November 2018 | Final

Mitigated Negative Declaration

MALIBU SCHOOLS ALIGNMENT PROJECT

Santa Monica-Malibu Unified School District

Prepared for:

Santa Monica-Malibu Unified School District
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PLACEWORKS

Table of Contents

Table of Contents

List of Figures

List of Tables

Abbreviations and Acronyms

AAQS	ambient air quality standards
AB	Assembly Bill
AQMP	air quality management plan
BMP	best management practices
CAFE	corporate average fuel economy
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
CalRecycle	California Department of Resources, Recycling, and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CGS	California Geologic Survey
CMP	congestion management program
CNEL	community noise equivalent level
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
Corps	US Army Corps of Engineers
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EIR	environmental impact report
EPA	United States Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	greenhouse gases
HCM	Highway Capacity Manual

HVAC	heating, ventilating, and air conditioning system
IPCC	Intergovernmental Panel on Climate Change
LARWQCB	Los Angeles Regional Water Quality Control Board
L_{dn}	day-night noise level
L_{eq}	equivalent continuous noise level
LCFS	low-carbon fuel standard
LOS	level of service
LST	localized significance thresholds
MMT	million metric tons
NAHC	Native American Heritage Commission
NO_X	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
O_3	ozone
PM	particulate matter
ppm	parts per million
PPV	peak particle velocity
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
RMP	risk management plan
RMS	root mean square
RPS	renewable portfolio standard
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SoCAB	South Coast Air Basin
SO_X	sulfur oxides
SQMP	stormwater quality management plan
SRA	source receptor area [or state responsibility area]
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
USFWS	United States Fish and Wildlife Service

USGS	United States Geological Survey
V/C	volume-to-capacity ratio
VdB	velocity decibels
VHFHSZ	very high fire hazard severity zone
VMT	vehicle miles traveled
VOC	volatile organic compound
WQMP	water quality management plan

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1. Introduction

The Santa Monica-Malibu Unified School District (SMMUSD or District) proposes to combine the existing Point Dume Marine Science School (Point Dume) and Juan Cabrillo Elementary School (Cabrillo) on the current Point Dume campus. On May 3rd, 2018, the SMMUSD School Board unanimously agreed to combine Cabrillo and Point Dume beginning with the 2019-20 school year as part of a wider Malibu Schools Alignment Project (Proposed Project). This alignment will combine the two school's existing attendance boundaries to be the new attendance boundary for the new school at Point Dume. In order to accommodate this increase in enrollment, the Point Dume campus would be expanded. Additionally, Malibu Middle School students currently attend Malibu High School as part of the 6-12 grade Malibu Middle and High School (MMHS). Beginning in the 2020-21 school year, the Middle School students will be transferred over to the existing Cabrillo campus, which is adjacent and to the west of the MMHS campus.

The SMMUSD is the lead agency with the principle responsibility for carrying out and approving the Proposed Project. The District, as lead agency, is responsible for preparing environmental documentation in accordance with the California Environmental Quality Act (CEQA) to determine if approval of the discretionary actions requested and subsequent development would have a significant impact on the environment. As defined by Section 15063 of the CEQA Guidelines, an Initial Study is prepared primarily to provide the lead agency with information to use as the basis for determining whether an environmental impact report (EIR), Negative Declaration, or Mitigated Negative Declaration (MND) would be appropriate for providing the necessary environmental documentation and clearance for the Proposed Project. This Initial Study has been prepared to support the adoption of an MND.

While the transfer for the middle school students to Cabrillo is part of the overall Malibu Schools Alignment Project, at this time, no physical improvements are anticipated to occur at either the MMHS campus or the Cabrillo campus. As such, this MND evaluates the potential impacts that would occur from the transfer of elementary students from the Cabrillo campus to the Point Dume campus, and the associated Point Dume campus expansion.

1.1 PROJECT LOCATION

The Point Dume campus is located at 6955 Fernhill Drive (APN 446-601-2900*)* in the City of Malibu, in western Los Angeles County (see Figure 1 – *Regional Location*). The campus is located approximately 0.5 miles south of Pacific Coast Highway, at the intersection of Fernhill Drive and Grayfox Street. The Proposed Project is located in the western portion of the City of Malibu, approximately 1.5 miles northwest of Point Dume State Beach. The campus is set in a residential neighborhood, refer to Figure 2 (*Local Vicinity*) for the local context.

While no physical improvements are occurring at Juan Cabrillo, the location of the campus is described here for context. Juan Cabrillo is located at 30237 Morning View Drive, in the City of Malibu, approximately 3 miles to the east of Point Dume, (see Figure 1 - *Regional Location*). Juan Cabrillo is located approximately 0.25 miles northeast of both the Pacific Coast Highway and Zuma Beach between Merritt Drive to the west, Via Cabrillo Street to the north and Harvester Road to the east. Juan Cabrillo shares the District property with Cabrillo Malibu High School and Malibu Equestrian Park to the east.

1.2 ENVIRONMENTAL SETTING

1.2.1 Existing Land Use

The Proposed Project site is the existing Point Dume campus, which consists of a single 6.25-acre parcel and is currently developed with classroom buildings, administration building, a multi-purpose field, three outdoor basketball courts and play courts, staff parking lot (along Grayfox Street), a visitor parking lot and student drop-off/pick-up zone (along Fernhill Drive), pedestrian walkways and landscaped planters The existing campus building are orientated to the western portion of the campus, with the kindergarten area located along the southernmost portion of the building area, adjacent the visitor parking area (see Figure 3, *Aerial Photograph*). There are six existing irregularly shaped, one- and two-story buildings totaling 32,578 square feet of development that serve academic and administrative functions for the campus (see Figures 4, 5, and 6, *Site Photographs*).

The typical bell schedule begins the school day at 8:00 a.m. and dismissal occurs at 2:45 p.m., with early dismissal occurring at 12:45 p.m. on Fridays (SMMUSD 2018). The existing multi-purpose field is known as Cameron Park and is approximately 2.55 acres in size. Cameron Park is utilized by Point Dume students during school hours and is open for public use when school is not in session. Several mature trees are located within Cameron Park, with a play area located within the southern portion of the park, just north of the visitor parking lot.

Access and Parking

The Point Dume campus has two surface parking lots, one for staff, located along Grayfox Street, and one for visitors located along Fernhill Drive. The visitor lot has 44 regular spaces, with three disability accessible spaces and is accessed by a single driveway along Fernhill Drive. The staff lot has 6 regular spaces with one disability accessible space and is accessed by a single driveway along Grayfox Street. Student drop-off/pick-up is programed to occur within the visitor parking lot along the northern edge of the parking lot, adjacent Cameron Park. Pedestrian access is available through the visitor lot driveway, and through entry gates along Grayfox Street.

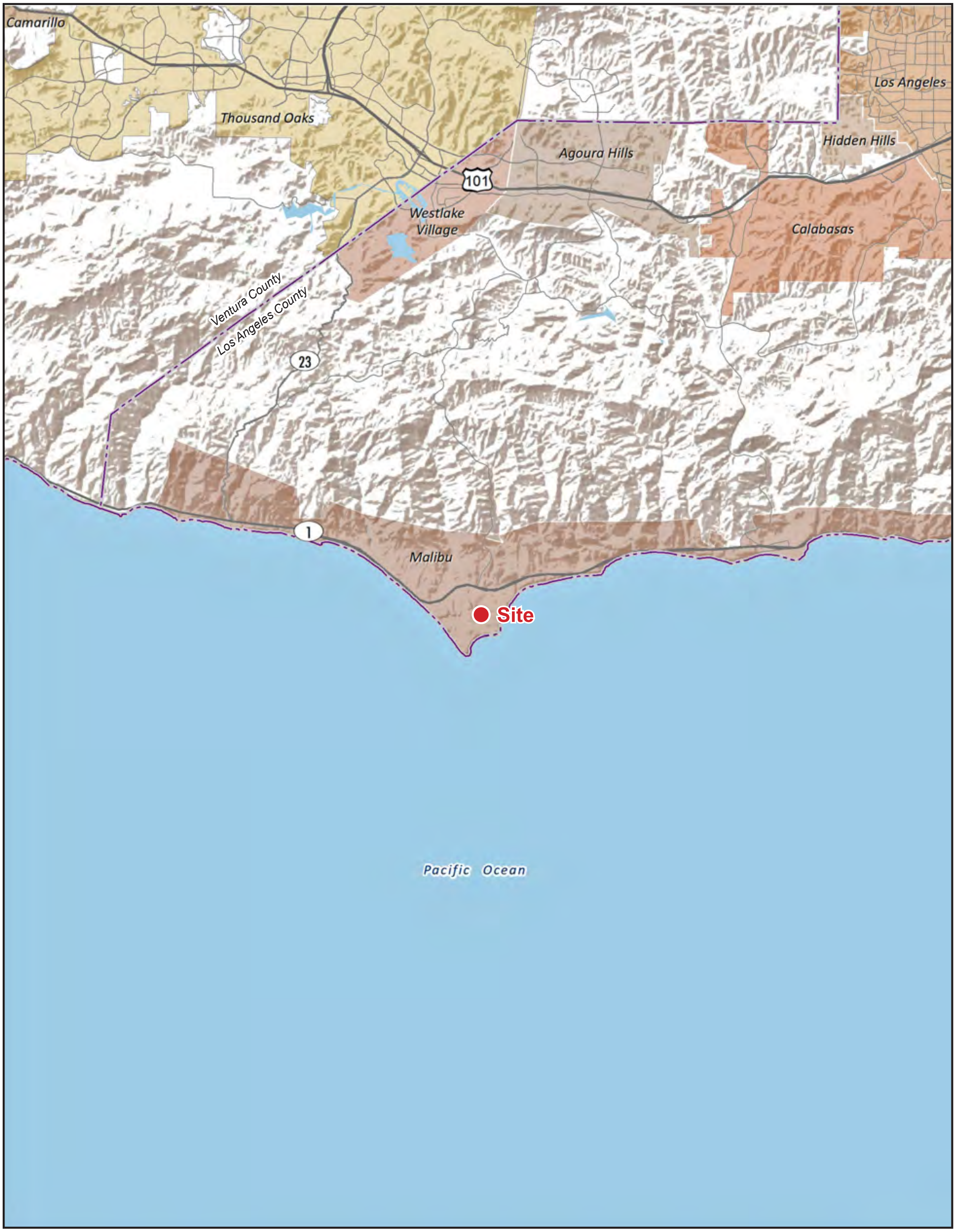
1.2.2 Surrounding Land Use

Surrounding land uses in the general vicinity of the campus include properties that are zoned Rural Residential (RR1). These parcels are primarily developed with large homes on lots that are up to one acre in size. Point Dume State Beach is located approximately 1.5 miles to the northwest.

1.3 INCORPORATION BY REFERENCE

The City of Malibu Local Coastal Program (LCP) Land Use Plan, adopted by the City of Malibu in September 2002, is incorporated by reference into this Mitigated Negative Declaration.

Figure 1 - Regional Location
1. Introduction



Note: Unincorporated county areas are shown in white.

0 3
Scale (Miles)

Source: ESRI, 2018

1. Introduction

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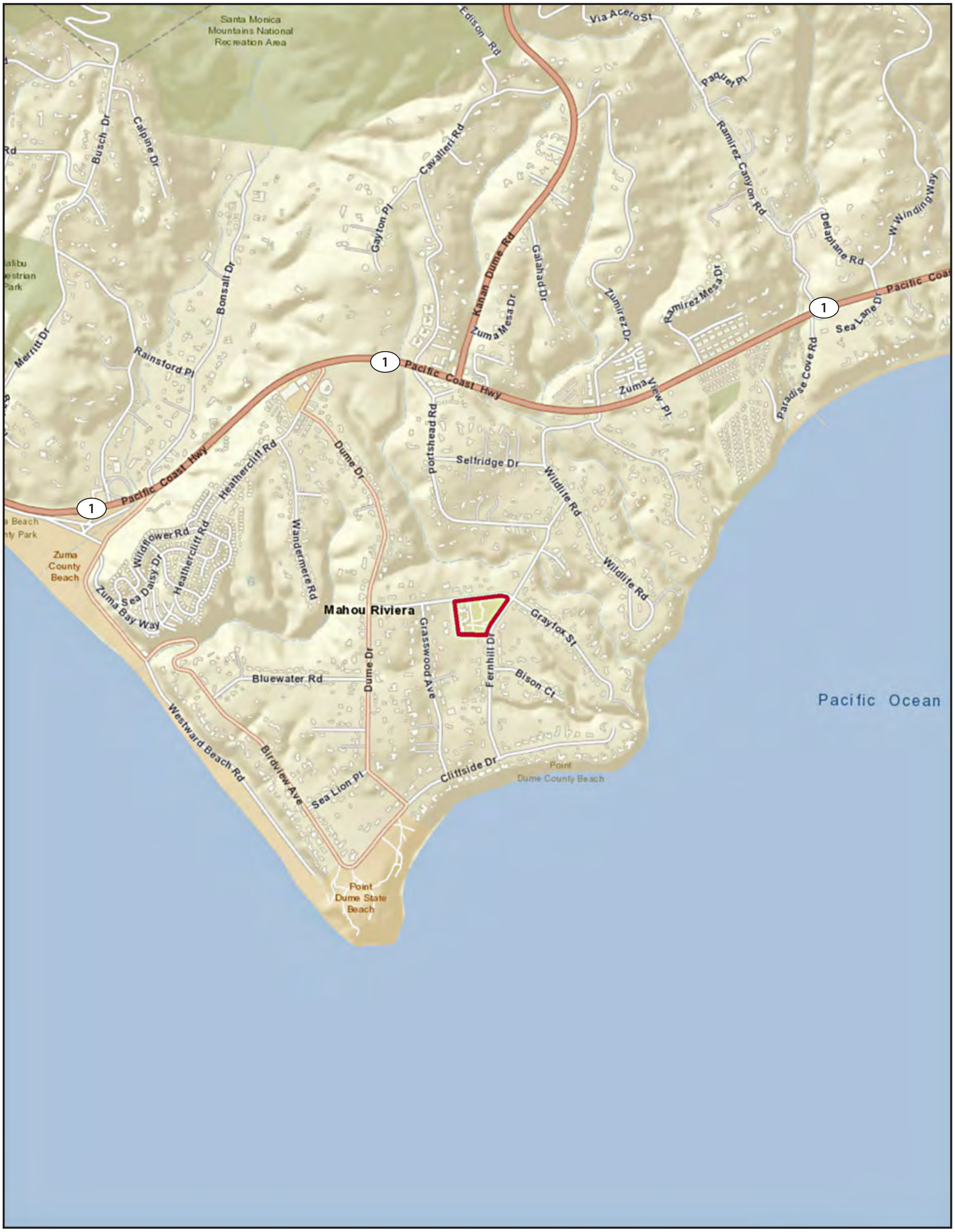
Figure 2 - Local Vicinity

1. Introduction



Note: Unincorporated county areas are shown in white.

School Boundary

0 2,000
Scale (Feet)

Source: ESRI, 2018

1. Introduction

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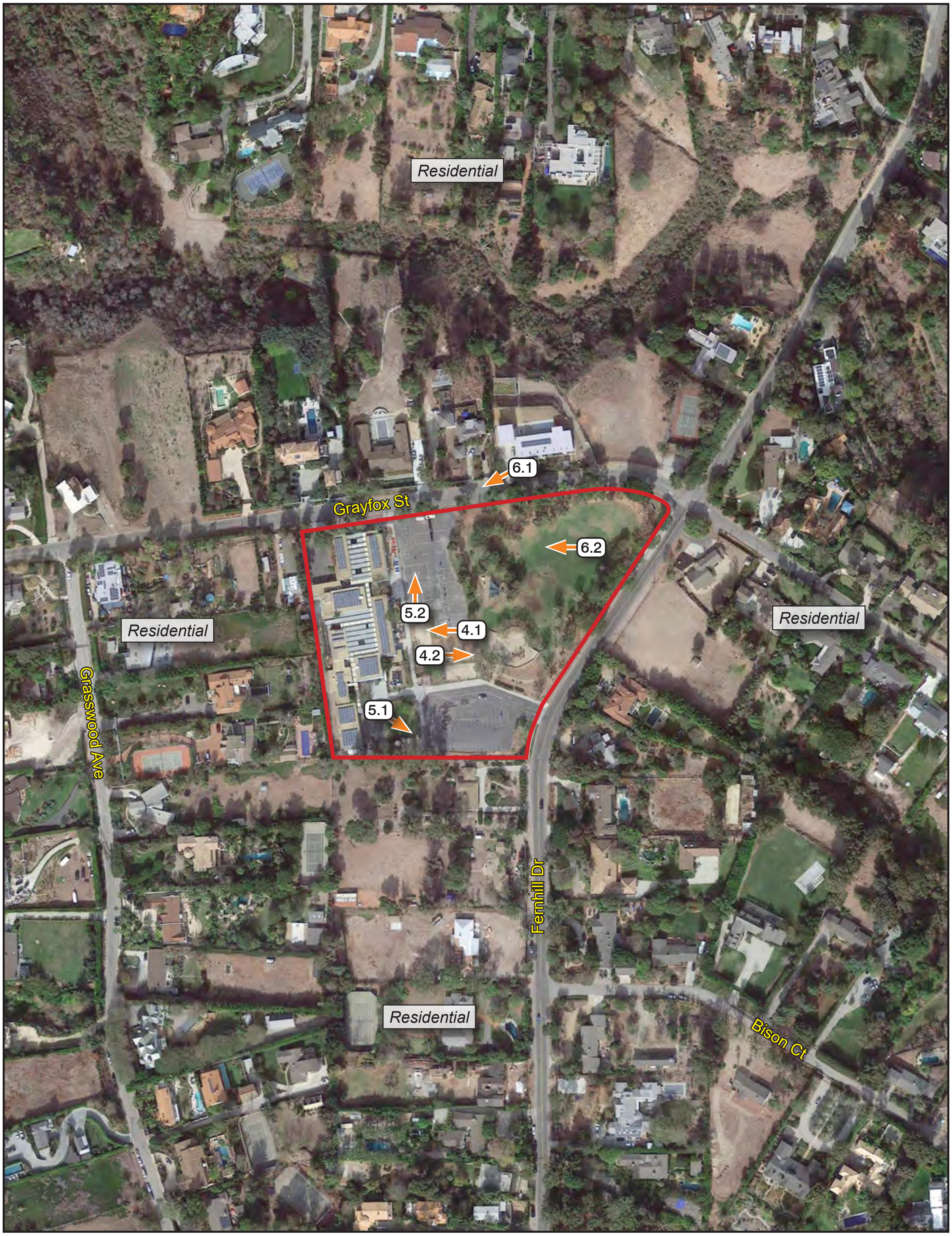
Figure 3 - Aerial Photograph and Site Photographs Index Map

1. Introduction



School Boundary

4.1 Photograph Location and Direction (6)

0 350 Scale (Feet)

Note: 4.1 = Figure 4, Photo 1, etc.

Source: Google Earth Pro, 2018

1. Introduction

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Figure 4 - Site Photographs
1. Introduction

4.1 Portable classroom site facing west towards main campus.

4.2 Portable classroom site facing east.

Source: ECORP, 2018

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Figure 5 - Site Photographs

1. Introduction

5.1 Kindergarten portable site facing south.

5.2 Portable classroom site facing site of permanent classroom.

Source: ECORP, 2018

1. Introduction

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Figure 6 - Site Photographs
1. Introduction

6.1 View from Grayfox Street towards permanent classroom site.

6.2 View of permanent classroom site from soccer field.

Source: ECORP, 2018

1. Introduction

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1.4 PROJECT DESCRIPTION

1.4.1 Proposed Land Use

The Proposed Project consists of combining the populations of Cabrillo and Point Dume on the current campus of Point Dume beginning in the 2019-20 school year as part of a wider Malibu Schools Alignment Project. Figure 7 (*Existing School Attendance Area Boundaries*) shows the current boundaries for the three SMMUSD elementary schools in Malibu, Cabrillo and Point Dume, as well as Webster. The existing (2017-18) student population at Juan Cabrillo is 185 students, the existing student population at Point Dume is 195. The District anticipates that the combined Juan Cabrillo and Point Dume campus would result in 380 students for the 2019-20 school year. The District's design plan would accommodate up to 450 students, which would result in a total increase of up to 255 students at the Point Dume campus compared to existing conditions.

The Point Dume campus as constructed in 1967 was designed to accommodate a student population of 600 students, the District's Education Specifications for classrooms has changed significantly since the Point Dume campus was built. As the District moves from a traditional classroom and instructional model to a progressive project-based learning model, class sizes, support spaces, community areas and collaboration zones require more space from school design of the past. For example, standard classrooms are moving from a 960 square foot standard classroom to a 1,200 square foot classroom. Where classrooms may have been previously unsupported by break out spaces and support zones, the inclusion of these new spaces provide shared collaboration areas, new resource tools, technology, and display. Classrooms and Labs, specialized learning and innovation spaces are all required to transition from a traditional teacher led front of the classroom model to a decentralized multi-zoned instructional model that provides a variety of spaces to enrich a collaborative culture for project-based work.

The District proposes expanding the classroom space at the Point Dume Campus in two Phases. Phase I would involve the construction of eight portable classrooms, one portable administration office, and one portable restroom on the western most portion of the undeveloped Cameron Park. Phase II would involve the development of a permanent two-story 15,000 square foot, eight-classroom building along the northern edge of Cameron Park, adjacent Grayfox Street, and a new 2,500 square foot single-story administration building in the space occupied by the Phase I portable buildings. The Phase II portion of the Proposed Project would be contingent of the passage of a proposed Malibu School Facilities Improvement District bond, to be voted on by the residents of Malibu in November 2018. As such, specific site plans have not yet been developed for the Proposed Phase II Classroom Building. Therefore, for the purposes of this environmental analysis, development of the site has been defined in terms of a series of worst-case parameters, described below in Section 1.4.2.1.

1.4.2 Proposed Land Use

1.4.2.1 PHASE I – PORTABLE VILLAGE

The Phase I portion of the Proposed Project would involve the construction of eight portable classrooms, one portable administration office, and one portable restroom on the Point Dume campus. One new 36 foot by 40-

foot portable classroom would be utilized for kindergarten and would be located on undeveloped space in the current kindergarten area along the southwestern portion of the campus. The remaining seven portables would be located along the southern boundary of the existing Cameron Park, adjacent the visitor lot to the south and the existing playground to the east of the portables. The elementary school portion would consist of seven 24 foot by 40-foot classrooms, one 36 foot by 40-foot office/administration portable, and one 12-foot by 40-foot restroom portable, refer to Figure 8 – *Phase I Site Plan*. The new portables would all be 12 feet and 6 inches in height. Each of the portables would be equipped with an ADA access ramp. Installation of the portables would occupy approximately 24,500 square feet of space on the campus, and result in 10,080 square feet of new development on campus.

