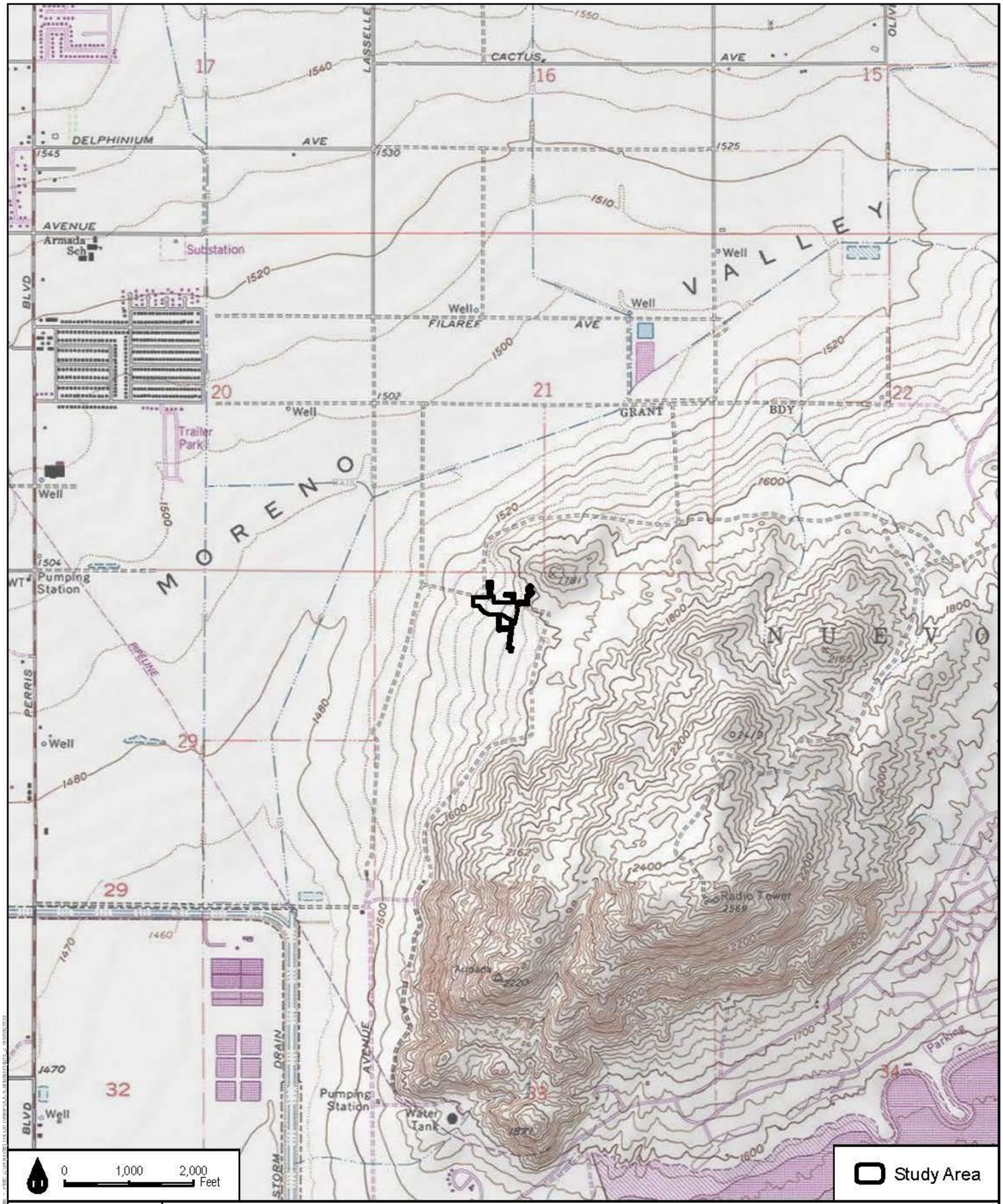

SOURCE: USGS 7.5-Minute Series Sunnymead Quadrangle

FIGURE 2
Vicinity Map

Moreno Valley College Welcome Center

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SOURCE: Bing Maps 2018

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FIGURE 2
Aerial

Moreno Valley College Welcome Center

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2 REGULATORY SETTING

2.1 State

California Register of Historical Resources

In California, the term "historical resource" includes, but is not limited to

> any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California (PRC Section 5020.1(j)).

In 1992, the California legislature established the California Register of Historical Resources (CRHR) "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1(a)). The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP, enumerated as follows. According to PRC Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains "substantial integrity" and (ii) meets at least one of the following criteria:

(1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

(2) Is associated with the lives of persons important in our past.

(3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

(4) Has yielded, or may be likely to yield, information important in prehistory or history.

To understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (14 CCR 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are the state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

California Environmental Quality Act

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 (TCRs):

- 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 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; 14 CCR 15064.5(b)).

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" (14 CCR 15064.5(b)(1); PRC Section 5020.1(q)). In turn, the significance of a historical resource is materially impaired when a project does any of the following (14 CCR 15064.5(b)(2)):

(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.

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 would be materially impaired.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (PRC Sections 21083.2(a)–(c)).

Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria (PRC Section 21083.2(g)):

(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts on non-unique archaeological resources are generally not considered a significant environmental impact (PRC Section 21083.2(a); 14 CCR 15064.5(c)(4)). However, if a non-unique archaeological resource qualifies as a TCR (PRC Sections 21074(c) and 21083.2(h)), further consideration of significant impacts is required.

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. These procedures are detailed in PRC Section 5097.98.

California State Assembly Bill 52

Assembly Bill (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 for additional Native American consultation requirements for the lead agency. 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 and that is either:

- On or determined to be eligible for the California Register of Historical Resources or a local historic register; or
- 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 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 site, including tribes that may not be federally recognized. Lead agencies are required to begin consultation prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report.

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)). The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted (PRC Section 21082.3(a)).

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 can occur until the county coroner has examined the remains (Health and Safety Code Section 7050.5(b)). PRC Section 5097.98 also outlines the process to be followed in the event that remains are discovered. If the county coroner determines or has reason to believe the remains are those of a Native American, the county coroner must contact the NAHC within 24 hours (Health and Safety Code Section 7050.5(c)). The NAHC will notify the most likely descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. The inspection must be completed within 48 hours of notification of the MLD by the NAHC. The MLD may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

2.2 Local

County of Riverside General Plan

The Land Use Element of the *County of Riverside General Plan* specifies preservation of cultural resources. The policies laid out in this element that pertain to cultural resources include the following (County of Riverside 2013):

> **Policy LU 9.1** Provide for permanent preservation of open space lands that contain important natural resources, cultural resources, hazards, water features, watercourses including arroyos and canyons, and scenic and recreational values.

Policy LU 9.4 Allow development clustering and/or density transfers in order to preserve open space, natural resources, cultural resources, and biologically sensitive resources. Wherever possible, development on parcels containing 100-year floodplains, blue line streams and other higher-order watercourses, and areas of steep slopes adjacent to them shall be clustered to keep development out of watercourse and adjacent steep slope areas, and to be compatible with other nearby land uses.

County of Riverside Cultural Resource Review Process

If deemed necessary by the County of Riverside Planning Department, a Phase I Cultural Resource Review may be required for proposed private development projects within unincorporated Riverside County. These reports should be submitted directly to the office of the county archaeologist.

City of Moreno Valley General Plan

Objective 7.6 of the City's General Plan states that the City will try to "identify and preserve Moreno Valley's unique historical and archaeological resources for future generations" (City of Moreno Valley 2006). To achieve this objective, the City laid out five policies, including:

7.6.1 Historical, cultural and archaeological resources shall be located and preserved, or mitigated consistent with their intrinsic value.

7.6.2 Implement appropriate mitigation measures to conserve cultural resources that are uncovered during excavation and construction activities.

7.6.3 Minimize damage to the integrity of historic structures when they are altered.

7.6.4 Encourage restoration and adaptive reuse of historical buildings worthy of preservation.

7.6.5 Encourage documentation of historic buildings when such buildings must be demolished

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3 SETTING

3.1 Environmental Setting

The proposed project lies in southern Moreno Valley, approximately 1.8 miles north of the Perris Reservoir and 0.20 miles south of the Moreno Valley Ranch Community Association Lake. The area to the north, west, and south of the study area is largely residential. The study area is located at the foothills of a series of northeast-southwest trending hills within the Lake Perris State Recreation area. Elevations within the study area are approximately 1560 feet above mean sea level. The City is bordered by the Badlands to the east, State Route 215 to the west, Lake Perris State Recreation area to the south, and Box Springs Mountain Reserve Park to the north (City of Moreno Valley 2006). The climate of the area is characterized by warm, dry summers and relatively mild winters. The study area and surrounding vicinity supports chaparral and various scrub communities as well as non-native grassland and ornamental plants (City of Moreno Valley 2006).

3.2 Prehistoric Period Overview

Evidence for continuous human occupation in Southern California spans the last 10,000 years. Various attempts to parse out variability in archaeological assemblages over this broad period have led to the development of several cultural chronologies; some of these are based on geologic time, most are based on temporal trends in archaeological assemblages, and others are interpretive reconstructions. Each of these reconstructions describes essentially similar trends in assemblage composition in more or less detail. However, given the direction of research and differential timing of archaeological study following intensive development in Riverside and San Bernardino Counties, chronology building in the Inland Empire must rely on data from neighboring regions to fill the gaps. To be more inclusive, this research employs a common set of generalized terms used to describe chronological trends in assemblage composition: Paleoindian (pre-5500 BC), Archaic (8000 BC to AD 500), Late Prehistoric (AD 500 to 1769), and Ethnohistoric (post-AD 1769).

Paleoindian Period (pre-5500 BC)

Evidence for Paleoindian occupation in the region is tenuous. Our knowledge of associated cultural pattern(s) is informed by a relatively sparse body of data that has been collected from within an area extending from coastal San Diego, through the Mojave Desert, and beyond. One of the earliest dated archaeological assemblages in coastal Southern California (excluding the Channel Islands) derives from SDI-4669/W-12 in La Jolla. A human burial from SDI-4669 was radiocarbon dated to 9,920 to 9,590 years before present (95.4% probability) (Hector 2006). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of ground stone, battered cobbles, and expedient flake tools). In contrast, typical Paleoindian assemblages include large-stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of ground stone tools. Prime examples of this pattern are sites that were studied by Emma Lou Davis (1978) on Naval Air

Weapons Station China Lake near Ridgecrest, California. These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades). Other typical Paleoindian sites include the Komodo site (MNO-679)—a multi-component fluted point site—and MNO-680—a single component Great Basined Stemmed point site (Basgall et al. 2002). At MNO-679 and -680, ground stone tools were rare while finely made projectile points were common.

Warren et al. (2004) claimed that a biface manufacturing tradition present at the Harris site complex (SDI-149) is representative of typical Paleoindian occupation in the San Diego region that possibly dates between 10,365 and 8200 BC (Warren et al. 2004). Termed San Dieguito (see also Rogers 1945), assemblages at the Harris site are qualitatively distinct from most others in the San Diego region because the site has large numbers of finely made bifaces (including projectile points), formal flake tools, a biface reduction trajectory, and relatively small amounts of processing tools (see also Warren 1968). Despite the unique assemblage composition, the definition of San Dieguito as a separate cultural tradition is hotly debated. Gallegos (1987) suggested that the San Dieguito pattern is simply an inland manifestation of a broader economic pattern. Gallegos's interpretation of San Dieguito has been widely accepted in recent years, in part because of the difficulty in distinguishing San Dieguito components from other assemblage constituents. In other words, it is easier to ignore San Dieguito as a distinct socioeconomic pattern than it is to draw it out of mixed assemblages.

The large number of finished bifaces (i.e., projectile points and non-projectile blades), along with large numbers of formal flake tools at the Harris site complex, is very different than nearly all other assemblages throughout the San Diego region, regardless of age. Warren et al. (2004) made this point, tabulating basic assemblage constituents for key Early Holocene sites. Producing finely made bifaces and formal flake tools implies that relatively large amounts of time were spent for tool manufacture. Such a strategy contrasts with the expedient flake-based tools and cobble-core reduction strategy that typifies non-San Dieguito Archaic sites. It can be inferred from the uniquely high degree of San Dieguito assemblage formality that the Harris site complex represents a distinct economic strategy from non-San Dieguito assemblages.

San Dieguito sites are rare in the inland valleys, with one possible candidate, RIV-2798/H, located on the shore of Lake Elsinore. Excavations at Locus B at RIV-2798/H produced a toolkit consisting predominantly of flaked stone tools, including crescents, points, and bifaces, and lesser amounts of ground stone tools, among other items (Grenda 1997). A calibrated and reservoir-corrected radiocarbon date from a shell produced a date of 6630 BC. Grenda suggested this site represents seasonal exploitation of lacustrine resources and small game, and resembles coastal San Dieguito assemblages and spatial patterning.

If San Dieguito truly represents a distinct socioeconomic strategy from the non-San Dieguito Archaic processing regime, its rarity implies that it was not only short-lived, but it was also not as economically successful as the Archaic strategy. Such a conclusion would fit with other trends in Southern California deserts, where hunting-related tools were replaced by processing tools during the Early Holocene (Basgall and Hall 1990).

Archaic Period (8000 BC to AD 500)

The more than 2,500-year overlap between the presumed age of Paleoindian occupations and the Archaic period highlights the difficulty in defining a cultural chronology in Southern California. If San Dieguito is the only recognized Paleoindian component in coastal Southern California, then the dominance of hunting tools implies that it derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2004) admitted as much, citing strong desert connections with San Dieguito. Thus, the Archaic pattern is the earliest local socioeconomic adaptation in the region (Hale 2001, 2009).

The Archaic pattern, which has also been termed the Millingstone Horizon (among others), is relatively easy to define with assemblages that consist primarily of processing tools such as millingstones, handstones, battered cobbles, heavy crude scrapers, incipient flake-based tools, and cobble-core reduction. These assemblages occur in all environments across the region with little variability in tool composition. Low assemblage variability over time and space among Archaic sites has been equated with cultural conservatism (Basgall and Hall 1990; Byrd and Reddy 2002; Warren 1968; Warren et al. 2004). Despite enormous amounts of archaeological work at Archaic sites, little change in assemblage composition occurred until the bow and arrow was adopted around AD 500, as well as ceramics at approximately the same time (Griset 1996; Hale 2009). Even then, assemblage formality remained low. After the bow was adopted, small arrow points appear in large quantities, and already low amounts of formal flake tools are replaced by increasing amounts of expedient flake tools. Similarly, shaped millingstones and handstones decreased in proportion relative to expedient, unshaped ground stone tools (Hale 2009). Thus, the terminus of the Archaic period is equally as hard to define as its beginning because basic assemblage constituents and patterns of manufacturing investment remain stable, complemented only by the addition of the bow and ceramics.

Late Prehistoric Period (AD 500 to 1769)

The period of time following the Archaic and before the Ethnohistoric (AD 1769) is commonly referred to as the Late Prehistoric (Rogers 1945; Wallace 1955; Warren et al. 2004); however, several other subdivisions continue to be used to describe various shifts in assemblage composition. In general, this period is defined by the addition of arrow points and ceramics, as well as the widespread use of bedrock mortars. The fundamental Late Prehistoric assemblage is very similar to the Archaic pattern, but includes arrow points and large quantities of fine debitage from producing arrow points, ceramics, and cremations. The appearance of mortars and pestles is difficult to place in time because most mortars are on bedrock surfaces. Some argue that the Ethnohistoric intensive acorn economy extends as far back as AD 500 (Bean and Shipek 1978). However, there is no substantial evidence that reliance on acorns, and the accompanying use of mortars and pestles, occurred before AD 1400. In Riverside County and the surrounding region, millingstones and handstones persisted in higher frequencies than mortars and pestles until the last 500 years (Basgall and Hall 1990); even then, weighing the economic significance of millingstone–handstone versus mortar–pestle technology is tenuous due to incomplete information on archaeological assemblages.

Ethnohistoric Period (post-AD 1769)

The history of the Native American communities prior to the mid-1700s has largely been reconstructed through later mission-period and early ethnographic accounts. The first records of the Native American inhabitants of the region come predominantly from European merchants, missionaries, military personnel, and explorers. These brief, and generally peripheral, accounts were prepared with the intent of furthering respective colonial and economic aims and were combined with observations of the landscape. They were not intended to be unbiased accounts regarding the cultural structures and community practices of the newly encountered cultural groups. The establishment of the missions in the region brought more extensive documentation of Native American communities, though these groups did not become the focus of formal and in-depth ethnographic study until the early twentieth century (Bean and Shipek 1978; Boscana 1846; Geiger and Meighan 1976; Harrington 1934; Laylander 2000; Sparkman 1908; White 1963). The principal intent of these researchers was to record the pre-contact, culturally specific practices, ideologies, and languages that had survived the destabilizing effects of missionization and colonialism. This research, often understood as "salvage ethnography," was driven by the understanding that traditional knowledge was being lost due to the impacts of modernization and cultural assimilation. Alfred Kroeber applied his "memory culture" approach (Lightfoot 2005: 32) by recording languages and oral histories within the region. Ethnographic research by Dubois, Kroeber, Harrington, Spier, and others during the early twentieth century seemed to indicate that traditional cultural practices and beliefs survived among local Native American communities.

It is important to note that even though there were many informants for these early ethnographies who were able to provide information from personal experiences about Native American life before the arrival of Europeans, a significantly large proportion of these informants were born after 1850 (Heizer and Nissen 1973); therefore, the documentation of pre-contact, aboriginal culture was being increasingly supplied by individuals born in California after considerable contact with Europeans. As Robert F. Heizer (1978) stated, this is an important issue to note when examining these ethnographies, since considerable culture change had undoubtedly occurred by 1850 among the Native American survivors of California.

Based on ethnographic information, it is believed that at least 88 different languages were spoken from Baja (lower) California Sur to the southern Oregon border at the time of Spanish contact (Johnson and Lorenz 2006). The distribution of recorded Native American languages has been dispersed as a geographic mosaic across California through six primary language families (Golla 2007).

Victor Golla has contended that one can interpret the amount of variability within specific language groups as being associated with the relative "time depth" of the speaking populations (Golla 2007: 80). A large amount of variation within the language of a group represents a greater time depth than a group's language with less internal diversity. One method that he has employed is by drawing comparisons with historically documented changes in Germanic and Romantic language groups. He has observed that the "absolute chronology of the internal diversification within a language family" can be correlated with archaeological dates (Golla 2007: 71). This type of interpretation is modeled on concepts of genetic drift and gene flows that are associated with migration and population isolation in the biological sciences.

The tribes of this area have traditionally spoken Takic languages that may be assigned to the larger Uto–Aztecan family (Golla 2007). These groups include the Gabrielino, Cahuilla, and Serrano. Golla has interpreted the amount of internal diversity within these language-speaking communities to reflect a time depth of approximately 2,000 years. Other researchers have contended that Takic may have diverged from Uto–Aztecan circa 2600 BC to AD 1, which was later followed by the diversification within the Takic speaking tribes, occurring approximately 1500 BC to AD 1000 (Laylander 2014).

The proposed project is located within the area associated with the Gabrielino, a name derived from the association with the San Gabriel Mission, who are also known as the Tongva. According to the archaeological record, they were not the first inhabitants of the Los Angeles basin but displaced indigenous Hokan speakers around 500 BC. The Gabrielino shared boundaries with the Chumash to the west, the Tataviam to the north, Serrano to the northeast, the Cahuilla to the east, and the Luiseño and Juaneño to the southwest (Bean and Smith 1978; Kroeber 1925).

As with many Native American groups, it is difficult to make population estimates for the Gabrielino, although one estimate gives village population ranges between 50 and 200 people for possibly more than 50 or 100 villages (Bean and Smith 1978). The arrival of the Spanish decimated Native American peoples through disease and changed living conditions, leaving few Gabrielinos by the time ethnographic studies were conducted (Bean and Smith 1978). This makes it difficult to make definitive statements about their culture. The tribes of the region were organized into patrilineal clans or bands centered on a chief, each of which had its own territorial land or range where food and other resources were collected at different locations throughout the year. Place-names were assigned to each territory, often reflecting common animals, plants, physical landmarks, or cosmological elements that were understood as being related to that location. Marriages were sometimes arranged by parents or guardians, and chiefs occasionally had multiple wives (Bean and Smith 1978).

Shamanism was a major component in tribal life. Shamans, who derived their power through dreams or visions, served individual villages. They cured illness using a variety of tools and plants. Some locations and natural resources were of cultural significance. Springs and other water-related features were thought to be associated with spirits. These resources, often a component of origin stories, had power that came with a variety of risks and properties to those who became affected by them. Mourning ceremonies were similar throughout the region, generally involving and burning of the deceased's possessions, dancing, and ritual wailing, followed by the burning of the deceased's remaining items a year after death (Bean and Smith 1978).

3.3 Historic Period Overview

Post-contact history for the State of California is generally divided into three periods: the Spanish Period (1769 to 1821), Mexican Period (1821 to 1848), and American Period (1848 to present). Although Spanish, Russian, and British explorers visited the area for brief periods between 1529 and 1769, the Spanish Period in California begins with the establishment in 1769 of a settlement at San Diego and the founding of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain in 1821 marks the beginning of the Mexican Period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican–American War, signals the beginning of the American Period when California became a territory of the United States.

Spanish Period (1769 to 1821)

Spanish explorers made sailing expeditions along the coast of Southern California between the mid-1500s and mid-1700s. In search of the legendary Northwest Passage, Juan Rodríguez Cabríllo stopped in 1542 at present-day San Diego Bay. With his crew, Cabríllo explored the shorelines of present Catalina Island as well as San Pedro and Santa Monica Bays. Much of the present California and Oregon coastline was mapped and recorded in the next half-century by Spanish naval officer Sebastián Vizcaíno. Vizcaíno's crew also landed on Santa Catalina Island and at San Pedro and Santa Monica Bays, giving each location its long-standing name. The Spanish crown laid claim to California based on the surveys conducted by Cabríllo and Vizcaíno (Bancroft 1885; Gumprecht 1999).

More than 200 years passed before Spain began the colonization and inland exploration of Alta California. The 1769 overland expedition by Captain Gaspar de Portolá marks the beginning of California's Historic Period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonization matters in assigned territories of the Americas. With a band of 64 soldiers, missionaries, Baja California Native Americans, and Mexican civilians, Portolá established the Presidio of San Diego—a fortified military outpost—as the first Spanish settlement in Alta California. In July of 1769, while Portolá was exploring Southern California, Franciscan Friar Junípero Serra founded Mission San Diego de Alcalá at Presidio Hill, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823.

The Mission San Luis Rey de Francia at the Luiseño village of Temecula was included in those 21 missions established by the Spanish and the Franciscan Order. In 1819, the Mission San Luis Rey de Francia granted land to Leandro Serrano, the highest locally appointed official (or "mayordomo") of San Antonio de Pala Asistencia, for the Mission of San Luis Rey for Rancho Temescal. In 1828, Serrano was elected as the mayordomo of Mission San Juan Capistrano. From around 1819 until his death in 1852, Serrano built and occupied three separate adobe residences in what is now Riverside County. Serrano's family resided in the third adobe residence until around 1898 (Elderbee 1918).

Mexican Period (1821 to 1848)

It was in the early 1820s that Spain's grip on its expansive subjugated territories began to unravel, which greatly affected the political and national identity of the Southern California territory. Mexico established its independence from Spain in 1821, secured California as a Mexican territory in 1822, and became a federal republic in 1824. After the Mexican independence and the 1833 confiscation of former Mission lands, Juan B. Alvarado became governor of the territory. In 1836, Governor Alvarado began the process of subdividing what is now Riverside and San Bernardino Counties into large ranchos: Rancho Jurupa in 1838; El Rincon in 1839; Rancho San Jacinto Viejo in 1842; Rancho San Jacinto y San Gorgonio in 1843; Ranchos La Laguna, Pauba, and Temecula in 1844; Ranchos Little Temecula and Potreros de San Juan Capistrano in 1845; and Ranchos San Jacinto Sobrante, La Sierra (Sepulveda), La Sierra (Yorba), Santa Rosa, and San Jacinto Nuevo y Potrero in 1846 (Fitch 1993). While these ranchos were established in documentation, the cultural and commercial developments of the ranchos were punctuated and generally slow with little oversight or assistance from the government in Mexico. On May 22, 1840, Governor Alvarado granted the "11-league" Rancho Jurupa to Don Juan Bandini (Stonehouse 1965).

In 1843, La Placita de los Trujillos, or "La Placita" (also known as "San Salvador" and regionally nicknamed "Spanish Town"), was established in modern-day Riverside County and has been since recognized as one of the first non-native settlements in the San Bernardino Valley (Brown and Boyd 1922). A group of genízaro (Native American slave or servant) colonists from Abiquiú, New Mexico, arrived in the area in the early 1840s (Nostrand 1996). Don Juan Bandini donated a portion of Rancho Jurupa to them on the condition that they would assist in protecting his livestock from Native American raids. Lorenzo Trujillo led 10 of the colonist families to 2,000 acres on the "Bandini Donation" on the southeast bank of the Santa Ana River and formed the village of La Placita. In 1852, the same year that Leandro Serrano died, the Los Angeles County Board of Supervisors established a town called "San Salvador" encompassing a number of small, growing communities in the area initially known as "La Placita." San Salvador was mainly a community of agriculture and animal husbandry until around the late 1860s with the occurrence of "the Great Flood of 1862" and a second flood later in 1886, causing the local population to abandon the immediate area. The area remained largely a ghost town until the recent modern introduction of waste transferal and recycling facilities to the area (Elderbee 1918).

American Period (1848 to Present)

In the late 1840s and early 1850s—after the arrival of a growing European-descended American and other foreign populations, and the conclusion of the Mexican–American war with the Treaty of Guadalupe Hidalgo—issues concerning land rights immediately ensued with results that often favored newly introduced American interests (Starr 2007; Hale 1888). The California Gold Rush was in full steam by the late 1840s and early 1850s, resulting in a heavy influx of new immigrants from not only across the United States, but also from foreign countries (many from Asia and Latin America). These diverse immigrants changed the dynamics of the local populations. Growth in the region's population was inevitable with the major shifts in the popular social perceptions of potential economic opportunities that California had to offer during the 1850s. The local population growth was further facilitated by the creation of the Temescal Station of the Butterfield Overland Mail Route in 1857, and the organization of the first Temescal School District (Elderbee 1918).

3.4 Local History of the Project Area

Riverside County

For a brief time, tin mining was a source of local development in Riverside County. Tin mining had been initiated in the 1850s by Able Stearns, but proved largely unsuccessful; it remained stagnant for years due to litigation disputes that were not settled until 1888 by the U.S. Supreme Court. After the dispute settlement, miners converged on the region, swelling the immediate population while the tin mine enjoyed a 2-year run of operations, closing down for good in 1892 (Elderbee 1918). The growth of the area increased steadily as the economic focus shifted from ranching and animal husbandry to a more fruit orchard/agricultural lifestyle greatly influenced by the region's Mediterranean climate and the introduction of large numbers of honeybees and hives (Elderbee 1918).

In March 1870, John Wesley North issued a circular entitled "A Colony for California" to promote the idea of founding an agriculture-based colony in California. Prospective investors met in Chicago on May 18 of that same year, and the interest expressed led to the formation of the Southern California Colony Association. This success prompted North to head to Los Angeles, where he arrived on May 26, 1870, initially intending to settle the colony there. However, the association directors decided on Rancho Jurupa along the banks of the Santa Ana River, purchasing it from the California Silk Association in August 1870. North then took up residence on site for the purpose of surveying and developing the colony. He envisioned small-scale farmers growing oranges, lemons, figs, walnuts, olives, almonds, grapes, sweet potatoes, sorghum, and sugar beets (Stonehouse 1965). The community was originally called "Yurupa," but the name was changed to "Riverside" in December of 1870 (Stonehouse 1965; Patterson 1971; Wlodarski 1993). The citrus industry increased dramatically during the 1880s, with promotion of the area shifting to focus on the potential wealth to be had through agriculture (California Department of Transportation 2007).

Of particular note is the introduction of the navel orange to the budding California citrus industry. Two navel orange trees from Brazil's Bahia Province were gifted to Eliza Tibbets, one of the founders of Riverside County, by William Saunders, horticulturalist at the U. S. Department of Agriculture. Mrs. Tibbets and her husband, Luther C. Tibbets, brought the trees to the Riverside colony and planted them in 1873. These parent trees produced sweet-tasting seedless fruits, sparking the interest of local farmers and becoming so popular that the fruits from these trees eventually became known as "Riverside Navel." The fruit's popularity helped establish Riverside as a national leader in cultivating oranges. One of the two original parent Washington navel orange trees is still extant, growing near the intersection of Arlington and Magnolia Avenues. It is "mother to millions of navel orange trees the world over;" the tree is designated as California Historical Landmark No. 20 (Hurt 2014).

North originally intended that the colony would build, own, and operate its own irrigation system, but the desert mesa location made such a venture prohibitively expensive. Thus, the Southern California Company Association joined forces with the Silk Center Association to develop the irrigation project. After completing a canal survey, work began in October 1870 to construct a canal 12 feet wide, narrowing to 8 feet at the base, and 3 feet deep (Stonehouse 1965). With continued growth of the area, a second canal was constructed, and by 1878, the Riverside Canal Company was formed; it was superseded in 1886, due to litigation, by the Riverside Water Company (Bailey 1961). Further growth in the region led to construction of a third major canal, called the "Gage Canal," built between 1882 and 1888 (Guinn 1907; Wlodarski 1993). Development of such a stable water supply bolstered the agricultural industry, helping facilitate the booming citrus industry in Riverside County. By 1895, around 20,000 acres of navel orange groves had been planted, and the citrus industry became the primary economic influence for the region well into the turn of the twentieth century (Guinn 1907). This rapid growth of such a vibrant citrus industry led to Riverside County becoming the wealthiest city per capita in the United States by 1895 (March Field Air Museum 2011). The growing citrus industry was in turn stimulated by another major factor that would strongly influence the cultural development of Riverside County: the advent of the railroad, in particular, the transcontinental railroad.

In the later-nineteenth century, the railroad industry began to connect vast swaths of the country with a rail-line transportation system that had previously required extremely slow travel and often with dangerous travel conditions. The initial rail line developed in the region was the California Southern railroad, around 1882, which then connected with the Santa Fe transcontinental line in 1885. In 1887, C.W. Smith and Fred Ferris of the California Southern Railroad, and J.A. Green, incorporated the Valley Railway to serve the region. The San Jacinto Valley Railroad was constructed the next year, in 1888; it traveled southeast from Perris, then east across the valley, gradually curving northeast to its terminus at San Jacinto (George and Hamilton 2009). With the combination of rail transportation, the packing industry, and cold storage facilities, Riverside County was able to yield over 0.5 million boxes of oranges by 1890 (Wlodarski 1993).

The towns of Winchester and Hemet were quickly established along the San Jacinto Valley Railroad. The railroad connected the eastern part of the valley to Perris, where it met the California Southern Railroad. This ensured transportation of valley products to markets in Los Angeles and San Diego. The Hemet–San Jacinto Growers' Association Cannery was located adjacent to the railroad; the canned fruit was loaded directly onto railcars for shipment outside of the valley (George and Hamilton 2009). In addition, many of the ranches that were located along the rail line had their own sidings, where the farm products were directly loaded onto the trains. The railroad also provided passenger service to Los Angeles; however, the construction of modern highways in the 1950s lessened the importance of the railroad. Later, the route was taken over by the Atchison, Topeka, and Santa Fe Railroad, and then the Burlington Northern Santa Fe.

During this time in Southern California history, counties were established, and the area known today as Riverside County was established from portions of Los Angeles County and San Diego Counties. In 1853, the eastern part of Los Angeles County was used to create San Bernardino County. Between 1891 and 1893, several proposals and legislative attempts were put forth to form new counties in Southern California. These proposals included one for a Pomona County and one for a San Jacinto County; however, no proposals were adopted to create Riverside County until the California Board of Commissioners filed the final canvass of the votes and the measure was signed by Governor Henry H. Markham on March 11, 1893.

Moreno Valley

The City is an amalgamation of three communities: Moreno, Edgemont, and Sunnymead. After four incorporation attempts, the City was officially incorporated on December 3, 1984; though the area was settled long before that. Moreno, which got its name from the Spanish word for brown, was originally planned as an agricultural community, specifically focused on citrus. Frank Brown, a civil engineer and water company owner, built a water pipeline from Bear Valley to the area in 1891, bringing much needed irrigation to the fledgling agricultural town. After the pipeline was finished, major roads were laid out, and the City began to take shape. March Air Field, originally known as Alessandro Aviation Field, was built in 1918 and represents the first major development in the area. The construction of the airfield brought many more people to the community. After the incorporation of the City in 1984, it experienced its first major population increase, growing from 48,000 at the time of incorporation to over 100,000 in 1990 (Ghori 2014). Today, Moreno Valley has a population of just over 200,000 people (Data USA 2018).

Moreno Valley College

The District began serving the community of Moreno Valley by offering classes housed at March Air Force Base and Moreno Valley High School (RCCD 2013). The number of courses expanded with the community's population, and in October 1985, the Robert C. Warmington Company donated 112 acres for the construction of a college on what is the present day campus (RCCD 2013). In 1989, RCCD purchased 20 additional acres. Construction began in the same year, and the college officially opened in 1991 when four buildings were completed: the Library, the Student Services Building, the Science and Technology Building, and the student center (RCCD 2013). In the following years, the college expanded its facilities, growing from the initial four buildings in 1991 to 40 buildings as of 2015, the majority of which are portable structures (RCCD 2015).

4 BACKGROUND RESEARCH

4.1 Cultural Resource Records Search

On November 13, 2018, Dudek completed a search of the CHRIS at the EIC, located on the University of California, Riverside, campus of the study area and a 1.0-mile (1,608-meter) search buffer. This search included mapped prehistoric, historical, and built-environment resources; Department of Parks and Recreation site records; technical reports; archival resources; and ethnographic references. The confidential records search results are also provided in Appendix A.

Previously Conducted Cultural Resources Studies

The EIC records indicate that 17 previous cultural resources technical investigations have been conducted within 1.0 mile (1,608 meters) of the study area between 1953 and 2012. Of these, two previous studies overlap a portion of the study area; whereas, the remaining 15 are within the 1.0-mile search buffer (Table 1). The overlapping reports are briefly summarized as follows.