The new portables would have security lighting, and all such lighting would comply with the Chapter 17.41 – Malibu Dark Sky Ordinance of the City of Malibu Zoning Code. The proposed restroom would connect to the existing septic system. There would be no change to school operational hours, internal vehicle or pedestrian circulation or staff or visitor parking with implementation of Phase I.

Construction

Placement of the new portables at Point Dume is anticipated to begin in Spring 2019 and be completed by end of August 2019. All construction equipment staging would be located within the existing hardcourt area of the campus. Construction worker parking would occur onsite, or the District will secure sufficient offsite parking. Construction activities would include the following stages:

- **Site Preparation**: Portions of the existing asphalt of the hardcourt area would be demolished, approximately 120 cubic yards of asphalt and concrete would be exported from the site. Eight trees located in the proposed Portable Village area would require removal.
- **Utility Trenching**: Utility trenches would be excavated, and utility pipes and cables would be laid in trenches and connected to the portables. Underground utilities for water to the kindergarten, office/administration, and restroom portables would connect to existing lines along Grayfox Street, with waste water connecting to the existing septic system located in the hardcourt area of the campus. Electricity and telephone lines to the portables would connect to existing power and communications lines on campus or to existing lines on adjacent streets.
- **Portable Installation:** 10 portables would be hauled onto the campus and placed by a crane on the designated area. The portables would be placed on a gravel pad at grade. It is anticipated that approximately 852 cubic yards of soil would be imported to create level pads, while 164 cubic yards of material would be exported during site grading. A total of approximately 30 trucks would be required for delivery of the portables.
- **Finishing:** Indoor finishing work on the portables would include placement of furniture and equipment.

1.4.2.2 PHASE II

During construction activities, students and staff would continue to utilize the portables. Implementation of Phase II would result in the construction of a two-story approximately 15,000 square foot classroom building that would be located along Grayfox Street. The Phase II classroom building ("Classroom Building") would be 28 feet in height and would occupy the northern portion of the existing hard court, and a small portion of the existing Cameron Park. The building would include eight classrooms, stairwells, an ADA compliant elevator, and boys' and girls' restrooms. Upon completion of the Classroom Building, the elementary school portables would be removed, and development of a new 2,500 square foot administrative office at that location. The remainder of the portables site, approximately 15,000 square feet, would be converted back to permeable surfaces. See Figure 9 – *Phase II Site Plan*. Similar to the Phase I Portables, the Classroom Building would have security lighting; all such lighting would comply with the Chapter 17.41 – Malibu Dark Sky Ordinance of the City of Malibu Zoning Code. The proposed restroom would connect to the existing septic system. There would be no change to operational hours, external or internal vehicle or pedestrian circulation or staff or visitor parking with implementation of Phase II.

Construction

Phase II would commence the summer of 2020 and would last approximately 14 months. Construction activities would include site preparation, including the removal of up to three trees in Cameron Park, excavation for the foundation, building construction and architectural coating. Construction equipment required for ground clearing, excavation, grading, and building activities would include, but is not limited to, rubber-tired dozers, excavators, graders, scrapers, tractors, loaders, and backhoes.

1.4.3 Utilities

The following utilities serve Point Dume School:

- **Water:** Los Angeles County Waterworks District 29
- **Wastewater** is disposed of through a septic system
- **Electricity:** Southern California Edison
- **Natural Gas:** Southern California Gas Company
- **Solid Waste Collection:** The Malibu Chamber of Commerce Public Utilities & Environment page lists 3 solid waste haulers: Universal Waste Systems, Inc.; Waste Management; and Recology (MCoC 2018).
- **Cable Television:** Charter Spectrum

1.5 EXISTING ZONING AND GENERAL PLAN

The campus is designated for institutional use in the Land Use and Zoning section of the City of Malibu's LCP. Both the land use designation and zoning of the campus allow for public school use. According to the City of

Malibu's LCP, the Institutional District accommodates existing public and quasi-public facilities in the City of Malibu, which includes educational, religious, and governmental facilities. No changes to the existing zoning or General Plan land use designations would occur as a result of the Proposed Project.

The Campus is located within the California Coastal Zone, which was established by the federal Coastal Zone Management Act (CZMA) and the California Coastal Act of 1976 (CCA). The CCA requires that planning and development within the Coastal Zone be consistent and compatible with the unique characteristics of coastal resources. The City of Malibu lies entirely within the state-designated Coastal Zone and extends approximately 25 miles from the Ventura County Line on the west to Topanga Canyon Boulevard on the east. The City of Malibu has implemented a Local Coastal Program (LCP) certified by the California Coastal Commission (CCC) on September 13, 2002. As such, the District will be required to apply for a Coastal Development Permit (CDP) through the City of Malibu. A separate CDP will be required for both Phase I and Phase II.

The Proposed Project is consistent with the City of Malibu's General Plan and zoning designations and is subject to the policies and provisions of the City of Malibu's LCP.

1.6 REQUIRED PERMITS AND APPROVALS

As required by CEQA Guidelines, this Section provides, to the extent the information is known to the SMMUSD, a list of the agencies that are expected to use the environmental analysis of the Proposed Project in their decision-making. This section also lists the permits and other approvals required to implement the project.

1.6.1.1 LEAD AGENCY APPROVAL

The SMMUSD is the lead agency under CEQA and has approval authority over the Proposed Project. The project-related MND must be adopted by the Board of Education, confirming its adequacy in complying with the requirements of CEQA. The Board will consider the information in the MND in deciding to approve or deny the Proposed Project. The analysis is intended to provide environmental review for the whole of the Proposed Project, including the planning of the project; clearance, excavation, and grading of the site; construction of buildings; installation of the proposed facilities; and ongoing operation.

1.6.1.2 OTHER REQUIRED PERMITS AND APPROVALS

A public agency, other than the lead agency, that has discretionary approval power over a part of the Proposed Project is known as a "Responsible Agency," as defined by CEQA Guidelines. The Responsible Agencies, and their corresponding approvals for this project, may include the following:

- California Department of Education, School Facilities and Transportation Services Division
- California Department of General Services, Division of the State Architect: Approval of site plans and building plans
- Los Angeles Regional Water Quality Control Board: Issuance of waste discharge requirements
- Los Angeles County Fire Department: Fire Flow Upgrade
- Los Angeles County Department of Public Works (Water District 29)

- City of Malibu Public Works Department: Grading permit
- City of Malibu Planning Department: Approval respecting consistency with City of Malibu Local Coastal Program Land Use Plan

1. Introduction

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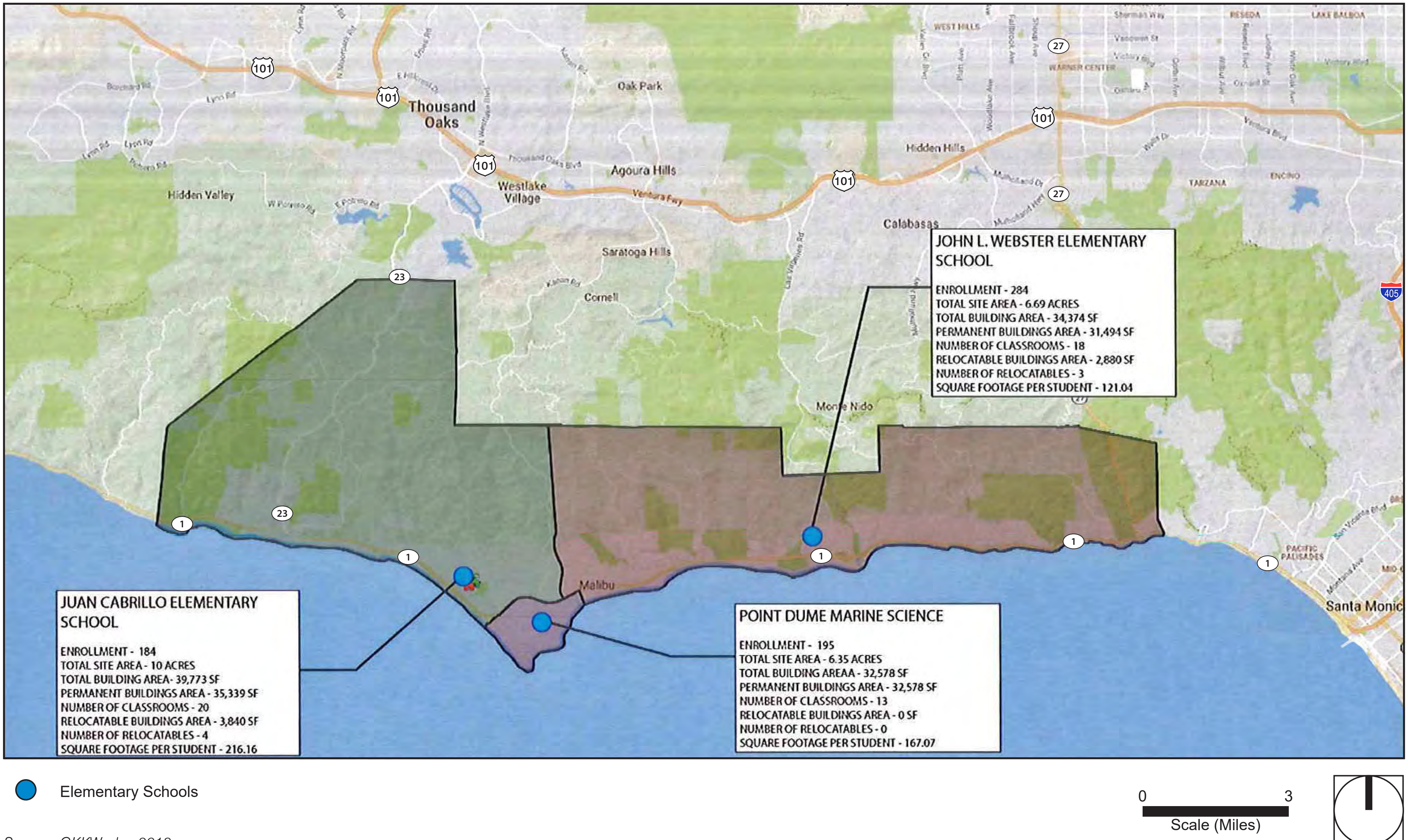
Figure 7 - Existing School Attendance Boundaries



Source: GKKWorks, 2018

1. Introduction

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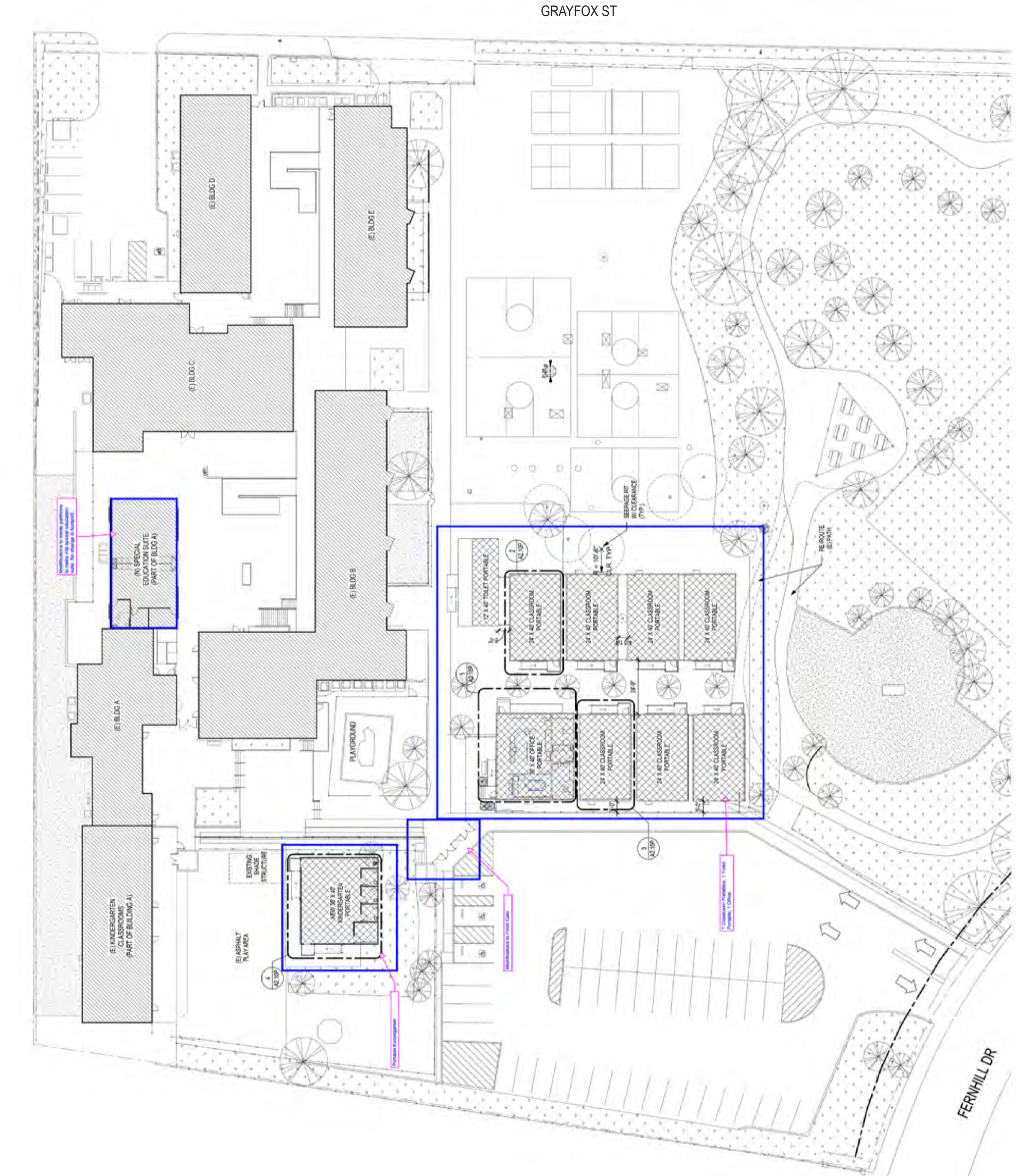
Figure 8 - Phase 1 Site Plan
1. Introduction



LEGEND

EXISTING BUILDING - AREA OF WORK
EXISTING BUILDING - NOT IN SCOPE
EXISTING LANDSCAPE TO REMAIN
EXISTING PLANTER TO REMAIN
EXISTING CHAIN-LINK FENCE TO REMAIN
EXISTING ORNAMENTAL FENCE TO REMAIN
(E) FH EXISTING FIRE HYDRANT TO REMAIN
PATH OF TRAVEL (P.O.T.)
ACCESSIBLE RESTROOM
DF ACCESSIBLE DRINKING FOUNTAIN

GENERAL NOTES

1. ALL KEYNOTES ARE TYPICAL UNLESS OTHERWISE NOTED.
2. CONTRACTOR IS RESPONSIBLE TO PATCH AND REPAIR ALL WALLS AND FLOORING DAMAGED DURING DEMOLITION IN SCOPE OF WORK.
3. CONDENSER PLACEMENT LOCATION AND CONCRETE PAD SIZES TO BE VERIFIED IN FIELD.

Source: DSK Architects, 2018

1. Introduction

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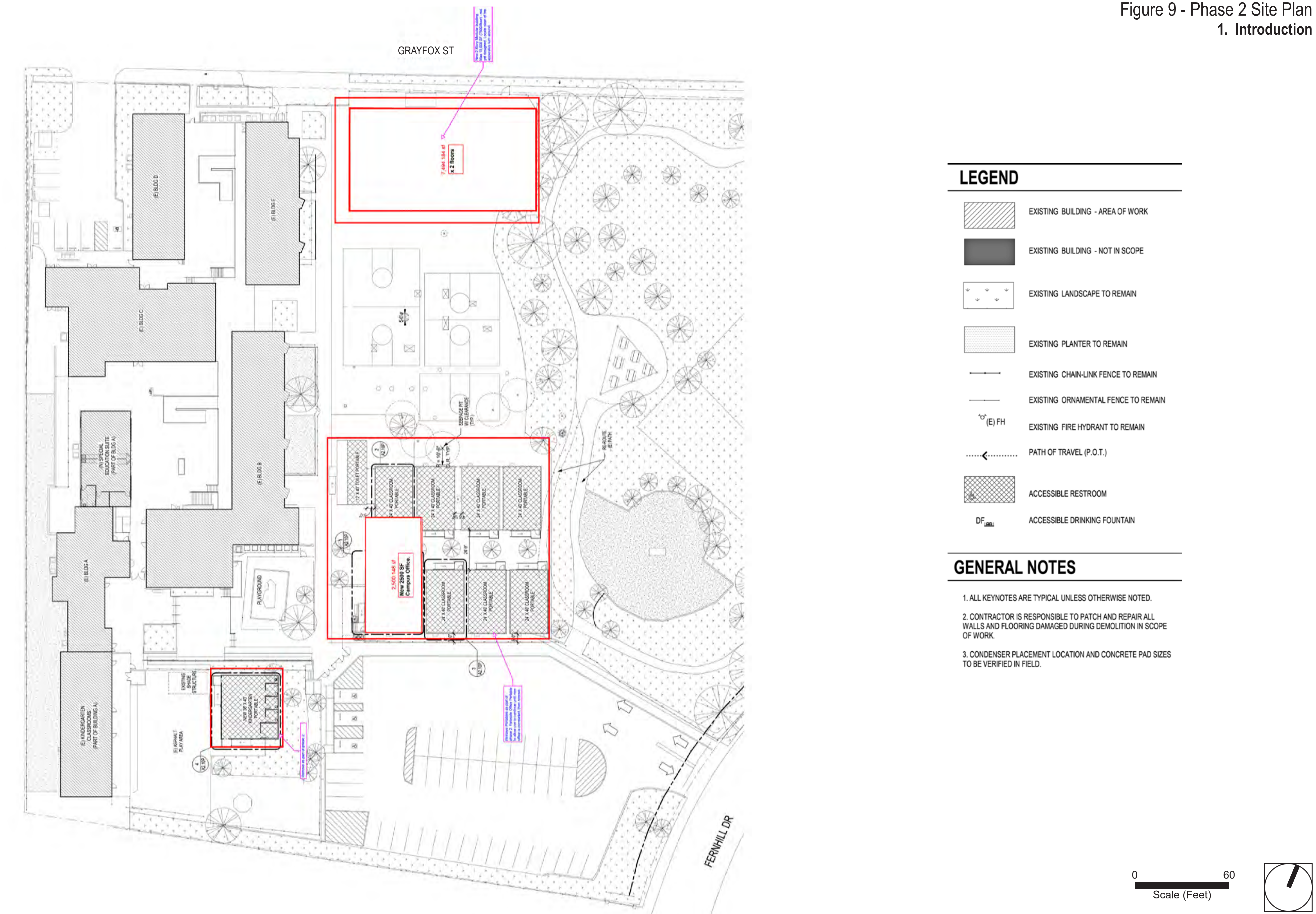
Figure 9 - Phase 2 Site Plan

1. Introduction



Source: DSK Architects, 2017

1. Introduction

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2. Environmental Checklist

2.1 BACKGROUND

1. **Project Title:** Malibu Schools Alignment Project

2. Lead Agency Name and Address:
   Santa Monica-Malibu Unified School District
   1651 16th Street
   Santa Monica, California 90404

3. Contact Person and Phone Number:
   Carey Upton, Chief Operations Officer
   310.450.8338

4. **Project Location:** The project site is within Point Dume Marine Science School at 6955 Fernhill Drive—at the southwest corner of Fernhill Drive and Grayfox Street—in the City of Malibu in western Los Angeles County.

5. **Project Sponsor's Name and Address:**
   Santa Monica-Malibu Unified School District
   1651 16th Street
   Santa Monica, California 90404

6. **General Plan Designation:** Institutional

7. **Zoning:** Institutional

8. **Description of Project:**
   The project would consist of the following improvements at Point Dume School: Phase I consists of installation of 10 portables, including eight classrooms, one portable for office use, and one restroom portable. Phase II consists of construction of a replacement permanent two-story classroom building with eight classrooms; construction of a permanent administrative office building; and removal of the 10 portables. The project would involve transferring elementary school students from Juan Cabrillo Elementary School to Point Dume School; and middle school students from Malibu Middle and High School to Juan Cabrillo Elementary School (which would henceforth operate as a middle school).

9. **Surrounding Land Uses and Setting:**
   The project site consists of portions of the Point Dume Marine Science School, which serves grades K-5; the eastern part of the campus is developed as Cameron Park, a joint-use facility used by the school and

by the City of Malibu as a park outside of school hours. The school is surrounded by rural residential uses.

10. Other Public Agencies Whose Approval Is Required:

California Department of Education, School Facilities and Transportation Services Division
California Department of General Services, Division of the State Architect: Approval of site plans and building plans
Los Angeles Regional Water Quality Control Board: Issuance of waste discharge requirements
Los Angeles County Fire Department: Fire Flow Upgrade
Los Angeles County Department of Public Works (Water District 29)
City of Malibu Public Works Department: Grading permit
City of Malibu Planning Department: Approval respecting consistency with City of Malibu Local Coastal Program Land Use 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?

The District sent letters notifying the Desert Cahuilla Indians and the Gabrielino Band of Mission Indians – Kizh Nation of the project on September 27, 2018. The District has received no responses to date.

2.2 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

2.3 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 EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Proposed Project, nothing further is required.

	September 28, 2018
Signature	*Date*
Carey Upton	Santa Monica-Malibu USD
Printed Name	*For*

2.4 EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a) **Earlier Analyses Used.** Identify and state where they are available for review.

   b) I**mpacts 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. A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

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 significant.

	Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:					
a)	Have a substantial adverse effect on a scenic vista?			X	
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X	
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	
II. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. 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?				X
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
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))?				X
d)	Result in the loss of forest land or conversion of forest land to non-forest use?				X
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?				X

2. Environmental Checklist

	Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY.	**Where available, the significance criteria established by the applicable air quality management 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?			X	
b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X	
c)	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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			X	
d)	Expose sensitive receptors to substantial pollutant concentrations?			X	
e)	Create objectionable odors affecting a substantial number of people?			X	
IV. BIOLOGICAL RESOURCES.	**Would the project:**				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			X	
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				X
c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
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?		X		
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		X		
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?				X
V. CULTURAL RESOURCES.	**Would the project:**				
a)	Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?			X	
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?		X		
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Disturb any human remains, including those interred outside of dedicated cemeteries?		X		
VI. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to 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.				X
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?			X	
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?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	
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?				X
VII. 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?				
VIII. 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?			X	
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?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	

2. Environmental Checklist

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 for people residing or working in the project area?				X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?			X	
IX. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements?			X	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in a substantial erosion or siltation on- or off-site			X	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			X	
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?			X	
f) Otherwise substantially degrade water quality?			X	
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				X
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j) Inundation by seiche, tsunami, or mudflow?				X
X. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?				X

	Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?				
XI. MINERAL RESOURCES. Would the project:					
a)	Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?				X
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?				X
XII. NOISE. Would the project result in:					
a)	Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		X		
b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			X	
c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		X		
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 expose people residing or working in the project area to excessive noise levels?				X
f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X
XIII. POPULATION AND HOUSING. Would the project:					
a)	Induce substantial 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)?			X	
b)	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

2. Environmental Checklist

	Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. **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:**					
a)	Fire protection?				
b)	Police protection?				X
c)	Schools?				X
d)	Parks?			X	
e)	Other public facilities?				X
XV. 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?			X	
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?				X
XVI. TRANSPORTATION/TRAFFIC. **Would the project:**					
a)	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			X	
b)	Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?			X	
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d)	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				
e)	Result in inadequate emergency access?				
f)	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?			X	

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRIBAL CULTURAL RESOURCES. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or				
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				
XVIII. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Exceed waste water treatment requirements of the applicable Regional Water Quality Control Board?			X	
b) Require or result in the construction of new water or waste water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
d) Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed?			X	
e) Result in a determination by the waste water 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?			X	
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g) Comply with federal, state, and local statutes and regulations related to solid waste?				X
XIX. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to 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?				

2. Environmental Checklist

	Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)				
c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				

3. Environmental Analysis

Section 2.4 provided a checklist of environmental impacts. This section provides an evaluation of the impact categories and questions contained in the checklist and identifies mitigation measures, if applicable.

3.1 AESTHETICS

a) Have a substantial adverse effect on a scenic vista?

Less Than Significant Impact. Scenic resources in the City of Malibu are associated with the dramatic topography and natural landscape features of the area which includes steep coastal bluffs, hills, rugged slopes, ridgelines, and dense native vegetation which typify the California Mediterranean landscape, as well as beaches, and the Pacific Ocean. The Proposed Project site is located within a highly developed residential community, with no variation in topography or natural landscape features in the immediate vicinity. No identified scenic resources, as defined by the City of Malibu's General Plan Conservation Element, are located within or adjacent to the Proposed Project site. Partial views of portions of the Santa Monica Mountains to the north are visible from parts of the campus. City of Malibu LCP Policy 6.1 identifies the Santa Monica Mountains as scenic areas of regional and national importance. Policy 6.2 identifies places on and along public roads, trails, parklands, and beaches that offer scenic vistas as public viewing areas. Policy 6.4 designates places on, along, within, or visible from scenic roads, trails, beaches, parklands and state waters—that offer scenic vistas of the beach and ocean, coastline, mountains, canyons and other unique natural features—as Scenic Areas. Phase I of the Proposed Project would result in the development of eight new portables on the existing campus site that would be 12 feet and 6 inches in height. These new portables would be visible to the residential uses along Fernhill Drive to the southwest; however, these new buildings would not result in the obstruction of views of the Santa Monica Mountains, which are already obstructed by views of the existing Point Dume campus buildings, numerous mature trees onsite and in the surrounding neighborhood and existing residential development. As such, development of Phase I of the Proposed Project would not result in an adverse effect on a scenic vista.

Phase II would result in the construction of a two-story approximately 15,000 square foot classroom building that would be located along Grayfox Street. The Classroom Building would be 28 feet in height and would occupy the northern portion of the existing hard court, and a small portion of the existing playfield. Similar to the Phase I buildings, the Phase II building would be visible to viewers from both Grayfox Street and Fernhill Drive. As with Phase I, the new Classroom Building would not result in the obstruction of views of the Santa Monica Mountains, which are already obstructed by views of numerous mature trees onsite and in the surrounding neighborhood and existing residential development. As such, development of Phase II of the Proposed Project would not result in an adverse effect on a scenic vista.

Both the Phase I and Phase II development would be sited and designed consistent with the LCP's Land Use Plan (LUP) Policy 6.5, ensuring that the new development would be sited and designed to minimize adverse impacts on scenic areas visible from scenic roads or public viewing areas to the maximum feasible extent. Impacts would be less than significant, and no mitigation is needed.

3. Environmental Analysis

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

Less Than Significant Impact. There are no rock outcroppings or historic buildings onsite. Point Dume Elementary School opened in 1968; closed in 1980; and reopened in 1996. Trees onsite are ornamental, comprising part of the school landscaping; the project site is shown as vacant, treeless land in a 1959 aerial photograph (NETR.com 2018). The project site is not in a state scenic highway. The nearest such highway to the project site is Topanga Canyon Boulevard, State Route 27, about 13 miles to the east (Caltrans 2018). City of Malibu LCP Section 6.3 identifies several Scenic Roads in the City; the project site is not along any of those roads, or close enough to any of those roads to affect scenic resources in those roadways. Section 6.4, which identifies Scenic Areas, states that scenic areas exclude inland areas that are largely developed or built out such as residential subdivisions along the coastal terrace. The project site is in a residential area on the coastal terrace and is therefore not in a Scenic Area defined in the LCP. Impacts would be less than significant.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Less Than Significant Impact. The existing visual character of the Proposed Project site is of a moderately sized elementary school campus and park located in a rural residential neighborhood. The flat topography of the Project site and the surrounding neighborhood results in immediate views of the surrounding residential development, with limited background views of the Santa Monica Mountains to the north. The site of the proposed portables is turf landscaping, bare land, and hardscape, plus a very small portion of playfield. The site of the proposed administration portable is partly turf landscaping and partly hardscape. The site of the proposed two-story classroom building is mostly asphalt hardscape; the east edge of the site is a portion of the playfield.

Both Phase I and Phase II of the Proposed Project would be designed consistently with LUP Policy 6.12 to ensure visual compatibility with the character of the surrounding areas. Upon completion of Phase II, the visual character of the Project Site would remain that of a modestly sized elementary school. The remainder of the Phase I site would be reverted to permeable surfaces after removal of the portables. Project development would not substantially degrade the visual character of the project site, and visual impacts would be less than significant.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime

Less Than Significant Impact. The Proposed Project site and the surrounding area currently have a less than average level of nighttime lighting. Artificial light sources found on site and in the surrounding area include security lights associated with the campus and adjacent residential uses, and automobile headlights. All lighting is designed to provide for the security and safety of students, staff, and visitors. Security lighting includes minimal interior and exterior building lights that are programmed on from dusk to 11:00 p.m. **[Note to District: Please confirm]** to discourage intruders as well as provide security for students and staff utilizing the campus for authorized off-hour activities.

The Proposed Project would not significantly increase nighttime lighting on the campus. The portable buildings would be set back from the residential uses along Fernhill Drive by the existing Cameron Park and the visitor parking lot. The Classroom Building would be located along the northern border of the Project site, along

Grayfox Street; however, similar to Phase I, the building would be fitted with interior building lights and security lights on building exteriors. Exterior lights would not cast substantial spill light affecting residential properties, including those north of the school opposite Grayfox Street.

City of Malibu Municipal Code (MMC) Chapter 17.41 (Dark Sky Ordinance) Sections 17.41.050 and 17.41.060 set forth lighting standards for new development within the City. The Proposed Project would comply with the standards in MMC 17.41. Relevant standards include:

Citywide Requirements (Section 17.41.050)

A. All outdoor light fixtures shall be fully shielded and installed and maintained in such a manner that the shielding does not permit light trespass in excess of those amounts set forth in subsection G below. Lighting shall be directed away from ESHA, ESHA buffer, Pacific Ocean, beaches, and public viewing areas in a manner to ensure no lamp is directly visible from public viewing areas.

B. Lighting around the perimeter of the site, except as required for security lighting purposes and where it is controlled by motion sensor which extinguishes the light no later than ten (10) minutes after activation, and lighting for aesthetic purposes on any parcel of land that is located along, within, provides views to or is visible from any scenic area, scenic road, public viewing area, ESHA or ESHA buffer is prohibited.

C. Light pollution shall be minimized through the use of directional lighting, fixture location, height, the use of shielding and/or motion sensors and timers.

D. Automated control systems, such as motion sensors and timers, shall be used to meet the curfew requirements of Section 17.41.060. Photocells or photocontrols shall be used to extinguish all outdoor lighting automatically when sufficient daylight is available. Automated controls should be fully programmable and supported by battery or similar backup.

E. Lighting Color (Chromaticity). The correlated color temperature of all outdoor lighting shall be three thousand (3,000) Kelvin or less except:

   1. Amber colored sources of a lower temperature necessary to protect beach and ESHA, as determined by the planning director.

   2. Seasonal lighting.

F. Seasonal lighting shall be allowed from November 15 to January 15 only.

G. Allowable Light Trespass. Outdoor lighting shall not cause light trespass exceeding the following amounts, measured with a light meter oriented vertically or horizontally at the property line of the property on which the light is trespassing:

   1. From any property onto a residential property, ESHA, ESHA buffer, Pacific Ocean, beaches, and public viewing areas, the maximum allowable light trespass shall be 0.1 foot-candles.

   2. From any property onto a non-residential property other than ESHA, ESHA buffer, Pacific Ocean, beaches, and public viewing areas, the maximum allowable light trespass shall be 0.25 foot-candles.

Requirements Applicable to Institutional Zoning District (Section 17.41.060)

1. All outdoor lighting shall comply with California Building Code Title 24 Lighting Zone One (LZ1).

2. Curfew. All outdoor lighting shall be extinguished by 11:00 p.m. or close of business, whichever is later, except for lighting activated by motion sensor which extinguishes ten (10) minutes after activation and lighting at the building entrances and driveway egress points.

Under MMC 17.41, both Phase I and Phase II of the Proposed Project would be required to install light fixtures that meet the correlated color requirements of 3,000 Kelvin. Further, the District would be required to ensure that spill light from either the Phase I portables or the Classroom Building does not exceed the maximum allowable trespass of 0.1 foot-candles. Additionally, all outdoor lighting would be required to be extinguished no later than 11:00 p.m. The design, installation, and operation of exterior security lights that would be installed by the Proposed Project would comply with the MMC 17.41. Therefore, Proposed Project development would not adversely affect nighttime views in the area relative to the City's Dark Sky Ordinance.

The Proposed Project would not include any high-intensity lighting, such as is used for athletic fields. Any new security and/or path lights would be directional and would not spill light outside the school campus. Lighting for the Proposed Project would not introduce lights at substantially greater intensities than existing lights on and near the school, and the Proposed Project would have no impact on nighttime views. The Proposed Project's light and glare impacts would be less than significant.

The exteriors of the new portables and Classroom Building would be constructed of low-glare materials, and Proposed Project development would not adversely affect daytime views in the area. Impacts would be less than significant.

3.2 AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. 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?

No Impact. The project site is mapped as Urban and Built-Up Land, and not as farmland, on the California Important Farmland Finder maintained by the Division of Land Resource Protection (DLRP 2018). The site is developed as Point Dume Marine Science School and is not in agricultural use. The LIP does not set forth requirements respecting preservation of farmland. No impact would occur, and no mitigation is needed.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The project site is zoned for Institutional uses and is not zoned for agricultural use. Williamson Act contracts restrict the use of privately-owned land to agriculture and compatible open-space uses under contract with local governments; in exchange, the land is taxed based on actual use rather than potential market value. The project site is not subject to a Williamson Act contract. No impact would occur, and no mitigation is required.

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))?

No Impact. The project site is zoned for institutional use and is not zoned for forest or timberland use. Project development would not conflict with zoning for forest or timberland use, and no impact would occur. No mitigation is needed.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The project site is developed as an elementary school and is not in forest use. Trees onsite are ornamental landscape trees and are not cultivated for forest resources. No impact would occur, and no mitigation is needed.

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?

No Impact. The project site is surrounded by residential uses. Project development would not indirectly cause or contribute to conversion of farmland to non-agricultural use or forest land to non-forest use. No impact would occur, and no mitigation is needed.

Local Coastal Plan Policies

Local coastal plan policies pertaining to agricultural uses are not addressed here, as the project site is on a built-out school campus in a residential area and Proposed Project development would not impact agricultural use.

3.3 AIR QUALITY

The Air Quality section addresses the impacts of the Proposed Project on ambient air quality and the exposure of people, especially sensitive individuals, to unhealthful pollutant concentrations. A background discussion on the air quality regulatory setting, meteorological conditions, existing ambient air quality in the vicinity of the project site, and air quality modeling can be found in Appendix A.

The primary air pollutants of concern for which ambient air quality standards (AAQS) have been established are ozone (O_3), carbon monoxide (CO), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and lead (Pb). Areas are classified under the federal and California Clean Air Act as either in attainment or nonattainment for each criteria pollutant based on

3. Environmental Analysis

whether the AAQS have been achieved. The South Coast Air Basin (SoCAB), which is managed by the South Coast Air Quality Management District (SCAQMD), is designated nonattainment for O_3, and $PM_{2.5}$ under the California and National AAQS, nonattainment for PM10 under the California AAQS, and nonattainment for lead (Los Angeles County only) under the National AAQS (CARB 2017a).

Where available, the significance criteria established by the applicable air quality management 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?

Less Than Significant Impact. A consistency determination plays an important role in local agency project review by linking local planning and individual projects to the air quality management plan (AQMP). It fulfills the CEQA goal of informing decision makers of the environmental efforts of the project under consideration at an early enough stage to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to clean air goals in the AQMP. The most recently adopted comprehensive plan is the 2016 Air Quality Management Plan, adopted on March 3, 2017.

Regional growth projections are used by SCAQMD to forecast future emission levels in the SoCAB. For southern California, these regional growth projections are provided by the Southern California Association of Governments (SCAG) and are partially based on land use designations in city/county general plans. Typically, only large, regionally significant projects have the potential to affect the regional growth projections. The Proposed Project would involve the relocation of students from existing schools and thus, would not substantially affect the regional growth projections. Additionally, the regional emissions generated by operation of the Proposed Project would be less than the SCAQMD emissions thresholds and SCAQMD would not consider the project a substantial source of air pollutant emissions that would have the potential to affect the attainment designations in the SoCAB. Therefore, the project would not affect the regional emissions inventory or conflict with strategies in the AQMP and impacts are less than significant. No mitigation measures are required.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less Than Significant Impact. The following describes project-related impacts from short-term construction activities and long-term operation of the Proposed Project.

Short-Term Air Quality Impacts

Construction activities would result in the generation of air pollutants. These emissions would primarily be 1) exhaust emissions from off-road diesel-powered construction equipment; 2) dust generated by demolition, grading, earthmoving, and other construction activities; 3) exhaust emissions from on-road vehicles and 4) off-gas emissions of volatile organic compounds from application of asphalt, paints, and coatings.

Construction activities on the Point Dume campus would occur over two development phases. Anticipated Phase I construction activities include, portables installation, site preparation, trenching, site grading, paving, , architectural painting, and landscaping and finishing. Construction of Phase I is anticipated to start in late spring 2019 and end August of 2019 and last for approximately 2 months. During construction, eight portable classrooms, one portable administration office, and one restroom would be placed onsite at the Point Dume campus to house the combined student population.

Construction of Phase II would begin in late spring 2020 and conclude in July of 2021 and last for a total duration of approximately 14 months. Construction activities would include site preparation, excavation for the foundations, building construction and architectural coating. At buildout of Phase II, the portables would be removed, and students would be moved to the newly constructed two-story classroom building onsite.

Construction emissions were estimated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2, and based on the project's preliminary construction schedule, phasing, and equipment list provided by the District. The construction schedule and equipment mix are based on preliminary engineering and subject to changes during final design and as dictated by field conditions. Results of the construction emission modeling are shown in Table 1. As shown in the table, maximum daily construction emissions would not exceed SCAQMD's regional construction significance thresholds. Therefore, air quality impacts from project-related construction activities would be less than significant and no mitigation measures are required.

Table 1 Maximum Daily Regional Construction Emissions

Construction Activity	Criteria Air Pollutants (lbs/day)					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Phase I						
Asphalt Demolition	5	48	25	<1	3	2
Site Prep Haul + Demo Haul	<1	6	2	<1	1	<1
Grading + Haul	3	34	15	<1	5	3
Trenching	1	5	5	<1	<1	<1
Trenching + Grading + Haul	3	39	20	<1	5	3
Portables Installation	2	19	15	<1	1	1
Portables Installation + Asphalt Paving	4	33	28	<1	2	2
Phase II						
Asphalt Demolition	3	29	16	<1	2	1
Demo Debris Haul + Site Preparation	2	25	12	<1	5	3
Site Preparation + Site Prep Haul	2	21	11	<1	4	2
Site Preparation	2	16	10	<1	4	2
Rough Grading + Fine Grading	3	36	22	<1	5	3
Rough Grading + Fine Grading +Fine Haul + Rough Haul	4	45	25	<1	6	3
Rough Grading + Rough Grade Haul + Fine Grading	4	41	24	<1	6	3
Fine Grading	1	11	7	<1	1	1
Fine Grading + Trenching	3	25	22	<1	2	1
Trenching + Building Construction	4	36	38	<1	2	2
Building Construction – 2020	3	22	23	<1	1	1
Building Construction – 2021	2	20	23	<1	1	1
Asphalt Paving	1	11	13	<1	1	1
Architectural Coating	7	2	2	<1	<1	<1
Architectural Coating + Finishing/Landscaping + Portable Removal	10	25	23	<1	2	1

3. Environmental Analysis

Table 1 Maximum Daily Regional Construction Emissions

Construction Activity	Criteria Air Pollutants (lbs/day)					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Portables Removal + Finishing/Landscaping	2	23	22	<1	2	1
Maximum Daily Emissions	10	48	38	<1	6	3
SCAQMD Regional Threshold	75	100	550	150	150	55
Exceeds Regional Threshold?	No	No	No	No	No	No

Source: CalEEMod, version 2016.3.2
Notes: Totals may not equal 100 percent due to rounding. The construction schedule is based on the preliminary information provided by the District. Where specific information regarding project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by SCAQMD of construction equipment and phasing for comparable projects. Estimates include implementation of fugitive dust control measures required by SCAQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186–compliant sweepers.

Long-Term Operation-Related Air Quality Impact

Long-term air pollutant emissions generated by the Project would be generated by area sources (e.g., landscape fuel use, aerosols, and architectural coatings) and energy use (natural gas) associated with the buildings. Criteria air pollutant emissions for the Proposed Project were modeled using CalEEMod. The Project would increase the school's enrollment capacity by approximately 185 students, resulting in approximately 350 additional average daily trips. Table 2, *Maximum Daily Regional Operational Phase Emissions*, identifies criteria air pollutant emissions from the Proposed Project. As shown in the table, implementation of the Proposed Project would not exceed the SCAQMD's regional emissions thresholds for operational activities. Overall, long-term operation-related impacts to air quality would be less than significant and no mitigation measures are required.

Table 2 Maximum Daily Regional Operational Phase Emissions

Source	Criteria Air Pollutants (lbs/day)					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Proposed Project (Year 2021)						
Area	<1	<1	<1	0	<1	<1
Energy	<1	<1	<1	<1	<1	<1
Mobile[1]	1	1	8	<1	2	1
Total Emissions	1	1	8	<1	2	1
Maximum Daily Emissions	1	1	8	<1	2	1
SCAQMD Regional Threshold	55	55	550	150	150	55
Exceeds Regional Threshold?	No	No	No	No	No	No

Source: CalEEMod Version 2016.3.2.25. Highest winter or summer emissions are reported. Totals may not total to 100 percent due to rounding.
[1] Mobile emissions are based on year 2021 emission factors, which coincide with the opening year assumed in the traffic impact analysis.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less Than Significant Impact. The SoCAB is designated nonattainment for O_3 and $PM_{2.5}$ under the California and National AAQS, nonattainment for PM_{10} under the California AAQS, and nonattainment for lead under the National AAQS (CARB 2017a). According to SCAQMD methodology, any project that does not exceed or can be mitigated to less than the daily threshold values would not add significantly to a cumulative impact. Construction and operational activities would not result in emissions in excess of SCAQMD's significant thresholds. Therefore, the Project would not result in a cumulatively considerable net increase in criteria pollutants, and impacts would be less than significant. No mitigation measures are required.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. The Proposed Project could expose sensitive receptors to elevated pollutant concentrations if it causes or contributes significantly to elevated pollutant concentration levels. Unlike regional emissions, localized emissions are typically evaluated in terms of air concentration rather than mass so they can be more readily correlated to potential health effects.

Construction

Localized Significance Thresholds

Localized significance thresholds (LSTs) are based on the California AAQS, which are the most stringent AAQS and were established to provide a margin of safety in the protection of public health and welfare. They are designated to protect sensitive receptors most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work or exercise. Construction LSTs are based on the size of the project site, distance to the nearest sensitive receptor, and Source Receptor Area. Receptors proximate to the Point Dume campus construction site are the surrounding adjacent residences. Additionally, other receptors would include the students and staff at the Point Dume campus during construction activities that would overlap the academic school year.

Air pollutant emissions generated by construction activities are anticipated to cause temporary increases in air pollutant concentrations. Table 3 shows the maximum daily construction emissions (pounds per day) generated during Project construction activities compared with the SCAQMD screening-level construction LSTs. As shown in the table, the maximum daily NO_x, CO, PM_{10}, and $PM_{2.5}$ construction emissions generated by Project construction-related activities would be less than their respective SCAQMD screening-level construction LSTs. Therefore, Project-related construction activities would not have the potential to expose sensitive receptors to substantial pollutant and impacts would be less than significant. No mitigation measures are required.