Table 1. Previous Technical Studies Within 1.0 Mile of the Study Area

EIC Report Number (RI-)	Authors	Year	Title	Proximity to Project Area
00002	Malcolm J. Rogers	1953	Miscellaneous Field Notes - Riverside County. San Diego Museum Of Man	Outside
00133	Thomas F. King, Mary A. Brown, Gerrit Fenenge, and Claudia Nissley	1974	Archaeological Impact Evaluation: Southern California Edison Company's Devers-Vista 220 Kv Transmission Line, Riverside County, California	Outside
00137	James F. O'Conell, Philip J. Wilke, Thomas F. King, and Carol L. Mix	1974	Perris Reservoir Archaeology, Late Prehistoric Demographic Change In Southeastern California	Intersecting
00161	Roberta S. Greenwood	1975	Paleontological, Archaeological, Historical, And Cultural Resources, West Coast-Midwest Pipeline Project, Long Beach To Colorado River	Outside
01665	Wirth Associates	1983	Devers-Serrano-Villa Park Transmission System Supplement To The Cultural Resources Technical Report - Public Review Document And Confidential Appendices	Outside
01843	Scientific Resource Surveys Inc.	1984	Cultural Resource Survey Report On Wolfskill Ranch	Intersecting
01955	Heller, Rod, Tim Tetherow, and C. White	1977	An Overview Of The Sundesert Nuclear Project Transmission System Cultural Resource Investigation	Outside
02160	Drover, C.E.	1987	Letter Report: Archaeological Evaluation Of Potential Hospital Site In Moreno Valley	Outside

Table 1. Previous Technical Studies Within 1.0 Mile of the Study Area

EIC Report Number (RI-)	Authors	Year	Title	Proximity to Project Area
02709	Padon, Beth	1990	Moreno Ranch Studies Archaeological Documentation Of Ca-Riv-2994 Moreno Valley, California.	Outside
03604	Carleton S. Jones	1992	The Development Of Cultural Complexity Among The Luiseno: A Thesis Presented To The Department Of Anthropology, California State University, Long Beach In Partial Fulfillment Of The Requirements For The Degree, Master Of Arts	Outside
03693	Foster, John M., James J. Schmidt, Carmen A. Weber, Gwendolyn R. Romani, and Roberta S. Greenwood	1991	Cultural Resource Investigation: Inland Feeder Project, Metropolitan Water District Of Southern California	Outside
04762	Barker, Leo R. And Ann E. Huston, Editors	1990	Death Valley To Deadwood; Kennecott To Cripple Creek. Proceedings Of The Historic Mining Conference, January 23-27, 1989, Death Valley National Monument	Outside
05088	Cultural Systems Research Inc.	2005	Ethnographic Overview Inland Feeder Pipeline Project	Outside
08125	Wayne Bonner and Marnie Aislin-Kay	2008	Letter Report: Cultural Resource Records Search Telecommunications Facility Candidate	Outside
08235	James E. Workman	2001	Cupules A Type Of Petroglyphic Rock Art. A Study Of The Pitted Boulders In The San Jacinto Wildlife Area And The Lake Perris State Recreational Area	Outside
08802	Bai "Tom" Tang, Michael Hogan, Deirdre Encarnacion, and Daniel Ballester	2012	Phase I Archaeological Assessment: Moreno Master Drainage Plan Revision	Outside
09934	Wayne H. Bonner and Marnie Aislin-Kay	2005	Cultural Resource Records Search And Site Visit Results For Cingular Telecommunications Facility Candidate Rs-0058-01 (Riverside Community College), 16130 Lasselle Street, Moreno Valley, Riverside County, California	Outside

RI-00137

Report RI-00137 is an archaeological report prepared by the Archaeological Research Unit of the University of California, Riverside, in 1973. The study included surveys and excavations at the Perris Reservoir. The report was an extensive academic study that with the goal of understanding the nature of prehistoric human adaptation within the region.

RI-01843

Report RI-01843 is a cultural resource survey report on Wolfskill Ranch prepared by Scientific Resource Surveys in 1984. The report was prepared for Douglas Wood and Associates, who was considering the area for future development. The report included an archaeological literature search, records check, and a field survey. A total of 51 resources were identified through the records search, and 20 isolated milling features were recorded as part of the project. None of the archaeological resources were located within the current study area.

Previously Recorded Cultural Resources

The EIC records indicate that 17 resources have been recorded within 1.0 mile (1,608 meters) of the study area. No resources have been recorded within the study area, though one has been recorded directly adjacent to the study area (CA-RIV-000535). All 17 resources consist of bedrock milling stations (Table 2).

Table 2. Previously Recorded Cultural Resources Within 1.0 Mile of the Study Area

Primary Number (P-33-)	Trinomial (CA-RIV-)	Period	NRHP Eligibility	Record By and Year	Descriptions	Proximity To Project Area
000530	000530	Prehistoric	Not evaluated	1972 (Terry Ambrose, n/a); 1983 (Jackie Desautels, Scientific Resources Surveys Inc.); 1988 (Beth Padon/Pat Jertberg, LSA Associates Inc.)	Bedrock milling station with one milling slicks	Outside
000531	000531	Prehistoric	Not evaluated	1972 (Terry Ambrose, UCR-ARU); 1983 (J. Desautels, Scientific Resource Surveys Inc.); 1988 (Beth Padon/ Pat Jertberg, LSA Associates)	Bedrock milling station with three milling slicks	Outside
000532	000532	Prehistoric	Not evaluated	1972 (Terry Ambrose, UCR-ARU)	Bedrock milling station with several milling slicks	Outside
000533	000533	Prehistoric	Not evaluated	1972 (Terry Ambrose, UCR-ARU); 1983 (Don Carey, Scientific Resource Surveys Inc.)	Bedrock milling station with one milling slick	Outside
000534	000534	Prehistoric	Not evaluated	1972 (Terry Ambrose, ARU-UCR); 1983 (Don Carey, Scientific Resource Surveys Inc.)	Bedrock milling station with one milling slick	Outside

Table 2. Previously Recorded Cultural Resources Within 1.0 Mile of the Study Area

Primary Number (P-33-)	Trinomial (CA-RIV-)	Period	NRHP Eligibility	Record By and Year	Descriptions	Proximity To Project Area
000535	000535	Prehistoric	Not evaluated	1972 (Terry Ambrose, UCR-ARU); 1983 (Don Carey, Scientific Resource Surveys Inc.)	Bedrock milling station with seven milling slicks	Adjacent
000536	000536	Prehistoric	Not evaluated	1972 (Terry Ambrose, UCR-ARU); 1983 (Don Carey, Scientific Resource Surveys)	Bedrock milling stations; two boulders each with one slick	Outside
000537	000537	Prehistoric	Not evaluated	1972 (Terry Ambrose, UCR-ARU); 1983 (Don Carey, Scientific Resource Surveys)	Bedrock milling station with two slicks	Outside
000538	000538	Prehistoric	Found ineligible through survey process	1972 (Terry Ambrose, UCR-ARU); 1983 (Don Carey, Scientific Resource Surveys)	Bedrock milling station, two boulders one with two milling slicks and one with one milling slick	Outside
000539	000539	Prehistoric	Not evaluated	1972 (Terry Ambrose, UCR-ARU)	Bedrock milling station with two milling slicks	Outside
000540	000540	Prehistoric	Not evaluated	1972 (Terry Ambrose, n/a); 1983 (Don Carey, Scientific Resource Surveys)	Bedrock milling stations, three boulders one with four milling slicks, one with two milling slicks, and one with one milling slick	Outside
000541	000541	Prehistoric	Ineligible	1963 (P. Chace & E. Shepard, n/a); 1972 (Terry Ambrose, UCR-ARU); 1983 (Don Carey, Scientific Resource Surveys)	Bedrock milling slick with seven milling slicks and one mortar	Outside
000542	000542	Prehistoric	Not evaluated	1972 (Terry Ambrose, UCR-ARU); 1983 (Don Carey, Scientific Resource Surveys.)	Bedrock milling station with one milling slick	Outside

Table 2. Previously Recorded Cultural Resources Within 1.0 Mile of the Study Area

Primary Number (P-33-)	Trinomial (CA-RIV-)	Period	NRHP Eligibility	Record By and Year	Descriptions	Proximity To Project Area
000543	000543	Prehistoric	Not evaluated	1972 (Terry Ambrose, UCR-ARU); 1983 (Don Carey, Scientific Resource Surveys)	Bedrock milling stations, two boulders one with one milling slicks and one with two milling slicks	Outside
000715	000715	Prehistoric	Not evaluated	1963 (P. Chace & E. Shepard, n/a); 1983 (Jackie Desautels, Scientific Resource Surveys Inc.); 1988 (Beth Padon/ Pat Jertberg, LSA Associates Inc.)	Bedrock milling stations with three boulders, one with five milling slicks, one with one milling slick and a mortar, and one with one milling slick	Outside
002829	002829	Prehistoric	Not evaluated	1983 (Ann Cody, Scientific Resource Surveys, Huntington Beach, CA.)	Bedrock milling station with four milling slicks	Outside
002994	002994	Prehistoric	Not evaluated	1984 (Roger Mason, Scientific Resource Surveys, Huntington Beach, CA.)	Bedrock milling station with ten milling slicks on a split boulder outcrop	Outside

Notes: NRHP = National Register of Historic Places

4.2 Historic Map and Aerial Review

Historic maps and aerial photographs were consulted to understand the development of the study area and surrounding properties. Topographic maps are available from 1954 to the present, and aerial images are available from 1966 to the present (NETR 2018a, 2018b).

Topographic maps from 1954 show the study area and general vicinity as undeveloped land. There are a few roads running through the general area. The nearest development in 1954 was March Air Force Base to the west. The study area remained undeveloped until sometime between 1985 and 2012. Topographic maps indicate that development in the entire Moreno Valley area was slow during most of the twentieth century. By 1968 the first planned subdivisions appear, located to the northwest of the project site. Development continued slowly and, the area did not see major development until 1985, when the majority of the City was developed through 2012.

The earliest available aerial for the study area dates to 1966 and shows the area as primarily agricultural land. There is a small planned subdivision between Perris Boulevard and Kitching Street along Gentian Avenue and a much larger planned subdivision along Interstate 62 Freeway between Heacock Street and Perris Boulevard. During the 1970s, smaller subdivisions to the west and northeast of study area were built; however, the study area remained agricultural land. The 1997 aerial shows that Moreno Valley experienced an increase in development in the 1980s and 1990s, though the study area was still undeveloped during this time. Much of the area west of Evans Road had been subdivided and developed for residential purposes. Additionally, there were subdivisions east of Evans Road; however, development was less dense, and the majority of the area was still used for agricultural purposes. Moreno Valley College was built between 1985 and 2015. The remainder of the 2000s saw a small but steady increase in development in eastern Moreno Valley, and the City was essentially built out to its current extent by 2012.

4.3 Native American Coordination

As part of the process of identifying cultural resources within or near the proposed project site, Dudek contacted the NAHC to request a review of the SLF on November 8, 2018. The NAHC emailed a response on December 6, 2018, via an attached letter dated December 5, 2018. The letter stated that the completed SLF search did not identify the presence of Native American cultural resources in the immediate project area. The NAHC recommended contacting Native American individuals and/or tribal organizations who may have direct knowledge of cultural resources in or near the proposed project site.

Dudek prepared and sent letters to each of the nine Native American groups and/or individuals on the contact list requesting information about cultural sites and resources in or near the proposed project site. These letters, mailed on December 10, 2018, contained a brief description of the proposed project, a summary of the SLF and CHRIS records search results, and a reference map. To date, two responses have been received. Destiny Colocho, representing the Rincon Band of Mission Indians contacted Dudek via email on December 26, 2018. Ms. Colocho stated that the project area was within the Luiseño territory, though they did not know of any cultural resources within the project area. Jessica Valdez, on behalf of Joseph Ontiveros and the Soboba Band of Luiseño Indians, contacted Dudek via email on January 8, 2019. Ms. Valdez and Mr. Ontiveros requested tribal consultation with the Lead Agency, updates on the proposed project, and that a Native American monitor from the Soboba Band of Luiseño Indians be present during ground disturbing activities. This outreach was conducted for informational purposes only and did not constitute formal government-to-government consultation as specified by AB 52, which is discussed in the following section. Documents related to the NAHC SLF search and initial Native American outreach efforts are included in Appendix B.

4.3.1 Assembly Bill 52

A project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment (PRC Section 21084.2). Under AB 52, a TCR must have tangible, geographically defined properties that can be impacted by project implementation. The proposed project is subject to compliance with AB 52 and, as such, requires the District, the CEQA lead agency for the proposed project, to notify all California Native American tribal representatives that have requested project notifications pursuant to AB 52 and that are on file with the NAHC as being traditionally or culturally affiliated with the geographic area. Because AB 52 is a government-to-government process, all records of correspondence related to AB 52 notification and any subsequent consultation are on file with the District.

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5 CULTURAL RESOURCES SURVEY

5.1 Field Methodology

A qualified Dudek archaeologist conducted a survey of the study area on November 13, 2018. The survey was conducted to identify and record any cultural resources that may occur in the study area. The survey was conducted using standard archaeological procedures and techniques that meet the Secretary of Interior's standards and guidelines for cultural resources inventory. Survey transects were spaced 15 meters wide and oriented south–north across accessible areas of the study area. The archaeologist examined the ground surface for the presence of prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools), historical artifacts (e.g., metal, glass, ceramics), sediment discolorations that might indicate the presence of a cultural midden, and depressions and other features that might indicate the former presence of structures or buildings.

5.2 Results

The study area is within a completely developed area associated with the Moreno Valley College. The majority of the study area is landscaped and either covered with concrete, asphalt, or grass. Areas of visible soils within the study area were limited; though any areas where visible soils were present were carefully inspected for cultural resources. In addition, an attempt was made to relocate site CA-RIV-000535, which bordered the study area to the northeast; however, this was unsuccessful. No cultural resources were identified during the cultural resource survey. Figures 4 through 7, following, show overviews of the study area.

Figure 4. Overview of the Southern Portion of the Study Area; View to the North.

Figure 5. Overview of the Central Portion of the Study Area; View to the North

Figure 6. Overview of the Northern Portion of the Study Area; View to the South.

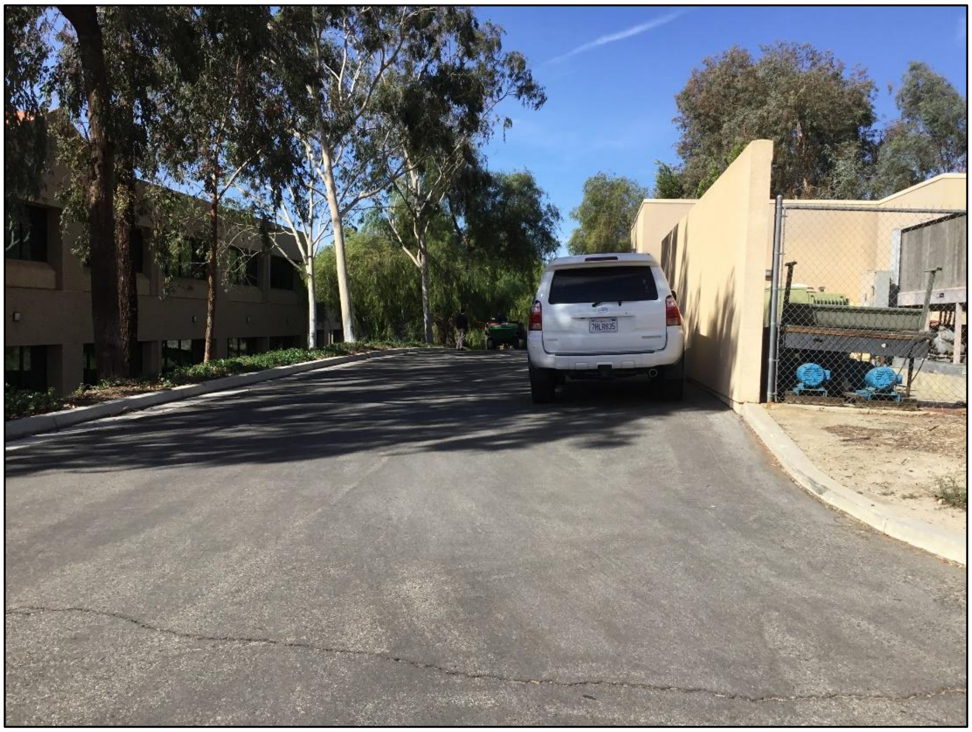

Figure 7. Overview of the Northernmost Portion of the Study Area; View to the West.

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6 FINDINGS AND RECOMMENDATIONS

Archaeological Sensitivity

The proposed project would include the construction of a new Welcome Center within the campus of Moreno Valley College. The majority of the study area is covered with concrete, asphalt, or grass, limiting the presence of visible native soils. No cultural resources were identified within the study area as a result of the CHRIS records search, Native American outreach, or the pedestrian survey. The study area was agricultural land for several decades prior to being developed for the Moreno Valley College between 1985 and 2015. Today the study area is developed and landscaped with grass and concrete pathways.

The impact of several decades of agriculture, followed by landscaping and development associated with Moreno Valley College, has likely negatively affected or destroyed any prehistoric or historical archaeological resources that may have been located on or near the surface within the study area. As such, the likelihood of impacting any cultural deposits during the implementation of the proposed project is considered low to moderate.

Based on the results of this study, the likelihood of encountering archaeological resources is variable and is considered to be low to moderate throughout the study area. It is always possible that unanticipated discoveries could be encountered during ground-disturbing activities associated with the proposed project. Management recommendations to reduce potential impacts to unanticipated archaeological resources and human remains during construction activities are provided as follows. With inclusion of these recommendations, the proposed project will have a less-than-significant impact on archaeological resources. No additional mitigation is required beyond these standard protection measures.

Unanticipated Discovery of Archaeological Resources

In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the proposed project, all construction work occurring within 100 feet of the find shall 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 CEQA (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 (e.g., preparation of an archaeological treatment plan, testing, or data recovery) may be warranted.

Unanticipated 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, within 2 working days of notification of the discovery, 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 notify the NAHC in Sacramento within 24 hours. In accordance with California PRC, Section 5097.98, the NAHC must immediately notify those persons it believes to be the MLD from the deceased Native American. The MLD shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

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APPENDIX A

Eastern Information Center Records Search Results (CONFIDENTIAL – Not Included)

APPENDIX B

Native American Coordination Documentation

From: Erica Nicolay
Sent: Thursday, November 8, 2018 3:42 PM
To: 'nahc@nahc.ca.gov'
Subject: NAHC SLF Search and Consultation List Request
Attachments: Dudek_MoVa Project-SLF Request.pdf

To whom it may concern,

Please find attached the request for a search of the Sacred Lands File and a consultation list request for the Moreno Valley Welcome Center project. The project involves the construction of a 17,000 square foot student services building at Moreno Valley College. The project would also include the construction of two new gas lines. The proposed project is at 16130 Lasselle Street on the campus of Moreno Valley College, in southern Moreno Valley in the northeastern portion of Riverside County.

If you have any questions or concerns please contact me.
Thank you,

Erica Nicolay, MA
Archaeologistq

DUDEK
38 North Marengo Avenue
Pasadena, California 91101
O: 626.204.9830
C: 760.936.7952
Ext. 5230
www.dudek.com

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Blvd, Suite 100
West Sacramento, CA 95501
(916) 373-3710
(916) 373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: Moreno Valley College Welcome Center Project (Project 11413)

County: Riverside

USGS Quadrangle

Name: Sunnymead and Perris, CA (see attached map)

Township: 3S Range: 3W Section(s): 20, 22, 27, 28, 29, 32, 33

Company/Firm/Agency:
Dudek

Contact Person: Erica Nicolay

Street Address: 38 North Marengo Avenue

City: Pasadena Zip: 91101

Phone: (760) 936-7952 Extension: N/A

Fax: (760) 632-0164

Email: enicolay@dudek.com

Project Description:

The proposed project includes the construction of a 17,000 square foot student services building at Moreno Valley College. The project would also include the construction of two new gas lines. One gas line would run north along the western edge of the existing Student Services and Library then turn northeast and run towards the existing distribution switchboard to the north of the humanities building at Moreno Valley College. The second gas line would run south along Krameria Avenue and would terminate at the southwestern corner of Krameria and Cahuilla Avenue. The proposed project is at 16130 Lasselle Street on the campus of Moreno Valley College, in southern Moreno Valley.

☑ Project Location Map is attached

SOURCE: USGS 7.5-Minute Series Sunnymead & Perris Quadrangles
Township 3S; Range 3W; Sections 20, 21, 22, 27, 28, 29, 32, 33

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Records Search

Moreno Valley City College Welcome Center

Native American Heritage Commission
Native American Contacts List
12/5//2018

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393 Gabrielino
Covina ›CA 91723
admin@gabrielenoindians.org
(626) 926-4131

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

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., #231 Gabrielino Tongva
Los Angeles ›CA 90012
sgoad@gabrielino-tongva.com
(951) 807-0479

La Jolla Band of Luiseno Indians
Thomas Rodriguez, Chairperson
22000 Highway 76 Luiseno
Pauma Valley ›CA 92061
(760) 742-3771
(760) 742-3779 Fax

Pala Band of Mission Indians
Robert H. Smith, Chairperson
12196 Pala Mission Road Luiseno
Pala ›CA 92059 Cupeno
rsmith@palatribe.com
(760) 891-3500
(760) 742-3189 Fax

Pechanga Band of Luiseño Indians
Mark Macarro, Chairman
P.O. Box 1477 Luiseno
Temecula ›CA 92593
epreston@pechanga-nsn.gov
(951) 770-6000
(951) 695-1778 Fax

Rincon Band of Luiseño Indians
Bo Mazzetti, Chairperson
1 West Tribal Road Luiseno
Valley Center ›CA 92082
bomazzetti@aol.com
(760) 749-1051
(760) 749-5144

San Luis Rey Band of Mission Indians
Tribal Council
1889 Sunset Drive Luiseno
Vista ›CA 92081
cjmojado@slrmissionindians.org
(760) 724-8505
(760) 724-2172 Fax

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

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code,Section 5097.94 of the Public Resources Code, or Section 5097.98 of the Public Resources Code.

**This list is only applicable for contacting local Native American Tribes for the proposed:
Moreno Valley College Welcome Center Project (Project 11413), Riverside County.**

DUDEK

38 NORTH MARENGO
PASADENA, CALIFORNIA 91101
T: 626.204.9800

December 10, 2018 11413

Ms. Sandonne Goad, Chairperson
Gabrielino-Tongva Nation
106 1/2 Judge John Also St.
Los Angeles, CA 90012

Subject: Moreno Valley Welcome Center Project, City of Moreno Valley, Riverside County, California

Dear Ms. Goad:

Dudek was retained by the Riverside Community College District to prepare a cultural and paleontological resources technical report in support of the proposed Moreno Valley College Welcome Center (proposed project), located in the City of Moreno Valley, Riverside County, California. The proposed project is at 16130 Lasselle Street on the campus of Moreno Valley College, in southern Moreno Valley in the northeastern portion of Riverside County. The proposed project area is currently a landscaped lawn and is bordered on the north and east by buildings associated with Moreno Valley College and on the west and south by a parking lot. Specifically, the proposed project is within Section 28 of the public land survey system (PLSS) Township 3 South, Range 3 West as shown on the *Sunnymead*, CA 7.5-minute USGS Quadrangle (See attached figure).

A California Historical Resources Information System (CHRIS) records search was completed at the Eastern Information Center for the project study area and a 1.0-mile radius. The records search identified 17 resources have been recorded within 1.0-mile (1,608 m) of the proposed project area. Of these, none have been recorded within the proposed project area, though one has been recorded directly adjacent to the proposed project area. The resource located closest to the project area is a bedrock milling station with seven milling slicks on a single boulder. The remaining 16 resources are also bedrock milling stations.

A Dudek archaeologist conducted a survey of the proposed project area on November 13, 2018 using standard archaeological procedures and techniques that meet the Secretary of Interior's standards and guidelines. The proposed project area is within a completely developed area associated with Moreno Valley Community College. The majority of the project site is landscaped and either covered with concrete, asphalt, or grass. There are very little visible soils within the proposed project area; though any areas where visible soils were present were carefully inspected for cultural resources. Dudek archaeologists attempted to relocate the site that bordered the project

area; however this was unsuccessful. No cultural resources were identified during the cultural resource survey.

Dudek contacted the California Native American Heritage Commission (NAHC) to request a Sacred Lands File (SLF) search and a list of Native American individuals and/or tribal organizations who may have knowledge of cultural resources in or near the proposed project area. The NAHC emailed a response on December 5, 2018, which stated that the SLF was completed with negative results, though they stated that a negative result does not signify the absence of cultural resources within the project area.

The NAHC recommended that we contact you regarding your knowledge of the presence of cultural resources that may be impacted by this project. If you have any knowledge of cultural resources that may exist within or near the proposed project area, please contact me directly at either phone number listed below, enicolay@dudek.com, or at 38 North Marengo Avenue, Pasadena, CA, 91101 within 30 days of receipt of this letter.

Please note that the request herein is for informational purposes only and does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. All information provided will be considered confidential and not shared with the public.

Thank you for your assistance.

Sincerely,

E. Nicolay

Erica Nicolay, MA
Archaeologist

DUDEK
Office: 626.284.9830
Cell: 760.936.7952

Attachments: *Figure 1*

SOURCE: USGS 7.5-Minute Series Sunnymead & Perris Quadrangles
Township 3S; Range 3W; Sections 20, 21, 22, 27, 28, 29, 32, 33

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Records Search

Moreno Valley City College Welcome Center

DUDEK

38 NORTH MARENGO
PASADENA, CALIFORNIA 91101
T: 626.204.9800

December 10, 2018 11413

Mr. Mark Macarro, Chairperson
Pechanga Band of Mission Indians
P.O. Box 1477
Temecula, CA 92593

Subject: ***Moreno Valley Welcome Center Project, City of Moreno Valley, Riverside County, California***

Dear Mr. Macarro:

Dudek was retained by the Riverside Community College District to prepare a cultural and paleontological resources technical report in support of the proposed Moreno Valley College Welcome Center (proposed project), located in the City of Moreno Valley, Riverside County, California. The proposed project is at 16130 Lasselle Street on the campus of Moreno Valley College, in southern Moreno Valley in the northeastern portion of Riverside County. The proposed project area is currently a landscaped lawn and is bordered on the north and east by buildings associated with Moreno Valley College and on the west and south by a parking lot. Specifically, the proposed project is within Section 28 of the public land survey system (PLSS) Township 3 South, Range 3 West as shown on the *Sunnymead*, CA 7.5-minute USGS Quadrangle (See attached figure).

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Please note that the request herein is for informational purposes only and does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. All information provided will be considered confidential and not shared with the public.

Thank you for your assistance.

Sincerely,

E. Nicolay

Erica Nicolay, MA
Archaeologist

DUDEK
Office: 626.284.9830
Cell: 760.936.7952

Attachments: Figure 1

SOURCE: USGS 7.5-Minute Series Sunnymead & Perris Quadrangles
Township 3S; Range 3W; Sections 20, 21, 22, 27, 28, 29, 32, 33

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Records Search

Moreno Valley City College Welcome Center

DUDEK

38 NORTH MARENGO
PASADENA, CALIFORNIA 91101
T: 626.204.9800

December 10, 2018 11413

Mr. Bo Mazzetti, Tribal Chairman
Rincon Band of Mission Indians
1 W. Tribal Road
Valley Center, CA 92082

Subject: Moreno Valley Welcome Center Project, City of Moreno Valley, Riverside County, California

Dear Mr. Mazzetti:

Dudek was retained by the Riverside Community College District to prepare a cultural and paleontological resources technical report in support of the proposed Moreno Valley College Welcome Center (proposed project), located in the City of Moreno Valley, Riverside County, California. The proposed project is at 16130 Lasselle Street on the campus of Moreno Valley College, in southern Moreno Valley in the northeastern portion of Riverside County. The proposed project area is currently a landscaped lawn and is bordered on the north and east by buildings associated with Moreno Valley College and on the west and south by a parking lot. Specifically, the proposed project is within Section 28 of the public land survey system (PLSS) Township 3 South, Range 3 West as shown on the *Sunnymead*, CA 7.5-minute USGS Quadrangle (See attached figure).

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Thank you for your assistance.

Sincerely,

E. Nicolay

Erica Nicolay, MA
Archaeologist

DUDEK
Office: 626.284.9830
Cell: 760.936.7952

Attachments: Figure 1

SOURCE: USGS 7.5-Minute Series Sunnymead & Perris Quadrangles
Township 3S; Range 3W; Sections 20, 21, 22, 27, 28, 29, 32, 33

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Records Search

Moreno Valley City College Welcome Center

DUDEK

38 NORTH MARENGO
PASADENA, CALIFORNIA 91101
T: 626.204.9800

December 10, 2018 11413

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

Subject: ***Moreno Valley Welcome Center Project, City of Moreno Valley, Riverside County, California***

Dear Mr. Morales:

Dudek was retained by the Riverside Community College District to prepare a cultural and paleontological resources technical report in support of the proposed Moreno Valley College Welcome Center (proposed project), located in the City of Moreno Valley, Riverside County, California. The proposed project is at 16130 Lasselle Street on the campus of Moreno Valley College, in southern Moreno Valley in the northeastern portion of Riverside County. The proposed project area is currently a landscaped lawn and is bordered on the north and east by buildings associated with Moreno Valley College and on the west and south by a parking lot. Specifically, the proposed project is within Section 28 of the public land survey system (PLSS) Township 3 South, Range 3 West as shown on the *Sunnymead*, CA 7.5-minute USGS Quadrangle (See attached figure).

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area; however this was unsuccessful. No cultural resources were identified during the cultural resource survey.

Dudek contacted the California Native American Heritage Commission (NAHC) to request a Sacred Lands File (SLF) search and a list of Native American individuals and/or tribal organizations who may have knowledge of cultural resources in or near the proposed project area. The NAHC emailed a response on December 5, 2018, which stated that the SLF was completed with negative results, though they stated that a negative result does not signify the absence of cultural resources within the project area.

The NAHC recommended that we contact you regarding your knowledge of the presence of cultural resources that may be impacted by this project. If you have any knowledge of cultural resources that may exist within or near the proposed project area, please contact me directly at either phone number listed below, enicolay@dudek.com, or at 38 North Marengo Avenue, Pasadena, CA, 91101 within 30 days of receipt of this letter.

Please note that the request herein is for informational purposes only and does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. All information provided will be considered confidential and not shared with the public.

Thank you for your assistance.

Sincerely,

E. Nicolay

Erica Nicolay, MA
Archaeologist

DUDEK
Office: 626.284.9830
Cell: 760.936.7952

Attachments: Figure 1

SOURCE: USGS 7.5-Minute Series Sunnymead & Perris Quadrangles
Township 3S; Range 3W; Sections 20, 21, 22, 27, 28, 29, 32, 33

DUDEK

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Records Search

Moreno Valley City College Welcome Center

DUDEK
38 NORTH MARENGO
PASADENA, CALIFORNIA 91101
T: 626.204.9800

December 10, 2018 11413

Mr. Joseph Ontiveros, Cultural Resource Department
Soboba Band of Luiseno Indians
P.O. Box 487
San Jacinto, CA 92581

Subject: ***Moreno Valley Welcome Center Project, City of Moreno Valley, Riverside County, California***

Dear Mr. Ontiveros:

Dudek was retained by the Riverside Community College District to prepare a cultural and paleontological resources technical report in support of the proposed Moreno Valley College Welcome Center (proposed project), located in the City of Moreno Valley, Riverside County, California. The proposed project is at 16130 Lasselle Street on the campus of Moreno Valley College, in southern Moreno Valley in the northeastern portion of Riverside County. The proposed project area is currently a landscaped lawn and is bordered on the north and east by buildings associated with Moreno Valley College and on the west and south by a parking lot. Specifically, the proposed project is within Section 28 of the public land survey system (PLSS) Township 3 South, Range 3 West as shown on the *Sunnymead*, CA 7.5-minute USGS Quadrangle (See attached figure).

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DUDEK
Office: 626.284.9830
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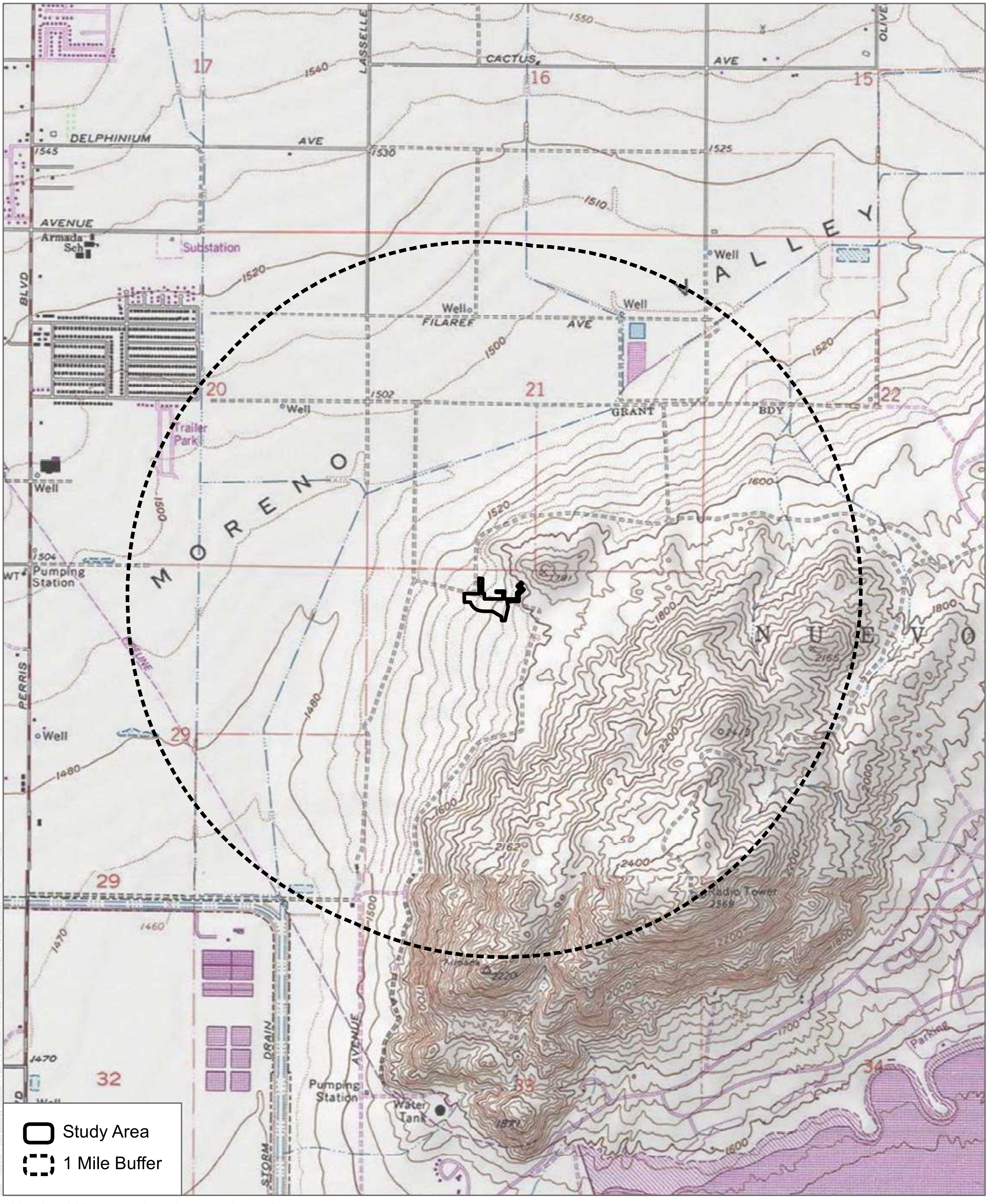
Attachments: Figure 1



SOURCE: USGS 7.5-Minute Series Sunnymead & Perris Quadrangles
Township 3S; Range 3W; Sections 20, 21, 22, 27, 28, 29, 32, 33

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Records Search

Moreno Valley City College Welcome Center

DUDEK

38 NORTH MARENGO
PASADENA, CALIFORNIA 91101
T: 626.204.9800

December 10, 2018 11413

Mr. Thomas Rodrigues, Chairperson
La Jolla Band of Mission Indians
22000 Highway 76
Pauma Valley, CA 92061

Subject: ***Moreno Valley Welcome Center Project, City of Moreno Valley, Riverside County, California***

Dear Mr. Rodrigues:

Dudek was retained by the Riverside Community College District to prepare a cultural and paleontological resources technical report in support of the proposed Moreno Valley College Welcome Center (proposed project), located in the City of Moreno Valley, Riverside County, California. The proposed project is at 16130 Lasselle Street on the campus of Moreno Valley College, in southern Moreno Valley in the northeastern portion of Riverside County. The proposed project area is currently a landscaped lawn and is bordered on the north and east by buildings associated with Moreno Valley College and on the west and south by a parking lot. Specifically, the proposed project is within Section 28 of the public land survey system (PLSS) Township 3 South, Range 3 West as shown on the *Sunnymead*, CA 7.5-minute USGS Quadrangle (See attached figure).

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Erica Nicolay, MA
Archaeologist

DUDEK
Office: 626.284.9830
Cell: 760.936.7952

Attachments: Figure 1

SOURCE: USGS 7.5-Minute Series Sunnymead & Perris Quadrangles
Township 3S; Range 3W; Sections 20, 21, 22, 27, 28, 29, 32, 33

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Moreno Valley City College Welcome Center

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38 NORTH MARENGO
PASADENA, CALIFORNIA 91101
T: 626.204.9800

December 10, 2018 11413

Mr. Andrew Salas, Chairperson
Gabrieleno Band of Mission Indians
P.O. Box 393
Covina, CA 91723

Subject: Moreno Valley Welcome Center Project, City of Moreno Valley, Riverside County, California

Dear Mr. Salas:

Dudek was retained by the Riverside Community College District to prepare a cultural and paleontological resources technical report in support of the proposed Moreno Valley College Welcome Center (proposed project), located in the City of Moreno Valley, Riverside County, California. The proposed project is at 16130 Lasselle Street on the campus of Moreno Valley College, in southern Moreno Valley in the northeastern portion of Riverside County. The proposed project area is currently a landscaped lawn and is bordered on the north and east by buildings associated with Moreno Valley College and on the west and south by a parking lot. Specifically, the proposed project is within Section 28 of the public land survey system (PLSS) Township 3 South, Range 3 West as shown on the *Sunnymead*, CA 7.5-minute USGS Quadrangle (See attached figure).

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Thank you for your assistance.

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E. Nicolay

Erica Nicolay, MA
Archaeologist

DUDEK
Office: 626.284.9830
Cell: 760.936.7952

Attachments: Figure 1

SOURCE: USGS 7.5-Minute Series Sunnymead & Perris Quadrangles
Township 3S; Range 3W; Sections 20, 21, 22, 27, 28, 29, 32, 33

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Moreno Valley City College Welcome Center

DUDEK

38 NORTH MARENGO
PASADENA, CALIFORNIA 91101
T: 626.204.9800

December 10, 2018 11413

Mr. Robert H. Smith, Chairperson
Pala Band of Mission Indians
35008 Pala Temecula Rd., PMB 50
Pala, CA 92059

Subject: ***Moreno Valley Welcome Center Project, City of Moreno Valley, Riverside County, California***

Dear Mr. Smith:

Dudek was retained by the Riverside Community College District to prepare a cultural and paleontological resources technical report in support of the proposed Moreno Valley College Welcome Center (proposed project), located in the City of Moreno Valley, Riverside County, California. The proposed project is at 16130 Lasselle Street on the campus of Moreno Valley College, in southern Moreno Valley in the northeastern portion of Riverside County. The proposed project area is currently a landscaped lawn and is bordered on the north and east by buildings associated with Moreno Valley College and on the west and south by a parking lot. Specifically, the proposed project is within Section 28 of the public land survey system (PLSS) Township 3 South, Range 3 West as shown on the *Sunnymead*, CA 7.5-minute USGS Quadrangle (See attached figure).

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Office: 626.284.9830
Cell: 760.936.7952

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Township 3S; Range 3W; Sections 20, 21, 22, 27, 28, 29, 32, 33

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Records Search

Moreno Valley City College Welcome Center

DUDEK

38 NORTH MARENGO
PASADENA, CALIFORNIA 91101
T: 626.204.9800

December 10, 2018 11413

Tribal Council ,
San Luis Rey Band of Mission Indians
1889 Sunset Dr.
Vista, CA 92081

Subject: Moreno Valley Welcome Center Project, City of Moreno Valley, Riverside County, California

Dear Tribal Council :

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Erica Nicolay, MA
Archaeologist

DUDEK
Office: 626.284.9830
Cell: 760.936.7952

Attachments: Figure 1

SOURCE: USGS 7.5-Minute Series Sunnymead & Perris Quadrangles
Township 3S; Range 3W; Sections 20, 21, 22, 27, 28, 29, 32, 33

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Records Search

Moreno Valley City College Welcome Center

Erica Nicolay

From: Destiny Colocho <DColocho@rincon-nsn.gov>
Sent: Wednesday, December 26, 2018 12:59 PM
To: Erica Nicolay
Cc: Deneen Pelton
Subject: Moreno Valley Welcome Center Project

Dear Ms. Nicolay,

This letter is written on behalf of the Rincon Band of Luiseño Indians. We have received your notification regarding the above referenced project and we thank you for the opportunity to provide information pertaining to cultural resources. The identified location is within the Territory of the Luiseño people, and is also within Rincon's specific area of Historic interest.

Embedded in the Luiseño territory are Rincon's history, culture and identity. We do not have knowledge of cultural resources within or near the proposed project area. However, this does not mean that none exist. We recommend that an archaeological record search be conducted and ask that a copy of the results be provided to the Rincon Band.

If you have additional questions or concerns please do not hesitate to contact our office at your convenience at (760) 297-2635.

Thank you for the opportunity to protect and preserve our cultural assets.

Sincerely,

Please note the change in email below. @rincontribe.org will still be operational until the end of 2018, but please update your contact list to reflect the change to @rincon-nsn.gov

Destiny Colocho, RPA
Cultural Resource Manager and Tribal Historic Preservation Officer
Cultural Resource Department
Rincon Band of Luiseño Indians
1 West Tribal Road | Valley Center, CA 92082
Office:760-297-2635 | Cell: 760-705-7171
Fax: 760-692-1498
Email: dcolocho@rincon-nsn.gov

Rincon Band of Luiseño Indians
www.rincontribe.org

Erica Nicolay

From:	Jessica Valdez <JValdez@soboba-nsn.gov>
Sent:	Tuesday, January 8, 2019 5:07 PM
To:	Erica Nicolay
Cc:	Joseph Ontiveros
Subject:	Moreno Valley Welcome Center Project
Attachments:	DUDEK- Moreno Valley Welcome Center Project- Soboba Response Letter- 1-8-19.doc

Erica,
Good evening. Please see the attached letter from Joseph Ontiveros, Tribal Historic Preservation Officer, for the Soboba Band of Luiseño Indians, regarding the **Moreno Valley Welcome Center Project**, located in the City of Moreno Valley. The project area is considered sensitive by the people of Soboba, as there are existing sites in the surrounding areas. An in-house database search identified multiple areas of potential impact. Specifics will be discussed in direct consultation with the lead agency. To ensure that Soboba's correspondence and concerns are reflected in your documentation for this project, the tribe requests that the attached letter be forwarded to the lead agency and summarized in your final report. A hard copy will be mailed, for your records. The Soboba Band of Luiseño Indians appreciates your observance of Tribal Cultural Resources and their preservation in your project. Feel free to contact us with any additional questions or concerns.

JESSICA VALDEZ
Cultural Resource Specialist
(951) 654-5544 Ext. 4139
JValdez@soboba-nsn.gov

CULTURAL RESOURCE
23906 Soboba Rd. San Jacinto, CA 92583
P.O. Box 487 San Jacinto, CA 92581
www.soboba-nsn.gov

SOBOBA BAND OF LUISEÑO INDIANS
EST. JUNE 19, 1883

January 8, 2019

Attn: Erica Nicolay, Archaeologist
DUDEK
38 North Marengo Avenue
Pasadena, CA 91101

RE: Moreno Valley Welcome Center Project – 16130 Lasselle Street – City of Moreno Valley, Riverside County, CA

The Soboba Band of Luiseño Indians appreciates your observance of Tribal Cultural Resources and their preservation in your project. The information provided to us on said project has been assessed through our Cultural Resource Department, where it was concluded that although it is outside the existing reservation, the project area does fall within the bounds of our Tribal Traditional Use Areas. This project location is in proximity to known sites, is a shared use area that was used in ongoing trade between the tribes, and is considered to be culturally sensitive by the people of Soboba.

Soboba Band of Luiseño Indians is requesting the following:

1. To initiate a consultation with the project proponents and lead agency.

2. The transfer of information to the Soboba Band of Luiseno Indians regarding the progress of this project should be done as soon as new developments occur.

3. Soboba Band of Luiseño Indians continues to act as a consulting tribal entity for this project.

4. Working in and around traditional use areas intensifies the possibility of encountering cultural resources during the construction/excavation phase. For this reason, the Soboba Band of Luiseño Indians requests that Native American Monitor(s) from the Soboba Band of Luiseño Indians Cultural Resource Department to be present during any ground disturbing proceedings. Including surveys and archaeological testing.

5. Request that proper procedures be taken and requests of the tribe be honored
(Please see the attachment)

Multiple areas of potential impact were identified during an in-house database search. Specifics to be discussed in consultation with the lead agency.

Sincerely,

Joseph Ontiveros, Tribal Historic Preservation Officer
Soboba Band of Luiseño Indians
P.O. Box 487
San Jacinto, CA 92581
Phone (951) 654-5544 ext. 4137
Cell (951) 663-5279
jontiveros@soboba-nsn.gov

Cultural Items (Artifacts). Ceremonial items and items of cultural patrimony reflect traditional religious beliefs and practices of the Soboba Band. The Developer should agree to return all Native American ceremonial items and items of cultural patrimony that may be found on the project site to the Soboba Band for appropriate treatment. In addition, the Soboba Band requests the return of all other cultural items (artifacts) that are recovered during the course of archaeological investigations. Where appropriate and agreed upon in advance, Developer's archeologist may conduct analyses of certain artifact classes if required by CEQA, Section 106 of NHPA, the mitigation measures or conditions of approval for the Project. This may include but is not limited or restricted to include shell, bone, ceramic, stone or other artifacts.

The Developer should waive any and all claims to ownership of Native American ceremonial and cultural artifacts that may be found on the Project site. Upon completion of authorized and mandatory archeological analysis, the Developer should return said artifacts to the Soboba Band within a reasonable time period agreed to by the Parties and not to exceed (30) days from the initial recovery of the items.

Treatment and Disposition of Remains.

A. The Soboba Band shall be allowed, under California Public Resources Code § 5097.98 (a), to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and grave goods shall be treated and disposed of with appropriate dignity.

B. The Soboba Band, as MLD, shall complete its inspection within twenty-four (24) hours of receiving notification from either the Developer or the NAHC, as required by California Public Resources Code § 5097.98 (a). The Parties agree to discuss in good faith what constitutes "appropriate dignity" as that term is used in the applicable statutes.

C. Reburial of human remains shall be accomplished in compliance with the California Public Resources Code § 5097.98 (a) and (b). The Soboba Band, as the MLD in consultation with the Developer, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains.

D. All parties are aware that the Soboba Band may wish to rebury the human remains and associated ceremonial and cultural items (artifacts) on or near, the site of their discovery, in an area that shall not be subject to future subsurface disturbances. The Developer should accommodate on-site reburial in a location mutually agreed upon by the Parties.

E. The term "human remains" encompasses more than human bones because the Soboba Band's traditions periodically necessitated the ceremonial burning of human remains. Grave goods are those artifacts associated with any human remains. These items, and other funerary remnants and their ashes are to be treated in the same manner as human bone fragments or bones that remain intact

Coordination with County Coroner's Office. The Lead Agencies and the Developer should immediately contact both the Coroner and the Soboba Band in the event that any human remains are discovered during implementation of the Project. If the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, the Coroner shall ensure that notification is provided to the NAHC within twenty-four (24) hours of the determination, as required by California Health and Safety Code § 7050.5 (c).

Non-Disclosure of Location Reburials. It is understood by all parties that unless otherwise required by law, the site of any reburial of Native American human remains or cultural artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code § 6254 (r). Ceremonial items and items of cultural patrimony reflect traditional religious beliefs and practices of the Soboba Band. The Developer agrees to return all Native American ceremonial items and items of cultural patrimony that may be found on the project site to the Soboba Band for appropriate treatment. In addition, the Soboba Band requests the return of all other cultural items (artifacts) that are recovered during the course of archaeological investigations. Where appropriate and agreed upon in advance, Developer's archeologist may conduct analyses of certain artifact classes if required by CEQA, Section 106 of NHPA, the mitigation measures or conditions of approval for the Project. This may include but is not limited or restricted to include shell, bone, ceramic, stone or other artifacts.

Confidentiality: The entirety of the contents of this letter shall remain confidential between Soboba and DUDEK. No part of the contents of this letter may be shared, copied, or utilized in any way with any other individual, entity, municipality, or tribe, whatsoever, without the expressed written permission of the Soboba Band of Luiseño Indians.

APPENDIX D-1

Field Noise Measurement Data Sheets

FIELD NOISE MEASUREMENT DATA

PROJECT MORENO VALLEY COLLEGE WC
PROJECT # 11413
SITE ID
SITE ADDRESS
OBSERVER(S) PETE VITAR
START DATE 11/8/18
END DATE 11/8/18
START TIME
END TIME

METEOROLOGICAL CONDITIONS
TEMP 75 F
HUMIDITY 20 % R.H.
WIND [✓ CALM] LIGHT MODERATE VARIABLE STEADY GUSTY
WINDSPD MPH
DIR. N NE S SE S SW W NW
SKY [✓ SUNNY] [✓ CLEAR] OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS
MEAS. INSTRUMENT PICCOLO SLM-3
TYPE 1 [✓ 2]
SERIAL # 140317004
CALIBRATOR BSWA CA 114
SERIAL # 480151
CALIBRATION CHECK PRE-TEST dBA SPL POST-TEST dBA SPL
WINDSCRN YES

SETTINGS A-WTD [✓ SLOW] FAST FRONTAL RANDOM ANSI OTHER:

	REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
ST-2	1-2	11:22	11:37	58.3	75.2	51.9				

COMMENTS
READING TAKEN ON CAMPUS IN QUAD IN FRONT OF STUDENT ACADEMIC SERVICES BUILDING; PRIMARY NOISE SOURCE IS PASSING CONVERSATIONS;

SOURCE INFO AND TRAFFIC COUNTS
PRIMARY NOISE SOURCE TRAFFIC AIRCRAFT RAIL INDUSTRIAL OTHER: CONVERSATIONS
ROADWAY TYPE: N/A
DIST. TO RDWY C/L OR EOP: N/A
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)

DIRECTION	NB/EB	SB/WB	NB/EB	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. CONVRSTNS / YELLING] DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER:

DESCRIPTION / SKETCH
TERRAIN HARD SOFT [✓ MIXED] FLAT OTHER:
PHOTOS 2729; 2730; 2731; 2732
OTHER COMMENTS / SKETCH

DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT MORENO VALLEY COLLEGE WC
PROJECT # 11413
SITE ID
SITE ADDRESS
OBSERVER(S) PETE VITAR
START DATE 11/8/18
END DATE 11/8/18
START TIME
END TIME

METEOROLOGICAL CONDITIONS
TEMP 75 F
HUMIDITY 20 % R.H.
WIND [✓ CALM] LIGHT MODERATE VARIABLE STEADY GUSTY
WINDSPD ___ MPH
DIR. N NE S SE S SW W NW
SKY [✓ SUNNY] [✓ CLEAR] OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS
MEAS. INSTRUMENT PICCOLO SLM-3
TYPE 1 [✓ 2]
SERIAL # 140317004
CALIBRATOR BSWA CA 114
SERIAL # 480151
CALIBRATION CHECK PRE-TEST ___ dBA SPL POST-TEST ___ dBA SPL
WINDSCRN YES

SETTINGS A-WTD [✓ SLOW] FAST FRONTAL RANDOM ANSI OTHER:

	REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
ST-1	3-4	11:42	11:57	54.5	67.1	51				

COMMENTS
READING TAKEN ON CAMPUS ON PATH BETWEEN SCIENCE & TECH BUILDING AND STUDENT PARKING LOT (AT END OF COLLEGE DRIVE); PRIMARY NOISE SOURCE: CARS IN MVCOLLEGE PARKING LOT; SECONDARY: CONVERSATIONS

SOURCE INFO AND TRAFFIC COUNTS
PRIMARY NOISE SOURCE [✓ TRAFFIC] AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT
DIST. TO RDWY C/L OR [✓ EOP:] APX 100' TO COLLEGE DR. END
TRAFFIC COUNT DURATION: — MIN

COUNT 1 (OR RDWY 1)

DIRECTION	NB/EB	SB/WB	SPEED NB/EB	SPEED SB/WB
AUTOS				
MED TRKS				
HVY TRKS				
BUSES				
MOTRCLS				

IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ___

COUNT 2 (OR RDWY 2) ___ MIN

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. CONVRSTNS / YELLING] DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER:

DESCRIPTION / SKETCH
TERRAIN HARD SOFT [✓ MIXED] FLAT OTHER:
PHOTOS 2734; 2735; 2736; 2737; 2738;
OTHER COMMENTS / SKETCH

N

DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT MORENO VALLEY COLLEGE WC
PROJECT # 11413
SITE ID
SITE ADDRESS
OBSERVER(S) PETE VITAR
START DATE 11/8/18
END DATE 11/8/18
START TIME
END TIME

METEOROLOGICAL CONDITIONS

TEMP 76 F
HUMIDITY 15 % R.H.
WIND ~~CALM~~ [✓ LIGHT] MODERATE VARIABLE STEADY GUSTY
WINDSPD MPH
DIR. N NE S SE S SW W NW
SKY [✓ SUNNY] [✓ CLEAR] OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS

MEAS. INSTRUMENT PICCOLO SLM-3
TYPE 1 [✓ 2]
SERIAL # 1403170041
CALIBRATOR BSWA CA 114
SERIAL # 480151
CALIBRATION CHECK PRE-TEST dBA SPL POST-TEST dBA SPL WINDSCRN YES

SETTINGS A-WTD [✓ SLOW] FAST FRONTAL RANDOM ANSI OTHER:

	REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
ST-3	5-6	12:09	12:24	60.8	74.4	49.3				

COMMENTS
READING TAKEN ON NORTH SIDE OF CAHUILLA DR, ALONGSIDE M.V. COLLEGE CHILDCARE FACILITY, AND ACROSS STREET FROM LASSELLE ELEMENTARY SCHOOL; PRIMARY NOISE SOURCE IS LIGHT TRAFFIC ON CAHUILLA DR AND ON KRAMERIA AVE; WIND PICKED UP IN LAST FEW MINUTES OF READING AND CREATED SOME RUSTLING LEAVES

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE [✓ TRAFFIC] AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT
DIST. TO RDWY C/L OR [✓ EOP]: 10'
TRAFFIC COUNT DURATION: 15 MIN

	COUNT 1 (OR RDWY 1)					COUNT 2 (OR RDWY 2)			
			SPEED					SPEED	
DIRECTION	NB/EB	SB/WB	NB/EB	SB/WB	IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE	NB/EB	SB/WB	NB/EB	SB/WB
AUTOS	14				✓				
MED TRKS	0								
HVY TRKS	0								
BUSES	0								
MOTRCLS	0								

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 2740; 2741; 2742; 2743;
OTHER COMMENTS / SKETCH

FIELD NOISE MEASUREMENT DATA

PROJECT MORENO VALLEY COLLEGE WC
PROJECT # 11413
SITE ID
SITE ADDRESS
OBSERVER(S) PETE VIJAR
START DATE 11/8/18
END DATE 11/8/18
START TIME
END TIME

METEOROLOGICAL CONDITIONS
TEMP 76 F
HUMIDITY 15 % R.H.
WIND ~~CALM~~ [✓ LIGHT] MODERATE VARIABLE STEADY GUSTY
WINDSPD MPH
DIR. N NE S SE S SW W NW
SKY [✓ SUNNY] [✓ CLEAR] OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS
MEAS. INSTRUMENT PICCOLO SLM-3
TYPE 1 [✓ 2]
SERIAL # 140317004
CALIBRATOR BSWA CA 114
SERIAL # 480151
CALIBRATION CHECK PRE-TEST dBA SPL POST-TEST dBA SPL
WINDSCRN YES

SETTINGS A-WTD [✓ SLOW] FAST FRONTAL RANDOM ANSI OTHER:

	REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
ST-4	7-8	12:28	12:43	64.6	85.3	50.5				

COMMENTS
READING TAKEN ON KRAMERIA AVE, AT BACK OF PROPERTY AT 26502 ~~[illegible]~~ CLYDESDALE LANE (RESIDENTIAL); PRIMARY NOISE SOURCE IS TRAFFIC ON KRAMERIA AVE; SECONDARY IS TRAFFIC ON CAHUILLA DR;

SOURCE INFO AND TRAFFIC COUNTS
PRIMARY NOISE SOURCE [✓ TRAFFIC] AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT
DIST. TO RDWY C/L OR [✓ EOP]: 45' FROM KRAMERIA AVE.
TRAFFIC COUNT DURATION: 15 MIN SPEED
MIN SPEED

COUNT 1 (OR RDWY 1) DIRECTION	NB/EB	SB/WB	NB/EB	SB/WB
AUTOS	87			
MED TRKS	1			
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	NB/EB	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. CONVRSTNS / YELLING] DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER:

DESCRIPTION / SKETCH
TERRAIN HARD SOFT [✓ MIXED] FLAT OTHER:
PHOTOS 2745; 2746; 2747; 2748; 2749; 2750; 2751
OTHER COMMENTS / SKETCH

N

DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT MORENO VALLEY COLLEGE WC
PROJECT # 11413
SITE ID
SITE ADDRESS
OBSERVER(S) PETE VIJAR
START DATE 11/8/18
END DATE 11/8/18
START TIME
END TIME

METEOROLOGICAL CONDITIONS
TEMP 77 F
HUMIDITY 15 % R.H.
WIND CALM [✓ LIGHT] MODERATE VARIABLE STEADY GUSTY
WINDSPD MPH
DIR. N NE S SE S SW W NW
SKY [✓ SUNNY] [✓ CLEAR] OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS
MEAS. INSTRUMENT PICCOLO SLM-3
TYPE 1 [✓ 2]
SERIAL # 1403170004
CALIBRATOR BSWA CA 114
SERIAL # 480151
CALIBRATION CHECK PRE-TEST ____ dBA SPL POST-TEST ____ dBA SPL
WINDSCRN YES

SETTINGS A-WTD [✓ SLOW] FAST FRONTAL RANDOM ANSI OTHER:

	REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
ST-5	9-10	13:00	13:15	70.8	83.8	55.8				

COMMENTS
READING TAKEN ON LASSELLE ST. AT EDGE OF MV COLLEGE PROPERTY; BETWEEN COLLEGE DR & CALLE AGUA; PRIMARY NOISE SOURCE IS TRAFFIC ON LASALLE ST.

SOURCE INFO AND TRAFFIC COUNTS
PRIMARY NOISE SOURCE [✓ TRAFFIC] AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT
DIST. TO RDWY C/L OR [✓ EOP] 10'
TRAFFIC COUNT DURATION: ____ MIN SPEED
____ MIN SPEED

COUNT 1 (OR RDWY 1)

DIRECTION	NB/EB	SB/WB	NB/EB	SB/WB
AUTOS	325			
MED TRKS	6			
HVY TRKS	0			
BUSES	3			
MOTRCLS	0			

IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ✓

COUNT 2 (OR RDWY 2)

DIRECTION	NB/EB	SB/WB	NB/EB	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. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER:

DESCRIPTION / SKETCH
TERRAIN HARD SOFT [✓ MIXED] FLAT OTHER:
PHOTOS 2753; 2754; 2755; 2756
OTHER COMMENTS / SKETCH

N

DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT MORENO VALLEY COLLEGE WC
PROJECT # 11413
SITE ID
SITE ADDRESS
OBSERVER(S) PETE VITAR
START DATE 11/8/18
END DATE 11/8/18
START TIME
END TIME

METEOROLOGICAL CONDITIONS

TEMP 77 F
HUMIDITY 15 % R.H.
WIND CALM [✓ LIGHT] MODERATE
WINDSPD 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-3
TYPE 1 [✓ 2]
SERIAL # 140317004
CALIBRATOR BSWA CA 114
SERIAL # 480151
CALIBRATION CHECK PRE-TEST ____ dBA SPL POST-TEST ____ dBA SPL
WINDSCRN YES

SETTINGS A-WTD [✓ SLOW] FAST FRONTAL RANDOM ANSI OTHER:

	REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
ST-6	11-12	13:37	13:52	73.4	85.9	52.1				

COMMENTS
READING TAKEN ON LASALLE ST, AT BACK OF PROPERTY ON 15874 LASALLE ST (RESIDENTIAL COMPLEX); PRIMARY NOISE SOURCE IS TRAFFIC ON LASALLE ST.

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE [✓ TRAFFIC] AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE:
DIST. TO RDWY C/L OR [✓ EOP]: 21'
TRAFFIC COUNT DURATION: ____ MIN SPEED
____ MIN SPEED

COUNT 1 (OR RDWY 1) DIRECTION	NB/EB	SB/WB	SPEED NB/EB	SPEED SB/WB
AUTOS	457			
MED TRKS	4			
HVY TRKS	0			
BUSES	4			
MOTRCLS	1			

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 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 2758; 2759; 2760; 2761; 2762; 2763
OTHER COMMENTS / SKETCH

N

APPENDIX D-2

Traffic Noise Modeling Input and Output

Dudek **6 February 2019**
MG **TNM 2.5**

INPUT: ROADWAYS
PROJECT/CONTRACT: **PN11413**
RUN: **Moreno Valley Welcome Center - 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		**Points**									
Name	**Width**	**Name**	**No.**	**Coordinates (pavement)**			**Flow Control**			**Segment**	
				X	**Y**	**Z**	**Control Device**	**Speed Constraint**	**Percent Vehicles Affected**	**Pvmt Type**	**On Struct?**
	ft			ft	ft	ft		mph	%		
Laselle Street - South of College Drive	65.0	point1	1	2,345.9	518.0	1,509.00				Average	
		point3	3	2,635.3	1,025.1	1,517.00				Average	
		point4	4	2,897.1	1,460.5	1,522.00				Average	
		point57	57	3,012.9	1,653.4	1,524.00				Average	
		point5	5	3,128.6	1,846.4	1,526.00				Average	
		point6	6	3,225.1	2,055.8	1,528.00				Average	
		point7	7	3,255.4	2,174.4	1,529.00				Average	
		point8	8	3,266.5	2,232.3	1,530.00				Average	
		point9	9	3,294.0	2,427.9	1,528.00				Average	
		point10	10	3,310.6	2,703.5	1,527.00				Average	
		point11	11	3,306.2	2,784.5	1,526.00					
Krameria Avenue west of Laselle Street	65.0	point50	50	1,025.1	860.9	1,483.00				Average	
		point18	18	1,270.4	1,031.8	1,484.00				Average	
		point19	19	1,449.5	1,142.0	1,484.00				Average	
		point20	20	1,595.6	1,216.5	1,485.00				Average	
		point21	21	1,708.6	1,241.3	1,486.00				Average	
		point22	22	1,871.2	1,263.3	1,488.00				Average	
		point23	23	2,061.4	1,255.1	1,493.00				Average	
		point24	24	2,226.7	1,224.8	1,500.00				Average	
		point25	25	2,292.9	1,202.7	1,505.00				Average	
		point26	26	2,441.7	1,142.0	1,510.00				Average	
		point27	27	2,612.6	1,034.6	1,517.00					
College Drive	60.0	point52	52	3,325.9	2,776.9	1,526.00				Average	
		point48	48	3,631.5	2,802.9	1,535.00				Average	
		point2	2	3,893.7	2,809.8	1,550.00					

Cahilla Drive	40.0	point54	54	3,278.6	2,236.2	1,530.00				Average	
		point45	45	3,783.8	2,107.7	1,554.00				Average	
		point46	46	4,287.3	1,982.7	1,578.00					
Krameria Avenue	65.0	point56	56	2,659.4	1,004.3	1,517.00				Average	
		point29	29	2,797.2	921.6	1,524.00				Average	
		point30	30	2,959.9	825.1	1,528.00				Average	
		point31	31	3,133.5	742.4	1,531.00				Average	
		point32	32	3,382.9	703.0	1,568.00				Average	
		point33	33	3,457.2	703.0	1,545.00				Average	
		point34	34	3,619.1	742.4	1,555.00				Average	
		point35	35	3,816.0	816.8	1,563.00				Average	
		point36	36	3,934.1	904.3	1,565.00				Average	
		point37	37	4,061.0	1,022.4	1,568.00				Average	
		point38	38	4,139.1	1,156.1	1,570.00				Average	
		point39	39	4,186.0	1,265.5	1,574.00				Average	
		point40	40	4,220.7	1,394.0	1,575.00				Average	
		point41	41	4,239.8	1,503.4	1,576.00				Average	
		point42	42	4,262.4	1,786.4	1,577.00				Average	
		point43	43	4,276.3	1,960.9	1,578.00					
Laselle Street-North of College Drive	76.0	point58	58	3,306.2	2,784.5	1,526.00				Average	
		point12	12	3,286.5	2,937.6	1,522.00				Average	
		point13	13	3,223.1	3,114.8	1,518.00				Average	
		point14	14	3,144.3	3,333.5	1,512.00				Average	
		point15	15	2,990.0	3,680.8	1,500.00				Average	
		point16	16	2,808.1	4,105.2	1,500.00					
Krameria Avenue - North of Cahilla Drive	65.0	point59	59	4,279.4	2,000.0	1,578.00				Average	
		point60	60	4,308.1	2,386.2	1,585.00					

Dudek	**6 February 2019**	
MG	**TNM 2.5**	

INPUT: TRAFFIC FOR LAeq1h Volumes

PROJECT/CONTRACT: **PN11413**

RUN: **Moreno Valley Welcome Center - Existing**

Roadway	**Points**												
Name	**Name**	**No.**	**Segment**										
			Autos		**MTrucks**		**HTrucks**		**Buses**		**Motorcycles**	
			V	**S**	**V**	**S**	**V**	**S**	**V**	**S**	**V**	**S**
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Laselle Street - South of College Drive	point1	1	2282	45	47	45	24	45	0	0	0	0
	point3	3	2282	45	47	45	24	45	0	0	0	0
	point4	4	2282	45	47	45	24	45	0	0	0	0
	point57	57	2282	45	47	45	24	45	0	0	0	0
	point5	5	2282	45	47	45	24	45	0	0	0	0
	point6	6	2282	45	47	45	24	45	0	0	0	0
	point7	7	2282	45	47	45	24	45	0	0	0	0
	point8	8	2282	45	47	45	24	45	0	0	0	0
	point9	9	2282	45	47	45	24	45	0	0	0	0
	point10	10	2282	45	47	45	24	45	0	0	0	0
	point11	11										
Krameria Avenue west of Laselle Street	point50	50	477	35	10	35	5	35	0	0	0	0
	point18	18	477	35	10	35	5	35	0	0	0	0
	point19	19	477	35	10	35	5	35	0	0	0	0
	point20	20	477	35	10	35	5	35	0	0	0	0
	point21	21	477	35	10	35	5	35	0	0	0	0
	point22	22	477	35	10	35	5	35	0	0	0	0
	point23	23	477	35	10	35	5	35	0	0	0	0
	point24	24	477	35	10	35	5	35	0	0	0	0
	point25	25	477	35	10	35	5	35	0	0	0	0
	point26	26	477	35	10	35	5	35	0	0	0	0
	point27	27										
College Drive	point52	52	748	15	15	15	8	15	0	0	0	0

	point48	48	748	15	15	15	8	15	0	0	0	0
	point2	2										
Cahilla Drive	point54	54	255	25	5	25	3	25	0	0	0	0
	point45	45	255	25	5	25	3	25	0	0	0	0
	point46	46										
Krameria Avenue	point56	56	477	35	10	35	5	35	0	0	0	0
	point29	29	477	35	10	35	5	35	0	0	0	0
	point30	30	477	35	10	35	5	35	0	0	0	0
	point31	31	477	35	10	35	5	35	0	0	0	0
	point32	32	477	35	10	35	5	35	0	0	0	0
	point33	33	477	35	10	35	5	35	0	0	0	0
	point34	34	477	35	10	35	5	35	0	0	0	0
	point35	35	477	35	10	35	5	35	0	0	0	0
	point36	36	477	35	10	35	5	35	0	0	0	0
	point37	37	477	35	10	35	5	35	0	0	0	0
	point38	38	477	35	10	35	5	35	0	0	0	0
	point39	39	477	35	10	35	5	35	0	0	0	0
	point40	40	477	35	10	35	5	35	0	0	0	0
	point41	41	477	35	10	35	5	35	0	0	0	0
	point42	42	477	35	10	35	5	35	0	0	0	0
	point43	43										
Laselle Street-North of College Drive	point58	58	2827	45	58	45	29	45	0	0	0	0
	point12	12	2827	45	58	45	29	45	0	0	0	0
	point13	13	2827	45	58	45	29	45	0	0	0	0
	point14	14	2827	45	58	45	29	45	0	0	0	0
	point15	15	2827	45	58	45	29	45	0	0	0	0
	point16	16										
Krameria Avenue - North of Cahilla Drive	point59	59	292	25	6	25	3	25	0	0	0	0
	point60	60										