Table 3 Localized Construction Emissions

Construction Activity	Pollutants (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
P1 Demo Haul + P1 Site Prep Haul	0	0	0.21	0.03
P1 Trenching	5	5	0.31	0.29
P1 Portables Installation	18	14	1.04	0.99
P1 Portables Installation + Hardscaping	30	26	1.76	1.65
P1 Asphalt Paving	13	12	0.72	0.66
P2 Asphalt Demolition	28	15	1.43	1.33
P2 Paving	11	12	0.58	0.53
P2 Architectural Coating	2	2	0.09	0.09
SCAQMD ≤1.00-acre LST	**103**	**562**	**4.00**	**3.00**
Exceeds LST?	No	No	No	No

3. Environmental Analysis

Table 3 Localized Construction Emissions

Construction Activity	Pollutants (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
P1 Grading + Haul	24	12	3.89	2.44
P2 Demo Debris Haul + Site Preparation	16	9	3.94	2.25
P2 Site Preparation + Haul	16	9	3.47	2.18
P2 Site Preparation	16	9	3.39	2.17
P2 Fine Grading	11	6	0.70	0.46
P2 Building Construction – 2020	21	22	1.32	1.26
P2 Building Construction - 2021	20	22	1.12	1.08
SCAQMD 1.5-acre LST	**125**	**694**	**5.00**	**3.50**
Exceeds LST?	No	No	No	No
P2 Architectural Coating + Finishing + Portable Removal	22	22	1.23	1.16
P2 Portable Removal +Finishing/Landscaping	20	20	1.14	1.07
SCAQMD 2.0-acre LST	**147**	**827**	**6.00**	**4.00**
Exceeds LST?	No	No	No	No
P1 Asphalt Demolition	47	24	2.44	2.26
P1 Grading + Haul + Trenching	28	16	4.20	2.73
P2 Fine Grading + Trenching	24	21	1.55	1.27
P2 Building Construction + Trenching	36	37	2.17	2.08
SCAQMD 2.5-acre LST	**159**	**944**	**7.16**	**4.33**
Exceeds LST?	No	No	No	No
P2 Rough Grading + Fine Grading	35	20	4.64	2.94
P2 Rough Grading + Fine Grading + Rough/Fine Haul	35	20	4.91	2.97
P2 Rough Grading + Fine Grading + Rough Haul	35	20	4.75	2.96
SCAQMD 3.5-acre LST	**184**	**1,179**	**9.49**	**5.00**
Exceeds LST?	No	No	No	No

Source: CalEEMod Version 2016.3.2.; SCAQMD 2008 and SCAQMD 2011.
Notes: In accordance with SCAQMD methodology, only on-site stationary sources and mobile equipment occurring on the Project site are included in the analysis. LSTs are based on receptors within 82 feet (25 meters) of the construction site in Source Receptor Area (SRA) 2. The construction schedule is based on the preliminary information provided by the District. Where specific information regarding Project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by SCAQMD of construction equipment and phasing for comparable projects.
Estimates include implementation of fugitive dust control measures required by SCAQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186–compliant sweepers.

Construction Health Risk

SCAQMD currently does not require health risk assessments to be conducted for short-term emissions from construction equipment. Emissions from construction equipment primarily consist of diesel particulate matter (DPM). The Office of Environmental Health Hazards Assessment adopted new guidance for the preparation of health risk assessments that was issued in March 2015 (OEHHA 2015). The Office developed a cancer risk factor and noncancer chronic reference exposure level for DPM, but these factors are based on continuous exposure over a 30-year time frame. No short-term acute exposure levels have been developed for DPM. Construction activities for Phase I would last for approximately two months in late spring/summer 2019, while construction activities for Phase II would last for a total duration of 14 months over period from June 2020 to the end of July 2021. The short construction durations would limit the exposure to on-site and off-site receptors. In addition, construction activities would not exceed the screening-level LSTs. For these reasons, it is anticipated that construction emissions would not pose a threat to on- and off-site receptors at or near the Project site, and Project-related construction health impacts would be less than significant. No mitigation measures are required.

Operation

Localized Significance Thresholds

Operation of the Proposed Project would not generate substantial quantities of emissions from onsite stationary sources. Land uses that have the potential to generate substantial stationary sources of emissions that would require a permit from SCAQMD include industrial land uses, such as chemical processing and warehousing operations where substantial truck idling could occur onsite. The Proposed Project does not fall within these categories of uses. While operation of the Proposed Project would result in the use of new standard onsite mechanical equipment such as heating, ventilation, and air conditioning units in addition to occasional use of landscaping equipment for property management, air pollutant emissions generated from these activities would be nominal. Therefore, localized air quality impacts related to stationary-source emissions would be less than significant and no mitigation measures are required.

Carbon Monoxide Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9.0 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds.

The SoCAB has been designated attainment under both the national and California AAQS for CO. Under existing and future vehicle emission rates, a Project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited—in order to generate a significant CO impact (BAAQMD 2017). The Proposed Project would result in approximately up to 124 peak hour trips, which is substantially less than the volumes cited above. Furthermore, the SoCAB has since been designated as attainment under both the national and California AAQS for CO. Thus, the Proposed Project would not have the potential to substantially increase CO hotspots at intersections in the vicinity of the Project site. Therefore, localized air quality impacts related to mobile-source emissions would be less than significant and no mitigation measures are required.

e) Create objectionable odors affecting a substantial number of people?

Less Than Significant Impact. The Proposed Project would not result in objectionable odors. The threshold for odor is if a Project creates an odor nuisance pursuant to SCAQMD Rule 402, Nuisance, which states:

> A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

The type of facilities that are considered to have objectionable odors include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities. The use proposed by the Project does not fall within the objectionable-odor land uses. Odors from septic sewage system cleaning may occasionally generate odors, and emissions from construction equipment, such as diesel exhaust and volatile organic compounds from architectural coatings and paving activities, may generate odors. However, these odors would be low in concentration, temporary, and are not expected to affect a substantial number of people. Therefore, odor impacts would be less than significant, and no mitigation measures are necessary.

3.4 BIOLOGICAL RESOURCES

The analysis in this Section is based on the Biological Inventory Conducted for the Santa Monica-Malibu Unified School District's Malibu Schools Alignment Project in the City of Malibu, Los Angeles County, California completed by Ecorp Consulting, Inc. on August 31, 2018. A complete copy of this Report is included as Appendix B to this Mitigated Negative Declaration.

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

Less Than Significant Impact.

No sensitive species were observed onsite during a reconnaissance of the Project site on August 14, 2018. The study area for the Biological Inventory included all of the development areas (including installation of portable buildings) for Phase I and II of the Project, plus a 100-foot buffer zone surrounding all of those areas (see Figure 10, *Biological Inventory Study Area*). No native or naturally occurring vegetation communities were observed in the study area; and the study area is generally unsuitable for sensitive plant and animal species due to its urban setting. Impacts would be less than significant, and no mitigation is needed.

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

No Impact. No riparian habitat or other sensitive natural communities were identified onsite by the Biological Inventory. No impact would occur, and no mitigation is required.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. No wetlands potentially jurisdictional to the US Army Corps of Engineers pursuant to the Clean Water Act were identified onsite during the Biological Inventory. No impact would occur, and no mitigation is required.

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?

Less Than Significant Impact With Mitigation Incorporated. The Project site is built out as portions of a school campus in an urban setting and is thus unavailable for overland wildlife movement and therefore, no further analysis of this topic is required. Analysis for impact to migratory birds and monarch butterfly is provided below.

Nesting Bird Habitat

Landscaped trees and shrubs and residential structures present within the study area provide suitable nesting habitat for native bird and raptor species protected under the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Sections 3503 et seq. Additionally the stand of eucalyptus trees in the southernmost portion of the study area provide suitable nesting habitat for raptors. No active nests were observed in the study area during the survey; however, should an active nest occur, the Project will need to avoid impacts to nesting bird and raptor species to maintain compliance with MBTA and California Fish and Game Code regulations. This impact would be potentially significant. Implementation of Mitigation Measure BIO-1 set forth below would reduce this impact to less than significant.

Monarch Butterfly Overwintering Habitat

The City of Malibu recently joined the National Wildlife Federation's "Mayor's Monarch Pledge" demonstrating the City's commitment to restoring monarch butterfly (*Danaus plexippus*) habitat in its community. The western sycamores located throughout the biological study area and the eucalyptus stand in the southern portion of the study area potentially provide overwintering roosting habitat for monarch. The Project is not anticipated to impact the eucalyptus stand or the majority of the western sycamores.

Mitigation Measure

BIO-1 Prior to the commencement of any proposed actions (e.g., site clearing, demolition, grading) during the breeding/nesting season (February 15 through September 1), a qualified monitoring biologist contracted by the Project applicant shall conduct a preconstruction survey(s) to identify any active nests in and adjacent to the Proposed Project site no more than three days prior to initiation of the action. If the biologist does not find any active nests that would be potentially impacted, the proposed action may proceed. However, if the biologist finds an active nest within or directly adjacent to the action area (within 100 feet) and determines that the nest may be impacted, the biologist shall delineate an appropriate buffer zone around the nest using temporary plastic fencing or other suitable materials, such as barricade tape and traffic cones. The buffer zone shall be determined by the biologist in consultation with applicable resource agencies and in consideration of species sensitivity and existing nest site conditions, and in coordination with the construction contractor. The qualified biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to ensure that no inadvertent impacts on these nests occur. Only specified activities (if any) approved by the qualified biologist in coordination with the construction contractor shall take place within the buffer zone until the nest is vacated. Activities that may be prohibited within the buffer zone by the biologist may include but not be limited to grading and tree clearing. Once the nest is no longer active and upon final determination by the biologist, the proposed action may proceed within the buffer zone.

The monitoring biologist shall prepare a survey report/memorandum summarizing his/her findings and recommendations of the preconstruction survey. Any active nests observed during the survey shall be mapped on a current aerial photograph, including documentation of GPS coordinates, and included in the survey report/memorandum. The completed survey report/memorandum shall be submitted to the District Chief Operations Officer or his/her designee prior to construction-related activities that have the potential to disturb any active nests during the nesting season.

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

Less Than Significant Impact With Mitigation Incorporated. The City of Malibu Native Tree Protection Ordinance (NTPO; LCP Sections 3.63 et seq. and LIP Chapter 5) protects native oak (*Quercus* species), California Walnut (*Juglans californica*), Western Sycamore (*Platanus racemosa*), Alder (*Alnus rhombifolia*), or Toyon (*Heteromeles arbutifolia*) tree, that has at least one trunk measuring six inches or more in diameter, or a combination of any two trunks measuring a total of eight inches or more in diameter, measured at four and one-half feet above natural grade.

There are 10 western sycamore trees within the study area, and an additional six western sycamore trees along the east and southeast edges of the campus, that are protected under the NTPO. Installation of the proposed portable buildings would require removal or relocation of one sycamore tree (see Figure 11, *Tree Removal Plan*). This impact would be potentially significant.

Project development would require a Tree Protection Plan (TPP) under the NTPO. This impact would be less than significant after implementation of Mitigation Measure BIO-2.

Mitigation Measure

BIO-2 Before site clearance for the proposed installation of portable buildings, a qualified biologist or certified arborist would assess the one sycamore tree that would be impacted by installation of the portable buildings and determine whether relocation of the tree on-site would likely be successful; or, alternatively, if removal would be required.

If the tree were relocated a qualified biologist or certified arborist would monitor the tree annually for not less than 10 years; and prepare and submit annual monitoring reports for review by the City. Should the tree be lost or suffer worsened health or vigor as a result of the proposed development, the District would replace the tree as set forth in the following paragraph.

If replacement is required, for each tree removed, the District shall plant no less than 10 western sycamore seedlings, less than one year old, on suitable habitat. The habitat may be onsite; or may be offsite if the biologist or arborist certifies that there is insufficient habitat area onsite for planting 10 western sycamore trees. A qualified biologist or certified arborist shall monitor the trees for a period of not less than ten years. An annual monitoring report shall be submitted for the review and approval of the City for each of the ten years. The monitoring report shall identify the size and health of each replacement tree, comparing this information with the criteria provided in the native tree replacement planting program for determining that replacement trees are healthy and growing normally. Mid-course corrections shall be implemented if necessary. If performance standards are not met by the end of ten years, the monitoring period shall be extended until the standards are met.

If planting of replacement trees as provided herein is determined by the biologist or arborist to be impracticable both onsite and offsite, the District shall pay an in-lieu mitigation fee to the Native Tree Impact Mitigation Fund administered by the Santa Monica Mountains Conservancy. The fee shall be based on the type, size and age of the tree(s) removed.

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?

No Impact. The Project site is not in a habitat conservation plan or natural community conservation plan (CDFW 2017; USFWS 2016). No impact would occur.

3.5 CULTURAL RESOURCES

The analysis in this Section is based partly on the Cultural Resources Inventory for the Santa Monica Malibu Unified School District Malibu Schools Alignment Project, Point Dume Elementary School, completed by ECORP Consulting, Inc. on September 11, 2018. A copy of this technical report—less one attachment withheld due to containing confidential information—is included as Appendix C to this Mitigated Negative Declaration. A complete copy of this report is available to qualified archaeologists at the District Facilities Improvement Projects Department office.

3. Environmental Analysis

a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?

Less Than Significant Impact. Section 15064.5 defines historic resources as resources listed or determined to be eligible for listing by the State Historical Resources Commission, a local register of historical resources, or the lead agency. Generally, a resource is considered "historically significant" if it meets one of the following criteria:

i) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

ii) Is associated with the lives of persons important in our past;

iii) 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;

iv) Has yielded, or may be likely to yield, information important in prehistory or history.

The Point Dume area of Malibu remained largely unoccupied until the onset of World War II. During World War II, the Army and Coast Guard used Point Dume as a lookout and artillery training center. In the post-war late 1940s through the 1960s, Point Dume and the surrounding area began to experience rapid development.

An archaeological records search of the Project site and a one-mile radius surrounding the site did not identify previously recorded resources onsite. The records search identified 25 previously recorded resources within one mile of the Project site, consisting of 23 resources predating European contact; one historic period resource; and one resource containing both pre-contact and historic period components. Historic aerial photographs and topographic maps show the Project site as vacant from 1900 through 1967. No historic or archaeological sites or resources were identified during a field survey of the Project site. No significant historical resources were identified onsite during the cultural resources inventory and impacts to cultural resources would be less than significant. No mitigation is required.

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

Less Than Significant Impact With Mitigation Incorporated.

The Project site is part of the traditional tribal territory of the Chumash people. The Point Dume area of Malibu is a sacred site for the Chumash people. The Cultural Resources Inventory for the Proposed Project identified 23 archaeological resources predating European contact within one mile of the Project site (none of the resources were located onsite); four of those sites included pre-contact burials. Therefore, the Project site is considered to have moderate to high archaeological sensitivity. Project construction would disturb large amounts of soil and could damage archaeological resources that may be buried in site soils. This impact would be potentially significant. Implementation of Mitigation Measure CUL-1 would reduce this impact to less than significant.

Mitigation Measure

CUL-1 Prior to ground disturbance by Project site clearance and grading, the District shall retain a qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, to be on-call during all Project ground disturbance activities.

If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery., shall evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify the CEQA lead agency, and applicable landowner. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be eligible for inclusion in the NRHP or CRHR. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not eligible for the NRHP or CRHR; or 2) that the treatment measures have been completed to their satisfaction.
- If the find includes human remains, or remains that are potentially human, he or she shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Los Angeles County Coroner (as per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the Project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the District does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the District must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate information center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work in the affected area may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

3. Environmental Analysis

For excavation within previously disturbed native soil, there is still a potential for ground-disturbing activities to expose previously unrecorded cultural resources. If subsurface deposits believed to be cultural or human in origin are discovered during construction activities within previously disturbed soil, all work must halt within a 100-foot radius of the find and a qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be contacted to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, and all preceding notifications shall apply, depending on the find.

Figure 10 - Biological Inventory Study Area

Source: ECORP, 2018

3. Environmental Analysis

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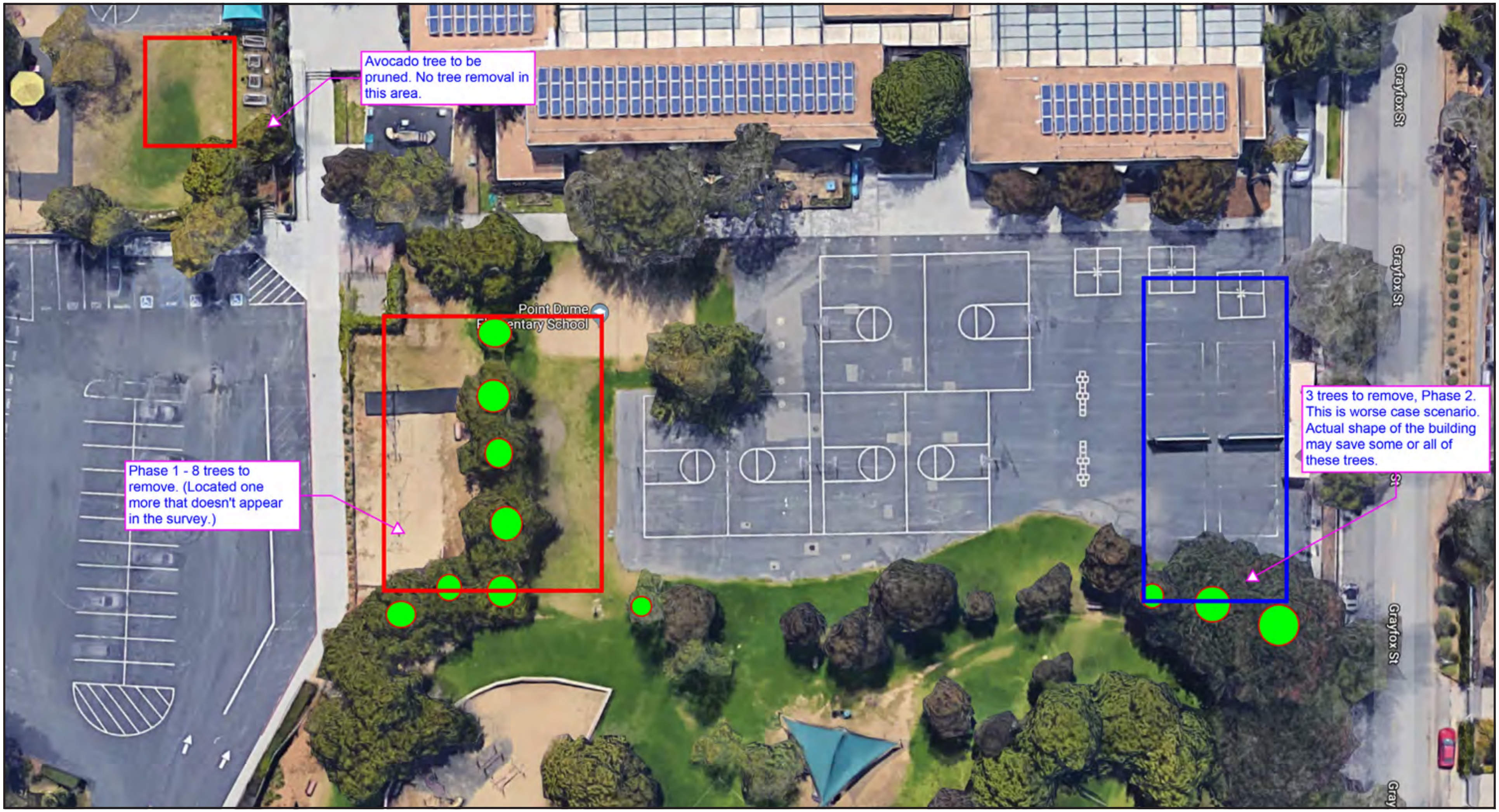
Figure 11 - Tree Removal Plan

3. Environmental Analysis



Source: DSK, 2018

3. Environmental Analysis

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c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant Impact With Mitigation Incorporated. The Project site is underlain by sediments from the middle and late Miocene Monterrey Formation consisting of platy shale composed largely of silica (Dibblee 1993); the Miocene Epoch extends from about 5.3 million years before present (mybp) to 23 mybp.[1] A large diversity of fossils occurs within the formation, including gastropods, bivalves, echinoids, whale bones, sharks teeth, horse remains, well-preserved fish, terrestrial plants, and foraminifera (NPS 2004).[2]

While most of the site of the proposed Classroom Building, and the site of the proposed one-story administration building, are on existing hardcourts, ground disturbance for construction of the buildings would extend far deeper than did disturbance for construction of the hardcourts. Fossils could be present in site soils and could be damaged by Project ground disturbing activities. This impact would be potentially significant. Implementation of Mitigation Measure CUL-2 would reduce this impact to less than significant.

CUL-2 Prior to ground disturbance, the District shall retain a County-certified paleontologist to periodically monitor grading activities greater than six feet in depth and salvage and catalogue paleontological resources as necessary. The paleontologist shall be present at the pre-grade conference, shall establish procedures for paleontologist resource surveillance, and shall establish, in cooperation with the District, procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the artifacts as appropriate.

If the paleontological resources are found to be significant, the paleontological monitor shall determine appropriate actions, in cooperation with the District, for exploration and/or salvage. The paleontologist shall prepare excavated material to the point of identification. After the completion of ground disturbance and monitoring the paleontologist shall prepare a monitoring report which shall include the period of monitoring, an analysis of any artifacts found, and the present repository of the artifacts, for submission to the District Chief Operations Officer or his/her designee.

The District shall offer excavated finds for curatorial purposes to the Natural History Museum of Los Angeles County, or its designee, on a first refusal basis.

d) Disturb any human remains, including those interred outside of dedicated cemeteries?

Less Than Significant Impact With Mitigation Incorporated. Site sediments are considered moderately to highly sensitive for archaeological resources; and pre-contact burials have been found within one mile of the Project site. Thus, there is some possibility that human remains could be buried in site soils and could be damaged by Project ground-disturbing activities. This impact would be potentially significant. Implementation of Mitigation Measure CUL-1 would reduce this impact to less than significant.

[1] Most of Cameron Park is underlain by alluvium, that is, sand,

[2] Gastropods are a category of mollusks including snails and slugs. Echinoids include sea urchins and sand dollars. Foraminifera are single-celled organisms with external shells, most of which live on or in the sea floor.

3.6 GEOLOGY AND SOILS

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

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

No Impact. Project site is not in an Alquist-Priolo Earthquake Fault Zone (Zone), and the nearest such Zone to the Project site is along a trace of the Malibu Coast Fault about 1.9 miles to the northeast (CGS 2018). The nearest active fault to the Project site mapped by the California Geological Survey is the same trace of the Malibu Coast Fault (CGS 2018). No known active faults pass through or next to the Project site. Project development would not exacerbate hazards related to surface rupture of a known active fault, and no impact would occur. No mitigation is needed.

ii) Strong seismic ground shaking?