Dudek **6 February 2019**
MG **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **PN11413**
RUN: **Moreno Valley Welcome Center - Existing**

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	4,037.8	2,693.9	1,550.00	5.00	0.00	66	10.0	8.0	Y
ST2	2	1	4,303.4	2,949.2	1,565.00	5.00	0.00	66	10.0	8.0	Y
ST3	3	1	4,145.9	2,064.6	1,570.00	5.00	0.00	66	10.0	8.0	Y
ST4	4	1	4,313.2	1,950.8	1,580.00	5.00	0.00	66	10.0	8.0	Y
ST5	5	1	3,348.1	2,625.8	1,540.00	5.00	0.00	66	10.0	8.0	Y
ST6	6	1	3,209.9	3,265.8	1,512.00	5.00	0.00	66	10.0	8.0	Y
M1	8	1	3,217.5	2,935.9	1,520.00	5.00	0.00	66	10.0	8.0	Y
M2	10	1	4,314.2	1,607.8	1,577.00	5.00	0.00	66	10.0	8.0	Y
M3	12	1	4,118.3	1,674.6	1,578.00	5.00	0.00	66	10.0	8.0	Y
M4	14	1	2,949.9	1,673.2	1,527.00	5.00	0.00	66	10.0	8.0	Y

Dudek **6 February 2019**
MG **TNM 2.5**

INPUT: BARRIERS
PROJECT/CONTRACT: **PN11413**
RUN: **Moreno Valley Welcome Center - Existing**

Barrier									Points										
Name	Type	Height		If Wall	If Berm			Add'tnl	Name	No.	Coordinates (bottom)			Height	Segment				
		Min	Max	$ per Unit Area	$ per Unit Vol.	Top Width	Run:Rise	$ per Unit Length			X	Y	Z	at Point	Seg Ht Perturbs			On Struct?	Important Reflec-tions?
															Incre-ment	#Up	#Dn		
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier1	W	0.00	99.99	0.00				0.00	point1	1	2,626.1	1,130.3	1,520.00	6.00	0.00	0	0		
									point3	3	2,853.4	1,492.0	1,525.00	6.00	0.00	0	0		
									point4	4	2,956.3	1,653.9	1,527.00	6.00	0.00	0	0		
									point5	5	3,072.4	1,847.8	1,529.00	6.00	0.00	0	0		
									point6	6	3,177.3	2,048.6	1,531.00	6.00	0.00	0	0		
									point7	7	3,214.6	2,182.5	1,531.00	6.00	0.00	0	0		
									point8	8	3,243.8	2,330.9	1,531.00	6.00	0.00	0	0		
									point9	9	3,247.4	2,390.3	1,530.00	6.00	0.00	0	0		
									point10	10	3,218.9	2,412.2	1,530.00	6.00					
Barrier 10	W	0.00	99.99	0.00				0.00	point22	22	3,210.2	2,460.3	1,530.00	6.00	0.00	0	0		
									point12	12	3,253.6	2,489.7	1,530.00	6.00	0.00	0	0		
									point13	13	3,264.4	2,643.2	1,530.00	6.00	0.00	0	0		
									point14	14	3,264.9	2,766.6	1,528.00	6.00	0.00	0	0		
									point15	15	3,257.5	2,851.9	1,525.00	6.00	0.00	0	0		
									point141	141	3,240.0	2,930.3	1,520.00	6.00	0.00	0	0		
									point16	16	3,216.7	3,020.3	1,519.50	6.00	0.00	0	0		
									point17	17	3,176.6	3,118.0	1,519.00	6.00	0.00	0	0		
									point18	18	3,118.3	3,274.1	1,517.00	6.00	0.00	0	0		
									point138	138	3,073.1	3,381.3	1,515.00	6.00	0.00	0	0		
									point139	139	3,027.9	3,488.5	1,507.00	6.00	0.00	0	0		
									point19	19	2,982.7	3,595.7	1,503.00	6.00	0.00	0	0		
									point20	20	2,862.4	3,888.8	1,503.00	6.00	0.00	0	0		
									point2	2	2,779.2	4,046.3	1,503.00	6.00					
Barrier4	W	0.00	99.99	0.00				0.00	point23	23	3,373.2	3,240.6	1,512.00	15.00	0.00	0	0		
									point25	25	3,298.8	3,200.7	1,512.00	15.00	0.00	0	0		
									point26	26	3,366.3	3,072.5	1,512.00	15.00					
Barrier42	W	0.00	99.99	0.00				0.00	point103	103	3,887.6	1,955.1	1,560.00	25.00	0.00	0	0		
									point46	46	4,146.7	1,905.5	1,578.00	25.00	0.00	0	0		
									point47	47	4,116.4	1,687.7	1,578.00	25.00					
Barrier43	W	0.00	99.99	0.00				0.00	point105	105	3,965.6	1,367.9	1,575.00	25.00	0.00	0	0		
									point67	67	3,976.0	1,465.1	1,575.00	25.00	0.00	0	0		
									point68	68	4,017.7	1,454.7	1,575.00	25.00					
Barrier44	W	0.00	99.99	0.00				0.00	point107	107	2,653.0	895.6	1,517.00	25.00	0.00	0	0		
									point144	144	2,814.4	805.3	1,524.00	25.00	0.00	0	0		
									point49	49	2,975.9	715.1	1,528.00	25.00	0.00	0	0		

									point50	50	3,201.6	649.1	1,531.00	25.00	0.00	0	0		
									point51	51	3,399.6	631.7	1,568.00	25.00	0.00	0	0		
									point52	52	3,492.7	636.6	1,545.00	25.00	0.00	0	0		
									point53	53	3,653.1	659.5	1,555.00	25.00	0.00	0	0		
									point54	54	3,805.9	711.6	1,563.00	25.00	0.00	0	0		
									point55	55	4,000.3	826.2	1,565.00	25.00	0.00	0	0		
									point56	56	4,114.2	937.3	1,568.00	25.00	0.00	0	0		
									point57	57	4,207.3	1,101.2	1,570.00	25.00	0.00	0	0		
									point58	58	4,267.7	1,197.8	1,574.00	25.00	0.00	0	0		
									point59	59	4,308.7	1,423.5	1,575.00	25.00					
Barrier45	W	0.00	99.99	0.00				0.00	point109	109	2,609.7	1,189.3	1,520.00	25.00	0.00	0	0		
									point61	61	2,824.1	1,515.1	1,525.00	25.00	0.00	0	0		
									point62	62	2,928.9	1,673.8	1,527.00	25.00	0.00	0	0		
									point63	63	3,043.0	1,876.8	1,529.00	25.00	0.00	0	0		
									point64	64	3,136.8	2,050.0	1,531.00	25.00	0.00	0	0		
									point142	142	3,180.8	2,196.7	1,531.00	25.00	0.00	0	0		
									point143	143	3,211.3	2,308.6	1,531.00	25.00	0.00	0	0		
									point65	65	3,222.5	2,381.9	1,530.00	25.00					
Barrier46	W	0.00	99.99	0.00				0.00	point111	111	4,326.8	1,534.6	1,576.00	25.00	0.00	0	0		
									point73	73	4,375.3	1,954.8	1,577.00	25.00	0.00	0	0		
									point74	74	4,771.2	1,836.7	1,578.00	25.00					
Barrier47	W	0.00	99.99	0.00				0.00	point113	113	3,963.8	2,143.9	1,570.00	15.00	0.00	0	0		
									point76	76	4,070.9	2,141.7	1,570.00	15.00	0.00	0	0		
									point77	77	4,068.7	2,178.9	1,570.00	15.00	0.00	0	0		
									point78	78	4,116.9	2,176.7	1,570.00	15.00	0.00	0	0		
									point79	79	4,110.3	2,229.2	1,570.00	15.00					
Barrier50	W	0.00	99.99	0.00				0.00	point115	115	4,202.2	3,158.9	1,565.00	35.00	0.00	0	0		
									point84	84	4,550.0	2,815.5	1,565.00	35.00	0.00	0	0		
									point85	85	4,628.7	2,889.9	1,565.00	35.00	0.00	0	0		
									point86	86	4,265.6	3,239.9	1,565.00	35.00					
Barrier51	W	0.00	99.99	0.00				0.00	point117	117	4,053.4	2,881.1	1,560.00	35.00	0.00	0	0		
									point88	88	4,049.1	3,130.5	1,560.00	35.00	0.00	0	0		
									point89	89	4,130.0	3,128.3	1,560.00	35.00	0.00	0	0		
									point90	90	4,130.0	2,878.9	1,560.00	35.00					
Barrier52	W	0.00	99.99	0.00				0.00	point119	119	4,090.6	2,780.5	1,550.00	15.00	0.00	0	0		
									point92	92	4,182.5	2,769.5	1,550.00	15.00	0.00	0	0		
									point93	93	4,182.5	2,738.9	1,550.00	15.00					
Barrier53	W	0.00	99.99	0.00				0.00	point121	121	4,213.1	2,824.2	1,550.00	15.00	0.00	0	0		
									point95	95	4,206.6	2,736.7	1,550.00	15.00	0.00	0	0		
									point96	96	4,276.6	2,738.9	1,550.00	15.00					
Barrier54	W	0.00	99.99	0.00				0.00	point123	123	4,296.3	2,806.7	1,550.00	15.00	0.00	0	0		
									point98	98	4,296.3	2,741.1	1,550.00	15.00	0.00	0	0		
									point99	99	4,355.3	2,741.1	1,550.00	15.00					
Barrier55	W	0.00	99.99	0.00				0.00	point125	125	4,206.6	2,623.0	1,550.00	15.00	0.00	0	0		
									point101	101	4,283.1	2,618.6	1,550.00	15.00	0.00	0	0		
									point24	24	4,285.3	2,666.7	1,550.00	15.00					
Barrier56	W	0.00	99.99	0.00				0.00	point127	127	4,180.3	2,115.5	1,570.00	15.00	0.00	0	0		
									point81	81	4,178.1	2,063.0	1,570.00	15.00	0.00	0	0		
									point82	82	4,230.6	2,058.6	1,570.00	15.00					

Barrier57	W	0.00	99.99	0.00				0.00	point129	129	3,387.1	2,353.2	1,545.00	15.00	0.00	0	0		
									point28	28	3,389.3	2,480.1	1,545.00	15.00	0.00	0	0		
									point29	29	3,437.4	2,477.9	1,545.00	15.00					
Barrier58	W	0.00	99.99	0.00				0.00	point131	131	3,771.1	1,371.4	1,575.00	25.00	0.00	0	0		
									point70	70	3,851.0	1,350.5	1,575.00	25.00	0.00	0	0		
									point71	71	3,864.9	1,423.5	1,575.00	25.00					
Barrier59	W	0.00	99.99	0.00				0.00	point133	133	3,231.7	2,484.1	1,530.00	25.00	0.00	0	0		
									point37	37	3,236.0	2,634.3	1,530.00	25.00	0.00	0	0		
									point38	38	3,234.3	2,747.1	1,528.00	25.00	0.00	0	0		
									point39	39	3,227.3	2,818.3	1,525.00	25.00	0.00	0	0		
									point40	40	3,197.8	2,924.2	1,520.00	25.00	0.00	0	0		
									point140	140	3,171.8	3,004.9	1,519.50	25.00	0.00	0	0		
									point41	41	3,145.7	3,085.7	1,519.00	25.00	0.00	0	0		
									point43	43	3,079.8	3,243.7	1,517.00	25.00	0.00	0	0		
									point44	44	3,027.7	3,340.9	1,515.00	25.00					
Barrier48	W	0.00	99.99	0.00				0.00	point135	135	3,514.0	2,337.9	1,545.00	15.00	0.00	0	0		
									point34	34	3,505.2	2,543.5	1,545.00	15.00	0.00	0	0		
									point35	35	3,553.4	2,545.7	1,545.00	15.00					
Barrier49	W	0.00	99.99	0.00				0.00	point137	137	3,450.5	2,414.5	1,545.00	15.00	0.00	0	0		
									point31	31	3,450.5	2,547.9	1,545.00	15.00	0.00	0	0		
									point32	32	3,496.5	2,545.7	1,545.00	15.00					

Dudek **6 February 2019**
MG **TNM 2.5**
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: **PN11413**
RUN: **Moreno Valley Welcome Center - 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**	**No Barrier**					**With Barrier**			
			LAeq1h	**LAeq1h**		**Increase over existing**		**Type**	**Calculated**	**Noise Reduction**		
				Calculated	**Crit'n**	**Calculated**	**Crit'n**	**Impact**	**LAeq1h**	**Calculated**	**Goal**	**Calculated**
							Sub'l Inc					**minus**
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	1	1	0.0	50.6	66	50.6	10	----	50.6	0.0	8	-8.0
ST2	2	1	0.0	43.5	66	43.5	10	----	43.5	0.0	8	-8.0
ST3	3	1	0.0	56.7	66	56.7	10	----	56.7	0.0	8	-8.0
ST4	4	1	0.0	61.5	66	61.5	10	----	61.5	0.0	8	-8.0
ST5	5	1	0.0	72.1	66	72.1	10	Snd Lvl	72.1	0.0	8	-8.0
ST6	6	1	0.0	73.2	66	73.2	10	Snd Lvl	73.2	0.0	8	-8.0
M1	8	1	0.0	63.6	66	63.6	10	----	63.6	0.0	8	-8.0
M2	10	1	0.0	59.9	66	59.9	10	----	59.9	0.0	8	-8.0
M3	12	1	0.0	56.4	66	56.4	10	----	56.4	0.0	8	-8.0
M4	14	1	0.0	61.3	66	61.3	10	----	61.3	0.0	8	-8.0

Dwelling Units	**# DUs**	**Noise Reduction**		
		Min	**Avg**	**Max**
		dB	**dB**	**dB**
All Selected	10	0.0	0.0	0.0
All Impacted	2	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek **6 February 2019**
MG **TNM 2.5**

INPUT: ROADWAYS
PROJECT/CONTRACT: **PN11413**
RUN: **Moreno Valley Welcome Cntr - Exist w Prj**

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		**Points**									
Name	**Width**	**Name**	**No.**	**Coordinates (pavement)**			**Flow Control**			**Segment**	
				X	**Y**	**Z**	**Control Device**	**Speed Constraint**	**Percent Vehicles Affected**	**Pvmt Type**	**On Struct?**
	ft			ft	ft	ft		mph	%		
Laselle Street - South of College Drive	65.0	point1	1	2,345.9	518.0	1,509.00				Average	
		point3	3	2,635.3	1,025.1	1,517.00				Average	
		point4	4	2,897.1	1,460.5	1,522.00				Average	
		point57	57	3,012.9	1,653.4	1,524.00				Average	
		point5	5	3,128.6	1,846.4	1,526.00				Average	
		point6	6	3,225.1	2,055.8	1,528.00				Average	
		point7	7	3,255.4	2,174.4	1,529.00				Average	
		point8	8	3,266.5	2,232.3	1,530.00				Average	
		point9	9	3,294.0	2,427.9	1,528.00				Average	
		point10	10	3,310.6	2,703.5	1,527.00				Average	
		point11	11	3,306.2	2,784.5	1,526.00					
Krameria Avenue west of Laselle Street	65.0	point50	50	1,025.1	860.9	1,483.00				Average	
		point18	18	1,270.4	1,031.8	1,484.00				Average	
		point19	19	1,449.5	1,142.0	1,484.00				Average	
		point20	20	1,595.6	1,216.5	1,485.00				Average	
		point21	21	1,708.6	1,241.3	1,486.00				Average	
		point22	22	1,871.2	1,263.3	1,488.00				Average	
		point23	23	2,061.4	1,255.1	1,493.00				Average	
		point24	24	2,226.7	1,224.8	1,500.00				Average	
		point25	25	2,292.9	1,202.7	1,505.00				Average	
		point26	26	2,441.7	1,142.0	1,510.00				Average	
		point27	27	2,612.6	1,034.6	1,517.00					
College Drive	60.0	point52	52	3,325.9	2,776.9	1,526.00				Average	
		point48	48	3,631.5	2,802.9	1,535.00				Average	
		point2	2	3,893.7	2,809.8	1,550.00					

Cahilla Drive	40.0	point54	54	3,278.6	2,236.2	1,530.00				Average	
		point45	45	3,783.8	2,107.7	1,554.00				Average	
		point46	46	4,287.3	1,982.7	1,578.00					
Krameria Avenue	65.0	point56	56	2,659.4	1,004.3	1,517.00				Average	
		point29	29	2,797.2	921.6	1,524.00				Average	
		point30	30	2,959.9	825.1	1,528.00				Average	
		point31	31	3,133.5	742.4	1,531.00				Average	
		point32	32	3,382.9	703.0	1,568.00				Average	
		point33	33	3,457.2	703.0	1,545.00				Average	
		point34	34	3,619.1	742.4	1,555.00				Average	
		point35	35	3,816.0	816.8	1,563.00				Average	
		point36	36	3,934.1	904.3	1,565.00				Average	
		point37	37	4,061.0	1,022.4	1,568.00				Average	
		point38	38	4,139.1	1,156.1	1,570.00				Average	
		point39	39	4,186.0	1,265.5	1,574.00				Average	
		point40	40	4,220.7	1,394.0	1,575.00				Average	
		point41	41	4,239.8	1,503.4	1,576.00				Average	
		point42	42	4,262.4	1,786.4	1,577.00				Average	
		point43	43	4,276.3	1,960.9	1,578.00					
Laselle Street-North of College Drive	76.0	point58	58	3,306.2	2,784.5	1,526.00				Average	
		point12	12	3,286.5	2,937.6	1,522.00				Average	
		point13	13	3,223.1	3,114.8	1,518.00				Average	
		point14	14	3,144.3	3,333.5	1,512.00				Average	
		point15	15	2,990.0	3,680.8	1,500.00				Average	
		point16	16	2,808.1	4,105.2	1,500.00					
Krameria Avenue - North of Cahilla Drive	65.0	point59	59	4,279.4	2,000.0	1,578.00				Average	
		point60	60	4,308.1	2,386.2	1,585.00					

INPUT: TRAFFIC FOR LAeq1h Volumes **PN11413**

Dudek **6 February 2019**
MG **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **PN11413**
RUN: **Moreno Valley Welcome Cntr - Exist w Prj**

Roadway	**Points**											
Name	**Name**	**No.**	**Segment**									
			Autos		**MTrucks**		**HTrucks**		**Buses**		**Motorcycles**	
			V	**S**	**V**	**S**	**V**	**S**	**V**	**S**	**V**	**S**
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Laselle Street - South of College Drive	point1	1	2287	45	47	45	24	45	0	0	0	0
	point3	3	2287	45	47	45	24	45	0	0	0	0
	point4	4	2287	45	47	45	24	45	0	0	0	0
	point57	57	2287	45	47	45	24	45	0	0	0	0
	point5	5	2287	45	47	45	24	45	0	0	0	0
	point6	6	2287	45	47	45	24	45	0	0	0	0
	point7	7	2287	45	47	45	24	45	0	0	0	0
	point8	8	2287	45	47	45	24	45	0	0	0	0
	point9	9	2287	45	47	45	24	45	0	0	0	0
	point10	10	2287	45	47	45	24	45	0	0	0	0
	point11	11										
Krameria Avenue west of Laselle Street	point50	50	488	35	10	35	5	35	0	0	0	0
	point18	18	488	35	10	35	5	35	0	0	0	0
	point19	19	488	35	10	35	5	35	0	0	0	0
	point20	20	488	35	10	35	5	35	0	0	0	0
	point21	21	488	35	10	35	5	35	0	0	0	0
	point22	22	488	35	10	35	5	35	0	0	0	0
	point23	23	488	35	10	35	5	35	0	0	0	0
	point24	24	488	35	10	35	5	35	0	0	0	0
	point25	25	488	35	10	35	5	35	0	0	0	0
	point26	26	488	35	10	35	5	35	0	0	0	0
	point27	27										
College Drive	point52	52	765	15	16	15	8	15	0	0	0	0

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		point48	48	765	15	16	15	8	15	0	0	0	0
		point2	2										
Cahilla Drive		point54	54	259	25	5	25	3	25	0	0	0	0
		point45	45	259	25	5	25	3	25	0	0	0	0
		point46	46										
Krameria Avenue		point56	56	488	35	10	35	5	35	0	0	0	0
		point29	29	488	35	10	35	5	35	0	0	0	0
		point30	30	488	35	10	35	5	35	0	0	0	0
		point31	31	488	35	10	35	5	35	0	0	0	0
		point32	32	488	35	10	35	5	35	0	0	0	0
		point33	33	488	35	10	35	5	35	0	0	0	0
		point34	34	488	35	10	35	5	35	0	0	0	0
		point35	35	488	35	10	35	5	35	0	0	0	0
		point36	36	488	35	10	35	5	35	0	0	0	0
		point37	37	488	35	10	35	5	35	0	0	0	0
		point38	38	488	35	10	35	5	35	0	0	0	0
		point39	39	488	35	10	35	5	35	0	0	0	0
		point40	40	488	35	10	35	5	35	0	0	0	0
		point41	41	488	35	10	35	5	35	0	0	0	0
		point42	42	488	35	10	35	5	35	0	0	0	0
		point43	43										
Laselle Street-North of College Drive		point58	58	2842	45	59	45	29	45	0	0	0	0
		point12	12	2842	45	59	45	29	45	0	0	0	0
		point13	13	2842	45	59	45	29	45	0	0	0	0
		point14	14	2842	45	59	45	29	45	0	0	0	0
		point15	15	2842	45	59	45	29	45	0	0	0	0
		point16	16										
Krameria Avenue - North of Cahilla Drive		point59	59	299	25	6	25	3	25	0	0	0	0
		point60	60										

Dudek **6 February 2019**
MG **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **PN11413**
RUN: **Moreno Valley Welcome Cntr - Exist w Prj**

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	4,037.8	2,693.9	1,550.00	5.00	0.00	66	10.0	8.0	Y
ST2	2	1	4,303.4	2,949.2	1,565.00	5.00	0.00	66	10.0	8.0	Y
ST3	3	1	4,145.9	2,064.6	1,570.00	5.00	0.00	66	10.0	8.0	Y
ST4	4	1	4,313.2	1,950.8	1,580.00	5.00	0.00	66	10.0	8.0	Y
ST5	5	1	3,348.1	2,625.8	1,540.00	5.00	0.00	66	10.0	8.0	Y
ST6	6	1	3,209.9	3,265.8	1,512.00	5.00	0.00	66	10.0	8.0	Y
M1	8	1	3,217.5	2,935.9	1,520.00	5.00	0.00	66	10.0	8.0	Y
M2	9	1	4,314.2	1,607.8	1,577.00	5.00	0.00	66	10.0	8.0	Y
M3	10	1	4,118.3	1,674.6	1,578.00	5.00	0.00	66	10.0	8.0	Y
M4	11	1	2,949.9	1,673.2	1,527.00	5.00	0.00	66	10.0	8.0	Y

Dudek		**6 February 2019**
MG		**TNM 2.5**

INPUT: BARRIERS

PROJECT/CONTRACT:	**PN11413**
RUN:	**Moreno Valley Welcome Cntr - Exist w Prj**

Barrier									**Points**											
Name	**Type**	**Height**		**If Wall**	**If Berm**			**Add'tnl**	**Name**	**No.**	**Coordinates (bottom)**			**Height**	**Segment**					
		Min	**Max**	**$ per Unit Area**	**$ per Unit Vol.**	**Top Width**	**Run:Rise**	**$ per Unit Length**			**X**	**Y**	**Z**	**at Point**	**Seg Ht Perturbs**			**On Struct?**	**Important Reflec-tions?**
															Incre-ment	**#Up**	**#Dn**		
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier1	W	0.00	99.99	0.00				0.00	point1	1	2,626.1	1,130.3	1,520.00	6.00	0.00	0	0		
									point3	3	2,853.4	1,492.0	1,525.00	6.00	0.00	0	0		
									point4	4	2,956.3	1,653.9	1,527.00	6.00	0.00	0	0		
									point5	5	3,072.4	1,847.8	1,529.00	6.00	0.00	0	0		
									point6	6	3,177.3	2,048.6	1,531.00	6.00	0.00	0	0		
									point7	7	3,214.6	2,182.5	1,531.00	6.00	0.00	0	0		
									point8	8	3,243.8	2,330.9	1,531.00	6.00	0.00	0	0		
									point9	9	3,247.4	2,390.3	1,530.00	6.00	0.00	0	0		
									point10	10	3,218.9	2,412.2	1,530.00	6.00					
Barrier 10	W	0.00	99.99	0.00				0.00	point22	22	3,210.2	2,460.3	1,530.00	6.00	0.00	0	0		
									point12	12	3,253.6	2,489.7	1,530.00	6.00	0.00	0	0		
									point13	13	3,264.4	2,643.2	1,530.00	6.00	0.00	0	0		
									point14	14	3,264.9	2,766.6	1,528.00	6.00	0.00	0	0		
									point15	15	3,257.5	2,851.9	1,525.00	6.00	0.00	0	0		
									point141	141	3,240.0	2,930.3	1,520.00	6.00	0.00	0	0		
									point16	16	3,216.7	3,020.3	1,519.50	6.00	0.00	0	0		
									point17	17	3,176.6	3,118.0	1,519.00	6.00	0.00	0	0		
									point18	18	3,118.3	3,274.1	1,517.00	6.00	0.00	0	0		
									point138	138	3,073.1	3,381.3	1,515.00	6.00	0.00	0	0		
									point139	139	3,027.9	3,488.5	1,507.00	6.00	0.00	0	0		
									point19	19	2,982.7	3,595.7	1,503.00	6.00	0.00	0	0		
									point20	20	2,862.4	3,888.8	1,503.00	6.00	0.00	0	0		
									point2	2	2,779.2	4,046.3	1,503.00	6.00					
Barrier4	W	0.00	99.99	0.00				0.00	point23	23	3,373.2	3,240.6	1,512.00	15.00	0.00	0	0		
									point25	25	3,298.8	3,200.7	1,512.00	15.00	0.00	0	0		
									point26	26	3,366.3	3,072.5	1,512.00	15.00					
Barrier42	W	0.00	99.99	0.00				0.00	point103	103	3,887.6	1,955.1	1,560.00	25.00	0.00	0	0		
									point46	46	4,146.7	1,905.5	1,578.00	25.00	0.00	0	0		
									point47	47	4,116.4	1,687.7	1,578.00	25.00					
Barrier43	W	0.00	99.99	0.00				0.00	point105	105	3,965.6	1,367.9	1,575.00	25.00	0.00	0	0		
									point67	67	3,976.0	1,465.1	1,575.00	25.00	0.00	0	0		
									point68	68	4,017.7	1,454.7	1,575.00	25.00					
Barrier44	W	0.00	99.99	0.00				0.00	point107	107	2,653.0	895.6	1,517.00	25.00	0.00	0	0		
									point144	144	2,814.4	805.3	1,524.00	25.00	0.00	0	0		
									point49	49	2,975.9	715.1	1,528.00	25.00	0.00	0	0		

									point50	50	3,201.6	649.1	1,531.00	25.00	0.00	0	0		
									point51	51	3,399.6	631.7	1,568.00	25.00	0.00	0	0		
									point52	52	3,492.7	636.6	1,545.00	25.00	0.00	0	0		
									point53	53	3,653.1	659.5	1,555.00	25.00	0.00	0	0		
									point54	54	3,805.9	711.6	1,563.00	25.00	0.00	0	0		
									point55	55	4,000.3	826.2	1,565.00	25.00	0.00	0	0		
									point56	56	4,114.2	937.3	1,568.00	25.00	0.00	0	0		
									point57	57	4,207.3	1,101.2	1,570.00	25.00	0.00	0	0		
									point58	58	4,267.7	1,197.8	1,574.00	25.00	0.00	0	0		
									point59	59	4,308.7	1,423.5	1,575.00	25.00					
Barrier45	W	0.00	99.99	0.00				0.00	point109	109	2,609.7	1,189.3	1,520.00	25.00	0.00	0	0		
									point61	61	2,824.1	1,515.1	1,525.00	25.00	0.00	0	0		
									point62	62	2,928.9	1,673.8	1,527.00	25.00	0.00	0	0		
									point63	63	3,043.0	1,876.8	1,529.00	25.00	0.00	0	0		
									point64	64	3,136.8	2,050.0	1,531.00	25.00	0.00	0	0		
									point142	142	3,180.8	2,196.7	1,531.00	25.00	0.00	0	0		
									point143	143	3,211.3	2,308.6	1,531.00	25.00	0.00	0	0		
									point65	65	3,222.5	2,381.9	1,530.00	25.00					
Barrier46	W	0.00	99.99	0.00				0.00	point111	111	4,326.8	1,534.6	1,576.00	25.00	0.00	0	0		
									point73	73	4,375.3	1,954.8	1,577.00	25.00	0.00	0	0		
									point74	74	4,771.2	1,836.7	1,578.00	25.00					
Barrier47	W	0.00	99.99	0.00				0.00	point113	113	3,963.8	2,143.9	1,570.00	15.00	0.00	0	0		
									point76	76	4,070.9	2,141.7	1,570.00	15.00	0.00	0	0		
									point77	77	4,068.7	2,178.9	1,570.00	15.00	0.00	0	0		
									point78	78	4,116.9	2,176.7	1,570.00	15.00	0.00	0	0		
									point79	79	4,110.3	2,229.2	1,570.00	15.00					
Barrier50	W	0.00	99.99	0.00				0.00	point115	115	4,202.2	3,158.9	1,565.00	35.00	0.00	0	0		
									point84	84	4,550.0	2,815.5	1,565.00	35.00	0.00	0	0		
									point85	85	4,628.7	2,889.9	1,565.00	35.00	0.00	0	0		
									point86	86	4,265.6	3,239.9	1,565.00	35.00					
Barrier51	W	0.00	99.99	0.00				0.00	point117	117	4,053.4	2,881.1	1,560.00	35.00	0.00	0	0		
									point88	88	4,049.1	3,130.5	1,560.00	35.00	0.00	0	0		
									point89	89	4,130.0	3,128.3	1,560.00	35.00	0.00	0	0		
									point90	90	4,130.0	2,878.9	1,560.00	35.00					
Barrier52	W	0.00	99.99	0.00				0.00	point119	119	4,090.6	2,780.5	1,550.00	15.00	0.00	0	0		
									point92	92	4,182.5	2,769.5	1,550.00	15.00	0.00	0	0		
									point93	93	4,182.5	2,738.9	1,550.00	15.00					
Barrier53	W	0.00	99.99	0.00				0.00	point121	121	4,213.1	2,824.2	1,550.00	15.00	0.00	0	0		
									point95	95	4,206.6	2,736.7	1,550.00	15.00	0.00	0	0		
									point96	96	4,276.6	2,738.9	1,550.00	15.00					
Barrier54	W	0.00	99.99	0.00				0.00	point123	123	4,296.3	2,806.7	1,550.00	15.00	0.00	0	0		
									point98	98	4,296.3	2,741.1	1,550.00	15.00	0.00	0	0		
									point99	99	4,355.3	2,741.1	1,550.00	15.00					
Barrier55	W	0.00	99.99	0.00				0.00	point125	125	4,206.6	2,623.0	1,550.00	15.00	0.00	0	0		
									point101	101	4,283.1	2,618.6	1,550.00	15.00	0.00	0	0		
									point24	24	4,285.3	2,666.7	1,550.00	15.00					
Barrier56	W	0.00	99.99	0.00				0.00	point127	127	4,180.3	2,115.5	1,570.00	15.00	0.00	0	0		
									point81	81	4,178.1	2,063.0	1,570.00	15.00	0.00	0	0		
									point82	82	4,230.6	2,058.6	1,570.00	15.00					

Barrier57	W	0.00	99.99	0.00				0.00	point129	129	3,387.1	2,353.2	1,545.00	15.00	0.00	0	0		
									point28	28	3,389.3	2,480.1	1,545.00	15.00	0.00	0	0		
									point29	29	3,437.4	2,477.9	1,545.00	15.00					
Barrier58	W	0.00	99.99	0.00				0.00	point131	131	3,771.1	1,371.4	1,575.00	25.00	0.00	0	0		
									point70	70	3,851.0	1,350.5	1,575.00	25.00	0.00	0	0		
									point71	71	3,864.9	1,423.5	1,575.00	25.00					
Barrier59	W	0.00	99.99	0.00				0.00	point133	133	3,231.7	2,484.1	1,530.00	25.00	0.00	0	0		
									point37	37	3,236.0	2,634.3	1,530.00	25.00	0.00	0	0		
									point38	38	3,234.3	2,747.1	1,528.00	25.00	0.00	0	0		
									point39	39	3,227.3	2,818.3	1,525.00	25.00	0.00	0	0		
									point40	40	3,197.8	2,924.2	1,520.00	25.00	0.00	0	0		
									point140	140	3,171.8	3,004.9	1,519.50	25.00	0.00	0	0		
									point41	41	3,145.7	3,085.7	1,519.00	25.00	0.00	0	0		
									point43	43	3,079.8	3,243.7	1,517.00	25.00	0.00	0	0		
									point44	44	3,027.7	3,340.9	1,515.00	25.00					
Barrier48	W	0.00	99.99	0.00				0.00	point135	135	3,514.0	2,337.9	1,545.00	15.00	0.00	0	0		
									point34	34	3,505.2	2,543.5	1,545.00	15.00	0.00	0	0		
									point35	35	3,553.4	2,545.7	1,545.00	15.00					
Barrier49	W	0.00	99.99	0.00				0.00	point137	137	3,450.5	2,414.5	1,545.00	15.00	0.00	0	0		
									point31	31	3,450.5	2,547.9	1,545.00	15.00	0.00	0	0		
									point32	32	3,496.5	2,545.7	1,545.00	15.00					

RESULTS: SOUND LEVELS **PN11413**

Dudek **6 February 2019**
MG **TNM 2.5**
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: **PN11413**
RUN: **Moreno Valley Welcome Cntr - Exist w Prj**
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**	**No Barrier**					**With Barrier**			
			LAeq1h	**LAeq1h**		**Increase over existing**		**Type**	**Calculated**	**Noise Reduction**		
				Calculated	**Crit'n**	**Calculated**	**Crit'n Sub'l Inc**	**Impact**	**LAeq1h**	**Calculated**	**Goal**	**Calculated minus Goal**
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	1	1	0.0	50.7	66	50.7	10	----	50.7	0.0	8	-8.0
ST2	2	1	0.0	43.5	66	43.5	10	----	43.5	0.0	8	-8.0
ST3	3	1	0.0	56.7	66	56.7	10	----	56.7	0.0	8	-8.0
ST4	4	1	0.0	61.5	66	61.5	10	----	61.5	0.0	8	-8.0
ST5	5	1	0.0	72.1	66	72.1	10	Snd Lvl	72.1	0.0	8	-8.0
ST6	6	1	0.0	73.2	66	73.2	10	Snd Lvl	73.2	0.0	8	-8.0
M1	8	1	0.0	63.6	66	63.6	10	----	63.6	0.0	8	-8.0
M2	9	1	0.0	60.0	66	60.0	10	----	60.0	0.0	8	-8.0
M3	10	1	0.0	56.4	66	56.4	10	----	56.4	0.0	8	-8.0
M4	11	1	0.0	61.3	66	61.3	10	----	61.3	0.0	8	-8.0

Dwelling Units	**# DUs**	**Noise Reduction**		
		Min	**Avg**	**Max**
		dB	**dB**	**dB**
All Selected	10	0.0	0.0	0.0
All Impacted	2	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

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Dudek **6 February 2019**
MG **TNM 2.5**

INPUT: ROADWAYS
PROJECT/CONTRACT: **PN11413**
RUN: **Moreno Vlly Wlcm Cntr - Opening Year**

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		**Points**									
Name	**Width**	**Name**	**No.**	**Coordinates (pavement)**			**Flow Control**			**Segment**	
				X	**Y**	**Z**	**Control Device**	**Speed Constraint**	**Percent Vehicles Affected**	**Pvmt Type**	**On Struct?**
	ft			ft	ft	ft		mph	%		
Laselle Street - South of College Drive	65.0	point1	1	2,345.9	518.0	1,509.00				Average	
		point3	3	2,635.3	1,025.1	1,517.00				Average	
		point4	4	2,897.1	1,460.5	1,522.00				Average	
		point57	57	3,012.9	1,653.4	1,524.00				Average	
		point5	5	3,128.6	1,846.4	1,526.00				Average	
		point6	6	3,225.1	2,055.8	1,528.00				Average	
		point7	7	3,255.4	2,174.4	1,529.00				Average	
		point8	8	3,266.5	2,232.3	1,530.00				Average	
		point9	9	3,294.0	2,427.9	1,528.00				Average	
		point10	10	3,310.6	2,703.5	1,527.00				Average	
		point11	11	3,306.2	2,784.5	1,526.00					
Krameria Avenue west of Laselle Street	65.0	point50	50	1,025.1	860.9	1,483.00				Average	
		point18	18	1,270.4	1,031.8	1,484.00				Average	
		point19	19	1,449.5	1,142.0	1,484.00				Average	
		point20	20	1,595.6	1,216.5	1,485.00				Average	
		point21	21	1,708.6	1,241.3	1,486.00				Average	
		point22	22	1,871.2	1,263.3	1,488.00				Average	
		point23	23	2,061.4	1,255.1	1,493.00				Average	
		point24	24	2,226.7	1,224.8	1,500.00				Average	
		point25	25	2,292.9	1,202.7	1,505.00				Average	
		point26	26	2,441.7	1,142.0	1,510.00				Average	
		point27	27	2,612.6	1,034.6	1,517.00					
College Drive	60.0	point52	52	3,325.9	2,776.9	1,526.00				Average	
		point48	48	3,631.5	2,802.9	1,535.00				Average	
		point2	2	3,893.7	2,809.8	1,550.00					

Cahilla Drive	40.0	point54	54	3,278.6	2,236.2	1,530.00				Average	
		point45	45	3,783.8	2,107.7	1,554.00				Average	
		point46	46	4,287.3	1,982.7	1,578.00					
Krameria Avenue	65.0	point56	56	2,659.4	1,004.3	1,517.00				Average	
		point29	29	2,797.2	921.6	1,524.00				Average	
		point30	30	2,959.9	825.1	1,528.00				Average	
		point31	31	3,133.5	742.4	1,531.00				Average	
		point32	32	3,382.9	703.0	1,568.00				Average	
		point33	33	3,457.2	703.0	1,545.00				Average	
		point34	34	3,619.1	742.4	1,555.00				Average	
		point35	35	3,816.0	816.8	1,563.00				Average	
		point36	36	3,934.1	904.3	1,565.00				Average	
		point37	37	4,061.0	1,022.4	1,568.00				Average	
		point38	38	4,139.1	1,156.1	1,570.00				Average	
		point39	39	4,186.0	1,265.5	1,574.00				Average	
		point40	40	4,220.7	1,394.0	1,575.00				Average	
		point41	41	4,239.8	1,503.4	1,576.00				Average	
		point42	42	4,262.4	1,786.4	1,577.00				Average	
		point43	43	4,276.3	1,960.9	1,578.00					
Laselle Street-North of College Drive	76.0	point58	58	3,306.2	2,784.5	1,526.00				Average	
		point12	12	3,286.5	2,937.6	1,522.00				Average	
		point13	13	3,223.1	3,114.8	1,518.00				Average	
		point14	14	3,144.3	3,333.5	1,512.00				Average	
		point15	15	2,990.0	3,680.8	1,500.00				Average	
		point16	16	2,808.1	4,105.2	1,500.00					
Krameria Avenue - North of Cahilla Drive	65.0	point59	59	4,279.4	2,000.0	1,578.00				Average	
		point60	60	4,308.1	2,386.2	1,585.00					

Dudek **6 February 2019**
MG **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **PN11413**
RUN: **Moreno Vlly Wlcm Cntr - Opening Year**

Roadway	**Points**											
Name	**Name**	**No.**	**Segment**									
			Autos		**MTrucks**		**HTrucks**		**Buses**		**Motorcycles**	
			V	**S**	**V**	**S**	**V**	**S**	**V**	**S**	**V**	**S**
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Laselle Street - South of College Drive	point1	1	2534	45	52	45	26	45	0	0	0	0
	point3	3	2534	45	52	45	26	45	0	0	0	0
	point4	4	2534	45	52	45	26	45	0	0	0	0
	point57	57	2534	45	52	45	26	45	0	0	0	0
	point5	5	2534	45	52	45	26	45	0	0	0	0
	point6	6	2534	45	52	45	26	45	0	0	0	0
	point7	7	2534	45	52	45	26	45	0	0	0	0
	point8	8	2534	45	52	45	26	45	0	0	0	0
	point9	9	2534	45	52	45	26	45	0	0	0	0
	point10	10	2534	45	52	45	26	45	0	0	0	0
	point11	11										
Krameria Avenue west of Laselle Street	point50	50	509	35	10	35	5	35	0	0	0	0
	point18	18	509	35	10	35	5	35	0	0	0	0
	point19	19	509	35	10	35	5	35	0	0	0	0
	point20	20	509	35	10	35	5	35	0	0	0	0
	point21	21	509	35	10	35	5	35	0	0	0	0
	point22	22	509	35	10	35	5	35	0	0	0	0
	point23	23	509	35	10	35	5	35	0	0	0	0
	point24	24	509	35	10	35	5	35	0	0	0	0
	point25	25	509	35	10	35	5	35	0	0	0	0
	point26	26	509	35	10	35	5	35	0	0	0	0
	point27	27										
College Drive	point52	52	803	15	17	15	8	15	0	0	0	0

	point48	48	803	15	17	15	8	15	0	0	0	0
	point2	2										
Cahilla Drive	point54	54	273	25	6	25	3	25	0	0	0	0
	point45	45	273	25	6	25	3	25	0	0	0	0
	point46	46										
Krameria Avenue	point56	56	509	35	10	35	5	35	0	0	0	0
	point29	29	509	35	10	35	5	35	0	0	0	0
	point30	30	509	35	10	35	5	35	0	0	0	0
	point31	31	509	35	10	35	5	35	0	0	0	0
	point32	32	509	35	10	35	5	35	0	0	0	0
	point33	33	509	35	10	35	5	35	0	0	0	0
	point34	34	509	35	10	35	5	35	0	0	0	0
	point35	35	509	35	10	35	5	35	0	0	0	0
	point36	36	509	35	10	35	5	35	0	0	0	0
	point37	37	509	35	10	35	5	35	0	0	0	0
	point38	38	509	35	10	35	5	35	0	0	0	0
	point39	39	509	35	10	35	5	35	0	0	0	0
	point40	40	509	35	10	35	5	35	0	0	0	0
	point41	41	509	35	10	35	5	35	0	0	0	0
	point42	42	509	35	10	35	5	35	0	0	0	0
	point43	43										
Laselle Street-North of College Drive	point58	58	3115	45	64	45	32	45	0	0	0	0
	point12	12	3115	45	64	45	32	45	0	0	0	0
	point13	13	3115	45	64	45	32	45	0	0	0	0
	point14	14	3115	45	64	45	32	45	0	0	0	0
	point15	15	3115	45	64	45	32	45	0	0	0	0
	point16	16										
Krameria Avenue - North of Cahilla Drive	point59	59	309	25	6	25	3	25	0	0	0	0
	point60	60										

Dudek **6 February 2019**
MG **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **PN11413**
RUN: **Moreno Vlly Wlcm Cntr - Opening Year**

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	4,037.8	2,693.9	1,550.00	5.00	0.00	66	10.0	8.0	Y
ST2	2	1	4,303.4	2,949.2	1,565.00	5.00	0.00	66	10.0	8.0	Y
ST3	3	1	4,145.9	2,064.6	1,570.00	5.00	0.00	66	10.0	8.0	Y
ST4	4	1	4,313.2	1,950.8	1,580.00	5.00	0.00	66	10.0	8.0	Y
ST5	5	1	3,348.1	2,625.8	1,540.00	5.00	0.00	66	10.0	8.0	Y
ST6	6	1	3,209.9	3,265.8	1,512.00	5.00	0.00	66	10.0	8.0	Y
M1	8	1	3,217.5	2,935.9	1,520.00	5.00	0.00	66	10.0	8.0	Y
M2	9	1	4,314.2	1,607.8	1,577.00	5.00	0.00	66	10.0	8.0	Y
M3	10	1	4,118.3	1,674.6	1,578.00	5.00	0.00	66	10.0	8.0	Y
M4	11	1	2,949.9	1,673.2	1,527.00	5.00	0.00	66	10.0	8.0	Y

Dudek **6 February 2019**
MG **TNM 2.5**

INPUT: BARRIERS
PROJECT/CONTRACT: **PN11413**
RUN: **Moreno Vlly Wlcm Cntr - Opening Year**

Barrier Name	Type	Height Min	Max	If Wall $ per Unit Area	If Berm $ per Unit Vol.	Top Width	Run:Rise	Add'tnl $ per Unit Length	Points Name	No.	Coordinates (bottom) X	Y	Z	Height at Point	Segment Seg Ht Perturbs Incre-ment	#Up	#Dn	On Struct?	Important Reflec-tions?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier1	W	0.00	99.99	0.00				0.00	point1	1	2,626.1	1,130.3	1,520.00	6.00	0.00	0	0		
									point3	3	2,853.4	1,492.0	1,525.00	6.00	0.00	0	0		
									point4	4	2,956.3	1,653.9	1,527.00	6.00	0.00	0	0		
									point5	5	3,072.4	1,847.8	1,529.00	6.00	0.00	0	0		
									point6	6	3,177.3	2,048.6	1,531.00	6.00	0.00	0	0		
									point7	7	3,214.6	2,182.5	1,531.00	6.00	0.00	0	0		
									point8	8	3,243.8	2,330.9	1,531.00	6.00	0.00	0	0		
									point9	9	3,247.4	2,390.3	1,530.00	6.00	0.00	0	0		
									point10	10	3,218.9	2,412.2	1,530.00	6.00					
Barrier 10	W	0.00	99.99	0.00				0.00	point22	22	3,210.2	2,460.3	1,530.00	6.00	0.00	0	0		
									point12	12	3,253.6	2,489.7	1,530.00	6.00	0.00	0	0		
									point13	13	3,264.4	2,643.2	1,530.00	6.00	0.00	0	0		
									point14	14	3,264.9	2,766.6	1,528.00	6.00	0.00	0	0		
									point15	15	3,257.5	2,851.9	1,525.00	6.00	0.00	0	0		
									point141	141	3,240.0	2,930.3	1,520.00	6.00	0.00	0	0		
									point16	16	3,216.7	3,020.3	1,519.50	6.00	0.00	0	0		
									point17	17	3,176.6	3,118.0	1,519.00	6.00	0.00	0	0		
									point18	18	3,118.3	3,274.1	1,517.00	6.00	0.00	0	0		
									point138	138	3,073.1	3,381.3	1,515.00	6.00	0.00	0	0		
									point139	139	3,027.9	3,488.5	1,507.00	6.00	0.00	0	0		
									point19	19	2,982.7	3,595.7	1,503.00	6.00	0.00	0	0		
									point20	20	2,862.4	3,888.8	1,503.00	6.00	0.00	0	0		
									point2	2	2,779.2	4,046.3	1,503.00	6.00					
Barrier4	W	0.00	99.99	0.00				0.00	point23	23	3,373.2	3,240.6	1,512.00	15.00	0.00	0	0		
									point25	25	3,298.8	3,200.7	1,512.00	15.00	0.00	0	0		
									point26	26	3,366.3	3,072.5	1,512.00	15.00					
Barrier42	W	0.00	99.99	0.00				0.00	point103	103	3,887.6	1,955.1	1,560.00	25.00	0.00	0	0		
									point46	46	4,146.7	1,905.5	1,578.00	25.00	0.00	0	0		
									point47	47	4,116.4	1,687.7	1,578.00	25.00					
Barrier43	W	0.00	99.99	0.00				0.00	point105	105	3,965.6	1,367.9	1,575.00	25.00	0.00	0	0		
									point67	67	3,976.0	1,465.1	1,575.00	25.00	0.00	0	0		
									point68	68	4,017.7	1,454.7	1,575.00	25.00					
Barrier44	W	0.00	99.99	0.00				0.00	point107	107	2,653.0	895.6	1,517.00	25.00	0.00	0	0		
									point144	144	2,814.4	805.3	1,524.00	25.00	0.00	0	0		
									point49	49	2,975.9	715.1	1,528.00	25.00	0.00	0	0		

									point50	50	3,201.6	649.1	1,531.00	25.00	0.00	0	0		
									point51	51	3,399.6	631.7	1,568.00	25.00	0.00	0	0		
									point52	52	3,492.7	636.6	1,545.00	25.00	0.00	0	0		
									point53	53	3,653.1	659.5	1,555.00	25.00	0.00	0	0		
									point54	54	3,805.9	711.6	1,563.00	25.00	0.00	0	0		
									point55	55	4,000.3	826.2	1,565.00	25.00	0.00	0	0		
									point56	56	4,114.2	937.3	1,568.00	25.00	0.00	0	0		
									point57	57	4,207.3	1,101.2	1,570.00	25.00	0.00	0	0		
									point58	58	4,267.7	1,197.8	1,574.00	25.00	0.00	0	0		
									point59	59	4,308.7	1,423.5	1,575.00	25.00					
Barrier45	W	0.00	99.99	0.00				0.00	point109	109	2,609.7	1,189.3	1,520.00	25.00	0.00	0	0		
									point61	61	2,824.1	1,515.1	1,525.00	25.00	0.00	0	0		
									point62	62	2,928.9	1,673.8	1,527.00	25.00	0.00	0	0		
									point63	63	3,043.0	1,876.8	1,529.00	25.00	0.00	0	0		
									point64	64	3,136.8	2,050.0	1,531.00	25.00	0.00	0	0		
									point142	142	3,180.8	2,196.7	1,531.00	25.00	0.00	0	0		
									point143	143	3,211.3	2,308.6	1,531.00	25.00	0.00	0	0		
									point65	65	3,222.5	2,381.9	1,530.00	25.00					
Barrier46	W	0.00	99.99	0.00				0.00	point111	111	4,326.8	1,534.6	1,576.00	25.00	0.00	0	0		
									point73	73	4,375.3	1,954.8	1,577.00	25.00	0.00	0	0		
									point74	74	4,771.2	1,836.7	1,578.00	25.00					
Barrier47	W	0.00	99.99	0.00				0.00	point113	113	3,963.8	2,143.9	1,570.00	15.00	0.00	0	0		
									point76	76	4,070.9	2,141.7	1,570.00	15.00	0.00	0	0		
									point77	77	4,068.7	2,178.9	1,570.00	15.00	0.00	0	0		
									point78	78	4,116.9	2,176.7	1,570.00	15.00	0.00	0	0		
									point79	79	4,110.3	2,229.2	1,570.00	15.00					
Barrier50	W	0.00	99.99	0.00				0.00	point115	115	4,202.2	3,158.9	1,565.00	35.00	0.00	0	0		
									point84	84	4,550.0	2,815.5	1,565.00	35.00	0.00	0	0		
									point85	85	4,628.7	2,889.9	1,565.00	35.00	0.00	0	0		
									point86	86	4,265.6	3,239.9	1,565.00	35.00					
Barrier51	W	0.00	99.99	0.00				0.00	point117	117	4,053.4	2,881.1	1,560.00	35.00	0.00	0	0		
									point88	88	4,049.1	3,130.5	1,560.00	35.00	0.00	0	0		
									point89	89	4,130.0	3,128.3	1,560.00	35.00	0.00	0	0		
									point90	90	4,130.0	2,878.9	1,560.00	35.00					
Barrier52	W	0.00	99.99	0.00				0.00	point119	119	4,090.6	2,780.5	1,550.00	15.00	0.00	0	0		
									point92	92	4,182.5	2,769.5	1,550.00	15.00	0.00	0	0		
									point93	93	4,182.5	2,738.9	1,550.00	15.00					
Barrier53	W	0.00	99.99	0.00				0.00	point121	121	4,213.1	2,824.2	1,550.00	15.00	0.00	0	0		
									point95	95	4,206.6	2,736.7	1,550.00	15.00	0.00	0	0		
									point96	96	4,276.6	2,738.9	1,550.00	15.00					
Barrier54	W	0.00	99.99	0.00				0.00	point123	123	4,296.3	2,806.7	1,550.00	15.00	0.00	0	0		
									point98	98	4,296.3	2,741.1	1,550.00	15.00	0.00	0	0		
									point99	99	4,355.3	2,741.1	1,550.00	15.00					
Barrier55	W	0.00	99.99	0.00				0.00	point125	125	4,206.6	2,623.0	1,550.00	15.00	0.00	0	0		
									point101	101	4,283.1	2,618.6	1,550.00	15.00	0.00	0	0		
									point24	24	4,285.3	2,666.7	1,550.00	15.00					
Barrier56	W	0.00	99.99	0.00				0.00	point127	127	4,180.3	2,115.5	1,570.00	15.00	0.00	0	0		
									point81	81	4,178.1	2,063.0	1,570.00	15.00	0.00	0	0		
									point82	82	4,230.6	2,058.6	1,570.00	15.00					

Barrier57	W	0.00	99.99	0.00				0.00	point129	129	3,387.1	2,353.2	1,545.00	15.00	0.00	0	0		
									point28	28	3,389.3	2,480.1	1,545.00	15.00	0.00	0	0		
									point29	29	3,437.4	2,477.9	1,545.00	15.00					
Barrier58	W	0.00	99.99	0.00				0.00	point131	131	3,771.1	1,371.4	1,575.00	25.00	0.00	0	0		
									point70	70	3,851.0	1,350.5	1,575.00	25.00	0.00	0	0		
									point71	71	3,864.9	1,423.5	1,575.00	25.00					
Barrier59	W	0.00	99.99	0.00				0.00	point133	133	3,231.7	2,484.1	1,530.00	25.00	0.00	0	0		
									point37	37	3,236.0	2,634.3	1,530.00	25.00	0.00	0	0		
									point38	38	3,234.3	2,747.1	1,528.00	25.00	0.00	0	0		
									point39	39	3,227.3	2,818.3	1,525.00	25.00	0.00	0	0		
									point40	40	3,197.8	2,924.2	1,520.00	25.00	0.00	0	0		
									point140	140	3,171.8	3,004.9	1,519.50	25.00	0.00	0	0		
									point41	41	3,145.7	3,085.7	1,519.00	25.00	0.00	0	0		
									point43	43	3,079.8	3,243.7	1,517.00	25.00	0.00	0	0		
									point44	44	3,027.7	3,340.9	1,515.00	25.00					
Barrier48	W	0.00	99.99	0.00				0.00	point135	135	3,514.0	2,337.9	1,545.00	15.00	0.00	0	0		
									point34	34	3,505.2	2,543.5	1,545.00	15.00	0.00	0	0		
									point35	35	3,553.4	2,545.7	1,545.00	15.00					
Barrier49	W	0.00	99.99	0.00				0.00	point137	137	3,450.5	2,414.5	1,545.00	15.00	0.00	0	0		
									point31	31	3,450.5	2,547.9	1,545.00	15.00	0.00	0	0		
									point32	32	3,496.5	2,545.7	1,545.00	15.00					

Dudek **6 February 2019**
MG **TNM 2.5**
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: **PN11413**
RUN: **Moreno Vlly Wlcm Cntr - Opening Year**
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**	**No Barrier**					**With Barrier**			
			LAeq1h	**LAeq1h**		**Increase over existing**		**Type**	**Calculated**	**Noise Reduction**		
				Calculated	**Crit'n**	**Calculated**	**Crit'n Sub'l Inc**	**Impact**	**LAeq1h**	**Calculated**	**Goal**	**Calculated minus Goal**
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	1	1	0.0	51.0	66	51.0	10	----	51.0	0.0	8	-8.0
ST2	2	1	0.0	43.9	66	43.9	10	----	43.9	0.0	8	-8.0
ST3	3	1	0.0	57.0	66	57.0	10	----	57.0	0.0	8	-8.0
ST4	4	1	0.0	61.7	66	61.7	10	----	61.7	0.0	8	-8.0
ST5	5	1	0.0	72.6	66	72.6	10	Snd Lvl	72.6	0.0	8	-8.0
ST6	6	1	0.0	73.6	66	73.6	10	Snd Lvl	73.6	0.0	8	-8.0
M1	8	1	0.0	64.0	66	64.0	10	----	64.0	0.0	8	-8.0
M2	9	1	0.0	60.1	66	60.1	10	----	60.1	0.0	8	-8.0
M3	10	1	0.0	56.6	66	56.6	10	----	56.6	0.0	8	-8.0
M4	11	1	0.0	61.7	66	61.7	10	----	61.7	0.0	8	-8.0

Dwelling Units	**# DUs**	**Noise Reduction**		
		Min	**Avg**	**Max**
		dB	**dB**	**dB**
All Selected	10	0.0	0.0	0.0
All Impacted	2	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek **6 February 2019**
MG **TNM 2.5**

INPUT: ROADWAYS
PROJECT/CONTRACT: **PN11413**
RUN: **Mrno Vlly Wlcm Cntr - Openg Yr + Prj**

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Laselle Street - South of College Drive	65.0	point1	1	2,345.9	518.0	1,509.00				Average	
		point3	3	2,635.3	1,025.1	1,517.00				Average	
		point4	4	2,897.1	1,460.5	1,522.00				Average	
		point57	57	3,012.9	1,653.4	1,524.00				Average	
		point5	5	3,128.6	1,846.4	1,526.00				Average	
		point6	6	3,225.1	2,055.8	1,528.00				Average	
		point7	7	3,255.4	2,174.4	1,529.00				Average	
		point8	8	3,266.5	2,232.3	1,530.00				Average	
		point9	9	3,294.0	2,427.9	1,528.00				Average	
		point10	10	3,310.6	2,703.5	1,527.00				Average	
		point11	11	3,306.2	2,784.5	1,526.00					
Krameria Avenue west of Laselle Street	65.0	point50	50	1,025.1	860.9	1,483.00				Average	
		point18	18	1,270.4	1,031.8	1,484.00				Average	
		point19	19	1,449.5	1,142.0	1,484.00				Average	
		point20	20	1,595.6	1,216.5	1,485.00				Average	
		point21	21	1,708.6	1,241.3	1,486.00				Average	
		point22	22	1,871.2	1,263.3	1,488.00				Average	
		point23	23	2,061.4	1,255.1	1,493.00				Average	
		point24	24	2,226.7	1,224.8	1,500.00				Average	
		point25	25	2,292.9	1,202.7	1,505.00				Average	
		point26	26	2,441.7	1,142.0	1,510.00				Average	
		point27	27	2,612.6	1,034.6	1,517.00					
College Drive	60.0	point52	52	3,325.9	2,776.9	1,526.00				Average	
		point48	48	3,631.5	2,802.9	1,535.00				Average	
		point2	2	3,893.7	2,809.8	1,550.00					

Cahilla Drive	40.0	point54	54	3,278.6	2,236.2	1,530.00				Average	
		point45	45	3,783.8	2,107.7	1,554.00				Average	
		point46	46	4,287.3	1,982.7	1,578.00					
Krameria Avenue	65.0	point56	56	2,659.4	1,004.3	1,517.00				Average	
		point29	29	2,797.2	921.6	1,524.00				Average	
		point30	30	2,959.9	825.1	1,528.00				Average	
		point31	31	3,133.5	742.4	1,531.00				Average	
		point32	32	3,382.9	703.0	1,568.00				Average	
		point33	33	3,457.2	703.0	1,545.00				Average	
		point34	34	3,619.1	742.4	1,555.00				Average	
		point35	35	3,816.0	816.8	1,563.00				Average	
		point36	36	3,934.1	904.3	1,565.00				Average	
		point37	37	4,061.0	1,022.4	1,568.00				Average	
		point38	38	4,139.1	1,156.1	1,570.00				Average	
		point39	39	4,186.0	1,265.5	1,574.00				Average	
		point40	40	4,220.7	1,394.0	1,575.00				Average	
		point41	41	4,239.8	1,503.4	1,576.00				Average	
		point42	42	4,262.4	1,786.4	1,577.00				Average	
		point43	43	4,276.3	1,960.9	1,578.00					
Laselle Street-North of College Drive	76.0	point58	58	3,306.2	2,784.5	1,526.00				Average	
		point12	12	3,286.5	2,937.6	1,522.00				Average	
		point13	13	3,223.1	3,114.8	1,518.00				Average	
		point14	14	3,144.3	3,333.5	1,512.00				Average	
		point15	15	2,990.0	3,680.8	1,500.00				Average	
		point16	16	2,808.1	4,105.2	1,500.00					
Krameria Avenue - North of Cahilla Drive	65.0	point59	59	4,279.4	2,000.0	1,578.00				Average	
		point60	60	4,308.1	2,386.2	1,585.00					

Dudek **6 February 2019**
MG **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **PN11413**
RUN: **Mrno Vlly Wlcm Cntr - Openg Yr + Prj**

Roadway	**Points**											
Name	**Name**	**No.**	**Segment**									
			Autos		**MTrucks**		**HTrucks**		**Buses**		**Motorcycles**	
			V	**S**	**V**	**S**	**V**	**S**	**V**	**S**	**V**	**S**
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Laselle Street - South of College Drive	point1	1	2538	45	52	45	26	45	0	0	0	0
	point3	3	2538	45	52	45	26	45	0	0	0	0
	point4	4	2538	45	52	45	26	45	0	0	0	0
	point57	57	2538	45	52	45	26	45	0	0	0	0
	point5	5	2538	45	52	45	26	45	0	0	0	0
	point6	6	2538	45	52	45	26	45	0	0	0	0
	point7	7	2538	45	52	45	26	45	0	0	0	0
	point8	8	2538	45	52	45	26	45	0	0	0	0
	point9	9	2538	45	52	45	26	45	0	0	0	0
	point10	10	2538	45	52	45	26	45	0	0	0	0
	point11	11										
Krameria Avenue west of Laselle Street	point50	50	519	35	11	35	5	35	0	0	0	0
	point18	18	519	35	11	35	5	35	0	0	0	0
	point19	19	519	35	11	35	5	35	0	0	0	0
	point20	20	519	35	11	35	5	35	0	0	0	0
	point21	21	519	35	11	35	5	35	0	0	0	0
	point22	22	519	35	11	35	5	35	0	0	0	0
	point23	23	519	35	11	35	5	35	0	0	0	0
	point24	24	519	35	11	35	5	35	0	0	0	0
	point25	25	519	35	11	35	5	35	0	0	0	0
	point26	26	519	35	11	35	5	35	0	0	0	0
	point27	27										
College Drive	point52	52	820	15	17	15	8	15	0	0	0	0

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		point48	48	820	15	17	15	8	15	0	0	0	0
		point2	2										
Cahilla Drive		point54	54	277	25	6	25	3	25	0	0	0	0
		point45	45	277	25	6	25	3	25	0	0	0	0
		point46	46										
Krameria Avenue		point56	56	519	35	11	35	5	35	0	0	0	0
		point29	29	519	35	11	35	5	35	0	0	0	0
		point30	30	519	35	11	35	5	35	0	0	0	0
		point31	31	519	35	11	35	5	35	0	0	0	0
		point32	32	519	35	11	35	5	35	0	0	0	0
		point33	33	519	35	11	35	5	35	0	0	0	0
		point34	34	519	35	11	35	5	35	0	0	0	0
		point35	35	519	35	11	35	5	35	0	0	0	0
		point36	36	519	35	11	35	5	35	0	0	0	0
		point37	37	519	35	11	35	5	35	0	0	0	0
		point38	38	519	35	11	35	5	35	0	0	0	0
		point39	39	519	35	11	35	5	35	0	0	0	0
		point40	40	519	35	11	35	5	35	0	0	0	0
		point41	41	519	35	11	35	5	35	0	0	0	0
		point42	42	519	35	11	35	5	35	0	0	0	0
		point43	43										
Laselle Street-North of College Drive		point58	58	3131	45	65	45	32	45	0	0	0	0
		point12	12	3131	45	65	45	32	45	0	0	0	0
		point13	13	3131	45	65	45	32	45	0	0	0	0
		point14	14	3131	45	65	45	32	45	0	0	0	0
		point15	15	3131	45	65	45	32	45	0	0	0	0
		point16	16										
Krameria Avenue - North of Cahilla Drive		point59	59	316	25	7	25	3	25	0	0	0	0
		point60	60										

Dudek	**6 February 2019**
MG	**TNM 2.5**

INPUT: RECEIVERS

PROJECT/CONTRACT: **PN11413**

RUN: **Mrno Vlly Wlcm Cntr - Openg Yr + Prj**

Receiver Name	**No.**	**#DUs**	**Coordinates (ground)**			**Height above Ground**	**Input Sound Levels and Criteria**				**Active in Calc.**
			X	**Y**	**Z**		**Existing LAeq1h**	**Impact Criteria LAeq1h**	**Sub'l**	**NR Goal**	
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	1	1	4,037.8	2,693.9	1,550.00	5.00	0.00	66	10.0	8.0	Y
ST2	2	1	4,303.4	2,949.2	1,565.00	5.00	0.00	66	10.0	8.0	Y
ST3	3	1	4,145.9	2,064.6	1,570.00	5.00	0.00	66	10.0	8.0	Y
ST4	4	1	4,313.2	1,950.8	1,580.00	5.00	0.00	66	10.0	8.0	Y
ST5	5	1	3,348.1	2,625.8	1,540.00	5.00	0.00	66	10.0	8.0	Y
ST6	6	1	3,209.9	3,265.8	1,512.00	5.00	0.00	66	10.0	8.0	Y
M1	8	1	3,217.5	2,935.9	1,520.00	5.00	0.00	66	10.0	8.0	Y
M2	9	1	4,314.2	1,607.8	1,577.00	5.00	0.00	66	10.0	8.0	Y
M3	10	1	4,118.3	1,674.6	1,578.00	5.00	0.00	66	10.0	8.0	Y
M4	11	1	2,949.9	1,673.2	1,527.00	5.00	0.00	66	10.0	8.0	Y

Dudek **6 February 2019**
MG **TNM 2.5**

INPUT: BARRIERS
PROJECT/CONTRACT: **PN11413**
RUN: **Mrno Vlly Wlcm Cntr - Openg Yr + Prj**