Less Than Significant Impact. The peak estimated ground acceleration onsite with a two percent chance of exceedance in 50 years, that is, an average return internal of 2,475 years, is 0.900g where g is the acceleration of gravity. Ground acceleration of 0.900g correlates with intensity IX on the Modified Mercalli Intensity (MMI) Scale (Wald et. al. 1999), a subjective scale of how earthquakes are felt by people and the effects of earthquakes on buildings. The MMI Scale is a 12-point scale where Intensity I earthquakes are generally not felt by people; in Intensity XII earthquakes damage is total, and objects are thrown into the air (USGS 2018). In an intensity IX earthquake, damage is considerable in specially designed structures, and well-designed frame structures are thrown out of plumb. Damage is great in substantial buildings, with partial collapse; and buildings are shifted off foundations (USGS 2018).

The proposed two-story classroom building would be designed and built to building codes developed by the Division of the State Architect (DSA). After adherence to such standards, impacts from ground shaking would be less than significant, and no mitigation is needed.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction refers to lose, saturated sand or silt deposits that behave as a liquid and lose their load-supporting capability when strongly shaken. Loose granular soils and silts that are saturated by relatively shallow groundwater are susceptible to liquefaction. The Project site is not in a zone of required investigation mapped by the California Geological Survey (CGS 2018). A geotechnical investigation report (Report) for the Project would be required to meet California Department of Education and DSA regulatory requirements. The Report would assess the potential for liquefaction onsite and provide any needed recommendations to minimize hazards arising from liquefaction. Adherence to Report recommendations would be required by those agencies. Impacts would be less than significant after compliance with regulatory requirements, and no mitigation is needed.

iv) Landslides?

No Impact. The campus is on a very slight east/northeast slope; elevations onsite range from about 121 feet above mean sea level (AMSL) in the northeast corner of the campus to about 148 feet AMSL in the southwest corner. There are no slopes on or next to the campus where landslide risk would be exacerbated by Project development, and the Project does not propose creation of slopes that would pose such risk. The site is not in a Zone of Required Investigation for Landslides mapped by the CGS; and no landslides mapped by CGS overlap or abut the campus (CGS 2018). No impact would occur, and no mitigation is required.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. Project construction, especially of Phase II, would disturb substantial amounts of soil and could cause considerable soil erosion if effective erosion control measures were not used. The Proposed Project would include preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) specifying best management practices (BMPs) the Project would use to minimize stormwater pollution from Project construction.

The District would have a Project Storm Water Pollution Prevention Plan (SWPPP) prepared for the Project pursuant to LCP Policy 3.110. The SWPPP would specify best management practices (BMPs) the Project would use to minimize stormwater pollution from Project construction, including erosion and sediment prevention and control BMPs. Erosion and sediment control BMPs would include:

- Stabilize disturbed areas with vegetation, mulch, geotextiles, or similar method
- Trap sediment on site using fiber rolls, silt fencing, sediment basin, or similar method
- Ensure vehicles on site are parked on areas free from mud; monitor site entrance for mud tracked off-site
- Prevent blowing dust from exposed soils

BMPs to prevent contamination of stormwater with construction chemicals and materials would include:

- Control the storage, application and disposal of pesticides, petroleum and other construction and chemical materials

- Site washout areas more than fifty feet from a storm drain, open ditch or surface water and ensure that runoff flows from such activities do not enter receiving water bodies

- Provide sanitary facilities for construction workers

- Provide adequate disposal facilities for solid waste produced during construction and recycle where possible

Construction stormwater quality impacts would be less than significant after preparation and implementation of a Project SWPPP. The Project SWPPP would meet the requirements of Policy 3.110. The Project would include landscaping of the permeable area to be created after removal of the portable buildings, in accordance with Policy 3.119. Impacts would be less than significant after preparation and implementation of a SWPPP, and no mitigation is required.

3. Environmental Analysis

At project completion the entire project site would be developed with two buildings and landscaping. No substantial amounts of soil would be left exposed susceptible to erosion. Project operation would not cause substantial soil erosion, and impacts would be less than significant. No mitigation is needed.

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?

Less Than Significant Impact.

A geotechnical investigation report for the Project site is required per the City's LCP Section 9.4A. The geotechnical investigation would include sampling and testing of subsurface site soils; and recommendations for site preparation, grading, and foundation design. Adherence with such recommendations would be required and would address any issues related to lateral spreading, subsidence or collapsible soils. Project grading activities would conform with City of Malibu LIP Chapter 8 (Grading Ordinance) Sections 8.3 (Development Standards) and 8.4 (Seasonal Restrictions on Grading). Section 8.3 sets forth requirements including limits on grading quantities, and maximum grades of created slopes. Impacts would be less than significant, and no mitigation is needed.

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

Less Than Significant Impact. Expansive soils contain substantial amounts of clay that swells when wetted and shrinks when dried; the swelling or shrinking can shift, crack, or break structures built on such soils. The geotechnical investigation report required to be prepared for the Proposed Project would test samples of subsurface site soils for expansion potential; and provide any needed recommendations for site preparation, grading, and foundation design to minimize hazards from expansive soils. As such, compliance with all applicable building codes and regulations including the City of Malibu Building Code, the Los Angeles County Building, and the CBC, would ensure that impacts would be less than significant after compliance with recommendations of the geotechnical report, and no mitigation is required.

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?

No Impact. The school's septic system has capacity to serve 600 persons. The District estimates that the school's enrollment would be 380 students in the 2019-2020 school year after addition of students from Cabrillo . The existing septic system has the capacity to accommodate the planned student expansion. Additionally, the project would be constructed in conformance with the LIP standard conditions of approval for septic systems and the City Environmental Health Department's Environmental Health Review. The Environmental Health Review recommends project approval only when it determines that septic systems can be adequately operated without negatively affecting groundwater quality, ocean water quality, building foundations, or structures. The Proposed Project would also be subject to obtaining WDRs from the Los Angeles Regional Water Quality Control Board. Conformance with the LIP standard conditions of approval, the WDRs, and the recommendation of the Environmental Health Review would ensure soils intended for septic system utilization would be capable of supporting the existing septic systems. No impact to soils incapable of supporting septic tanks would occur, and no mitigation is needed.

3.7 GREENHOUSE GAS EMISSIONS

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as greenhouse gases (GHGs), into the atmosphere. The primary source of these GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed in the 20th and 21st centuries. Other GHGs identified by the IPCC that contribute to global warming to a lesser extent include nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons.[3,4]

This section analyzes the Project's contribution to global climate change impacts in California through an analysis of project-related GHG emissions. Information on manufacture of cement, steel, and other "life cycle" emissions as a result of the Project are not applicable and are not included in the analysis. [5] Black carbon emissions are not included in the GHG analysis because the California Air Resources Board (CARB) does not include this pollutant in the state's Assembly Bill (AB) 32 inventory but treats it separately (CARB 2017b).[6]

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:

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

Less Than Significant Impact. Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a very large one, does not generate enough greenhouse gas emissions on its own to influence global climate

[3] Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant or a primary cause of change, but part of the feedback loop.

[4] Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of PM emitted from burning fuels. Reducing black carbon emissions globally would have immediate economic, climate, and public health benefits. California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to programs that target reducing PM from diesel engines and burning activities (CARB 2014). However, state and national GHG inventories do not include black carbon due to ongoing work to resolve its precise global warming potential. Guidance for CEQA documents does not yet include black carbon.

[5] Life cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions found that lifecycle analyses was not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources, and the possibility of double-counting emissions (see Final Statement of Reasons for Regulatory Action, December 2009). Because the amount of materials consumed during the operation or construction of the Proposed Project is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials are also not known, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted (OPR 2008).

[6] Particulate matter emissions, which include black carbon, are analyzed in Section 3.3, *Air Quality*. Black carbon emissions have sharply declined due to efforts to reduce on-road and off-road vehicle emissions, especially diesel particulate matter. The state's existing air quality policies will virtually eliminate black carbon emissions from on-road diesel engines within 10 years (CARB 2017b).

change significantly; hence, the issue of global climate change is by definition a cumulative environmental impact.

The Proposed Project would generate nominal operational GHG emissions from energy use (indirectly from purchased electricity use and directly through fuel consumed for building heating), area sources (e.g., equipment used on-site, consumer products, coatings) from the buildings, water/wastewater generation, and waste disposal. The Proposed Project would generate approximately 350 daily trips to the school site, as the proposed modernization would increase student enrollment capacity. During construction, eight portable interim housing classrooms, one administration portable, and one portable restroom would be provided for student use at the Point Dume campus. At buildout of Phase II, the portable interim housing facilities would be removed from the campus and students would be transferred to the newly constructed permanent buildings on campus.

The Proposed Project would generate operational GHG emissions from energy use (indirectly from purchased electricity use and directly through fuel consumed for building heating), mobile sources (burning of fossil fuels in vehicles), and area sources (e.g., equipment used on-site, consumer products, coatings) from the installed portables. Annual GHG emissions were calculated for construction of the Project and are amortized over 30 years to account for GHG emissions from the construction phase of the Project. Project-related GHG emissions are shown in Table 4, which includes the total operation-related GHG emissions. The Proposed Project would generate 365 metric tons of carbon dioxide-equivalent ($MTCO_2e$) per year, which would not exceed the SCAQMD's bright-line threshold of 3,000 $MTCO_2e$.[7] Therefore, the Proposed Project's cumulative contribution to GHG emissions is less than significant.

[7] Under 14 Cal Code Regs §§15130 and 15064.4, an analysis of a project's GHG emissions impacts should focus on the project's contribution to the cumulative impact. The analysis provided provides a conservative estimate of the net increase in GHG emissions associated with the proposed project. Some types of projects do not result in new GHG emissions; instead, they "move" existing emissions from one area to another. To provide a conservative evaluation of the potential impacts of the project, PlaceWorks quantified GHG emissions from the relocation of 185 students from Juan Cabrillo Elementary School as "new" students even though the project "moves" emissions from one area to another. Pursuant to SCAQMD methodology, the net increase in GHG emissions was compared to the SCAQMD bright-line threshold of 3,000 $MTCO_2e$.

Table 4 Project-Related GHG Emissions

Source	$MTCO_2e$/year[1]	Percent of Total
Area	<1	<1%
Energy	42	11%
Mobile	284	78%
Waste	11	3%
Water	8	2%
Amortized Construction Emissions[1]	21	5%
Total Emissions	365	NA
SCAQMD's Bright-line Threshold	3,000	NA
Exceeds Bright-Line Threshold	No	NA

Source: CalEEMod, Version 2016.3.2.
Notes: Totals may not equal to the sum of the values shown due to rounding.
$MTCO_2e$: metric tons of carbon dioxide-equivalent
[1] Construction emissions are amortized over a 30-year project lifetime per recommended SCAQMD methodology.

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

Less Than Significant Impact. Applicable plans adopted for the purpose of reducing GHG emissions include CARB's Scoping Plan and SCAG's Regional Transportation Plan/Sustainable Communities Strategy. A consistency analysis with these plans is presented below.

CARB Scoping Plan

CARB's Scoping Plan is California's GHG reduction strategy to achieve the state's GHG emissions reduction target established by Assembly Bill (AB) 32, which is to return to 1990 emission levels by year 2020 (CARB 2008). The CARB Scoping Plan is applicable to state agencies and is not directly applicable to cities/counties and individual projects. Nonetheless, the Scoping Plan has been the primary tool that is used to develop performance-based and efficiency-based CEQA criteria and GHG reduction targets for climate action planning efforts.

Since adoption of the 2008 Scoping Plan, state agencies have adopted programs identified in the plan, and the legislature has passed additional legislation to achieve the GHG reduction targets. Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard (LCFS), California Appliance Energy Efficiency regulations, California Renewable Energy Portfolio standard, changes in the Corporate Average Fuel Economy (CAFE) standards, and other early action measures as necessary to ensure the state is on target to achieve the GHG emissions reduction goals of AB 32. Also, new buildings are required to comply with the 2016 Building Energy Efficiency Standards and 2016 California Green Building Code (CALGreen). Projects that apply for permits on or after January 1, 2020 would be subject to the 2019 standards. CARB adopted Final 2017 Climate Change Scoping Plan Update on December 24, 2017 to address the new 2030 target to achieve a 40 percent reduction below 1990 levels by 2030, established by SB 32 (CARB 2017c). While measures in the Scoping Plan apply to state agencies and not the Proposed Project, the Project's GHG emissions would be reduced from compliance with statewide measures that have been adopted since AB 32 and SB 32 were adopted. Therefore, the Proposed Project would be consistent with the CARB Scoping Plan, and no impact would occur. No mitigation measures are required.

SCAG's Regional Transportation Plan/Sustainable Communities Strategy

In addition to AB 32, the California legislature passed Senate Bill (SB) 375 to connect regional transportation planning to land use decisions made at a local level. SB 375 requires the metropolitan planning organizations to prepare a Sustainable Communities Strategy (SCS) in their regional transportation plans to achieve the per capita GHG reduction targets. For the SCAG region, the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was adopted in April 2016 (SCAG 2016). The SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS, but provides incentives for consistency to governments and developers. The Proposed Project would provide for the educational needs of the community to meet the existing and projected demand for school services. Overall, the Proposed Project would not interfere with SCAG's ability to implement the regional strategies outlined in the 2016 RTP/SCS. No impact would occur, and no mitigation measures are required.

3.8 HAZARDS AND HAZARDOUS MATERIALS

a) **Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?**

Less Than Significant Impact.

Construction

Project construction would involve use of hazardous materials, including fuels; oil, greases, and other lubricants; pesticides; paints; fertilizers; and solvents and other cleansers. Hazardous materials would be transported, used, stored, and disposed of per several regulations, including the Hazardous Materials Transportation Act, the Resource Conservation and Recovery Act, the California Hazardous Waste Control Act, and the California Accidental Release Prevention Program, all of which are designed to prevent the release of hazardous materials into the environment and unacceptable exposure of people to such hazardous substances. The construction contractor would maintain equipment and supplies for containing and cleaning up small hazardous material spills and would train workers in such containment and cleanup. The contractor would notify the Los Angeles County Fire Department (LACoFD) immediately in the event of a hazardous material release of amount and/or toxicity that could not be safely contained and cleaned up by onsite construction workers.[8] Therefore, the use of hazardous materials during Project construction would not pose substantial hazards to the public or the environment, and impacts would be less than significant.

Project Operation

Project operation would use only limited amounts of hazardous materials for cleaning and maintenance purposes. Such hazardous materials would be used in compliance with the aforementioned laws and regulations.

[8] The Los Angeles County Fire Department (LACoFD) is the Certified Unified Program Agency (CUPA) for the City of Malibu; the Certified Unified Program coordinates and makes consistent enforcement of several state and federal regulations governing hazardous substances. The LACoFD Health Hazardous Materials Division Emergency Operations Section provides emergency responses to hazardous substance incidents within LACoFD's CUPA jurisdiction.

Thus, the use of hazardous materials during Project operation would not cause substantial hazards to the public or the environment, and impacts would be less than significant.

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?

Less Than Significant Impact. The project site is on a developed elementary school campus, which does not use any significant quantities of hazardous materials in its operation. Also, construction activities would not involve a significant amount of hazardous materials, and their use would be temporary. Project construction and operational workers would be trained on the proper use, storage, and disposal of hazardous materials. Construction projects typically maintain supplies onsite for containing and cleaning small spills of hazardous materials. Regulatory compliance aimed at minimizing risks from accidental release of hazardous materials; containing and cleaning up hazardous materials spills as the construction contractor safely and practicably could; and immediate notification of the LACoFD as required, are described above in Section 3.8.a, impacts would be less than significant, and no mitigation is needed.

c) 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. The Proposed Project would not emit hazardous emissions, and no significant amounts of hazardous materials, substances, or wastes would be transported, used, or disposed of in conjunction with the facility's operation. The onsite use of hazardous materials would be restricted to typical cleaning solvents and paints used by the janitorial and maintenance staff. These materials would be utilized in small quantities and stored in compliance with established state and federal requirements. No significant impacts would result from the Proposed Project.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less Than Significant Impact. California Government Code Section 65962.5 requires the compiling of lists of the following types of hazardous materials sites: hazardous waste facilities subject to corrective action; hazardous waste discharges for which the State Water Quality Control Board has issued certain types of orders; public drinking water wells containing detectable levels of organic contaminants; underground storage tanks with reported unauthorized releases; and solid waste disposal facilities from which hazardous waste has migrated.

The following hazardous materials databases were searched for listings within 0.25 mile of the Project site on September 14, 2018.[9]

- GeoTracker, State Water Resources Control Board (SWRCB 2018)

[9] A search radius of 0.25 mile was chosen because it is the smallest search radius, other than the target property, specified in the professional standard for Phase I Environmental Site Assessments. See ASTM International. 2013. ASTM E-1527-13: Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. https://www.astm.org/Standards/E1527.htm.

- EnviroStor, Department of Toxic Substances Control (DTSC 2018)
- EnviroMapper, US Environmental Protection Agency (USEPA 2018a)
- EJScreen, US Environmental Protection Agency (USEPA 2018b)
- Solid Waste Information System, California Department of Resources Recovery and Recycling (CalRecycle 2018)
- Los Angeles County Fire Department: Los Angeles County CUPA [Certified Unified Program Agency] Active Sites List (LACoFD 2018)

No hazardous materials sites were identified within 0.25 mile of the Project site. The site is not on a hazardous materials site listed pursuant to California Government Code Section 65962.5, and impacts would be less than significant. No mitigation is required.

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

No Impact. The Project site is outside of airport land use plans; the nearest public-use airport to the site is Santa Monica Airport about 20 miles to the east (Caltrans 2018). Project development would not cause a hazard for people onsite, and no impact would occur. No mitigation is needed.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. No heliports or private airstrips are near the Project site (Airnav.com 2018). No impact would occur.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. Project development would not interfere with implementation of an emergency response plan. The City's Public Safety Manager is responsible for maintenance and implementation of the City's Emergency Operations Plan, which was issued in 2012. Project staging of construction equipment and materials would be conducted within the campus and would not block emergency access to surrounding neighborhood. Point Dume Marine Science School has an emergency evacuation plan, which would be updated after addition of the portable buildings and again after opening of the classroom building and administration building. Project development would not interfere with implementation or updating of the school's evacuation plan. No impact would occur, and no mitigation is needed.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Less Than Significant Impact. The Project site is in a Very High Fire Hazard Severity Zone mapped by the California Department of Forestry and Fire Prevention (CAL FIRE 2011). Project design and construction would comply with requirements for building materials and construction methods for new buildings in a fire hazard severity zone set forth in California Building Code (CBC; California Code of Regulations Title 24 Part 2) Chapter 7A. Chapter 7A contains requirements for roofing; attic ventilation; exterior walls; exterior windows and glazing; exterior doors; decking; protection of underfloor, appendages, and floor projections; and ancillary structures. The Project would also comply with California Fire Code (CFC; California Code of Regulations Title 24 Part 9) Chapter 49, which sets forth requirements generally parallel to those in CBC Chapter 7A. Compliance with the above codes and regulations, would ensure that the Proposed Project would not result in a fire hazard or exacerbate the fire risk in the Project area. Adherence to existing local, state, and federal laws would ensure that this impact remains less than significant.

3.9 HYDROLOGY AND WATER QUALITY

a) Violate any water quality standards or waste discharge requirements?

Less Than Significant Impact. Urban runoff (both dry and wet weather) discharges into storm drains and in most cases, flows directly to creeks, rivers, lakes, and the ocean. Polluted runoff can have harmful effects on drinking water, recreational water, and wildlife. Urban runoff pollution includes a wide array of environmental, chemical, and biological compounds from both point and nonpoint sources. In the urban environment, stormwater characteristics depend on site conditions (e.g., land use, impervious cover, pollution prevention, types and amounts of best management practices), rain events (duration, amount of rainfall, intensity, and time between events), soil type and particle sizes, multiple chemical conditions, the amount of vehicular traffic, and atmospheric deposition. Major pollutants typically found in runoff from urban areas include sediments, nutrients, oxygen-demanding substances, heavy metals, petroleum hydrocarbons, pathogens, and bacteria.

Urban runoff can be divided into two categories: dry and wet weather urban runoff.

- Dry weather urban runoff occurs when there is no precipitation-generated runoff. Typical sources include landscape irrigation runoff, driveway and sidewalk washing, noncommercial vehicle washing, groundwater seepage, fire flow, potable water line operations and maintenance discharges, and permitted or illegal non-stormwater discharges.

- Wet weather urban runoff refers collectively to nonpoint source discharges that result from precipitation events. Wet weather runoff includes stormwater runoff. Stormwater discharges are generated by runoff from land and impervious areas such as building rooftops and paved streets and parking lots.

Construction of the Proposed P Proposed Project would be subject to local, state, and federal water quality regulations designed to prevent the discharge of waste water contaminated to the extent that causes harm to receiving waters. These include, but are not limited to, the federal Clean Water Act (CWA), Los Angeles Regional Water Quality Control Board (RWQCB) regulations, NPDES requirements, the National Flood Insurance Act, California Department of Water Resources (DWR) requirements, the California Fish and Wildlife Code, the California Water Code, and other applicable regulatory requirements. Development of the Proposed Project would cause a significant impact to hydrology and water quality if associated construction activities or operations would result in the violation of any water quality or waste discharge standards.

3. Environmental Analysis

Due to the increase in impervious areas and runoff flow rates, the City of Malibu Municipal Code, Chapter 13.04 Storm Water Management and Discharge Control, Section 13.04.110 a Storm Water Management Plan (SWMP) will be required. The goals of the SWMP is to maximize, to the extent practicable, the percentage of permeable surfaces and to maximize, to the extent practicable, retention of dry-weather runoff on the site. The SWMP will include a Local Storm Water Pollution Prevention Plan (SWPPP), a Hydrology/Hydraulic Report, and a Site Plan and Grading & Drainage Plan.

Demolition, site clearance and grading, and construction and utilities trenching could generate pollutants that may affect stormwater, including sediment, nutrients, bacteria and viruses, oil and grease, metals, organic (carbon-based) compounds, oxygen-demanding substances, pesticides, and trash and debris. Compliance with federal, state and local regulations and polices will ensure that construction related runoff does not significantly impact water quality. The Local SWPPP would include includes Best Management Practices (BMPs) during construction and an erosion control plan that would be consistent with the City's LCP Policy 3.95, which requires water quality protection measures including limiting increases of impervious surfaces; limiting land disturbances such as clearing and grading; and limiting disturbance of natural drainage features and vegetation, which would result in the District's construction contractor implementing best management practices (BMPs) to reduce runoff. The SWPPP requirements can be grouped into two major categories: erosion and sediment control BMPs, and non-stormwater management and materials management BMPs. Erosion controls include practices to stabilize soil, to protect the soil in its existing location, and to prevent soil particles from migrating. Sediment controls are practices to collect soil particles after they have migrated but before the sediment leaves the site. Examples of sediment control BMPs are street sweeping, fiber rolls, silt fencing, gravel bags, sand bags, storm drain inlet protection, sediment traps, and stockpile management areas. Tracking controls prevent sediment from being tracked off site via vehicles leaving the site to the extent practicable. A stabilized construction entrance not only limits the access points to the construction site but also functions to partially remove sediment from vehicles prior to leaving the site.

Project operation could generate the same categories of stormwater pollutants that Project construction could. Compliance with Municipal Code Section 13.04.110 would require the preparation of a Hydrology/Hydraulic Report that would include hydrology study and a hydraulic analysis of the affected drainage facilities onsite. The report will contain calculations of the pre-development and post-development flow rates for a 100-year clear storm flow event, the 50-year storm flow using Los Angeles County Modified Rational Method or other approved method, and the 50-year flow rate to 100-year flow rate by using the nomograph in the Caltrans Hydraulic Design and Procedures Manual. Since the post-development runoff flow rate would exceed the pre-development flow rate, the resulting increase in the flow rate would be mitigated by using on-site detention as required by Section 13.04.110. The detention facility would be sized to store a volume of water equal to 1" of rainfall over all impervious surfaces plus ½" of rainfall over all permeable surfaces of the disturbed areas. It is anticipated that the rainfall will be released from the detention facility utilizing the vegetated areas near the elementary school's play area at the following stages: a. 2-year flow rate, b. 10-year flow rate, and c. 100-year flow rate.

The Site Plan and Grading & Drainage Plan required by Section 13.04.110 would include the site design and source control BMPs, all existing and proposed drainage improvements, potential flow paths, and methods to accommodate on-site percolation, re-vegetation of disturbed areas, and construction of any improvements necessary to address on-site or off-site impacts of the project. The plan would be required to show that all on-site drainage facilities are designed to cumulatively convey the runoff from a 100-year clear flow storm event to the aforementioned detention facility.

Additionally, Section 13.04.110 requires the preparation of a Water Quality Mitigation Plan (WQMP) that would be submitted to the City for approval. The WQMP would show the permanent BMPs that will control the volume of runoff from the property, as well as treat the runoff for the pollutants of concern which are sediments and trash. It is anticipated that the permanent BMPs selected to treat the Potential Pollutants of concern will follow a priority order for selecting appropriate BMPs for a priority project. The order of priority is:

1. Infiltration-type BMPs if percolation rates allow,
2. Capture and reuse BMPs,
3. Vegetated treatment BMPs,
4. Manufactured infiltration BMPs also known as LID systems, and
5. Manufactured filtration systems.

The permanent BMPs would include storm water infiltration basins, catch basins filter inserts, and flow through a vegetated area rather than piping it directly to the street or storm drain. Low Impact Development (LID) site design techniques will be incorporated by adding design elements such as cisterns, rain barrels, and vegetated swales/buffers.

With preparation of the SWPPP and compliance with Chapter 13.04 of the Municipal Code, operational stormwater quality impacts would be less than significant after preparation and implementation of a WQMP.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Less Than Significant Impact. The Project site is not over a groundwater basin. Most of the proposed impervious areas (portable buildings in Phase I, and the classroom building in Phase II) would be developed on existing hardscape; and most of the site of Phase I would be converted to permeable surfaces after completion of Phase II and removal of the portable buildings). Therefore, Project completion would involve a small net increase of permeable surfaces compared to existing conditions. The Proposed Project would not substantially interfere with groundwater recharge. Los Angeles County Waterworks District 29 (District 29), which supplies water to the Project site, does not use groundwater for municipal water supply (LACWWD 2017). Therefore, project development would not deplete water supplies. Impacts would be less than significant, and no mitigation is needed.

c) **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in a substantial erosion or siltation on- or off-site.**

Less Than Significant Impact. The Proposed Project would increase the amount of impervious surface on the Proposed Project site that could accumulate more pollutants and make them available for transport in stormwater runoff. All drainage improvements proposed would occur in conformance with the grading and drainage improvement plans prepared and approved by the DSA and the City to reduce erosion and siltation impacts during construction and operation to less than significant. Project infrastructure would connect to existing off-site storm drain infrastructure, and no upgrades or expansion of such existing off-site facilities would occur with project implementation. The proposed on-site drainage system would slow stormwater runoff velocities, allow sediment to settle out of the water, and capture trash and debris collected in the system. Furthermore, standard BMPs designed to prevent erosion both during and after construction would be implemented. While the Proposed Project would alter the existing on-site drainage patterns, any such alterations would be designed to meet local, state, and federal water quality standards and to ensure that stormwater flows do not result in substantial erosion or siltation. Further, the WQMP required under Municipal Code Section 3.04.110 would include measures to reduce the potential for erosion as described under Response 3.9.a above.

The Proposed Project's WQMP would be developed in compliance with the Municipal Stormwater NPDES Permit and City of Malibu's Stormwater Management and Discharge Control Ordinance. The Proposed Project would not substantially alter the existing drainage pattern of the site, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site. Impacts would be less than significant.

d) **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?**

Less Than Significant Impact. Refer to Response 3.9.a), above. The Proposed Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site. Project development would involve a small increase in pervious area on the Point Dume campus, and thus is not expected to generate increased runoff flows. Compliance with the City of Malibu Stormwater Management and Discharge Control Ordinance would ensure that impacts would be less than significant.

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

Less Than Significant Impact. Compliance with the City of Malibu Stormwater Management and Discharge Control Ordinance would ensure that impacts would be less than significant. See Section 3.9.a, 3.9.c and 3.9.d above.

f) Otherwise substantially degrade water quality?

Less Than Significant Impact. water quality impacts would be less than significant, as substantiated above in Section 3.9.a.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact. The project site is in flood hazard zone X mapped by the Federal Emergency Management Agency (FEMA); that is, it is outside of 100-year and 500-year flood zones (FEMA 2018). The project would not develop housing. No impact would occur, and no mitigation is required.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

No Impact. The project site is outside of 100-year and 500-year flood hazard zones; thus, project development would not change flood flows in such zones. No impact would occur, and no mitigation is needed.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact. The project site is not mapped as protected from 100-year floods by levees (FEMA 2018). The project site is not mapped in a dam inundation area by the Office of Emergency Services (OES 2017). No impact would occur, and no mitigation is needed.

j) Inundation by seiche, tsunami, or mudflow?

Less Than Significant Impact.

Seiche

A seiche is a surface wave created when an inland water body is shaken, usually by an earthquake. There are no inland surface water bodies near enough to the site to present a flood risk to the site due to a seiche.

Tsunami

A tsunami is an ocean wave caused by a sudden displacement of the ocean floor, most often due to earthquakes. The project site is outside of tsunami hazard zones mapped by the California Geological Survey (CGS 2018). Section 9.4 of the City of Malibu LIP requires that development be sited outside of tsunami inundation zones, where feasible. Project development would not place people or structures at risk of flooding due to tsunami, and no impact would occur.

Mudflow

A mudflow is a landslide composed of saturated rock debris and soil with a consistency of wet cement. The nearest slope above the site elevation, about 300 feet to the west, is developed with residential uses and therefore would not generate a mudflow. City of Malibu LIP Chapter 9, *Hazards*, addresses hazards from slope instability including debris flows, which are generally similar to mudflows. No impact would occur, and no mitigation is required.

3.10 LAND USE AND PLANNING

a) Physically divide an established community?

No Impact. The campus is surrounded by rural residential uses, that is, detached single-family homes on lots up to one acre in size. The campus is fenced and is not used as an access path between parts of the neighborhood. The proposed improvements would be within the existing campus footprint and would not divide an established community. No impact would occur, and no mitigation is needed.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The Campus is designated for Institutional (I) use in the Land Use and Zoning section of the City of Malibu's LCP. Both the land use designation and zoning of the campus allow for public school use. According to the City of Malibu's LCP, the Institutional District accommodates existing public and quasi-public facilities in the City of Malibu, which includes educational, religious, and governmental facilities. No changes to the existing zoning or General Plan land use designations would occur as a result of the Proposed Project.

The Campus is located within the California Coastal Zone, which was established by the federal Coastal Zone Management Act (CZMA) and the California Coastal Act of 1976 (CCA). The CCA requires that planning and development within the Coastal Zone be consistent and compatible with the unique characteristics of coastal resources. The City of Malibu lies entirely within the state-designated Coastal Zone and extends approximately 25 miles from the Ventura County Line on the west to Topanga Canyon Boulevard on the east. The City of Malibu has implemented a Local Coastal Program (LCP) certified by the California Coastal Commission (CCC) on September 13, 2002. As such, the District will be required to apply for a Coastal Development Permit (CDP) through the City of Malibu. A separate CDP will be required for both Phase I and Phase II.

Implementation of the Proposed Project would result in the redevelopment and upgrading of existing school facilities onsite to provide sufficient facilities on the campus. In general, the Proposed Project would add classrooms and support facilities an existing school, without increasing the overall footprint of the campus. Implementation of the Proposed Project would be consistent with the City of Malibu's General Plan, LCP, and Zoning Code, and LIP policies. Implementation of the Proposed Project would provide for the continued and updated public educational use within an existing educational campus that is authorized in the existing Institutional Zone. Upon approval of a CDP and Conditional Use Permit by the City of Malibu, no impact would occur, and no mitigation is required.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. The project site is not in a habitat conservation plan or natural community conservation plan (CDFW 2017; USFWS 2016). No impact would occur.

3.11 MINERAL RESOURCES

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

No Impact. The project site is in mineral resource zone 1 (MRZ-1) mapped by the California Geological Survey, indicating that no significant mineral resources are present, or such resources are considered unlikely to be present (CGS 1981). The project site is developed with an elementary school surrounded by residential uses and is thus unavailable for mining. Project development would not cause a loss of availability of a known valuable mineral resource, and no impact would occur. No mitigation is needed.

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?

No Impact. The City of Malibu General Plan (1995) stated that the California Division of Mines and Geology (now California Geological Survey) had not mapped mineral resources in the Malibu area, and did not otherwise identify important mining sites. The City of Malibu LIP does not identify mineral resources or set forth requirements for developments in areas containing such resources. Project development would not cause a loss of availability of an important mining site, and no impact would occur. No mitigation is required.

3.12 NOISE

Noise is defined as unwanted sound and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Based on these known adverse effects of noise, the federal, state, and city governments have established criteria to protect public health and safety and to prevent the disruption of certain human activities, such as classroom instruction, communication, or sleep. Additional information on noise and vibration fundamentals are contained in Appendix D of this IS/MND.

Existing Noise Environment

The Project site is in a predominantly residential area. The noise environment surrounding the Proposed Project site is influenced primarily by roadway sources, including Grayfox Street and Fernhill Drive. Noise from nearby residential uses (e.g., property maintenance) may also contribute to the total noise environment intermittently in the Project vicinity.

The City of Malibu includes a Noise Element in its General Plan. Chapter 6 of the General Plan, Noise Element, discusses noise and land use compatibility guidelines, existing noise environment, and goals and objectives. The Noise Element includes an assessment of ambient noise levels in the City and found Pacific Coast Highway (PCH) to be the primary source of noise exposure. The Noise Element states that land uses not located along PCH are generally not exposed to unacceptable levels of noise. The project site is located outside of the 55 dBA CNEL noise contour for PCH according to the Noise Element.

3. Environmental Analysis

Sensitive Receptors

The closest sensitive receptors are single family residences approximately 50 feet north of the Project site. Other residences are located further to the east, west and south. The Project site is located within a Rural Residential zone (RR1).

a) Exposure of persons to or generation of noise levels 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.

Applicable Standards

To limit population exposure to physically and/or psychologically damaging, as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. Following are State and local regulations that are applicable to the Proposed Project.

State Regulations

The State of California regulates freeway noise, sets standards for acceptable interior noise exposure, provides occupational noise control criteria, and provides general guidance for noise and land use compatibility. State law requires that each city and county adopt a general plan that includes a noise element which is to be prepared according to guidelines adopted by the Governor's Office of Planning and Research.

Under Title 5, the California Department of Education (CDE) regulations require public school districts to consider noise in the site selection process. As recommended by CDE guidance, if a school district is considering a potential school site near a freeway or other source of noise, it should hire an acoustical engineer to determine the level of sound that the site is exposed to and to assist in designing the school should that site be chosen.

CALGreen

The California Green Building Standards Code (CALGreen) has requirements for insulation that affect exterior-interior noise transmission for non-residential structures. Pursuant to CALGreen Section 5.507.4.1, Exterior Noise Transmission, wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall meet a composite sound transmission class (STC) rating of at least 50 or a composite outdoor-indoor transmission class (OITC) rating of no less than 40 with exterior windows of a minimum STC of 40 or OITC of 30 within a 65 dBA CNEL or Ldn noise contour of an airport, freeway or expressway, railroad, industrial source or fixed-guideway source. Where noise contours are not readily available, buildings exposed to a noise level of 65 dBA Leq during any hour of operation shall have building, addition or alteration exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum of STC 40 (or OITC 30).

Local Regulations

Section II, Chapter 6, *Noise Element,* of the City's General Plan provides goals, policies and implementations to protect local citizens from the harmful effects of excessive exposure to noise. The following policies and implementations are applicable to the Proposed Project:

N Policy 1.1.1: The City shall protect residences, parks, and recreational areas from excessive noise to permit the enjoyment of activities.

N Policy 1.1.2: The City shall protect noise sensitive land uses from negative impacts of proximity to noise generating uses.

N Policy 1.1.5: The City shall encourage new construction and remodels which utilize designs and materials that reduce exposure to noise sources.

N Implementation Measure 2: Limit maximum permissible noise levels from all sources, including but not limited to filming, motorized vehicles, construction, leaf blowers and other landscaping equipment.

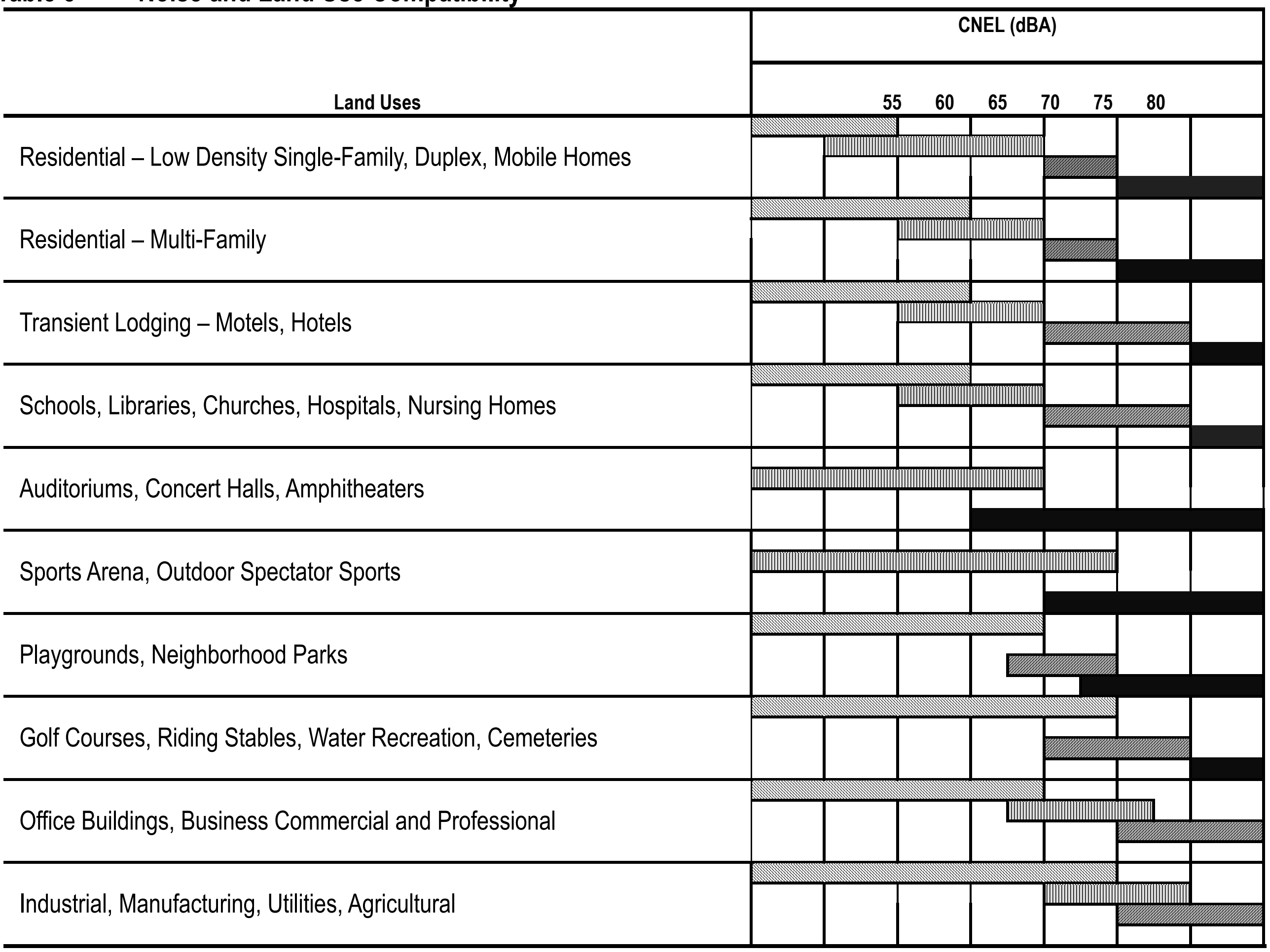
N Implementation Measure 5: Restrict the hours and days of construction, grading, and filming to reduce noise from this source.

N Implementation Measure 6: Require an acoustical analysis as part of proposed development to ensure that noise mitigation is included in the project where activities associated with proposed uses are likely to produce noise levels exceeding the adopted City noise level standards, at existing or planned noise-sensitive uses, including but not limited to, residences, schools, hospitals, long term in-patient medical treatment and care facilities, churches and libraries.

Table 5 illustrates the City's noise and land use compatibility guidelines. As discussed above in *Existing Noise Environment*, the Noise Element states that land uses not located along PCH are generally not exposed to unacceptable levels of noise.

3. Environmental Analysis

Table 5 Noise and Land Use Compatibility



Explanatory Notes

Normally Acceptable:
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Normally Unacceptable:
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Conditionally Acceptable:
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply or air conditioning will normally suffice.

Clearly Unacceptable:
New construction or development should generally not be undertaken.

Source: City of Malibu, *Malibu General Plan*, Adopted November 1995. Adapted from the Governor's Office of Planning and Research. State of California General Plan Guidelines.

Stationary (Non-transportation) Noise

Besides the previously discussed land use compatibility standards, the City of Malibu General Plan Noise Element also contains thresholds for stationary source noise (e.g., music, machinery, pumps and air conditioners) generated at a property resulting in noise at other nearby noise-sensitive properties. These standards provide restrictions on the amount and duration of noise generated at a property, as measured at the property line of the noise receptor. These noise standards, summarized in Table 6, apply to non-transportation, stationary noise sources.

Table 6 Maximum Exterior Noise Limits (Non-Transportation Sources)

Receiving Land Use Category	General Plan Land Use District	Time Interval	Maximum Daytime Noise Levels (dBA)	
			L_{eq}	L_{max}
Rural	All Rural Residential, Private Recreational Facilities, Agricultural-Horticulture, Open Space	7 AM to 7 PM	55	75
		7 PM to 7 AM	50	65
		10 PM to 7 AM	40	55
Other Residential	Single-Family, Multi-Family, Beach-Front Multi-Family Zones	7 AM to 7 PM	55	75
		7 PM to 7 AM	50	65
		10 PM to 7 AM	45	60
Commercial, Institutional	Commercial Neighborhood, Community Commercial, Business Professional Office, Commercial General and Institutional	7 AM to 7 PM	65	85
		7 PM to 7 AM	60	70

Source: City of Malibu Noise Element, Maximum Exterior Noise Standards, Non-Transportation Sources.

City of Malibu Municipal Code

The City of Malibu Municipal Code Chapter 8.24, *Noise*, outlines definitions, prohibited noises, prohibited acts, exemptions, and enforcement. The purpose of the noise ordinance is to control unnecessary, excessive and annoying noise and vibration in the City.

Construction Noise

Construction activities are subject to the provisions of the City of Malibu Municipal Code Chapter 8.24.040. According to this chapter, construction is permitted on weekdays between the hours of 7:00 AM and 7:00 PM and on Saturdays between the hours of 8:00 AM and 5:00 PM. Construction is not permitted on Sundays or any federal holiday. Chapter 8.24.060, *Exemptions*, provides special circumstances under which construction may occur outside of the allowable hours with written permission from the city manager.

Impact Analysis:

Operational Noise Impacts

A significant stationary source impact would occur if the activities or equipment at the Proposed Project site produce noise levels at nearby sensitive receptors in excess of local standards.

3. Environmental Analysis

Project-Related Stationary Noise

The Proposed Project could introduce new stationary noise sources to the community, including mechanical equipment and property maintenance.

The exterior mechanical and HVAC equipment associated with the Proposed Project are expected to be similar to the equipment at the existing school. Typical HVAC units range from approximately 70 to 75 dBA Leq at a distance of 3 feet. Future mechanical equipment associated with the Proposed Project would be located at least 50 feet from the nearest residential property line as part of Phase II. At this distance, the sound pressure level associated with a common central air conditioning unit would be reduced to approximately 51 dBA Leq or less. Thus, the noise level associated with future central air conditioning units would be below the City daytime noise limit of 55 dBA Leq when units are likely to operate.

No change is proposed to the existing recess and lunch schedules at the school. While the Proposed Project would add additional students, there is not expected to be a noticeable increase in recreational noise during recess and lunch because the addition of the portables during Phase I and the two-story modular building during Phase II would provide shielding of noise from the main courtyard area to nearby residences. Therefore, impacts from stationary noise sources and recreational activities associated with the Proposed Project would be less than significant.