Barrier									**Points**										
Name	**Type**	**Height**		**If Wall**	**If Berm**			**Add'tnl**	**Name**	**No.**	**Coordinates (bottom)**			**Height**	**Segment**				
		Min	**Max**	**$ per Unit Area**	**$ per Unit Vol.**	**Top Width**	**Run:Rise**	**$ per Unit Length**			**X**	**Y**	**Z**	**at Point**	**Seg Ht Perturbs Incre-ment**	**#Up**	**#Dn**	**On Struct?**	**Important Reflec-tions?**
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier1	W	0.00	99.99	0.00				0.00	point1	1	2,626.1	1,130.3	1,520.00	6.00	0.00	0	0		
									point3	3	2,853.4	1,492.0	1,525.00	6.00	0.00	0	0		
									point4	4	2,956.3	1,653.9	1,527.00	6.00	0.00	0	0		
									point5	5	3,072.4	1,847.8	1,529.00	6.00	0.00	0	0		
									point6	6	3,177.3	2,048.6	1,531.00	6.00	0.00	0	0		
									point7	7	3,214.6	2,182.5	1,531.00	6.00	0.00	0	0		
									point8	8	3,243.8	2,330.9	1,531.00	6.00	0.00	0	0		
									point9	9	3,247.4	2,390.3	1,530.00	6.00	0.00	0	0		
									point10	10	3,218.9	2,412.2	1,530.00	6.00					
Barrier 10	W	0.00	99.99	0.00				0.00	point22	22	3,210.2	2,460.3	1,530.00	6.00	0.00	0	0		
									point12	12	3,253.6	2,489.7	1,530.00	6.00	0.00	0	0		
									point13	13	3,264.4	2,643.2	1,530.00	6.00	0.00	0	0		
									point14	14	3,264.9	2,766.6	1,528.00	6.00	0.00	0	0		
									point15	15	3,257.5	2,851.9	1,525.00	6.00	0.00	0	0		
									point141	141	3,240.0	2,930.3	1,520.00	6.00	0.00	0	0		
									point16	16	3,216.7	3,020.3	1,519.50	6.00	0.00	0	0		
									point17	17	3,176.6	3,118.0	1,519.00	6.00	0.00	0	0		
									point18	18	3,118.3	3,274.1	1,517.00	6.00	0.00	0	0		
									point138	138	3,073.1	3,381.3	1,515.00	6.00	0.00	0	0		
									point139	139	3,027.9	3,488.5	1,507.00	6.00	0.00	0	0		
									point19	19	2,982.7	3,595.7	1,503.00	6.00	0.00	0	0		
									point20	20	2,862.4	3,888.8	1,503.00	6.00	0.00	0	0		
									point2	2	2,779.2	4,046.3	1,503.00	6.00					
Barrier4	W	0.00	99.99	0.00				0.00	point23	23	3,373.2	3,240.6	1,512.00	15.00	0.00	0	0		
									point25	25	3,298.8	3,200.7	1,512.00	15.00	0.00	0	0		
									point26	26	3,366.3	3,072.5	1,512.00	15.00					
Barrier42	W	0.00	99.99	0.00				0.00	point103	103	3,887.6	1,955.1	1,560.00	25.00	0.00	0	0		
									point46	46	4,146.7	1,905.5	1,578.00	25.00	0.00	0	0		
									point47	47	4,116.4	1,687.7	1,578.00	25.00					
Barrier43	W	0.00	99.99	0.00				0.00	point105	105	3,965.6	1,367.9	1,575.00	25.00	0.00	0	0		
									point67	67	3,976.0	1,465.1	1,575.00	25.00	0.00	0	0		
									point68	68	4,017.7	1,454.7	1,575.00	25.00					
Barrier44	W	0.00	99.99	0.00				0.00	point107	107	2,653.0	895.6	1,517.00	25.00	0.00	0	0		
									point144	144	2,814.4	805.3	1,524.00	25.00	0.00	0	0		
									point49	49	2,975.9	715.1	1,528.00	25.00	0.00	0	0		

								point50	50	3,201.6	649.1	1,531.00	25.00	0.00	0	0		
								point51	51	3,399.6	631.7	1,568.00	25.00	0.00	0	0		
								point52	52	3,492.7	636.6	1,545.00	25.00	0.00	0	0		
								point53	53	3,653.1	659.5	1,555.00	25.00	0.00	0	0		
								point54	54	3,805.9	711.6	1,563.00	25.00	0.00	0	0		
								point55	55	4,000.3	826.2	1,565.00	25.00	0.00	0	0		
								point56	56	4,114.2	937.3	1,568.00	25.00	0.00	0	0		
								point57	57	4,207.3	1,101.2	1,570.00	25.00	0.00	0	0		
								point58	58	4,267.7	1,197.8	1,574.00	25.00	0.00	0	0		
								point59	59	4,308.7	1,423.5	1,575.00	25.00					
Barrier45	W	0.00	99.99	0.00			0.00	point109	109	2,609.7	1,189.3	1,520.00	25.00	0.00	0	0		
								point61	61	2,824.1	1,515.1	1,525.00	25.00	0.00	0	0		
								point62	62	2,928.9	1,673.8	1,527.00	25.00	0.00	0	0		
								point63	63	3,043.0	1,876.8	1,529.00	25.00	0.00	0	0		
								point64	64	3,136.8	2,050.0	1,531.00	25.00	0.00	0	0		
								point142	142	3,180.8	2,196.7	1,531.00	25.00	0.00	0	0		
								point143	143	3,211.3	2,308.6	1,531.00	25.00	0.00	0	0		
								point65	65	3,222.5	2,381.9	1,530.00	25.00					
Barrier46	W	0.00	99.99	0.00			0.00	point111	111	4,326.8	1,534.6	1,576.00	25.00	0.00	0	0		
								point73	73	4,375.3	1,954.8	1,577.00	25.00	0.00	0	0		
								point74	74	4,771.2	1,836.7	1,578.00	25.00					
Barrier47	W	0.00	99.99	0.00			0.00	point113	113	3,963.8	2,143.9	1,570.00	15.00	0.00	0	0		
								point76	76	4,070.9	2,141.7	1,570.00	15.00	0.00	0	0		
								point77	77	4,068.7	2,178.9	1,570.00	15.00	0.00	0	0		
								point78	78	4,116.9	2,176.7	1,570.00	15.00	0.00	0	0		
								point79	79	4,110.3	2,229.2	1,570.00	15.00					
Barrier50	W	0.00	99.99	0.00			0.00	point115	115	4,202.2	3,158.9	1,565.00	35.00	0.00	0	0		
								point84	84	4,550.0	2,815.5	1,565.00	35.00	0.00	0	0		
								point85	85	4,628.7	2,889.9	1,565.00	35.00	0.00	0	0		
								point86	86	4,265.6	3,239.9	1,565.00	35.00					
Barrier51	W	0.00	99.99	0.00			0.00	point117	117	4,053.4	2,881.1	1,560.00	35.00	0.00	0	0		
								point88	88	4,049.1	3,130.5	1,560.00	35.00	0.00	0	0		
								point89	89	4,130.0	3,128.3	1,560.00	35.00	0.00	0	0		
								point90	90	4,130.0	2,878.9	1,560.00	35.00					
Barrier52	W	0.00	99.99	0.00			0.00	point119	119	4,090.6	2,780.5	1,550.00	15.00	0.00	0	0		
								point92	92	4,182.5	2,769.5	1,550.00	15.00	0.00	0	0		
								point93	93	4,182.5	2,738.9	1,550.00	15.00					
Barrier53	W	0.00	99.99	0.00			0.00	point121	121	4,213.1	2,824.2	1,550.00	15.00	0.00	0	0		
								point95	95	4,206.6	2,736.7	1,550.00	15.00	0.00	0	0		
								point96	96	4,276.6	2,738.9	1,550.00	15.00					
Barrier54	W	0.00	99.99	0.00			0.00	point123	123	4,296.3	2,806.7	1,550.00	15.00	0.00	0	0		
								point98	98	4,296.3	2,741.1	1,550.00	15.00	0.00	0	0		
								point99	99	4,355.3	2,741.1	1,550.00	15.00					
Barrier55	W	0.00	99.99	0.00			0.00	point125	125	4,206.6	2,623.0	1,550.00	15.00	0.00	0	0		
								point101	101	4,283.1	2,618.6	1,550.00	15.00	0.00	0	0		
								point24	24	4,285.3	2,666.7	1,550.00	15.00					
Barrier56	W	0.00	99.99	0.00			0.00	point127	127	4,180.3	2,115.5	1,570.00	15.00	0.00	0	0		
								point81	81	4,178.1	2,063.0	1,570.00	15.00	0.00	0	0		
								point82	82	4,230.6	2,058.6	1,570.00	15.00					

Barrier57	W	0.00	99.99	0.00				0.00	point129	129	3,387.1	2,353.2	1,545.00	15.00	0.00	0	0		
									point28	28	3,389.3	2,480.1	1,545.00	15.00	0.00	0	0		
									point29	29	3,437.4	2,477.9	1,545.00	15.00					
Barrier58	W	0.00	99.99	0.00				0.00	point131	131	3,771.1	1,371.4	1,575.00	25.00	0.00	0	0		
									point70	70	3,851.0	1,350.5	1,575.00	25.00	0.00	0	0		
									point71	71	3,864.9	1,423.5	1,575.00	25.00					
Barrier59	W	0.00	99.99	0.00				0.00	point133	133	3,231.7	2,484.1	1,530.00	25.00	0.00	0	0		
									point37	37	3,236.0	2,634.3	1,530.00	25.00	0.00	0	0		
									point38	38	3,234.3	2,747.1	1,528.00	25.00	0.00	0	0		
									point39	39	3,227.3	2,818.3	1,525.00	25.00	0.00	0	0		
									point40	40	3,197.8	2,924.2	1,520.00	25.00	0.00	0	0		
									point140	140	3,171.8	3,004.9	1,519.50	25.00	0.00	0	0		
									point41	41	3,145.7	3,085.7	1,519.00	25.00	0.00	0	0		
									point43	43	3,079.8	3,243.7	1,517.00	25.00	0.00	0	0		
									point44	44	3,027.7	3,340.9	1,515.00	25.00					
Barrier48	W	0.00	99.99	0.00				0.00	point135	135	3,514.0	2,337.9	1,545.00	15.00	0.00	0	0		
									point34	34	3,505.2	2,543.5	1,545.00	15.00	0.00	0	0		
									point35	35	3,553.4	2,545.7	1,545.00	15.00					
Barrier49	W	0.00	99.99	0.00				0.00	point137	137	3,450.5	2,414.5	1,545.00	15.00	0.00	0	0		
									point31	31	3,450.5	2,547.9	1,545.00	15.00	0.00	0	0		
									point32	32	3,496.5	2,545.7	1,545.00	15.00					

Dudek **6 February 2019**
MG **TNM 2.5**
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: **PN11413**
RUN: **Mrno Vlly Wlcm Cntr - Openg Yr + Prj**
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**	**No Barrier**					**With Barrier**			
			LAeq1h	**LAeq1h**		**Increase over existing**		**Type**	**Calculated**	**Noise Reduction**		
				Calculated	**Crit'n**	**Calculated**	**Crit'n**	**Impact**	**LAeq1h**	**Calculated**	**Goal**	**Calculated**
							Sub'l Inc					**minus**
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	1	1	0.0	51.0	66	51.0	10	----	51.0	0.0	8	-8.0
ST2	2	1	0.0	43.9	66	43.9	10	----	43.9	0.0	8	-8.0
ST3	3	1	0.0	57.0	66	57.0	10	----	57.0	0.0	8	-8.0
ST4	4	1	0.0	61.8	66	61.8	10	----	61.8	0.0	8	-8.0
ST5	5	1	0.0	72.6	66	72.6	10	Snd Lvl	72.6	0.0	8	-8.0
ST6	6	1	0.0	73.7	66	73.7	10	Snd Lvl	73.7	0.0	8	-8.0
M1	8	1	0.0	64.0	66	64.0	10	----	64.0	0.0	8	-8.0
M2	9	1	0.0	60.2	66	60.2	10	----	60.2	0.0	8	-8.0
M3	10	1	0.0	56.7	66	56.7	10	----	56.7	0.0	8	-8.0
M4	11	1	0.0	61.7	66	61.7	10	----	61.7	0.0	8	-8.0

Dwelling Units	**# DUs**	**Noise Reduction**		
		Min	**Avg**	**Max**
		dB	**dB**	**dB**
All Selected	10	0.0	0.0	0.0
All Impacted	2	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

APPENDIX D-3

Construction Noise Modeling Input and Output

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/28/2019
Case Description: Moreno Valley Welcome Center - Site Preparation

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Elementary School to the south	Residential	60	55	50

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Grader	No	40	85		640	0
Tractor	No	40	84		640	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader		62.9	58.9	N/A	N/A	N/A	N/A
Tractor		61.9	57.9	N/A	N/A	N/A	N/A
	Total	62.9	61.4	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residents to the west	Residential	60	55	50

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Grader	No	40	85		700	0
Tractor	No	40	84		700	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader		62.1	58.1	N/A	N/A	N/A	N/A
Tractor		61.1	57.1	N/A	N/A	N/A	N/A
	Total	62.1	60.6	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residents to the southeast	Residential	60	55	50

		Equipment			
		Spec	Actual	Receptor	Estimated
Impact		Lmax	Lmax	Distance	Shielding

Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Grader		No	40	85		750	0
Tractor		No	40	84		750	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader		61.5	57.5	N/A	N/A	N/A	N/A
Tractor		60.5	56.5	N/A	N/A	N/A	N/A
	Total	61.5	60	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residents to the northwest	Residential	60	55	50

				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Grader		No	40	85		920	0
Tractor		No	40	84		920	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader		59.7	55.7	N/A	N/A	N/A	N/A
Tractor		58.7	54.7	N/A	N/A	N/A	N/A
	Total	59.7	58.3	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/28/2019
Case Description: Moreno Valley Welcome Center - Grading

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Elementary School to the south	Residential	60	55	50

				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Concrete Saw		No	20		89.6	640	0
Dozer		No	40		81.7	640	0
Backhoe		No	40		77.6	640	0
Tractor		No	40	84		640	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Saw		67.4	60.4	N/A	N/A	N/A	N/A

Dozer		59.5	55.5	N/A	N/A	N/A	N/A
Backhoe		55.4	51.4	N/A	N/A	N/A	N/A
Tractor		61.9	57.9	N/A	N/A	N/A	N/A
	Total	67.4	63.5	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Residents to the west	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	700	0
Dozer	No	40		81.7	700	0
Backhoe	No	40		77.6	700	0
Tractor	No	40	84		700	0

Results

Equipment		Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq
Concrete Saw		66.7	59.7	N/A	N/A	N/A	N/A
Dozer		58.7	54.8	N/A	N/A	N/A	N/A
Backhoe		54.6	50.7	N/A	N/A	N/A	N/A
Tractor		61.1	57.1	N/A	N/A	N/A	N/A
	Total	66.7	62.7	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Residents to the southeast	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	750	0
Dozer	No	40		81.7	750	0
Backhoe	No	40		77.6	750	0
Tractor	No	40	84		750	0

Results

Equipment		Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq
Concrete Saw		66.1	59.1	N/A	N/A	N/A	N/A
Dozer		58.1	54.2	N/A	N/A	N/A	N/A
Backhoe		54	50.1	N/A	N/A	N/A	N/A
Tractor		60.5	56.5	N/A	N/A	N/A	N/A
	Total	66.1	62.1	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Residents to the northwest	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	920	0
Dozer	No	40		81.7	920	0
Backhoe	No	40		77.6	920	0
Tractor	No	40	84		920	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Saw		64.3	57.3	N/A	N/A	N/A	N/A
Dozer		56.4	52.4	N/A	N/A	N/A	N/A
Backhoe		52.3	48.3	N/A	N/A	N/A	N/A
Tractor		58.7	54.7	N/A	N/A	N/A	N/A
	Total	64.3	60.3	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/28/2019
Case Description: Moreno Valley Welcome Center - Building Construction

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Elementary School to the south	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	640	0
Man Lift	No	20		74.7	640	0
Man Lift	No	20		74.7	640	0
Backhoe	No	40		77.6	640	0
Front End Loader	No	40		79.1	640	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane		58.4	50.4	N/A	N/A	N/A	N/A
Man Lift		52.6	45.6	N/A	N/A	N/A	N/A
Man Lift		52.6	45.6	N/A	N/A	N/A	N/A
Backhoe		55.4	51.4	N/A	N/A	N/A	N/A
Front End Loader		57	53	N/A	N/A	N/A	N/A
	Total	58.4	57.2	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residents to the west	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	700	0
Man Lift	No	20		74.7	700	0
Man Lift	No	20		74.7	700	0
Backhoe	No	40		77.6	700	0
Front End Loader	No	40		79.1	700	0

Results

		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane		57.6	49.7	N/A	N/A	N/A	N/A
Man Lift		51.8	44.8	N/A	N/A	N/A	N/A
Man Lift		51.8	44.8	N/A	N/A	N/A	N/A
Backhoe		54.6	50.7	N/A	N/A	N/A	N/A
Front End Loader		56.2	52.2	N/A	N/A	N/A	N/A
	Total	57.6	56.4	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residents to the southeast	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	750	0
Man Lift	No	20		74.7	750	0
Man Lift	No	20		74.7	750	0
Backhoe	No	40		77.6	750	0
Front End Loader	No	40		79.1	750	0

Results

		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane		57	49.1	N/A	N/A	N/A	N/A
Man Lift		51.2	44.2	N/A	N/A	N/A	N/A
Man Lift		51.2	44.2	N/A	N/A	N/A	N/A
Backhoe		54	50.1	N/A	N/A	N/A	N/A
Front End Loader		55.6	51.6	N/A	N/A	N/A	N/A
	Total	57	55.8	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residents to the northwest	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	920	0
Man Lift	No	20		74.7	920	0

Man Lift	No	20		74.7	920	0
Backhoe	No	40		77.6	920	0
Front End Loader	No	40		79.1	920	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane		55.3	47.3	N/A	N/A	N/A	N/A
Man Lift		49.4	42.4	N/A	N/A	N/A	N/A
Man Lift		49.4	42.4	N/A	N/A	N/A	N/A
Backhoe		52.3	48.3	N/A	N/A	N/A	N/A
Front End Loader		53.8	49.8	N/A	N/A	N/A	N/A
	Total	55.3	54	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/28/2019
Case Description: Moreno Valley Welcome Center - Paving

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Elementary School to the south	Residential	60	55	50

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Concrete Mixer Truck	No	40		78.8	640	0
Concrete Mixer Truck	No	40		78.8	640	0
Concrete Mixer Truck	No	40		78.8	640	0
Concrete Pump Truck	No	20		81.4	640	0
Paver	No	50		77.2	640	0
Roller	No	20		80	640	0
Front End Loader	No	40		79.1	640	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck		56.7	52.7	N/A	N/A	N/A	N/A
Concrete Mixer Truck		56.7	52.7	N/A	N/A	N/A	N/A
Concrete Mixer Truck		56.7	52.7	N/A	N/A	N/A	N/A
Concrete Pump Truck		59.3	52.3	N/A	N/A	N/A	N/A
Paver		55.1	52.1	N/A	N/A	N/A	N/A
Roller		57.9	50.9	N/A	N/A	N/A	N/A
Front End Loader		57	53	N/A	N/A	N/A	N/A
	Total	59.3	60.8	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residents to the west	Residential	60	55	50

			Equipment			
			Spec	Actual	Receptor	Estimated

Description	Impact Device	Usage(%)	Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	700	0
Concrete Mixer Truck	No	40		78.8	700	0
Concrete Mixer Truck	No	40		78.8	700	0
Concrete Pump Truck	No	20		81.4	700	0
Paver	No	50		77.2	700	0
Roller	No	20		80	700	0
Front End Loader	No	40		79.1	700	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck		55.9	51.9	N/A	N/A	N/A	N/A
Concrete Mixer Truck		55.9	51.9	N/A	N/A	N/A	N/A
Concrete Mixer Truck		55.9	51.9	N/A	N/A	N/A	N/A
Concrete Pump Truck		58.5	51.5	N/A	N/A	N/A	N/A
Paver		54.3	51.3	N/A	N/A	N/A	N/A
Roller		57.1	50.1	N/A	N/A	N/A	N/A
Front End Loader		56.2	52.2	N/A	N/A	N/A	N/A
	Total	58.5	60	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residents to the southeast	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	750	0
Concrete Mixer Truck	No	40		78.8	750	0
Concrete Mixer Truck	No	40		78.8	750	0
Concrete Pump Truck	No	20		81.4	750	0
Paver	No	50		77.2	750	0
Roller	No	20		80	750	0
Front End Loader	No	40		79.1	750	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck		55.3	51.3	N/A	N/A	N/A	N/A
Concrete Mixer Truck		55.3	51.3	N/A	N/A	N/A	N/A
Concrete Mixer Truck		55.3	51.3	N/A	N/A	N/A	N/A
Concrete Pump Truck		57.9	50.9	N/A	N/A	N/A	N/A
Paver		53.7	50.7	N/A	N/A	N/A	N/A
Roller		56.5	49.5	N/A	N/A	N/A	N/A
Front End Loader		55.6	51.6	N/A	N/A	N/A	N/A
	Total	57.9	59.4	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residents to the northwest	Residential	60	55	50

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Concrete Mixer Truck	No	40		78.8	920	0
Concrete Mixer Truck	No	40		78.8	920	0
Concrete Mixer Truck	No	40		78.8	920	0
Concrete Pump Truck	No	20		81.4	920	0
Paver	No	50		77.2	920	0
Roller	No	20		80	920	0
Front End Loader	No	40		79.1	920	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck		53.5	49.5	N/A	N/A	N/A	N/A
Concrete Mixer Truck		53.5	49.5	N/A	N/A	N/A	N/A
Concrete Mixer Truck		53.5	49.5	N/A	N/A	N/A	N/A
Concrete Pump Truck		56.1	49.1	N/A	N/A	N/A	N/A
Paver		51.9	48.9	N/A	N/A	N/A	N/A
Roller		54.7	47.7	N/A	N/A	N/A	N/A
Front End Loader		53.8	49.8	N/A	N/A	N/A	N/A
	Total	56.1	57.7	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/28/2019

Case Description: Moreno Valley Welcome Center - Architectural Coating

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Elementary School to the south	Residential	60	55	50

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Compressor (air)	No	40		77.7	640	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		55.5	51.5	N/A	N/A	N/A	N/A
	Total	55.5	51.5	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residents to the west	Residential	60	55	50

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding

Description		Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)		No	40		77.7	700	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		62.1	58.1	N/A	N/A	N/A	N/A
	Total	62.1	60.6	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residents to the southeast	Residential	60	55	50

Description		Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)		No	40		77.7	750	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		54.1	50.2	N/A	N/A	N/A	N/A
	Total	54.1	50.2	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residents to the northwest	Residential	60	55	50

Description		Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)		No	40		77.7	920	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		52.4	48.4	N/A	N/A	N/A	N/A
	Total	52.4	48.4	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/6/2019
Case Description: Moreno Valley Welcome Center - Trenching

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Elementary School to the south	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Slurry Trenching Machine	No	50		80.4	180	0
Backhoe	No	40		77.6	180	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Slurry Trenching Machine		69.2	66.2	N/A	N/A	N/A	N/A
Backhoe		66.4	62.5	N/A	N/A	N/A	N/A
	Total	69.2	67.7	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residents to the west	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Slurry Trenching Machine	No	50		80.4	1150	0
Backhoe	No	40		77.6	1150	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Slurry Trenching Machine		53.1	50.1	N/A	N/A	N/A	N/A
Backhoe		50.3	46.3	N/A	N/A	N/A	N/A
	Total	53.1	51.6	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residents to the southeast	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Slurry Trenching Machine	No	50		80.4	30	0
Backhoe	No	40		77.6	35	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Slurry Trenching Machine		84.8	81.8	N/A	N/A	N/A	N/A
Backhoe		80.7	76.7	N/A	N/A	N/A	N/A
	Total	84.8	83	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Residents to the northwest	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Slurry Trenching Machine	No	50		80.4	1000	0
Backhoe	No	40		77.6	1000	0

				Results			
		Calculated (dBA)			Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Slurry Trenching Machine		54.3	51.3	N/A	N/A	N/A	N/A
Backhoe		51.5	47.6	N/A	N/A	N/A	N/A
	Total	54.3	52.9	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

APPENDIX D-4

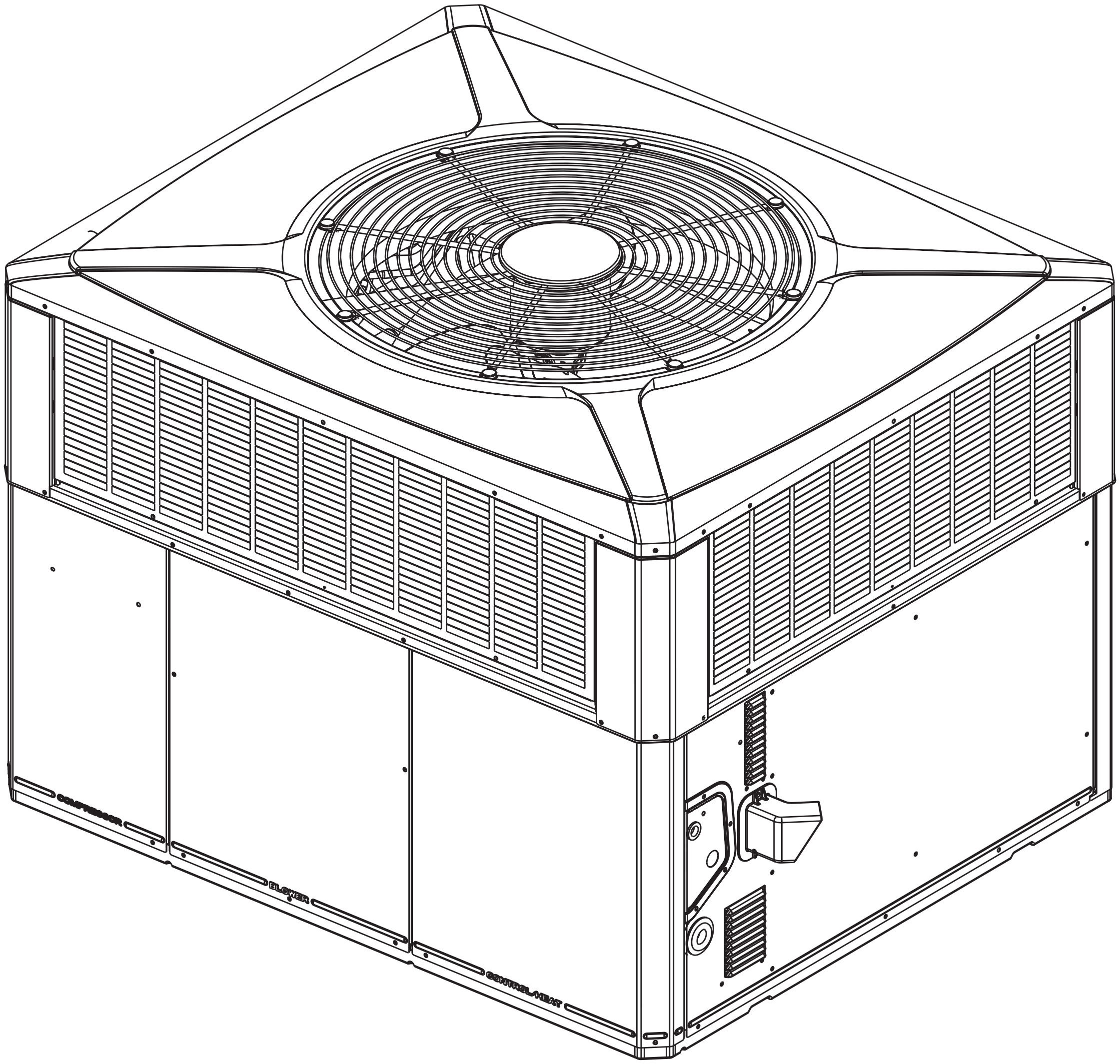
Mechanical Noise Data

22-1799-17

Product Data

4DCY4024 through 4DCY4060

Single Packaged Convertible Dual Fuel
14 SEER
2 - 5 Ton, 40 - 120 MBTU
R-410A



General Data

MODEL	4DCY4024A1064B	4DCY4030A1075B	4DCY4036C1075A
RATED Volts/PH/Hz	208-230/1/60	208-230/1/60	208-230/1/60
Performance Cooling BTUH①	23600	30000	37000
Indoor Airflow (CFM)	760	880	1150
Power Input (KW)	2.162	2.15	3.11
EER/SEER(BTU/Watt-Hr.)⑤	12/14.0	12.0 / 14.25	12.0 / 14.0
Sound Power Rating [dB(A)]⑦	68	71	69
HP Heating Performance			
(High Temp.)BTUH / COP	22400 / 3.7	28000 / 3.9	33200 / 3.6
Power Input (KW)	1.77	2.15	2.7
(Low Temp.) BTUH / COP	11600 / 2.38	15400 / 2.48	22400 / 2.4
Power Input (KW)	1.24	1.81	2.5
HSPF (BTU / Watt-Hr.)	8.0	8.0	8.0
Gas Heating Performance②			
(High) Input BTUH	64000	75000	75000
Capacity BTUH	51500	60500	60500
Temp. Rise — Min/Max (°F)	35 / 65	30 / 60	30 / 60
(Low) Input BTUH	48000	56250	56250
Capacity BTUH	41200	48400	48400
AFUE	79	79.5	79.5
Type of Gas ③	NATURAL	NATURAL/LP	NATURAL
Gas Pipe Size (in.)	1/2	1/2	1/2
POWER CONN.—V/PH/HZ	208-230/1/60	208-230/1/60	208-230/1/60
Min. Brch. Cir. Ampacity④	16.1	19.1	26.2
Fuse Size — Max. (amps)	25	30	40
Fuse Size — Recmd. (amps)	25	30	40
COMPRESSOR	RECIPROCATING	RECIPROCATING	SCROLL
Volts/Ph/Hz	208-230/1/60	200-230/1/60	208-230/1/60
R.L. Amps — L.R. Amps	8.3 / 57.8	11.1 / 63	16.7 / 79
OUTDOOR COIL — TYPE	SPINE-FIN	SPINE-FIN	SPINE-FIN
Rows/F.P.I.	2 / 24	2 / 24	2 / 24
Face Area (sq.ft.)	13.32	13.32	15.49
Tube Size (in.)	3/8	3/8	3/8
Refrigerant Control	EXPANSION VALVE	EXPANSION VALVE	EXPANSION VALVE
INDOOR COIL — TYPE	PLATE FIN	PLATE FIN	PLATE FIN
Rows/F.P.I.	3 / 15	4 / 15	4 / 15
Face Area (sq.ft.)	3.54	3.54	3.54
Tube Size (in.)	3/8	3/8	3/8
Refrigerant Control	EXPANSION VALVE	EXPANSION VALVE	EXPANSION VALVE
Drain Conn. Size (in.)	3/4 FEMALE NPT	3/4 FEMALE NPT	3/4 FEMALE NPT
OUTDOOR FAN — TYPE	PROPELLER	PROPELLER	PROPELLER
Dia. (in.)	23.4	23.4	23.4
Drive/No. Speeds	DIRECT / 1	DIRECT / 1	DIRECT / 1
CFM @ 0.0 in. w.g. ⑦	2590	3250	3310
Motor — HP/R.P.M.	1/12 / 810	1/6 / 830	1/5 / 830
Volts/Ph/Hz	208-230/1/60	208-230/1/60	208-230/1/60
F.L. Amps/L.R. Amps	0.54 / 0.95	1.0 / 1.7	1.1 / 1.9
INDOOR FAN — TYPE	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
Dia x Width (in.)	10 X 10	10 X 10	10 X 10
Drive/No. Speeds	DIRECT / VARIABLE	DIRECT / VARIABLE	DIRECT / VARIABLE
CFM @ 0.0 in. w.g.⑤	SEE FAN PERFORMANCE TABLE	SEE FAN PERFORMANCE TABLE	SEE FAN PERFORMANCE TABLE
Motor — HP/R.P.M.	1/2 / VARIABLE	1/2 / VARIABLE	1/2 / VARIABLE
Volts/Ph/Hz	200-230/1/60	208-230/1/60	200-230/1/60
F.L. Amps/L.R. Amps	4.3 / 4.3	4.3 / 4.3	4.3 / 4.3
COMBUSTION FAN — TYPE	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
Drive/No. Speeds	DIRECT / 2	DIRECT / 2	DIRECT / 2
Motor — HP/R.P.M. (High/Low)	1/45 / 2800/1500	1/45 / 2800/1500	1/45 / 2800/1500
Volts/Ph/Hz	208-230/1/60	208-230/1/60	208-230/1/60
FLA	0.34	0.34	0.34
FILTER / FURNISHED	NO	NO	NO
Type Recommended	THROWAWAY	THROWAWAY	THROWAWAY
Recmd. Face Area (sq. ft.)⑥	4	4	4
REFRIGERANT / Charge (lbs.)	R410A / 6.5	R410A / 6.56	R410A / 7.5
DIMENSIONS	H X W X L	H X W X L	H X W X L
Crated (in.)	45.86 / 44.5 / 52.03	45.86 / 44.5 / 52.03	47.86 / 44.5 / 52.03
WEIGHT / Shipping / Net (lbs.)	481 / 385	481 / 385	488 / 392

① Certified in accordance with the Unitary Air-Conditioner Equipment certification program, which is based on AHRI Standard 210/240.

② All models are U L Listed. Ratings shown are for elevations up to 2000 ft. For higher elevations reduce ratings at a rate of 4% per 1000 ft. elevation.

③ Convertible to LPG.

④ This value is approximate. For more precise value, see Unit Nameplate.

⑤ Based on U.S. Government Standard Tests.

⑥ Filters must be installed in return air stream. Square footages listed are based on 300 f.p.m. face velocity. If permanent filters are used size per manufacturer's recommendation with a clean resistance of 0.05" W.C.

⑦ Sound Power values are not adjusted for AHRI 270-95 tonal corrections.

⑧ Standard Air — Dry Coil — Outdoor.

General Data

MODEL	4DCY4036B3075A	4DCY4042A1096B	4DCY4048B1096B
RATED Volts/PH/Hz	208-230/3/60	208-230/1/60	208-230/1/60
Performance Cooling BTUH①	36000	42000	47500
Indoor Airflow (CFM)	1185	1370	1470
Power Input (KW)	3.28	3.27	3.96
EER/SEER(BTU/Watt-Hr.)⑤	11.4 / 14.0	12.0 / 14.25	12.0 / 14.0
Sound Power Rating [dB(A)]⑦	69	74	73
HP Heating Performance			
(High Temp.)BTUH / COP	32400 / 3.5	39500 / 3.6	45000 / 3.5
Power Input (KW)	2.7	3.27	3.77
(Low Temp.) BTUH / COP	20600 / 2.36	23600 / 2.26	26800 / 2.3
Power Input (KW)	2.6	3.06	3.44
HSPF (BTU / Watt-Hr.)	8.0	8.0	8.0
Gas Heating Performance②			
(High) Input BTUH	75000	96000	96000
Capacity BTUH	60500	77500	77500
Temp. Rise — Min/Max (°F)	30 / 60	30 / 60	30 / 60
(Low) Input BTUH	56250	72000	72000
Capacity BTUH	48400	62000	62000
AFUE	80.0	80	80
Type of Gas ③	NATURAL	NATURAL/LP	NATURAL
Gas Pipe Size (in.)	1/2	1/2	1/2
POWER CONN.—V/PH/HZ	208-230/3/60	208-230/1/60	208-230/1/60
Min. Brch. Cir. Ampacity④	18.5	31.5	33.9
Fuse Size — Max. (amps)	25	50	50
Fuse Size — Recmd. (amps)	25	50	50
COMPRESSOR	SCROLL	SCROLL	SCROLL
Volts/Ph/Hz	208-230/3/60	208-230/1/60	208-230/1/60
R.L. Amps — L.R. Amps	10.4 / 73	18.6 / 105	20.5 / 109
OUTDOOR COIL — TYPE	SPINE-FIN	SPINE-FIN	SPINE-FIN
Rows/F.P.I.	2 / 24	2 / 24	2 / 24
Face Area (sq.ft.)	15.49	18.01	18.01
Tube Size (in.)	3/8	3/8	3/8
Refrigerant Control	EXPANSION VALVE	EXPANSION VALVE	EXPANSION VALVE
INDOOR COIL — TYPE	PLATE FIN	PLATE FIN	PLATE FIN
Rows/F.P.I.	4 / 15	3 / 15	3 / 15
Face Area (sq.ft.)	3.54	5	5.0
Tube Size (in.)	3/8	3/8	3/8
Refrigerant Control	EXPANSION VALVE	EXPANSION VALVE	EXPANSION VALVE
Drain Conn. Size (in.)	3/4 FEMALE NPT	3/4 FEMALE NPT	3/4 FEMALE NPT
OUTDOOR FAN — TYPE	PROPELLER	PROPELLER	PROPELLER
Dia. (in.)	23.4	28.2	28.2
Drive/No. Speeds	DIRECT / 1	DIRECT / 1	DIRECT / 1
CFM @ 0.0 in. w.g. ⑦	3270	4440	4450
Motor — HP/R.P.M.	1/5 / 830	1/4 / 825	1/4 / 825
Volts/Ph/Hz	208-230/1/60	208-230/1/60	208-230/1/60
F.L. Amps/L.R. Amps	1.1 / 1.9	1.5 / 3.4	1.4 / 3.5
INDOOR FAN — TYPE	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
Dia x Width (in.)	10 X 10	11 X 10	11 X 10
Drive/No. Speeds	DIRECT / VARIABLE	DIRECT / VARIABLE	DIRECT / VARIABLE
CFM @ 0.0 in. w.g.⑤	SEE FAN PERFORMANCE TABLE	SEE FAN PERFORMANCE TABLE	SEE FAN PERFORMANCE TABLE
Motor — HP/R.P.M.	1/2 / VARIABLE	3/4 / VARIABLE	3/4 / VARIABLE
Volts/Ph/Hz	200-230/1/60	208-230/1/60	200-230/1/60
F.L. Amps/L.R. Amps	4.3 / 4.3	6.8 / 6.8	6.8 / 6.8
COMBUSTION FAN — TYPE	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
Drive/No. Speeds	DIRECT / 2	DIRECT / 2	DIRECT / 2
Motor — HP/R.P.M. (High/Low)	1/45 / 2800/1500	1/45 / 2800/1500	1/45 / 2800/1500
Volts/Ph/Hz	208-230/1/60	208-230/1/60	208-230/1/60
FLA	0.34	0.34	0.34
FILTER / FURNISHED	NO	NO	NO
Type Recommended	THROWAWAY	THROWAWAY	THROWAWAY
Recmd. Face Area (sq. ft.)⑥	4	5.3	5.3
REFRIGERANT / Charge (lbs.)	R410A / 7.4	R410A / 7.25	R410A / 7.75
DIMENSIONS	H X W X L	H X W X L	H X W X L
Crated (in.)	47.86 / 44.5 / 52.03	47.86 / 47.4 / 61.75	47.86 / 47.4 / 61.75
WEIGHT / Shipping / Net (lbs.)	488 / 392	653 / 525	653 / 525

① Certified in accordance with the Unitary Air-Conditioner Equipment certification program, which is based on AHRI Standard 210/240.