Construction Noise

The total duration for project construction would be approximately 16 months. Construction would consist of two phases: Phase I would is anticipated to last 2 months and Phase II 14 months. In terms of the proposed construction activities, asphalt demolition, rough grading, site prep, portable removal, and permanent build activities are expected to generate the highest noise levels since they involve the largest and most powerful equipment. Construction equipment for the Proposed Project would include equipment such as graders, dozers, excavators, water trucks, tractors, loaders, backhoes, forklifts, a crane, and generators.

Two types of short-term noise impacts could occur during construction: (1) mobile-source noise from transport of workers, material deliveries, and debris and soil haul and (2) stationary-source noise from use of construction equipment.

Construction Vehicles

The transport of workers and materials to and from the construction site would incrementally increase noise levels along site access roadways. Individual construction vehicle pass-bys may create momentary noise levels of up to approximately 85 dBA (L_{max}) at 50 feet from the vehicle, but these occurrences would generally be infrequent and short lived. Therefore, noise impacts from construction vehicles would be less than significant.

Construction Equipment

Noise generated by onsite construction equipment is based on the type of equipment used, its location relative to sensitive receptors, and the timing and duration of noise-generating activities. Each stage of construction involves different kinds of equipment and has distinct noise characteristics. Noise levels from construction activities are typically dominated by the loudest several pieces of equipment. The dominant equipment noise source is typically the engine, although work-piece noise (such as dropping of materials) can also be noticeable.

The noise produced at each construction stage is determined by combining the L_{eq} contributions from each piece of equipment used at a given time, while accounting for the on-going time-variations of noise emissions (commonly referred to as the usage factor). Heavy equipment, such as a dozer or a loader, can have maximum, short-duration noise levels in excess of 80 to 85 dBA at 50 feet. However, overall noise emissions vary considerably, depending on what specific activity is being performed at any given moment. Noise attenuation due to distance, the number and type of equipment, and the load and power requirements to accomplish tasks at each construction phase would result in different noise levels from construction activities at a given receptor. Since noise from construction equipment is intermittent and diminishes at a rate of at least 6 dB per doubling of distance (conservatively ignoring other attenuation effects from air absorption, ground effects, and/or shielding/scattering effects), the average noise levels at noise-sensitive receptors could vary considerably, because mobile construction equipment would move around the site with different loads and power requirements. Noise levels from project-related construction activities were calculated from the simultaneous use of all applicable construction equipment at spatially averaged distances (i.e., from the acoustical center of the general construction site) to the property line of the nearest receptors. Although construction may occur across the entire phase area, the area around the center of construction activities best represents the potential average construction-related noise levels at the various sensitive receptors.

The expected construction equipment mix was estimated and categorized by construction activity using the FHWA Roadway Construction Noise Model (RCNM). The associated, aggregate sound levels—grouped by construction activity—are summarized in Table 7. Appendix D includes the RCNM modeling inputs and outputs.

Table 7 Project-Related Construction Noise, Energy-Average (L_{eq}) Sound Levels, dBA

Construction Activity Phase	Sound Level at Various Distances from Construction Activities, dBA L_{eq} Residential uses to north (190 feet)[1]
Asphalt Demolition	75
Site Preparation	72
Rough Grading	74
Utility Trenching	73
Fine Grading	66
Permanent Building Construction	74
Paving	74
Architectural Coating	64
Finish Landscaping	71
Portables Removal	73

Note: [1] As measured from the acoustical center of the construction site to the nearest property line

Construction activities would increase noise levels at and near the proposed area of improvements. The highest expected construction-related noise levels—up to approximately 75 dBA L_{eq}—would occur at the residential receptors to the north during asphalt demolition. Provided that construction activities would comply with the hours allowed in the Municipal Code, they would occur during the least noise-sensitive portions of the day. With implementation of Mitigation Measure NOISE-1, project-related construction noise impacts to the surrounding residences would be less than significant.

Mitigation Measure

NOISE-1: As required by the City of Malibu Municipal Code, construction activities shall not take place weekdays between the hours of 7:00 PM and 7:00 AM, before 8:00 AM or after 5:00 PM on Saturday, or at any time on Sundays or holidays. In addition, the District construction contractor shall observe the following best management practices:

- At least 90 days prior to the start of construction activities, all offsite residences within 300 feet of the project site will be notified of the planned construction activities. The notification will include a brief description of the project, the activities that would occur, the hours when construction would occur, and the construction period's overall duration. The notification should include the telephone numbers of the City's and contractor's authorized representatives that are assigned to respond in the event of a noise or vibration complaint.
- The contractor will prepare a Construction Noise Control Plan. The details of the Construction Noise Control Plan, including those details listed herein, will be included as part of the construction specifications.
- At least 10 days prior to the start of construction activities, a sign will be posted at the entrance(s) to the job site, clearly visible to the public, which includes permitted construction days and hours, as well as the telephone numbers of the City's and contractor's authorized representatives that are assigned to respond in the event of a noise or vibration complaint. If the authorized contractor's representative receives a complaint, he/she will investigate, take appropriate corrective action, and report the action to the City.
- During the entire active construction period, equipment and trucks used for project construction will utilize the best available noise control techniques (e.g., improved mufflers, equipment re-design, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds), wherever feasible.
- During the entire active construction period, stationary noise sources will be located as far from sensitive receptors as possible, and they will be muffled and enclosed within temporary sheds, or insulation barriers or other measures will be incorporated to the extent feasible.
- During the entire active construction period, noisy operations will be combined so that they occur in the same time period as the total noise level produced would not be significantly greater than the level produced if the operations were performed separately (and the noise would be of shorter duration).
- Select haul routes that avoid the greatest amount of sensitive use areas.
- Signs will be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. All other equipment will be turned off if not in use for more than 5 minutes.

- During the entire active construction period and to the extent feasible, the use of noise producing signals, including horns, whistles, alarms, and bells will be for safety warning purposes only. The construction manager will use smart back-up alarms, which automatically adjust the alarm level based on the background noise level, or switch off back-up alarms and replace with human spotters in compliance with all safety requirements and laws.

b) During construction, temporary sound attenuating walls will be employed, as necessary, to reduce construction noise levels at the nearest residential property. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact.

Vibration Standards

The City of Malibu does not have specific limits or thresholds for vibration. The following analysis is based on the vibration guidelines provided by the Federal Transit Administration (FTA). Vibration impacts are quantified in terms of architectural damage due to vibration (typically expressed in peak particle velocity [PPV] in inches/second) (FTA, 2006).

Impact Analysis:

Vibration During Operations

Operation of the Proposed Project would not generate substantial levels of vibration because there are no notable sources of vibrational energy associated with the project. Thus, operation of the Proposed Project would not result in significant ground borne vibration impacts.

Vibration During Construction

Construction activities generate varying degrees of ground vibration, depending on the construction procedures, construction equipment used, and proximity to vibration-sensitive uses. The generation of vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight damage at the highest levels. Table 8 lists reference vibration levels for different types of commonly used construction equipment.

Table 8 Vibration Source Levels for Common Construction Equipment

Equipment	Peak Particle Velocity (in/sec) at 25 feet
Vibratory Roller	0.210
Small Bulldozer	0.003
Jackhammer	0.035
Loaded Trucks	0.076
Large Bulldozer	0.089

Source: FTA, 2006.

3. Environmental Analysis

Proposed construction would include grading, asphalt demolition trenching, hardscape installation, and portable installation. This would include equipment such as loaders, tractors, and dozers. Some of these equipment types may generate substantial levels of vibration at close distances. Using the vibration source level of construction equipment provided in Table 8 and the construction vibration assessment guidelines published by the FTA, the vibration impacts associated with the Proposed Project were assessed in terms of potential architectural damage due to vibration.

Vibration-Induced Structural/Architectural Damage

The term 'architectural damage' is defined as minor surface cracks (in plaster, drywall, tile, or stucco) or the sticking of doors and windows. This is below the severity of 'structural damage' which entails the compromising of structural soundness or the threatening the basic integrity of the building shell. Building damage is typically not a concern for most projects, with the occasional exception of blasting and pile driving during construction (FTA, 2006). No blasting, pile driving, or hard rock ripping/crushing activities will be required during project construction. Since vibration-induced architectural damage could result from an instantaneous vibration event, distances are measured from the receptor façade to the nearest location of potential construction activities.

For reference, a peak particle velocity (PPV) of 0.2 inches/second (in/sec) is used as the limit for "non-engineered timber and masonry buildings" (which would apply to the surrounding structures) (FTA, 2006). Small construction equipment generates vibration levels less than 0.1 PPV in/sec at 25 feet away. At a distance of 50 feet or greater, construction-generated vibration levels at the nearest receptors would be less than the 0.2 in/sec PPV vibration damage criteria. Impacts related to architectural damage due to construction vibration would not be significant and mitigation is not necessary.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact. As presented in Impact Item (a) above, project-generated operational noise from stationary noise sources (i.e. mechanical systems) would not result in a substantial permanent increase in ambient noise levels.

With respect to projected-related increases, noise impacts can be broken down into three categories. The first is "audible" impacts, which refer to increases in noise level that are perceptible to humans. Audible increases in general community noise levels generally refer to a change of 3 dB or more since this level has been found to be the threshold of perceptibility in exterior environments. The second category, "potentially audible" impacts, refers to a change in noise level between 1 and 3 dB. The last category includes changes in noise level of less than 1 dB that are typically "inaudible" to the human ear except under quiet conditions in controlled environments. Only "audible" changes in noise levels at sensitive receptor locations (i.e., 3 dB or more) are considered potentially significant. Note that a doubling of traffic flows (i.e., 10,000 vehicles per day to 20,000 per day) would be needed to create a 3 dB increase in traffic-generated noise levels. An increase of 3 dB is often used as a threshold for a substantial increase.

The peak hour traffic volumes along roadways in the project area were provided for the Proposed Project. To determine the permanent traffic noise level increase, the Existing with Project peak hour traffic volumes were compared to the Existing traffic volumes. The permanent noise level increase was estimated to be 0.9 dBA or less. Since the permanent noise level increase due to project-generated traffic increase at the surrounding noise-sensitive receptors would be less than 3 dBA, the Proposed Project would not cause a substantial permanent noise level increase at the surrounding noise-sensitive receptors. This is a less-than-significant impact. Appendix D includes the traffic noise increase calculations.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact With Mitigation Incorporated. As presented in Impact Item (a) above, project-related construction activities would comply with the allowable construction hours per the City Municipal Code; and the project applicant and/or construction contractor would implement Mitigation Measure NOISE-1.

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 expose people residing or working in the project area to excessive noise levels?

No Impact. The project area is not located within an airport land use plan and project development would not expose people onsite to excessive airport-related noise levels. There would be no impact.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The project area is not located within the vicinity of a private airstrip. As such, development of the project would not expose people onsite to excessive noise levels from aircraft at private airstrips and no impact would occur.

3.13 POPULATION AND HOUSING

a) Induce substantial 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. Development of the proposed classroom building at Point Dume and combining students from Cabrillo onto the Point Dume campus, would permit relocating middle school students who currently attend Malibu Middle and High School to the Cabrillo campus. The proposed relocations and improvements would not induce substantial population growth in the region. Point Dume school is served by utilities and the Proposed Project would not extend utilities. The Proposed Project does not propose new homes or businesses. Impacts would be less than significant, and no mitigation is needed.

LCP Policies

There are no LCP policies pertaining to population and housing relevant to the Proposed Project.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact. No housing is present onsite, and no impact would occur.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. No residents live onsite, and no impact would occur.

3.14 PUBLIC SERVICES

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:

a) Fire protection?

This analysis is based in part on a questionnaire response by Michael Takeshita, Acting Chief, Fire Prevention Bureau of the Los Angeles County Fire Department dated September 21, 2018. A copy of this response is included in Appendix E.

No Impact. Less Than Significant Impact. Less Than Significant Impact With Mitigation Incorporated. The Los Angeles County Fire Department (LACoFD) provides fire protection and emergency medical service to the City of Malibu including the project site. The nearest LACoFD station to Point Dume Marine Science School is Station 71 at 28722 W. Pacific Coast Highway in the City of Malibu, about 0.5 mile to the north. Station 71 is equipped with one paramedic engine and a paramedic squad truck. Daily staffing consists of one captain, one firefighter specialist, and one firefighter/paramedic on the paramedic engine; and two firefighter/paramedics on the paramedic truck.

In suburban areas such as the project site, LACoFD's response time goals are 8 minutes or less for the first-arriving unit and 12 minutes or less for an advanced life support (paramedic) unit. In 2017 Station 71 had an average response time of 6 minutes 26 seconds for the first-arriving unit and is thus meeting the Department's response time goal.

The proposed improvements would be constructed to meet the requirements of the state fire marshal. By adhering to the California school fire safety standards, the Proposed Project will not affect the Fire Department's performance objectives. Although the proposed improvements would result in additional students, due to the nature of the facilities proposed, it is not anticipated that such conditions would substantially increase the need for fire protection services, or adversely affect the department's ability to provide service to the site using existing equipment and personnel. All three affected schools are in or near the Point Dume area of the City of Malibu, and project implementation would not increase school enrollments in that region. Therefore, a less than significant impact would occur.

b) Police protection?

This analysis is based partly on a letter including a questionnaire response by Sergeant Rodney Loughridge of the Los Angeles County Sheriff's Department (LASD) dated September 6, 2018; a copy of this letter is included in Appendix E, *Service Responses*.

Less Than Significant Impact. The Los Angeles County Sheriff's Department (LASD) provides law enforcement, parking enforcement, and summer beach enforcement services under contract with the City of Malibu.

Sheriff's deputies serving the City of Malibu are based at the Malibu/Lost Hills Station at 27050 Agoura Road in the City of Agoura. The Malibu/Lost Hills Station serves the cities of Agoura, Calabasas, Hidden Hills, Malibu, and Westlake Village; and unincorporated areas including Chatsworth Lake Manor, Malibu Lake, Topanga, and West Hills. The Station's service area includes urban and rural areas and parkland. LASD assigns 14 total patrol deputies to the City of Malibu on three shifts (Loughridge 2018). The City employs one Public Safety Specialist directly.

LASD plans to build a new Malibu sub-station at 23525 Civic Center Way in the City of Malibu, about 6.6 miles east of the project site. The station would be 5,700 square feet in building area; completion is planned for late 2021. The substation would be part of a combined Santa Monica College Malibu Campus and Sheriff's substation; substation construction would be funded by Santa Monica College (Loughridge 2018).

Project operation is not expected to have a substantial impact on demands for LASD services and thus is not anticipated to require construction of a new or expanded Sheriff's station. Elementary school students currently attending two campuses (Point Dume and Cabrillo) would be consolidated onto the Point Dume campus.

c) Schools?

No Impact. Project implementation would have favorable impacts on school programs and facilities by, first, combining students from two schools with relatively small enrollments onto one campus; and, second, relocating middle school students from a 6-12 school to Cabrillo, which would henceforth operate as a middle school. Project implementation would not create a need for new or expanded schools and would not have an adverse impact on school programs or facilities. No mitigation is needed.

d) Parks?

Less than Significant Impact. The two schools that would receive relocated students under this project, Point Dume and Cabrillo, each have play and athletic facilities on their campuses. Project implementation would not require students at the affected schools to use off-campus parks and thus would not require development of new or expanded parks. While Phase I of the Proposed Project would involve a small temporary encroachment into the Point Dume playfield, and Phase II would involve a small permanent encroachment, the two encroachments combined would total about 1,000 square feet of landscaped areas (not areas with equipment or field markings for play or athletic uses) out of the total approximately 111,000 square feet of playfield. Therefore, impacts would be less than significant, and no mitigation is required.

e) Other public facilities?

No Impact. The Los Angeles County Public Library serves the project region via its Malibu Library at 23519 West Civic Center Way in the City of Malibu. Point Dume and Cabrillo each have libraries. Project implementation would not require students at either campus to use off-campus libraries and thus would not adversely impact library services or facilities. No mitigation is needed.

3.15 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. Point Dume and Cabrillo schools both have play and athletic facilities. Thus, project implementation would not require students to use off-campus parks and would not cause or accelerate deterioration of parks. While project development would involve small encroachments into the Point Dume playfield, such encroachments would not cause significant impacts to play or athletic facilities at Point Dume School (see Section 3.14.d above). Impacts would be less than significant, and no mitigation is needed.

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

No Impact. The project does not propose recreational facilities and would not require construction of new or expanded facilities (see Section 3.15.a), and no impact would occur. No mitigation is necessary.

3.16 TRANSPORTATION/TRAFFIC

The analysis in this Section is based partly on the Traffic Impact Report for the Malibu Schools Alignment Project, Malibu, California, by KOA dated September 17, 2018. A complete copy of this report is included as Appendix F to this Mitigated Negative Declaration.

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Less Than Significant Impact.

Existing Conditions

Roadways

The traffic impact study analyzed the following roadways (see Figure 12, *Traffic Study Area*). Note that directions (east-west and north-south) are omitted except for one roadway (Pacific Coast Highway) because several of the roadways in the study area are curvilinear and/or diagonal.

Pacific Coast Highway (State Route 1) in the study area is a four-lane east-west highway with a simulated median (two pairs of solid yellow lines in portions of the study area and left-hand turn lanes in other portions. There are Class II (striped and signed) bicycle lanes on each side of the roadway. On-street parking is permitted. The posted speed limit is 50 miles per hour (mph). The roadway, including intersections, is under Caltrans jurisdiction.

Dume Drive is a two-lane undivided local street with a posted speed limit of 30 mph; on-street parking is permitted.

Heathercliff Road is a two-lane undivided local street with no posted speed limit. Parking is permitted along some portions of the roadway and the balance of the roadway is posted *No Stopping Any Time*.

Grayfox Street is a two-lane undivided local street with a posted speed limit of 25 mph. Parking is permitted on the south side of the roadway; stopping is prohibited on the north side.

Fernhill Drive is a two-lane undivided local street with a posted speed limit of 25 mph; parking is prohibited.

Widlife Road is a two-lane undivided local street with a posted speed limit of 25 mph. The roadway is too narrow for on-street parking; no parking restrictions are posted.

Zumirez Drive is a two-lane undivided local street with no posted speed limit. On-street parking is permitted on the west side of the roadway; the east side is too narrow for on-street parking.

3. Environmental Analysis

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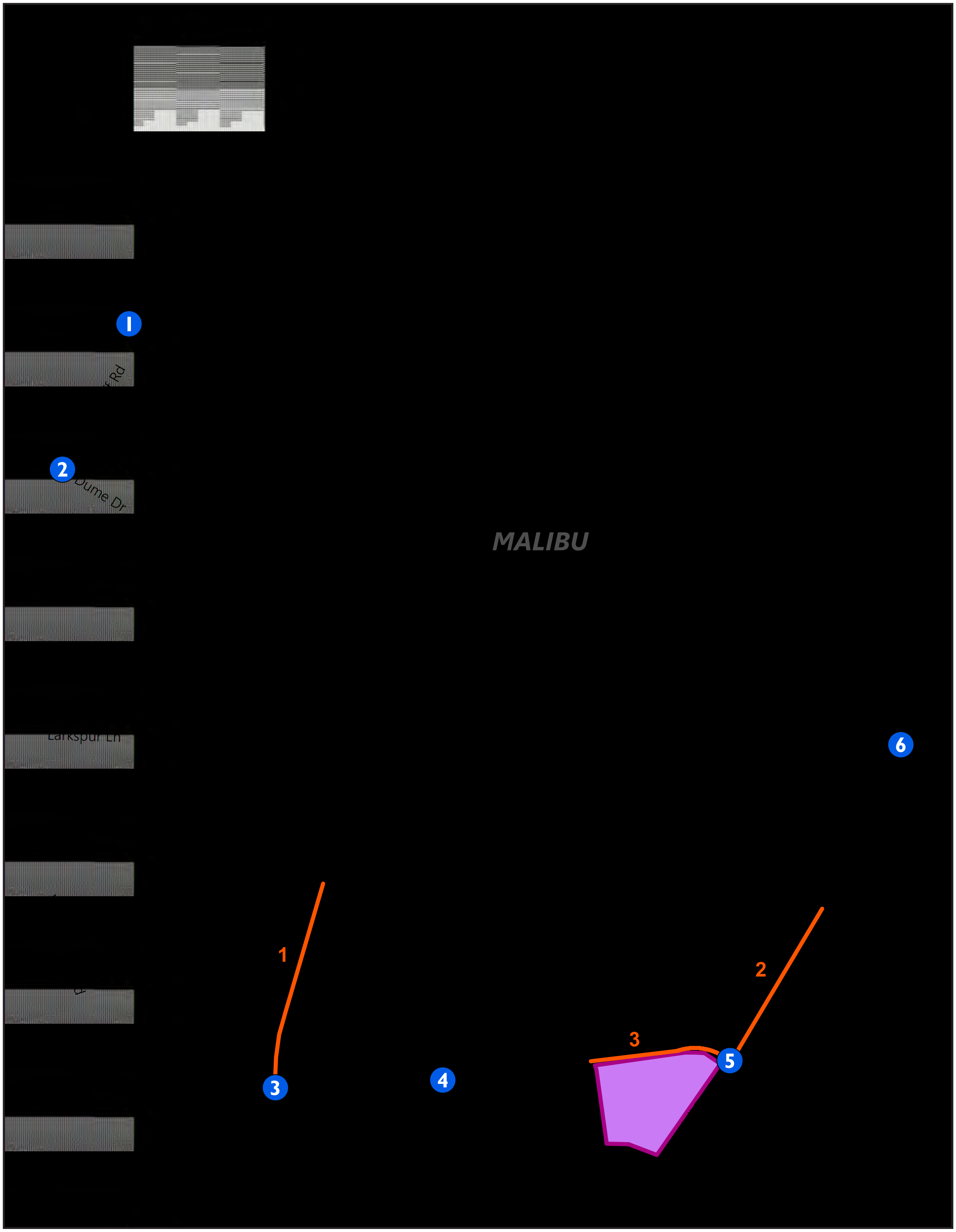
Figure 12 - Traffic Study Area

3. Environmental Analysis



School Site   Project Intersection   1 Roadway Segments   0 600 Scale (Feet)

Source: KOA, 2018

3. Environmental Analysis

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Intersections

Study area intersections are described below in Table 9.