② All models are U L Listed. Ratings shown are for elevations up to 2000 ft. For higher elevations reduce ratings at a rate of 4% per 1000 ft. elevation.

③ Convertible to LPG.

④ This value is approximate. For more precise value, see Unit Nameplate.

⑤ Based on U.S. Government Standard Tests.

⑥ Filters must be installed in return air stream. Square footages listed are based on 300 f.p.m. face velocity. If permanent filters are used size per manufacturer's recommendation with a clean resistance of 0.05" W.C.

⑦ Sound Power values are not adjusted for AHRI 270-95 tonal corrections.

⑧ Standard Air — Dry Coil — Outdoor.

General Data

MODEL	4DCY4048A3096C	4DCY4060B1120C	4DCY4060A3120C
RATED Volts/PH/Hz	208-230/3/60	208-230/1/60	208-230/3/60
Performance Cooling BTUH①	47000	58000	57500
Indoor Airflow (CFM)	1470	1785	1745
Power Input (KW)	4.03	4.83	5.48
EER/SEER(BTU/Watt-Hr.)⑤	10.85 / 14.0	12.0 / 14.0	11.5 / 14.0
Sound Power Rating [dB(A)]⑦	73	76	76
HP Heating Performance			
(High Temp.)BTUH / COP	42500 / 3.5	55000 / 3.6	54500 / 3.5
Power Input (KW)	3.56	4.48	4.56
(Low Temp.) BTUH / COP	26800 / 2.3	35400 / 2.4	36400 / 2.48
Power Input (KW)	3.44	4.30	4.29
HSPF (BTU / Watt-Hr.)	8.0	8.0	8.0
Gas Heating Performance②			
(High) Input BTUH	96000	120000	120000
Capacity BTUH	77500	96000	96000
Temp. Rise — Min/Max (°F)	30 / 60	30 / 60	30 / 60
(Low) Input BTUH	72000	90000	90000
Capacity BTUH	62000	77500	77500
AFUE	80	80.0	80.0
Type of Gas ③	NATURAL	NATURAL	NATURAL
Gas Pipe Size (in.)	1/2	1/2	1/2
POWER CONN.—V/PH/HZ	208-230/3/60	208-230/1/60	208-230/3/60
Min. Brch. Cir. Ampacity④	25.3	39.9	28.6
Fuse Size — Max. (amps)	35	60	45
Fuse Size — Recmd. (amps)	35	60	45
COMPRESSOR	SCROLL	SCROLL	SCROLL
Volts/Ph/Hz	208-230/3/60	208-230/1/60	208-230/3/60
R.L. Amps — L.R. Amps	13.7 / 83.1	25 / 134	16.0 / 110
OUTDOOR COIL — TYPE	SPINE-FIN	SPINE-FIN	SPINE-FIN
Rows/F.P.I.	2 / 24	2 / 24	2 / 24
Face Area (sq.ft.)	18.01	23.07	23.57
Tube Size (in.)	3/8	3/8	3/8
Refrigerant Control	EXPANSION VALVE	EXPANSION VALVE	EXPANSION VALVE
INDOOR COIL — TYPE	PLATE FIN	PLATE FIN	PLATE FIN
Rows/F.P.I.	3 / 15	4 / 15	4 / 15
Face Area (sq.ft.)	5.0	5.0	5.0
Tube Size (in.)	3/8	3/8	3/8
Refrigerant Control	EXPANSION VALVE	EXPANSION VALVE	EXPANSION VALVE
Drain Conn. Size (in.)	3/4 FEMALE NPT	3/4 FEMALE NPT	3/4 FEMALE NPT
OUTDOOR FAN — TYPE	PROPELLER	PROPELLER	PROPELLER
Dia. (in.)	28.2	28.2	28.2
Drive/No. Speeds	DIRECT / 1	DIRECT / 1	DIRECT / 1
CFM @ 0.0 in. w.g. ⑦	4450	5710	
Motor — HP/R.P.M.	1/4 / 825	1/3 / 830	1/3 / 830
Volts/Ph/Hz	208-230/1/60	208-230/1/60	208-230/1/60
F.L. Amps/L.R. Amps	1.4 / 3.5	1.7 / 3.5	1.7 / 3.5
INDOOR FAN — TYPE	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
Dia x Width (in.)	11 X 10	11 X 10	11 X 10
Drive/No. Speeds	DIRECT / VARIABLE	DIRECT / VARIABLE	DIRECT / VARIABLE
CFM @ 0.0 in. w.g.⑤	SEE FAN PERFORMANCE TABLE	SEE FAN PERFORMANCE TABLE	SEE FAN PERFORMANCE TABLE
Motor — HP/R.P.M.	3/4 / VARIABLE	1 / VARIABLE	1 / VARIABLE
Volts/Ph/Hz	200-230/1/60	208-230/1/60	208-230/1/60
F.L. Amps/L.R. Amps	6.8 / 6.8	6.9 / 6.9	6.9 / 6.9
COMBUSTION FAN — TYPE	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
Drive/No. Speeds	DIRECT / 2	DIRECT / 2	DIRECT / 2
Motor — HP/R.P.M. (High/Low)	1/45 / 2800/1500	1/45 / 2800/1500	1/45 / 2800/1500
Volts/Ph/Hz	208-230/1/60	208-230/1/60	208-230/1/60
FLA	0.34	0.34	0.34
FILTER / FURNISHED	NO	NO	NO
Type Recommended	THROWAWAY	THROWAWAY	THROWAWAY
Recmd. Face Area (sq. ft.)⑥	5.3	6.7	6.7
REFRIGERANT / Charge (lbs.)	R410A / 7.75	R410A / 11.94	R410A / 10.125
DIMENSIONS	H X W X L	H X W X L	H X W X L
Crated (in.)	47.86 / 47.4 / 61.75	51.86 / 47.4 / 61.75	51.86 / 47.4 / 61.75
WEIGHT / Shipping / Net (lbs.)	653 / 525	676 / 548	676 / 548

① Certified in accordance with the Unitary Air-Conditioner Equipment certification program, which is based on AHRI Standard 210/240.

② All models are U L Listed. Ratings shown are for elevations up to 2000 ft. For higher elevations reduce ratings at a rate of 4% per 1000 ft. elevation.

③ Convertible to LPG.

④ This value is approximate. For more precise value, see Unit Nameplate.

⑤ Based on U.S. Government Standard Tests.

⑥ Filters must be installed in return air stream. Square footages listed are based on 300 f.p.m. face velocity. If permanent filters are used size per manufacturer's recommendation with a clean resistance of 0.05" W.C.

⑦ Sound Power values are not adjusted for AHRI 270-95 tonal corrections.

⑧ Standard Air — Dry Coil — Outdoor.

YORK®

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:

DESIGN CERTIFIED

C US

CERTIFIED

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

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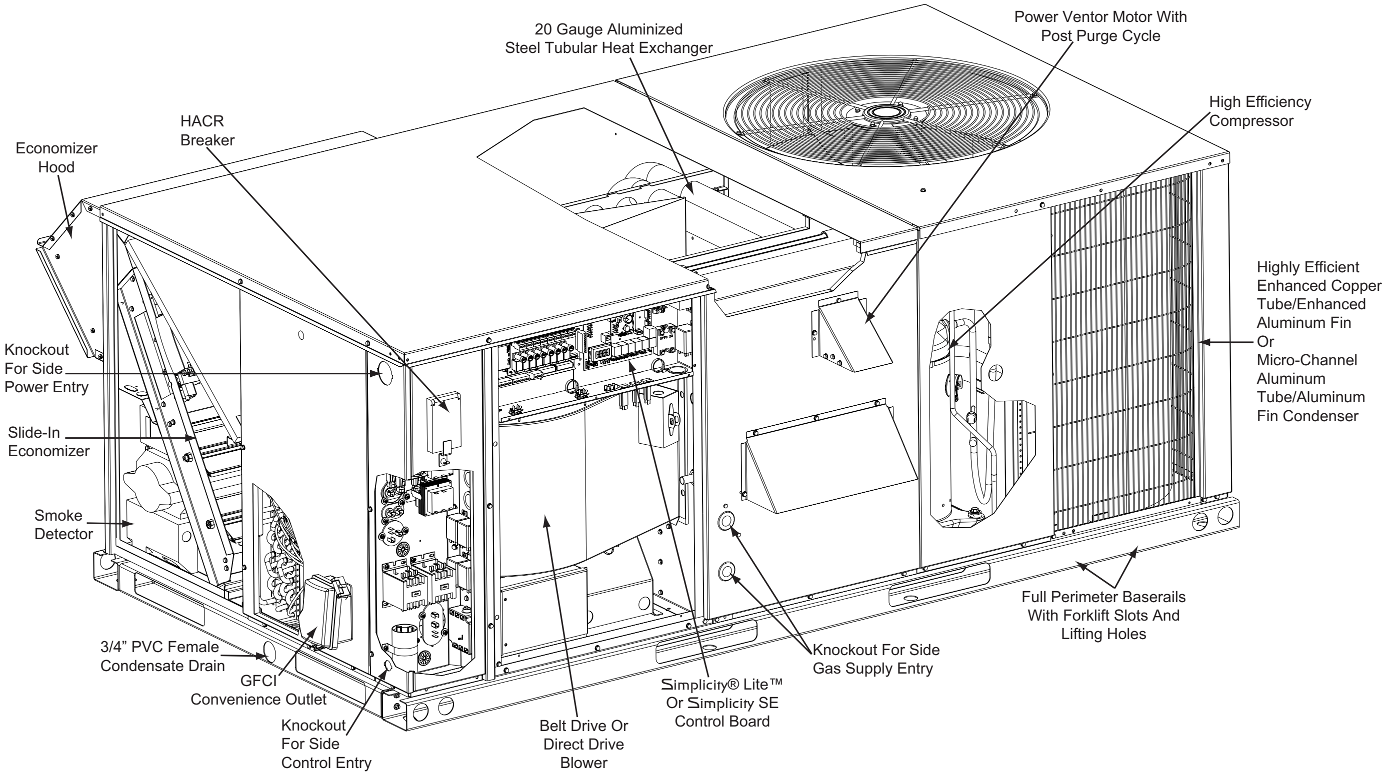
Component Location

Gas/Electric



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.

5167798-YTG-G-0217

TECHNICAL GUIDE
R-410A
ZF SERIES
6.5 - 12.5 TON
60 Hertz

ZF 6.5 THROUGH 10 TON

ZF12.5 TON

Description

ASHRAE 90.1 COMPLIANT

YORK® Predator® units are convertible single packages with a common footprint cabinet and common roof curb for all 6.5 through 12.5 ton models. All units have two compressors with independent refrigeration circuits to provide 2 stages of cooling. The units were designed for light commercial applications and can be easily installed on a roof curb, slab, or frame.

All Predator® units are self-contained and assembled on rigid full perimeter base rails allowing for 3-way forklift access and overhead rigging. Every unit is completely charged, wired, piped, and tested at the factory to provide a quick and easy field installation.

Predator® units in all tonnage sizes are convertible between side airflow and down airflow, with corresponding economizer if economizer option is desired.

Predator® units are available in the following configurations: cooling only, cooling with electric heat, and cooling with gas heat. Electric heaters are available as factory-installed options or field-installed accessories.

All units provide constant supply air volume. A variable air volume (VAV) option, which features a variable frequency drive (VFD), is available on 6.5 through 12.5 ton models.

Tested in accordance with:

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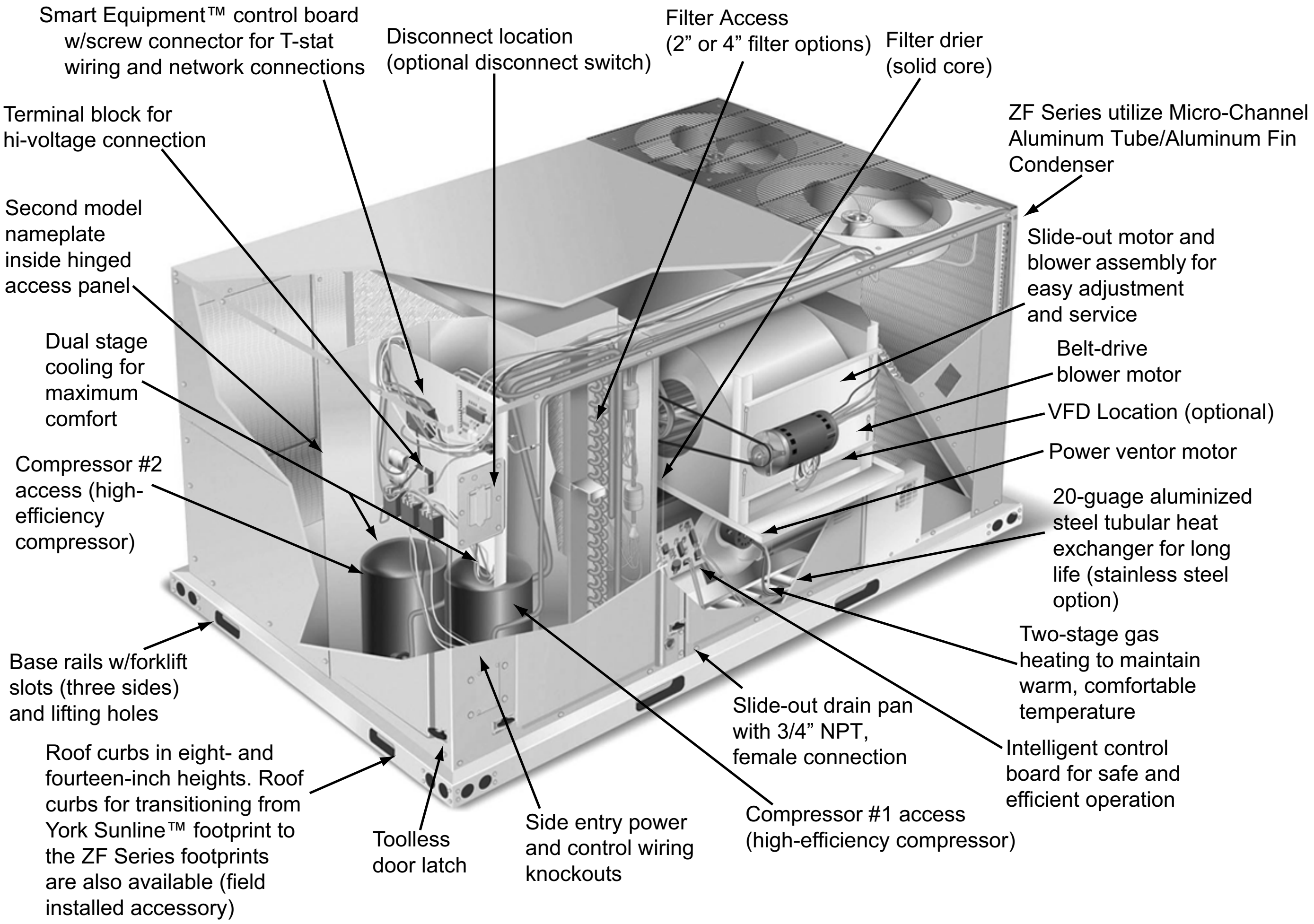
Component Location

Cooling With Gas Heat



Electric Heat Multipliers

Voltage		kW Capacity Multipliers[1]
Nominal	Applied	
240	208	0.75
	230	0.92
480	460	0.92
600	575	0.92

1. Electric heaters are rated at nominal voltage. Use this table to determine the electric heat capacity for heaters applied at lower voltages.

Sound Performance

Indoor Sound Power Levels

Size (Tons)	Model	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
078 (6.5)	ZF	2600	0.6	812	1.14	74	71	73	73	71	69	65	65	60
090 (7.5)	ZF	3000	0.6	854	1.47	77	74	76	76	74	72	68	68	63
102 (8.5)	ZF	3400	0.6	872	1.65	80	77	79	79	77	75	71	71	66
120 (10)	ZF	4000	0.6	959	2.29	83	80	82	82	80	78	74	74	69
150 (12.5)	ZF	5000	0.6	1132	3.74	87	84	86	86	84	82	78	78	73

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.

Outdoor Sound Power Levels

ZF078-150

Size (Tons)	Model	Sound Rating[1] dB (A)	Octave Band Centerline Frequency (Hz)							
			63	125	250	500	1000	2000	4000	8000
078 (6.5)	ZF	84	86.0	87.5	86.0	82.5	79.0	73.5	68.5	62.0
090 (7.5)	ZF	89	89.5	92.0	89.0	87.5	84.0	78.5	73.5	66.5
102 (8.5)	ZF	91	91.5	93.5	92.5	89.0	85.5	80.5	76.0	71.0
120 (10)	ZF	92	99.5	94.5	92.0	90.0	87.0	81.0	76.0	70.0
150 (12.5)	ZF	88	91.0	92.5	90.0	85.0	81.5	77.0	73.0	66.5

1. Rated in accordance with AHRI 270 standard.

APPENDIX E-1

Traffic Counts

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Nov 7, 18	LOCATION:	Moreno Valley	PROJECT #: SC1976
	NORTH & SOUTH:	Lasselle	LOCATION #: 1
	EAST & WEST:	College	CONTROL: SIGNAL

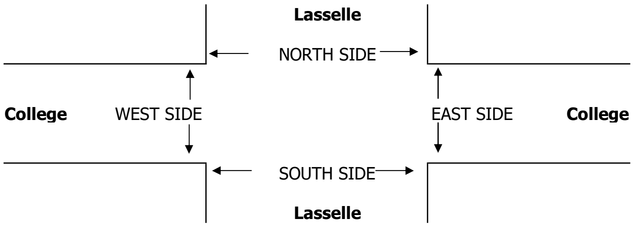
NOTES:

AM
PM
MD
OTHER
OTHER

▲ N
◄ W
E ►
S ▼

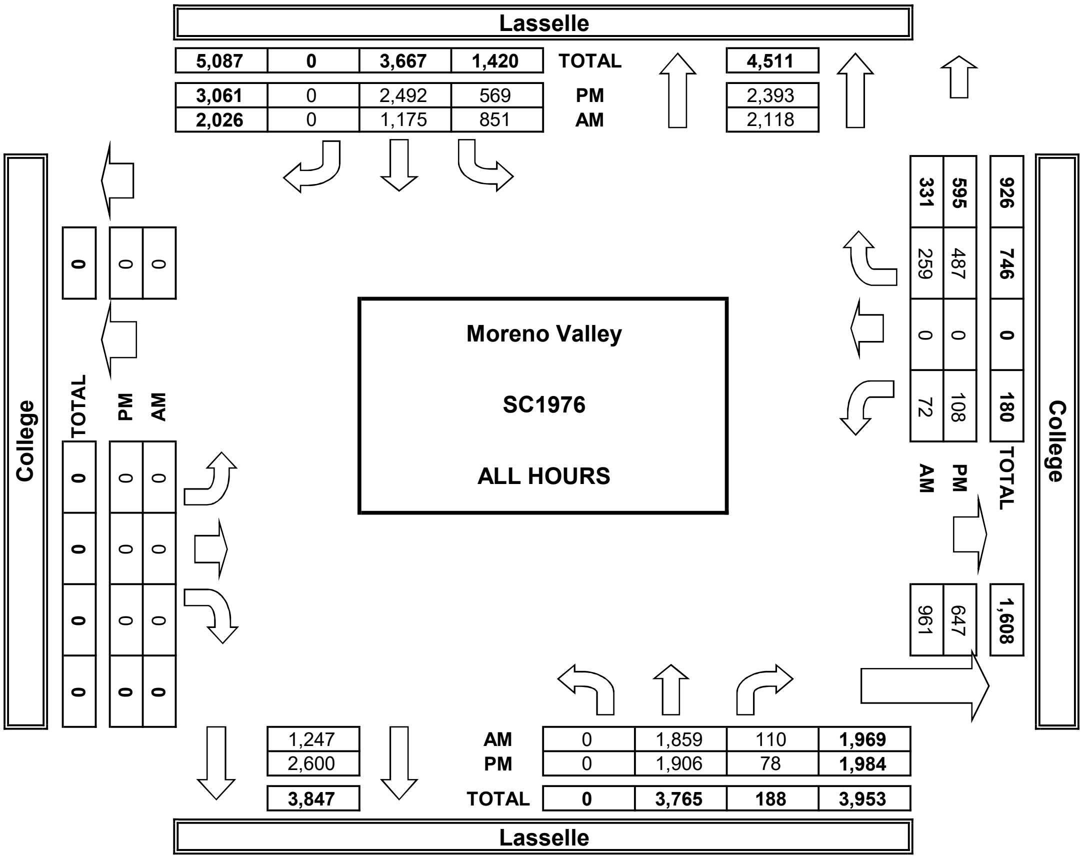
☑Add U-Turns to Left Turns

		NORTHBOUND Lasselle			SOUTHBOUND Lasselle			EASTBOUND College			WESTBOUND College				U-TURNS				
	LANES:	NL X	NT 2	NR 1	SL 2	ST 2	SR X	EL X	ET X	ER X	WL 1	WT X	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	258	8	42	152	0	0	0	0	3	0	13	476	0	0	0	0	0
	7:15 AM	0	297	13	90	146	0	0	0	0	7	0	23	576	0	0	0	0	0
	7:30 AM	0	222	24	180	159	0	0	0	0	17	0	49	651	0	0	0	0	0
	7:45 AM	0	206	30	264	165	0	0	0	0	18	0	83	766	0	0	0	0	0
	8:00 AM	0	288	17	125	105	0	0	0	0	13	0	32	580	0	0	0	0	0
	8:15 AM	0	227	4	51	159	0	0	0	0	2	0	18	461	0	0	0	0	0
	8:30 AM	0	165	6	43	123	0	0	0	0	8	0	19	364	0	0	0	0	0
	8:45 AM	0	196	8	56	166	0	0	0	0	4	0	22	452	0	0	0	0	0
	VOLUMES	0	1,859	110	851	1,175	0	0	0	0	72	0	259	4,326	0	0	0	0	0
	APPROACH %	0%	94%	6%	42%	58%	0%	0%	0%	0%	22%	0%	78%						
	APP/DEPART	1,969	/	2,118	2,026	/	1,247	0	/	961	331	/	0	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	0	1,013	84	659	575	0	0	0	0	55	0	187	2,573					
	APPROACH %	0%	92%	8%	53%	47%	0%	0%	0%	0%	23%	0%	77%						
	PEAK HR FACTOR		0.885			0.719			0.000			0.599		0.840					
	APP/DEPART	1,097	/	1,200	1,234	/	630	0	/	743	242	/	0	0					
PM	4:00 PM	0	255	9	43	287	0	0	0	0	8	0	82	684	0	0	0	0	0
	4:15 PM	0	216	8	33	291	0	0	0	0	13	0	40	601	0	0	0	0	0
	4:30 PM	0	243	6	35	297	0	0	0	0	15	0	49	645	0	0	0	0	0
	4:45 PM	0	246	6	54	315	0	0	0	0	16	0	54	691	0	0	0	0	0
	5:00 PM	0	207	8	45	324	0	0	0	0	13	0	64	661	0	0	0	0	0
	5:15 PM	0	264	11	101	341	0	0	0	0	22	0	89	828	0	0	0	0	0
	5:30 PM	0	241	12	114	313	0	0	0	0	9	0	58	747	0	0	0	0	0
	5:45 PM	0	234	18	144	324	0	0	0	0	12	0	51	783	0	0	0	0	0
	VOLUMES	0	1,906	78	569	2,492	0	0	0	0	108	0	487	5,640	0	0	0	0	0
	APPROACH %	0%	96%	4%	19%	81%	0%	0%	0%	0%	18%	0%	82%						
	APP/DEPART	1,984	/	2,393	3,061	/	2,600	0	/	647	595	/	0	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	0	946	49	404	1,302	0	0	0	0	56	0	262	3,019					
	APPROACH %	0%	95%	5%	24%	76%	0%	0%	0%	0%	18%	0%	82%						
	PEAK HR FACTOR		0.905			0.911			0.000			0.716		0.912					
	APP/DEPART	995	/	1,208	1,706	/	1,358	0	/	453	318	/	0	0					



		PEDESTRIAN + BIKE CROSSINGS					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	5	0	0	0	5	5	0	0	0	5	0	0	0	0	0
	7:15 AM	8	0	0	0	8	8	0	0	0	8	0	0	0	0	0
	7:30 AM	17	0	1	0	18	17	0	0	0	17	0	0	1	0	1
	7:45 AM	16	0	0	0	16	16	0	0	0	16	0	0	0	0	0
	8:00 AM	9	0	0	0	9	9	0	0	0	9	0	0	0	0	0
	8:15 AM	12	0	2	0	14	12	0	2	0	14	0	0	0	0	0
	8:30 AM	7	0	1	0	8	7	0	1	0	8	0	0	0	0	0
	8:45 AM	8	0	0	0	8	5	0	0	0	5	3	0	0	0	3
	TOTAL	82	0	4	0	86	79	0	3	0	82	3	0	1	0	4
	AM BEGIN PEAK HR			7:15 AM			50	0	0	0	50					
PM	4:00 PM	9	0	1	0	10	9	0	1	0	10	0	0	0	0	0
	4:15 PM	11	0	0	0	11	11	0	0	0	11	0	0	0	0	0
	4:30 PM	10	0	1	0	11	10	0	0	0	10	0	0	1	0	1
	4:45 PM	9	0	0	0	9	9	0	0	0	9	0	0	0	0	0
	5:00 PM	16	0	5	0	21	16	0	4	0	20	0	0	1	0	1
	5:15 PM	11	0	1	0	12	11	0	1	0	12	0	0	0	0	0
	5:30 PM	11	0	0	0	11	11	0	0	0	11	0	0	0	0	0
	5:45 PM	8	0	0	0	8	8	0	0	0	8	0	0	0	0	0
	TOTAL	85	0	8	0	93	85	0	6	0	91	0	0	2	0	2
	PM BEGIN PEAK HR			5:00 PM			46	0	5	0	51					

AimTD LLC
TURNING MOVEMENT COUNTS



Moreno Valley

SC1976

ALL HOURS

Lasselle

5,087	**0**	**3,667**	**1,420**	**TOTAL**
3,061	0	2,492	569	**PM**
2,026	0	1,175	851	**AM**

4,511	**TOTAL**
2,393	**PM**
2,118	**AM**

College

AM	**PM**	**TOTAL**
331	**595**	**926**
259	487	**746**
0	0	**0**
72	108	**180**

AM	**PM**	**TOTAL**
961	647	**1,608**

College

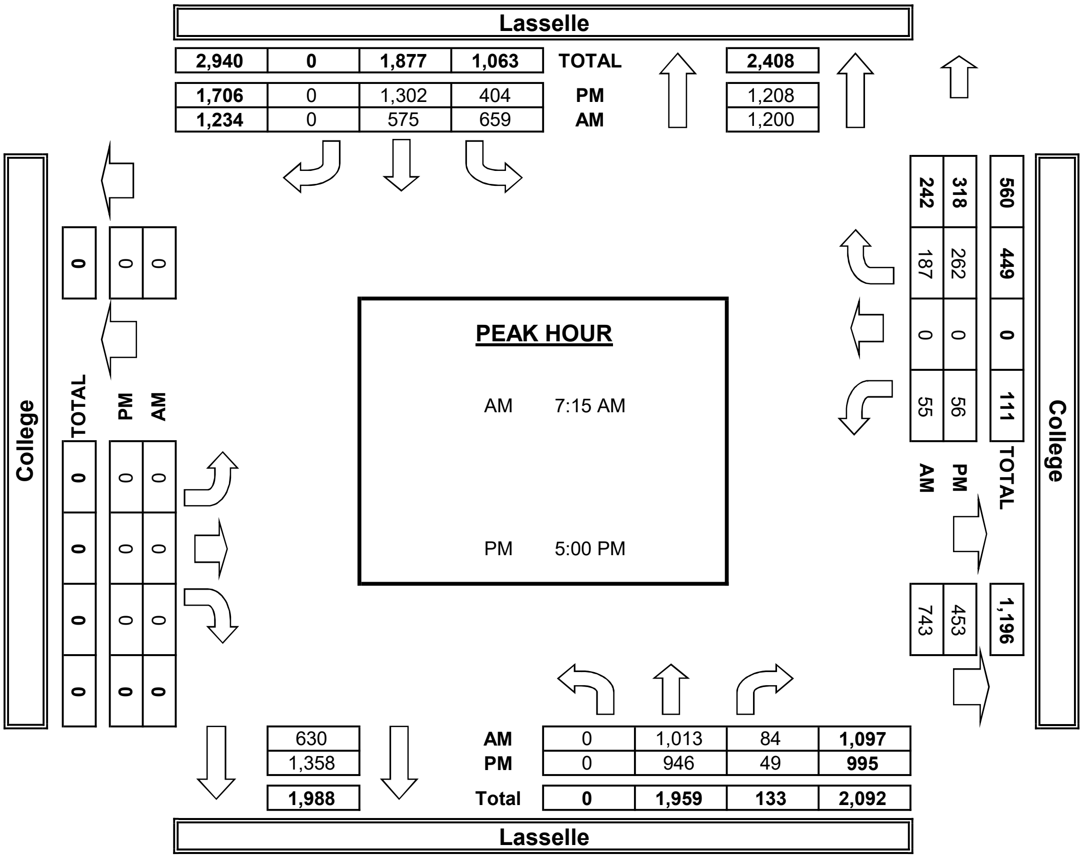
TOTAL	**PM**	**AM**
0	0	0

TOTAL	**PM**	**AM**
0	0	0
0	0	0
0	0	0
0	**0**	**0**

AM	1,247
PM	2,600
TOTAL	**3,847**

AM	0	1,859	110	**1,969**
PM	0	1,906	78	**1,984**
TOTAL	**0**	**3,765**	**188**	**3,953**

Lasselle



PEAK HOUR

AM 7:15 AM

PM 5:00 PM

Lasselle

2,940	**0**	**1,877**	**1,063**	**TOTAL**
1,706	0	1,302	404	**PM**
1,234	0	575	659	**AM**

2,408	**TOTAL**
1,208	**PM**
1,200	**AM**

College

AM	**PM**	**TOTAL**
242	**318**	**560**
187	262	**449**
0	0	**0**
55	56	**111**

AM	**PM**	**TOTAL**
743	453	**1,196**

College

TOTAL	**PM**	**AM**
0	0	0

TOTAL	**PM**	**AM**
0	0	0
0	0	0
0	0	0
0	**0**	**0**

AM	630
PM	1,358
	1,988

AM	0	1,013	84	**1,097**
PM	0	946	49	**995**
Total	**0**	**1,959**	**133**	**2,092**

Lasselle

T218

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Wed, Nov 7, 18

LOCATION: Moreno Valley
NORTH & SOUTH: Krameria
EAST & WEST: Cahuilla

PROJECT #: SC1976
LOCATION #: 2
CONTROL: STOP ALL

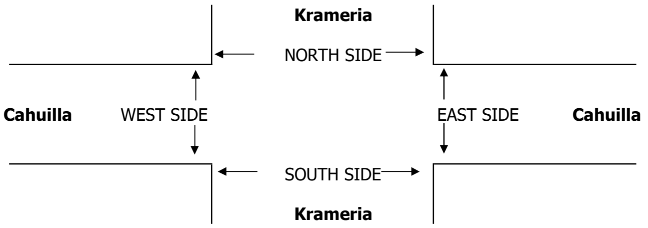
NOTES:

AM
PM
MD
OTHER
OTHER

▲ N
◄ W
E ►
S ▼

☐ Add U-Turns to Left Turns

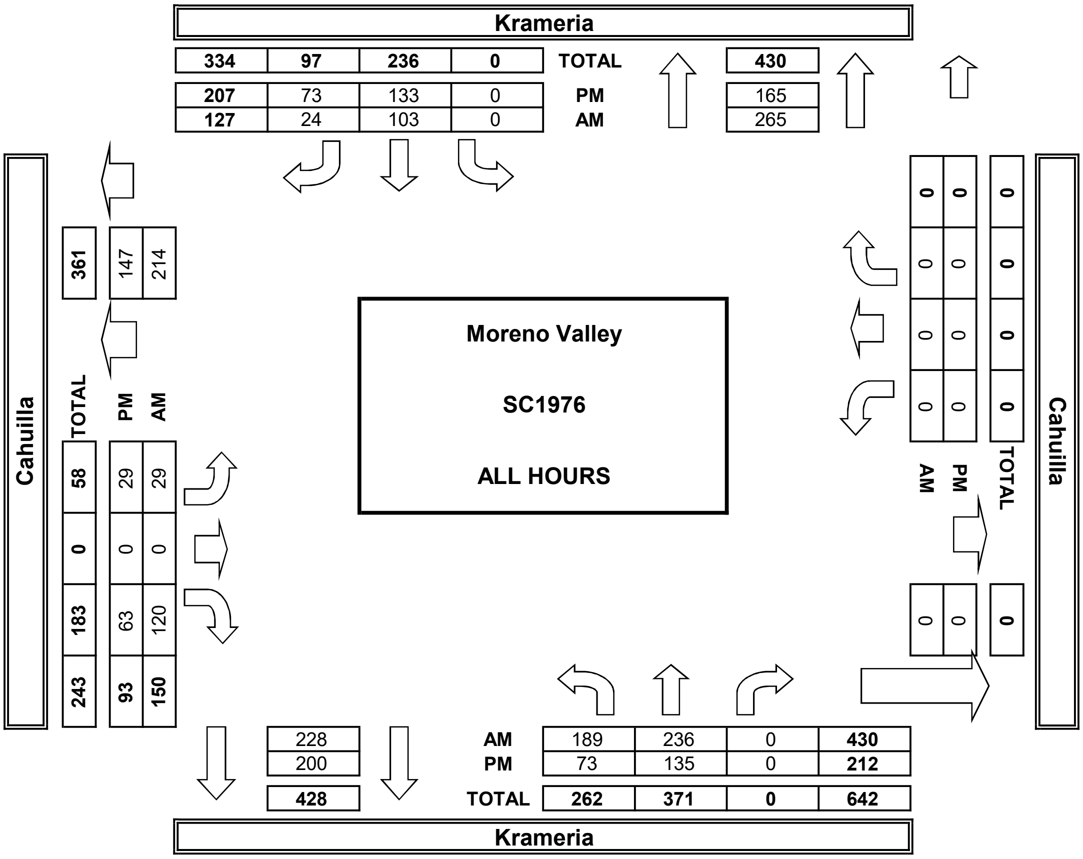
		NORTHBOUND Krameria			SOUTHBOUND Krameria			EASTBOUND Cahuilla			WESTBOUND Cahuilla				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	0.5	1.5	X	X	2	1	0	X	0	X	X	X		0	0	0	0	
AM	7:00 AM	16	18	0	0	12	2	1	0	9	0	0	0	58	0	0	0	0	0
	7:15 AM	25	23	0	0	3	0	1	0	13	0	0	0	65	1	0	1	0	2
	7:30 AM	18	49	0	0	14	1	7	0	10	0	0	0	99	0	0	0	0	0
	7:45 AM	26	88	0	0	21	7	11	0	28	0	0	0	181	1	0	0	0	1
	8:00 AM	61	38	0	0	29	3	6	0	46	0	0	0	183	2	0	0	0	2
	8:15 AM	31	4	0	0	7	3	1	0	8	0	0	0	54	1	0	0	0	1
	8:30 AM	7	8	0	0	9	2	2	0	4	0	0	0	32	0	0	0	0	0
	8:45 AM	5	8	0	0	8	6	0	0	2	0	0	0	29	0	0	0	0	0
	VOLUMES	189	236	0	0	103	24	29	0	120	0	0	0	707	5	0	1	0	6
	APPROACH %	44%	55%	0%	0%	81%	19%	19%	0%	80%	0%	0%	0%						
	APP/DEPART	430	/	265	127	/	228	150	/	0	0	/	214	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	130	198	0	0	67	11	25	0	97	0	0	0	533					
	APPROACH %	39%	60%	0%	0%	86%	14%	20%	0%	79%	0%	0%	0%						
	PEAK HR FACTOR		0.722			0.609			0.591			0.000		0.720					
	APP/DEPART	332	/	223	78	/	168	123	/	0	0	/	142	0					
PM	4:00 PM	10	7	0	0	14	6	1	0	7	0	0	0	45	1	0	0	0	1
	4:15 PM	6	9	0	0	10	10	2	0	4	0	0	0	41	0	1	0	0	1
	4:30 PM	8	12	0	0	9	5	3	0	7	0	0	0	44	0	0	0	0	0
	4:45 PM	6	11	0	0	14	13	2	0	7	0	0	0	53	1	0	0	0	1
	5:00 PM	5	13	0	0	19	8	0	0	6	0	0	0	51	1	0	1	0	2
	5:15 PM	8	16	0	0	23	15	0	0	13	0	0	0	75	0	0	0	0	0
	5:30 PM	15	28	0	0	23	5	10	0	8	0	0	0	89	1	0	0	0	1
	5:45 PM	15	39	0	0	21	11	11	0	11	0	0	0	108	0	0	0	0	0
	VOLUMES	73	135	0	0	133	73	29	0	63	0	0	0	512	4	1	1	0	6
	APPROACH %	34%	64%	0%	0%	64%	35%	31%	0%	68%	0%	0%	0%						
	APP/DEPART	212	/	165	207	/	200	93	/	0	0	/	147	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	43	96	0	0	86	39	21	0	38	0	0	0	326					
	APPROACH %	30%	68%	0%	0%	69%	31%	35%	0%	63%	0%	0%	0%						
	PEAK HR FACTOR		0.653			0.822			0.682			0.000		0.755					
	APP/DEPART	141	/	117	125	/	126	60	/	0	0	/	83	0					

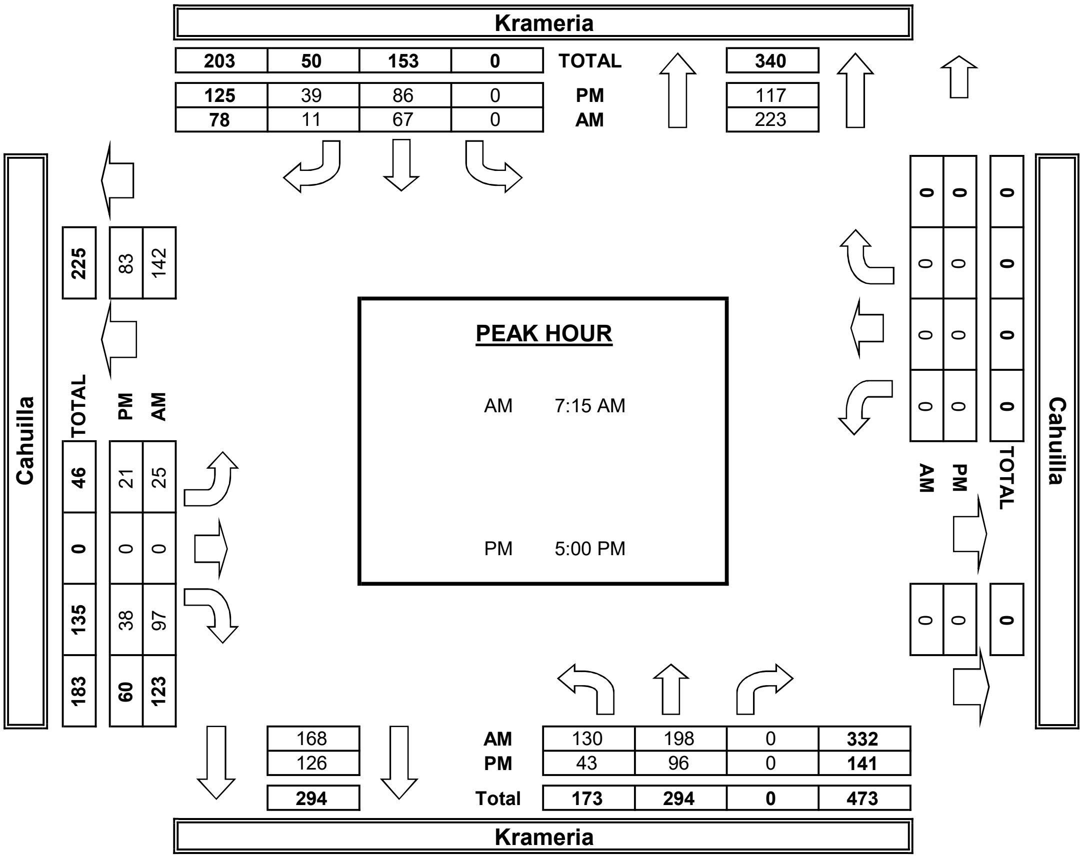


		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	7:15 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	5	0	0	5	10	5	0	0	5	10	0	0	0	0	0
	8:00 AM	0	4	0	5	9	0	4	0	5	9	0	0	0	0	0
	8:15 AM	1	2	0	3	6	1	2	0	3	6	0	0	0	0	0
	8:30 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
	8:45 AM	0	0	3	2	5	0	0	0	2	2	0	0	3	0	3
	TOTAL	6	7	3	17	33	6	7	0	17	30	0	0	3	0	3
AM BEGIN PEAK HR				7:15 AM			5	4	0	11	20					
PM	4:00 PM	0	5	0	3	8	0	5	0	3	8	0	0	0	0	0
	4:15 PM	3	2	0	0	5	3	2	0	0	5	0	0	0	0	0
	4:30 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	4:45 PM	3	4	0	0	7	3	4	0	0	7	0	0	0	0	0
	5:00 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
	5:15 PM	7	5	0	4	16	7	5	0	4	16	0	0	0	0	0
	5:30 PM	1	1	0	10	12	1	1	0	10	12	0	0	0	0	0
	5:45 PM	0	3	0	5	8	0	3	0	5	8	0	0	0	0	0
	TOTAL	15	20	0	23	58	15	20	0	23	58	0	0	0	0	0
	PM BEGIN PEAK HR			5:00 PM			9	9	0	19	37					

AimTD LLC

TURNING MOVEMENT COUNTS





APPENDIX E-2

LOS Worksheets

HCM 2010 Signalized Intersection Summary
1: Lasselle Street & College Drive

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↑	↱	↰↰	↑↑
Traffic Volume (veh/h)	55	187	1013	84	659	575
Future Volume (veh/h)	55	187	1013	84	659	575
Number	7	14	6	16	5	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	65	223	1206	100	785	685
Adj No. of Lanes	1	1	2	1	2	2
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	192	172	1468	828	896	2654
Arrive On Green	0.11	0.11	0.41	0.41	0.26	0.75
Sat Flow, veh/h	1774	1583	3632	1583	3442	3632
Grp Volume(v), veh/h	65	223	1206	100	785	685
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1583	1721	1770
Q Serve(g_s), s	2.0	6.5	18.2	1.9	13.1	3.6
Cycle Q Clear(g_c), s	2.0	6.5	18.2	1.9	13.1	3.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	192	172	1468	828	896	2654
V/C Ratio(X)	0.34	1.30	0.82	0.12	0.88	0.26
Avail Cap(c_a), veh/h	192	172	1468	828	946	2654
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	1.00
Uniform Delay (d), s/veh	24.8	26.8	15.6	7.3	21.3	2.3
Incr Delay (d2), s/veh	1.0	170.9	3.9	0.1	9.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	13.5	9.5	2.4	7.3	1.8
LnGrp Delay(d),s/veh	25.8	197.7	19.5	7.4	30.2	2.6
LnGrp LOS	C	F	B	A	C	A
Approach Vol, veh/h	288		1306			1470
Approach Delay, s/veh	158.9		18.6			17.3
Approach LOS	F		B			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		49.0		11.0	20.1	28.9		
Change Period (Y+Rc), s		4.0		4.5	4.5	4.0		
Max Green Setting (Gmax), s		45.0		6.5	16.5	24.0		
Max Q Clear Time (g_c+I1), s		5.6		8.5	15.1	20.2		
Green Ext Time (p_c), s		4.8		0.0	0.5	2.6		

Intersection Summary	
HCM 2010 Ctrl Delay	31.2
HCM 2010 LOS	C

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↱			↰↑↑	↑↑	↱
Traffic Vol, veh/h	25	97	130	198	67	11
Future Vol, veh/h	25	97	130	198	67	11
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	135	181	275	93	15
Number of Lanes	1	0	0	2	2	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	3	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	3	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	10	11.5	8.3
HCM LOS	A	B	A

Lane	NBLn1	NBLn2	EBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	66%	0%	20%	0%	0%	0%
Vol Thru, %	34%	100%	0%	100%	100%	0%
Vol Right, %	0%	0%	80%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	196	132	122	34	34	11
LT Vol	130	0	25	0	0	0
Through Vol	66	132	0	34	34	0
RT Vol	0	0	97	0	0	11
Lane Flow Rate	272	183	169	47	47	15
Geometry Grp	8	8	7	7	7	7
Degree of Util (X)	0.424	0.268	0.254	0.071	0.071	0.013
Departure Headway (Hd)	5.602	5.268	5.399	5.488	5.488	3.03
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	640	678	661	648	648	1160
Service Time	3.367	3.033	3.163	3.262	3.262	0.803
HCM Lane V/C Ratio	0.425	0.27	0.256	0.073	0.073	0.013
HCM Control Delay	12.5	10	10	8.7	8.7	5.8
HCM Lane LOS	B	A	A	A	A	A
HCM 95th-tile Q	2.1	1.1	1	0.2	0.2	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↑	↱	↰↰	↑↑
Traffic Volume (veh/h)	56	262	946	49	404	1302
Future Volume (veh/h)	56	262	946	49	404	1302
Number	7	14	6	16	5	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	62	288	1040	54	444	1431
Adj No. of Lanes	1	1	2	1	2	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	310	277	1575	982	562	2418
Arrive On Green	0.17	0.17	0.45	0.45	0.16	0.68
Sat Flow, veh/h	1774	1583	3632	1583	3442	3632
Grp Volume(v), veh/h	62	288	1040	54	444	1431
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1583	1721	1770
Q Serve(g_s), s	1.8	10.5	13.9	0.8	7.4	12.9
Cycle Q Clear(g_c), s	1.8	10.5	13.9	0.8	7.4	12.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	310	277	1575	982	562	2418
V/C Ratio(X)	0.20	1.04	0.66	0.06	0.79	0.59
Avail Cap(c_a), veh/h	310	277	1575	982	660	2418
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	1.00
Uniform Delay (d), s/veh	21.2	24.8	13.1	4.5	24.1	5.1
Incr Delay (d2), s/veh	0.3	64.7	1.0	0.0	5.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	13.3	6.9	1.2	3.9	6.5
LnGrp Delay(d),s/veh	21.5	89.4	14.1	4.5	29.7	6.1
LnGrp LOS	C	F	B	A	C	A
Approach Vol, veh/h	350		1094			1875
Approach Delay, s/veh	77.4		13.6			11.7
Approach LOS	E		B			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		45.0		15.0	14.3	30.7		
Change Period (Y+Rc), s		4.0		4.5	4.5	4.0		
Max Green Setting (Gmax), s		41.0		10.5	11.5	25.0		
Max Q Clear Time (g_c+I1), s		14.9		12.5	9.4	15.9		
Green Ext Time (p_c), s		11.5		0.0	0.4	4.5		

Intersection Summary	
HCM 2010 Ctrl Delay	19.3
HCM 2010 LOS	B

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰↑	↑↑	↱
Traffic Vol, veh/h	21	38	43	96	86	39
Future Vol, veh/h	21	38	43	96	86	39
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	50	57	126	113	51
Number of Lanes	1	0	0	2	2	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	3	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	3	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	8.4	8.7	7.2
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	57%	0%	36%	0%	0%	0%
Vol Thru, %	43%	100%	0%	100%	100%	0%
Vol Right, %	0%	0%	64%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	75	64	59	43	43	39
LT Vol	43	0	21	0	0	0
Through Vol	32	64	0	43	43	0
RT Vol	0	0	38	0	0	39
Lane Flow Rate	99	84	78	57	57	51
Geometry Grp	8	8	7	7	7	7
Degree of Util (X)	0.146	0.118	0.108	0.077	0.077	0.035
Departure Headway (Hd)	5.321	5.033	5.022	4.904	4.904	2.461
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	676	714	715	733	733	1456
Service Time	3.038	2.75	2.743	2.618	2.618	0.174
HCM Lane V/C Ratio	0.146	0.118	0.109	0.078	0.078	0.035
HCM Control Delay	8.9	8.4	8.4	8	8	5.3
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.5	0.4	0.4	0.2	0.2	0.1

1: Lasselle Street & College Drive

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↑	↱	↰↰	↑↑
Traffic Volume (veh/h)	57	190	1014	84	673	575
Future Volume (veh/h)	57	190	1014	84	673	575
Number	7	14	6	16	5	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	68	226	1207	100	801	685
Adj No. of Lanes	1	1	2	1	2	2
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	192	172	1456	823	907	2654
Arrive On Green	0.11	0.11	0.41	0.41	0.26	0.75
Sat Flow, veh/h	1774	1583	3632	1583	3442	3632
Grp Volume(v), veh/h	68	226	1207	100	801	685
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1583	1721	1770
Q Serve(g_s), s	2.1	6.5	18.3	1.9	13.4	3.6
Cycle Q Clear(g_c), s	2.1	6.5	18.3	1.9	13.4	3.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	192	172	1456	823	907	2654
V/C Ratio(X)	0.35	1.32	0.83	0.12	0.88	0.26
Avail Cap(c_a), veh/h	192	172	1456	823	946	2654
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	1.00
Uniform Delay (d), s/veh	24.8	26.8	15.8	7.4	21.2	2.3
Incr Delay (d2), s/veh	1.1	177.9	4.2	0.1	9.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	13.8	9.7	2.5	7.5	1.8
LnGrp Delay(d),s/veh	25.9	204.6	19.9	7.5	30.8	2.6
LnGrp LOS	C	F	B	A	C	A
Approach Vol, veh/h	294		1307			1486
Approach Delay, s/veh	163.3		19.0			17.8
Approach LOS	F		B			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		49.0		11.0	20.3	28.7		
Change Period (Y+Rc), s		4.0		4.5	4.5	4.0		
Max Green Setting (Gmax), s		45.0		6.5	16.5	24.0		
Max Q Clear Time (g_c+I1), s		5.6		8.5	15.4	20.3		
Green Ext Time (p_c), s		4.8		0.0	0.4	2.5		

Intersection Summary	
HCM 2010 Ctrl Delay	32.1
HCM 2010 LOS	C

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↱			↰↑↑	↑↑	↱
Traffic Vol, veh/h	25	98	133	204	69	11
Future Vol, veh/h	25	98	133	204	69	11
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	136	185	283	96	15
Number of Lanes	1	0	0	2	2	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	3	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	3	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	10.1	11.7	8.3
HCM LOS	B	B	A

Lane	NBLn1	NBLn2	EBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	66%	0%	20%	0%	0%	0%
Vol Thru, %	34%	100%	0%	100%	100%	0%
Vol Right, %	0%	0%	80%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	201	136	123	35	35	11
LT Vol	133	0	25	0	0	0
Through Vol	68	136	0	35	35	0
RT Vol	0	0	98	0	0	11
Lane Flow Rate	279	189	171	48	48	15
Geometry Grp	8	8	7	7	7	7
Degree of Util (X)	0.435	0.277	0.258	0.073	0.073	0.013
Departure Headway (Hd)	5.611	5.278	5.431	5.508	5.508	3.05
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	637	676	658	645	645	1151
Service Time	3.381	3.047	3.195	3.288	3.288	0.828
HCM Lane V/C Ratio	0.438	0.28	0.26	0.074	0.074	0.013
HCM Control Delay	12.7	10.1	10.1	8.7	8.7	5.9
HCM Lane LOS	B	B	B	A	A	A
HCM 95th-tile Q	2.2	1.1	1	0.2	0.2	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↑	↱	↰↰	↑↑
Traffic Volume (veh/h)	59	268	948	49	412	1302
Future Volume (veh/h)	59	268	948	49	412	1302
Number	7	14	6	16	5	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	65	295	1042	54	453	1431
Adj No. of Lanes	1	1	2	1	2	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	310	277	1567	978	570	2418
Arrive On Green	0.17	0.17	0.44	0.44	0.17	0.68
Sat Flow, veh/h	1774	1583	3632	1583	3442	3632
Grp Volume(v), veh/h	65	295	1042	54	453	1431
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1583	1721	1770
Q Serve(g_s), s	1.9	10.5	14.0	0.8	7.6	12.9
Cycle Q Clear(g_c), s	1.9	10.5	14.0	0.8	7.6	12.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	310	277	1567	978	570	2418
V/C Ratio(X)	0.21	1.06	0.66	0.06	0.79	0.59
Avail Cap(c_a), veh/h	310	277	1567	978	660	2418
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	1.00
Uniform Delay (d), s/veh	21.2	24.8	13.2	4.5	24.1	5.1
Incr Delay (d2), s/veh	0.3	72.2	1.1	0.0	5.9	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	13.9	7.0	1.2	4.0	6.5
LnGrp Delay(d),s/veh	21.5	97.0	14.3	4.6	29.9	6.1
LnGrp LOS	C	F	B	A	C	A
Approach Vol, veh/h	360		1096			1884
Approach Delay, s/veh	83.3		13.8			11.8
Approach LOS	F		B			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		45.0		15.0	14.4	30.6		
Change Period (Y+Rc), s		4.0		4.5	4.5	4.0		
Max Green Setting (Gmax), s		41.0		10.5	11.5	25.0		
Max Q Clear Time (g_c+I1), s		14.9		12.5	9.6	16.0		
Green Ext Time (p_c), s		11.5		0.0	0.4	4.5		

Intersection Summary	
HCM 2010 Ctrl Delay	20.2
HCM 2010 LOS	C

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰↑	↑↑	↱
Traffic Vol, veh/h	21	40	45	99	89	39
Future Vol, veh/h	21	40	45	99	89	39
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	53	59	130	117	51
Number of Lanes	1	0	0	2	2	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	3	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	3	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	8.4	8.8	7.2
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	58%	0%	34%	0%	0%	0%
Vol Thru, %	42%	100%	0%	100%	100%	0%
Vol Right, %	0%	0%	66%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	78	66	61	45	45	39
LT Vol	45	0	21	0	0	0
Through Vol	33	66	0	45	45	0
RT Vol	0	0	40	0	0	39
Lane Flow Rate	103	87	80	59	59	51
Geometry Grp	8	8	7	7	7	7
Degree of Util (X)	0.152	0.122	0.112	0.08	0.08	0.035
Departure Headway (Hd)	5.338	5.048	5.032	4.917	4.917	2.473
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	673	711	714	731	731	1447
Service Time	3.057	2.768	2.754	2.633	2.633	0.189
HCM Lane V/C Ratio	0.153	0.122	0.112	0.081	0.081	0.035
HCM Control Delay	9	8.5	8.4	8.1	8.1	5.3
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.5	0.4	0.4	0.3	0.3	0.1

HCM 2010 Signalized Intersection Summary

1: Lasselle Street & College Drive

Opening Year 2021

Timing Plan: AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↑	↱	↰↰	↑↑
Traffic Volume (veh/h)	58	199	1132	90	704	643
Future Volume (veh/h)	58	199	1132	90	704	643
Number	7	14	6	16	5	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	69	237	1348	107	838	765
Adj No. of Lanes	1	1	2	1	2	2
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	163	145	1489	811	932	2713
Arrive On Green	0.09	0.09	0.42	0.42	0.27	0.77
Sat Flow, veh/h	1774	1583	3632	1583	3442	3632
Grp Volume(v), veh/h	69	237	1348	107	838	765
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1583	1721	1770
Q Serve(g_s), s	2.2	5.5	21.4	2.1	14.1	3.9
Cycle Q Clear(g_c), s	2.2	5.5	21.4	2.1	14.1	3.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	163	145	1489	811	932	2713
V/C Ratio(X)	0.42	1.63	0.91	0.13	0.90	0.28
Avail Cap(c_a), veh/h	163	145	1489	811	946	2713
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	1.00
Uniform Delay (d), s/veh	25.8	27.3	16.3	7.6	21.1	2.1
Incr Delay (d2), s/veh	1.8	313.8	8.2	0.1	11.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	17.2	12.0	2.6	8.1	1.9
LnGrp Delay(d),s/veh	27.5	341.1	24.5	7.7	32.3	2.3
LnGrp LOS	C	F	C	A	C	A
Approach Vol, veh/h	306		1455			1603
Approach Delay, s/veh	270.4		23.3			18.0
Approach LOS	F		C			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		50.0		10.0	20.8	29.2		
Change Period (Y+Rc), s		4.0		4.5	4.5	4.0		
Max Green Setting (Gmax), s		46.0		5.5	16.5	25.0		
Max Q Clear Time (g_c+I1), s		5.9		7.5	16.1	23.4		
Green Ext Time (p_c), s		5.5		0.0	0.2	1.3		

Intersection Summary	
HCM 2010 Ctrl Delay	43.2
HCM 2010 LOS	D

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰↑	↑↑	↱
Traffic Vol, veh/h	27	104	140	210	71	12
Future Vol, veh/h	27	104	140	210	71	12
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	144	194	292	99	17
Number of Lanes	1	0	0	2	2	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	3	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	3	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	10.4	12	8.4
HCM LOS	B	B	A

Lane	NBLn1	NBLn2	EBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	67%	0%	21%	0%	0%	0%
Vol Thru, %	33%	100%	0%	100%	100%	0%
Vol Right, %	0%	0%	79%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	210	140	131	36	36	12
LT Vol	140	0	27	0	0	0
Through Vol	70	140	0	36	36	0
RT Vol	0	0	104	0	0	12
Lane Flow Rate	292	194	182	49	49	17
Geometry Grp	8	8	7	7	7	7
Degree of Util (X)	0.459	0.288	0.277	0.076	0.076	0.014
Departure Headway (Hd)	5.664	5.328	5.489	5.571	5.571	3.112
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	633	669	650	637	637	1126
Service Time	3.437	3.1	3.258	3.36	3.36	0.898
HCM Lane V/C Ratio	0.461	0.29	0.28	0.077	0.077	0.015
HCM Control Delay	13.2	10.3	10.4	8.8	8.8	5.9
HCM Lane LOS	B	B	B	A	A	A
HCM 95th-tile Q	2.4	1.2	1.1	0.2	0.2	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↑	↱	↰↰	↑↑
Traffic Volume (veh/h)	61	283	1049	53	431	1449
Future Volume (veh/h)	61	283	1049	53	431	1449
Number	7	14	6	16	5	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	67	311	1153	58	474	1592
Adj No. of Lanes	1	1	2	1	2	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	310	277	1548	970	588	2418
Arrive On Green	0.17	0.17	0.44	0.44	0.17	0.68
Sat Flow, veh/h	1774	1583	3632	1583	3442	3632
Grp Volume(v), veh/h	67	311	1153	58	474	1592
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1583	1721	1770
Q Serve(g_s), s	1.9	10.5	16.3	0.9	7.9	15.5
Cycle Q Clear(g_c), s	1.9	10.5	16.3	0.9	7.9	15.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	310	277	1548	970	588	2418
V/C Ratio(X)	0.22	1.12	0.74	0.06	0.81	0.66
Avail Cap(c_a), veh/h	310	277	1548	970	660	2418
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	1.00
Uniform Delay (d), s/veh	21.2	24.8	14.1	4.7	23.9	5.5
Incr Delay (d2), s/veh	0.3	91.1	2.0	0.0	6.6	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	15.4	8.3	1.3	4.3	7.8
LnGrp Delay(d),s/veh	21.6	115.8	16.1	4.7	30.5	6.9
LnGrp LOS	C	F	B	A	C	A
Approach Vol, veh/h	378		1211			2066
Approach Delay, s/veh	99.1		15.5			12.3
Approach LOS	F		B			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		45.0		15.0	14.8	30.2		
Change Period (Y+Rc), s		4.0		4.5	4.5	4.0		
Max Green Setting (Gmax), s		41.0		10.5	11.5	25.0		
Max Q Clear Time (g_c+I1), s		17.5		12.5	9.9	18.3		
Green Ext Time (p_c), s		12.5		0.0	0.3	3.9		

Intersection Summary	
HCM 2010 Ctrl Delay	22.4
HCM 2010 LOS	C

2: Krameria Avenue & Cahuilla Drive

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰↑	↑↑	↱
Traffic Vol, veh/h	22	43	47	102	91	41
Future Vol, veh/h	22	43	47	102	91	41
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	57	62	134	120	54
Number of Lanes	1	0	0	2	2	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	3	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	3	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	8.5	8.8	7.2
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	58%	0%	34%	0%	0%	0%
Vol Thru, %	42%	100%	0%	100%	100%	0%
Vol Right, %	0%	0%	66%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	81	68	65	46	46	41
LT Vol	47	0	22	0	0	0
Through Vol	34	68	0	46	46	0
RT Vol	0	0	43	0	0	41
Lane Flow Rate	107	89	86	60	60	54
Geometry Grp	8	8	7	7	7	7
Degree of Util (X)	0.159	0.126	0.12	0.082	0.082	0.037
Departure Headway (Hd)	5.364	5.072	5.052	4.94	4.94	2.495
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	670	708	711	727	727	1433
Service Time	3.086	2.794	2.774	2.658	2.658	0.213
HCM Lane V/C Ratio	0.16	0.126	0.121	0.083	0.083	0.038
HCM Control Delay	9.1	8.5	8.5	8.1	8.1	5.3
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.6	0.4	0.4	0.3	0.3	0.1

HCM 2010 Signalized Intersection Summary
1: Lasselle Street & College Drive

Opening Year 2021 plus Project
Timing Plan: AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↑	↱	↰↰	↑↑
Traffic Volume (veh/h)	60	202	1133	90	718	643
Future Volume (veh/h)	60	202	1133	90	718	643
Number	7	14	6	16	5	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	71	240	1349	107	855	765
Adj No. of Lanes	1	1	2	1	2	2
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	163	145	1478	806	943	2713
Arrive On Green	0.09	0.09	0.42	0.42	0.27	0.77
Sat Flow, veh/h	1774	1583	3632	1583	3442	3632
Grp Volume(v), veh/h	71	240	1349	107	855	765
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1583	1721	1770
Q Serve(g_s), s	2.3	5.5	21.5	2.1	14.4	3.9
Cycle Q Clear(g_c), s	2.3	5.5	21.5	2.1	14.4	3.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	163	145	1478	806	943	2713
V/C Ratio(X)	0.44	1.65	0.91	0.13	0.91	0.28
Avail Cap(c_a), veh/h	163	145	1478	806	946	2713
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	1.00
Uniform Delay (d), s/veh	25.8	27.3	16.4	7.7	21.0	2.1
Incr Delay (d2), s/veh	1.8	322.7	8.9	0.1	12.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	17.6	12.1	2.6	8.4	1.9
LnGrp Delay(d),s/veh	27.6	350.0	25.4	7.8	33.2	2.3
LnGrp LOS	C	F	C	A	C	A
Approach Vol, veh/h	311		1456			1620
Approach Delay, s/veh	276.4		24.1			18.6
Approach LOS	F		C			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		50.0		10.0	20.9	29.1		
Change Period (Y+Rc), s		4.0		4.5	4.5	4.0		
Max Green Setting (Gmax), s		46.0		5.5	16.5	25.0		
Max Q Clear Time (g_c+I1), s		5.9		7.5	16.4	23.5		
Green Ext Time (p_c), s		5.5		0.0	0.0	1.2		

Intersection Summary			
HCM 2010 Ctrl Delay			44.7
HCM 2010 LOS			D

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↱			↰↑↑	↑↑	↱
Traffic Vol, veh/h	27	105	143	215	73	12
Future Vol, veh/h	27	105	143	215	73	12
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	146	199	299	101	17
Number of Lanes	1	0	0	2	2	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	3	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	3	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	10.5	12.3	8.5
HCM LOS	B	B	A

Lane	NBLn1	NBLn2	EBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	67%	0%	20%	0%	0%	0%
Vol Thru, %	33%	100%	0%	100%	100%	0%
Vol Right, %	0%	0%	80%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	215	143	132	37	37	12
LT Vol	143	0	27	0	0	0
Through Vol	72	143	0	37	37	0
RT Vol	0	0	105	0	0	12
Lane Flow Rate	298	199	183	51	51	17
Geometry Grp	8	8	7	7	7	7
Degree of Util (X)	0.47	0.295	0.281	0.079	0.079	0.015
Departure Headway (Hd)	5.676	5.341	5.517	5.592	5.592	3.132
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	629	667	647	634	634	1118
Service Time	3.456	3.12	3.29	3.383	3.383	0.921
HCM Lane V/C Ratio	0.474	0.298	0.283	0.08	0.08	0.015
HCM Control Delay	13.5	10.4	10.5	8.9	8.9	6
HCM Lane LOS	B	B	B	A	A	A
HCM 95th-tile Q	2.5	1.2	1.1	0.3	0.3	0

1: Lasselle Street & College Drive

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↑	↱	↰↰	↑↑
Traffic Volume (veh/h)	65	289	1050	53	439	1449
Future Volume (veh/h)	65	289	1050	53	439	1449
Number	7	14	6	16	5	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	71	318	1154	58	482	1592
Adj No. of Lanes	1	1	2	1	2	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	310	277	1541	967	595	2418
Arrive On Green	0.17	0.17	0.44	0.44	0.17	0.68
Sat Flow, veh/h	1774	1583	3632	1583	3442	3632
Grp Volume(v), veh/h	71	318	1154	58	482	1592
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1583	1721	1770
Q Serve(g_s), s	2.1	10.5	16.4	0.9	8.1	15.5
Cycle Q Clear(g_c), s	2.1	10.5	16.4	0.9	8.1	15.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	310	277	1541	967	595	2418
V/C Ratio(X)	0.23	1.15	0.75	0.06	0.81	0.66
Avail Cap(c_a), veh/h	310	277	1541	967	660	2418
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	1.00
Uniform Delay (d), s/veh	21.3	24.8	14.2	4.7	23.9	5.5
Incr Delay (d2), s/veh	0.4	100.0	2.1	0.0	6.9	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	16.0	8.3	1.3	4.4	7.8
LnGrp Delay(d),s/veh	21.6	124.8	16.3	4.8	30.8	6.9
LnGrp LOS	C	F	B	A	C	A
Approach Vol, veh/h	389		1212			2074
Approach Delay, s/veh	105.9		15.7			12.4
Approach LOS	F		B			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		45.0		15.0	14.9	30.1		
Change Period (Y+Rc), s		4.0		4.5	4.5	4.0		
Max Green Setting (Gmax), s		41.0		10.5	11.5	25.0		
Max Q Clear Time (g_c+I1), s		17.5		12.5	10.1	18.4		
Green Ext Time (p_c), s		12.5		0.0	0.3	3.9		

Intersection Summary			
HCM 2010 Ctrl Delay			23.4
HCM 2010 LOS			C

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↱			↰↑	↑↑	↱
Traffic Vol, veh/h	22	45	48	105	94	41
Future Vol, veh/h	22	45	48	105	94	41
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	59	63	138	124	54
Number of Lanes	1	0	0	2	2	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	3	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	3	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	8.5	8.9	7.2
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	58%	0%	33%	0%	0%	0%
Vol Thru, %	42%	100%	0%	100%	100%	0%
Vol Right, %	0%	0%	67%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	83	70	67	47	47	41
LT Vol	48	0	22	0	0	0
Through Vol	35	70	0	47	47	0
RT Vol	0	0	45	0	0	41
Lane Flow Rate	109	92	88	62	62	54
Geometry Grp	8	8	7	7	7	7
Degree of Util (X)	0.163	0.13	0.124	0.085	0.085	0.038
Departure Headway (Hd)	5.377	5.087	5.059	4.954	4.954	2.509
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	667	706	709	725	725	1425
Service Time	3.104	2.813	2.786	2.672	2.672	0.227
HCM Lane V/C Ratio	0.163	0.13	0.124	0.086	0.086	0.038
HCM Control Delay	9.2	8.6	8.5	8.1	8.1	5.3
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.6	0.4	0.4	0.3	0.3	0.1