Table 9 Study Area Intersections

Intersection	Traffic Control[1]	Jurisdiction
Heathercliff Road/Pacific Coast Highway	Signalized	Caltrans
Heathercliff Road/Dume Drive	AWS (3)	City of Malibu
Dume Drive/Grayfox Street	AWS (3)	City of Malibu
Grasswood Avenue/Grayfox Street	CSS	City of Malibu
Fernhill Drive/Grayfox Street	AWS (4)	City of Malibu
Fernhill Drive/Wildlife Road	AWS (3)	City of Malibu
Zumirez Drive/Pacific Coast Highway	Signalized	Caltrans

1 AWS = all-way stop. AWS (3) indicates intersection with 3 approaches; AWS (4) intersection with 4.
Source: KOA 2018

Sidewalks

Sidewalks are present in the study area on the site frontage on Fernhill Drive and Grayfox Street; and on the west side of Heathercliff Road.

Bicycle Facilities

Bicycle lanes are present on both sides of SR-1 in the study area.

Public Transit

Los Angeles County Metropolitan Transportation Authority (Metro) Bus Line 534 extends from the City of Malibu east to the City of Santa Monica, mostly via SR-1. Line 534 operates seven days per week; weekday peak-hour frequencies are about 20 minutes. While most Line 534 trips operate on SR-1 in the study area, selected trips (mostly in peak hours) operate through the project neighborhood, operating on Grayfox Street and Fernhill Drive past the site frontage (Metro 2018). There is a Line 534 bus stop on the southbound side of Fernhill Drive immediately south of its intersection with Grayfox Street.

Analyzing Intersection Operation

All intersections were analyzed using the Highway Capacity Manual (HCM) methodology which compares the traffic volume passing through an intersection to the capacity of the intersection. Intersection operation is then rated as a Level of Service (LOS), a six-point scale (A to F) in which LOS A represents excellent operating conditions with little delay to motorists, whereas LOS F represents congested conditions with excessive vehicle delay. LOS are described in more detail and defined in terms of volume-to-capacity (V/C) ratios, in the Traffic Impact Report (see Appendix F to this Mitigated Negative Declaration).

Significance Thresholds for Traffic Impacts

City of Malibu significance thresholds for signalized intersections are shown below.

- LOS C: Project-related V/C increase equal to or greater than 0.04
- LOS D: Project-related V/C increase equal to or greater than 0.02

- LOS E/F: Project-related V/C increase equal to or greater than 0.01

The City also considers any increase in delay of five seconds or more at an unsignalized intersection operating at an unacceptable level of service (LOS E or F) is considered a significant impact.

Traffic Volumes

Traffic volumes were counted manually at the study intersections on May 21, 2018 during the timeframes of 7:00 AM to 9:00 PM and 2:00 PM to 4:00 PM. Note that the PM peak hour measured here is the peak hour for school pickups, not the general commute peak hour of 4:00 PM to 6:00 PM.

Existing Intersection Operation

All study area intersections are operating at acceptable LOS, as shown below in Table 10.

Table 10 Intersection Operation, Existing Conditions

Intersection	AM Peak		PM Peak	
	Delay (sec.)	LOS	Delay (sec.)	LOS
Heathercliff Road/Pacific Coast Highway	9.0	A	14.	B
Heathercliff Road/Dume Drive	8.2	A	8.3	A
Dume Drive/Grayfox Street	7.6	A	7.7	A
Grasswood Avenue/Grayfox Street	7.5	A	7.5	A
Fernhill Drive/Grayfox Street	7.9	A	8.0	A
Fernhill Drive/Wildlife Road	7.7	A	7.9	A
Zumirez Drive/Pacific Coast Highway	18.0	B	20.0	C

Source: KOA 2018

Project Traffic Generation

Project trip generation calculations for the additional students that are to be transferred to the Point Dume campus from the Juan Cabrillo campus are based on a conservative assumption of one vehicle round trip per peak hour, per added student seat. The resulting trip generation is much higher than it would be under typical school trip generation rates, such as those published by the Institute of Transportation Engineers (ITE). Those rates, based on surveys of multiple school sites, incorporate typical urban school walking and transit trips, which reduce overall vehicle trip numbers.

Based on monitoring conducted as part of the Traffic Impact Report, the Point Dume campus has a very low number of walking trips and transit trips. With the transfer of students from Juan Cabrillo under the proposed Project, this trend will continue. The conservative trip generation analysis, therefore, provides the worst-case scenario analysis of potential traffic impacts. Project operation is forecast to generate about 740 vehicle trips per weekday; 370 trips in the AM peak hour, and 370 trips in the PM peak hour, as shown below in Table 11, *Project Trip Generation*.

Table 11 Project Trip Generation per student (185 students)

	Weekday						
	Daily	AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out
Trip Generation Rate (per student)	4	2	50%	50%	2	50%	50%
Trip Generation	740	370	185	185	370	185	185

Source: KOA 2018

Project trips were distributed by percentage onto the study area roadway network based on the project land use type, the local roadway network, and the general locations of other land uses to which project trips would originate or terminate.

Project trips were then assigned by numbers of trips to study area roadways based on project trip generation and the percentages estimated by trip distribution.

Intersection Operation, Existing Plus Project Conditions

Intersection operations in Existing Plus Project trips were analyzed by adding estimated project-generated trips to existing traffic volumes at study area intersections. All intersections would operate at acceptable LOS, as shown below in Table 12.

Table 12 Intersection Operation, Existing Plus Project Conditions

Intersection	Peak Hour	Existing		Existing Plus Project		Significant Impact?
		Delay (sec.)	LOS	Delay (sec.)	LOS	
Heathercliff Road/Pacific Coast Highway	AM	9.0	A	9.4	A	No
	PM	14.6	B	14.8	B	No
Heathercliff Road/Dume Drive	AM	8.2	A	8.6	A	No
	PM	8.3	A	8.7	A	No
Dume Drive/Grayfox Street	AM	7.6	A	8.1	A	No
	PM	7.7	A	8.3	A	No
Grasswood Avenue/Grayfox Street	AM	7.5	A	8.0	A	No
	PM	7.5	A	8.0	A	No
Fernhill Drive/Grayfox Street	AM	7.9	A	9.7	A	No
	PM	8.0	A	9.9	A	No
Fernhill Drive/Wildlife Road	AM	7.7	A	8.5	A	No
	PM	7.9	A	8.7	A	No
Zumirez Drive/Pacific Coast Highway	AM	18.0	B	18.9	B	No
	PM	20.0	C	21.1	C	No

Significance Threshold: City of Malibu significance thresholds for signalized intersections are shown below.

- LOS C: Project-related V/C increase equal to or greater than 0.04
- LOS D: Project-related V/C increase equal to or greater than 0.02
- LOS E/F: Project-related V/C increase equal to or greater than 0.01

The City also considers any increase in delay of five seconds or more at an unsignalized intersection operating at an unacceptable level of service (LOS E or F) a significant impact.

Source: KOA 2018

Estimating Future (2019) Without-Project Conditions

Traffic volumes on study area roadways in project opening year 2019 (that is, the first year that students from Cabrillo Elementary School would begin attending Point Dume School) were estimated using a combination of two methods:

- Ambient Growth: a growth rate of 2 percent was used to account for traffic generation due to regional population and employment growth.
- Related projects: traffic generation by six related projects in the City of Malibu was estimated; trip distribution by those projects was estimated; and trips were assigned to study area roadways. One of the related projects is construction and renovation at Malibu High School northwest of the Proposed Project site. The other five related projects are all single-family residential projects; four are generally northerly from the Proposed Project site, while the fifth is nearly seven miles to the east (see Figure 13, *Related Projects Map*).

Note that at completion of Phase II of the Proposed Project students who currently attend Cabrillo would be relocated from portable buildings on the Point Dume campus to the propose permanent building on the same campus. As enrollment at Point Dume would not change at the completion of Phase II in 2021, that year was not analyzed in the traffic impact study.

Related projects are estimated to generate approximately 2,577 daily trips (497 from the Malibu High School project and 2,080 from the residential projects), as shown below in Table 13.

Table 13 Related Projects Trip Generation

Related Projects Zone	Project	Quantity	Trip Generation		
			Daily	Weekday AM Total	Weekday PM Total
Trip Generation Rates					
NA	High School (per 1,000 square feet)	NA	14.07	3.38	0.97
NA	Single-Family Residential (per unit)	NA	9.44	0.74	0.99
Trip Generation					
1	Malibu High School	35.315 KSF	497	119	34
2	Single-Family Residential (total, 2 projects)	7 units	66	5	7
3	Single-Family Residential (total, 3 projects)	213 units	2,014	158	211
Total	NA	NA	2,577	282	252

Intersection Operation, Future (2019) Without-Project Conditions

All study area intersections are estimated to operate at acceptable LOS of B or better in future year (2019) without-project conditions, as shown below in Table 14. Sensitivities in the impact calculations, with small volume changes at various intersection approaches, sometimes causes overall delay to remain the same or improve in the output. Such improvement occurs in the data for the Zumirez Drive/Pacific Coast Highway intersection, analysis results for which include LOS C in existing conditions and LOS B in 2019 without-project conditions; but this does not affect study impact conclusions.

Table 14 Intersection Operation, Future Year (2019) Without-Project Conditions

Intersection	AM Peak		PM Peak	
	Delay (sec.)	LOS	Delay (sec.)	LOS
Heathercliff Road/Pacific Coast Highway	9.2	A	15.6	B
Heathercliff Road/Dume Drive	8.3	A	8.3	A
Dume Drive/Grayfox Street	7.7	A	7.7	A
Grasswood Avenue/Grayfox Street	7.5	A	7.5	A
Fernhill Drive/Grayfox Street	7.9	A	8.0	A
Fernhill Drive/Wildlife Road	7.7	A	7.9	A
Zumirez Drive/Pacific Coast Highway	17.6	B	19.6	B

Source: KOA 2018

Intersection Operation, Future (2019) With-Project Conditions

Intersection operation in future (2019) with-project conditions was estimated by adding project-generated traffic to forecast future without-project conditions. All study area intersections are forecast to operate at acceptable LOS in future with-project conditions, as shown below in Table 15.

Table 15 Intersection Operation, Future Year (2019) With-Project Conditions

Intersection	Peak Hour	Future (2019)		Future (2019) Plus Project		Significant Impact?
		Delay (sec.)	LOS	Delay (sec.)	LOS	
Heathercliff Road/Pacific Coast Highway	AM	9.2	A	9.2	A	No
	PM	15.6	B	14.0	B	No
Heathercliff Road/Dume Drive	AM	8.3	A	8.7	A	No
	PM	8.3	A	8.8	A	No
Dume Drive/Grayfox Street	AM	7.7	A	8.2	A	No
	PM	7.7	A	8.3	A	No
Grasswood Avenue/Grayfox Street	AM	7.5	A	8.0	A	No
	PM	7.5	A	8.0	A	No
Fernhill Drive/Grayfox Street	AM	7.9	A	9.8	A	No
	PM	8.0	A	10.0	A	No
Fernhill Drive/Wildlife Road	AM	7.7	A	8.6	A	No
	PM	7.9	A	8.8	A	No
Zumirez Drive/Pacific Coast Highway	AM	17.6	B	18.9	B	No
	PM	19.6	B	20.3	C	No

Significance Threshold: City of Malibu significance thresholds for signalized intersections are shown below.
- LOS C: Project-related V/C increase equal to or greater than 0.04
- LOS D: Project-related V/C increase equal to or greater than 0.02
- LOS E/F: Project-related V/C increase equal to or greater than 0.01

The City also considers any increase in delay of five seconds or more at an unsignalized intersection operating at an unacceptable level of service (LOS E or F) a significant impact.
Source: KOA 2018

3. Environmental Analysis

Project Traffic Impacts

No significant direct or cumulative traffic impacts were identified; impacts would be less than significant.

Project Access and Impacts of Pickups and Drop-offs

Project Access

An on-site pick-up/drop-off and parking for the Point Dume campus is currently provided on the west side of Fernhill Drive, to the south of Grayfox Street. To the north of the driveway point on Fernhill Drive is a restricted parking area (prohibited parking during school-day pick-up/drop-off times) that provides space for three to four vehicles to queue adjacent to the curb before entering the site, when queues do form during peak activity and the extra vehicle storage space is necessary.

An additional on-street pick-up/drop-off area is provided on the south side of Grayfox Street. Fernhill Drive provides access from the east via SR-1. Dume Drive and Grayfox Street provide access to the project from the west via SR-1.

Photographs of drop-offs and pickups are included in the Traffic Impact Study included as Appendix F to this Mitigated Negative Declaration.

Monitoring Observations

Drop-off and pickup queueing on Fernhill Drive near the main driveway for Point Dume School was monitored in the AM peak hour and (school) PM peak hour in May and September 2018. The school's main parking lot, accessed from Fernhill Drive, has U-shaped flow-through pick-up/drop-off circulation with vehicles entering from and exiting to Fernhill Drive.

Morning, May 2018

Queueing for drop-offs filled the permitted parking area and extended into the no-parking area next to the driveway. Queuing did not extend into the roadway or delay traffic in the two travel lanes.

Morning, September 2018

Queuing occupied the permitted parking area and extended into the no-parking area. Queuing did not extend into the roadway or delay traffic in the two travel lanes.

Afternoon, May 2018

Queueing at the school driveway occurred for less than one minute at 2:47 PM, two minutes after the dismissal bell at 2:45 PM. Queueing occurred in the on-street permitted parking area but did not extend into travel lanes or delay traffic in those lanes.

Afternoon, September 2019

By 2:46 PM, one minute after the dismissal bell, vehicles parked in the on-street no-parking area forced incoming vehicles to queue in the roadway travel lanes. Between 2:46 PM and 2:51 PM queued vehicles blocked the southbound lane, forcing some southbound through vehicles to cross into the northbound lane. Normal traffic operations resumed at 2:52 PM.

As with any typical school site, a peak traffic period of approximately 15 minutes occurs, although there can be a longer but less intense 30- to 60-minute peak period depending on the size of the school and the particulars of school operations. Based on the monitoring conducted, the peak activity is limited to 15 to 20 minutes. During this peak, the roadway travel lanes are generally not blocked for any long period of time.

However, the increase in students would increase the vehicle queuing for the school site pick-up/drop-off area. The queuing into roadway lanes might increase, and general traffic activity will increase, potentially to as much as twice the intensity of current operations due to the approximate doubling of the school student size with the Proposed Project.

While vehicle queuing impacts would be temporary (approximately 15-20 minutes during drop-off and pick-up activities), the queuing impact could lead to the blockage of the southbound travel lane or similar unsafe roadway conditions. Therefore, the District has determined that a significant impact would occur if the Proposed Project resulted in a two-minute increase in the blocking of the southbound travel lane during the drop-off and pick-up peaks. If the significant impact standard is exceeded in the post-Project period, the District will implement one or more of the following measures as mitigation, in order to reduce queuing on the adjacent roadway during peak times:

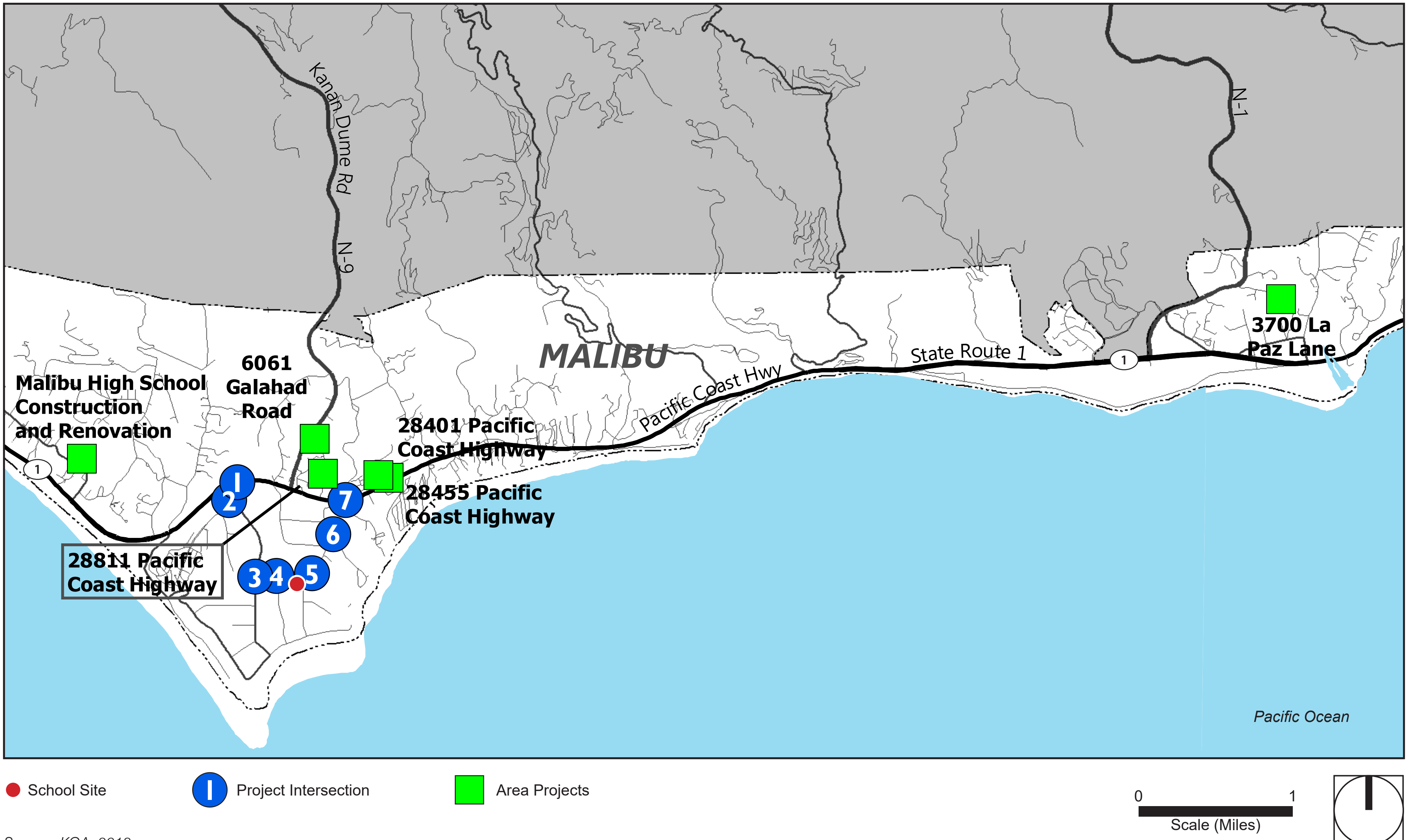
Mitigation Measure

Traffic-1: Should Project implementation result in a two-minute increase in the blocking of the southbound travel lanes during the drop-off and pick-up peaks, the District shall implement one or a combination of the following measures:

- The District shall provide busing from the existing Juan Cabrillo campus to Point Dume for the transferred Elementary Students.
- The District shall coordinate with the City of Malibu Public Works Department to widen the school driveway on Fernhill Drive, to provide for both wider ingress lanes and wider egress lane and provide an increased turning radius to allow for improved vehicle turning into and out of the site.
- The District will work with the Los Angeles County Metropolitan Transportation Authority (Metro) to relocate the Metro Line 534 bus stop on Fernhill Drive to Grayfox Street (west of the curve near the all-way stop intersection of the two roadways). This would free up additional on-street parking space on Fernhill Drive, and the on-street no parking/queuing area could be expanded.
- Establish a staggered bell schedule for groups of grades or other potential grouping, to provide for a spacing of pick-up/drop-off activity. The staggering should be 30 minutes or more.
- Establish a secondary formal pick-up/drop-off area within the curb area of Grayfox Street.

In the event the Proposed Project resulted in a two-minute increase in the blocking of the southbound travel lane during the drop-off and pick-up peaks the District would implement one or a combination of the options identified in Mitigation Measure Traffic-1.These measures, either individually or in combination would provide for better traffic flow, would remove blockages to thru traffic in almost all instances of school pick-up/drop-off operations, and the impact would be less than significant after implementation.

Figure 13 - Related Projects Map



Source: KOA, 2018

3. Environmental Analysis

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b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Less Than Significant Impact. The congestion management program (CMP) in effect in Los Angeles County was issued by Metro in 2010. All freeways and selected arterial highways in the County are elements of the CMP Highway System. One roadway in the study area, SR-1, is a CMP Highway. There is one CMP intersection, Kanan Dume Road at SR-1, in the study area; however, it was not one of the eight intersections studied in the TIS. Project trip generation would not cause any significant increases in vehicle turning movements at the Kanan Dume Road/SR-1 intersection. Project-generated traffic would be primarily all thru traffic on Pacific Coast Highway at this intersection, and that would have a negligible impact on intersection operations. The CMP requires traffic impact analysis for projects that would add 50 or more trips to a CMP intersection during either the AM or PM peak hour. Estimated project-generated traffic volumes through the two analyzed intersections on SR-1 would each be below 50 trips per AM or PM peak hour. Therefore, project-generated traffic through the intersection of Kanan Dume Road at SR-1 would be below 50 trips per peak hour (see Figure 6 in the Traffic Impact Study included as Appendix F to this Mitigated Negative Declaration); thus, analysis of project traffic impacts to CMP intersections is not required.[10] Impacts to CMP roadways would be less than significant and no mitigation is needed.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. The nearest public-use airport to the site is Santa Monica Airport about 20 miles to the east (Caltrans 2018). Project development would not increase air traffic levels and would not require relocation of air traffic patterns approaching or departing Santa Monica Airport. No impact would occur, and no mitigation is required.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact With Mitigation Incorporated. Project development is expected to increase queuing for pickups and drop-offs on Fernhill Drive and Grayfox Street. Queueing for afternoon pickups was observed to briefly block the southbound lane on Fernhill Drive, causing southbound vehicles to cross into the northbound lane, in September 2018. Project development could cause increased queueing volumes for pick-ups and drop-offs on roadways next to the project site, and thus could result in hazards on those roadways. Implementation of Mitigation Measure Traffic-1 would ensure that this impact is less than significant.

Additionally, traffic speeds were measured and compared to posted speed limits on three study area roadway segments to determine if substantial speeding was occurring, and to determine if traffic speed reduction measures are warranted.

[10] The project would add 24 trips in the AM peak hour to the intersection of Heathercliff Road and SR-1, and 39 trips in the AM peak hour to the intersection of Zumirez Drive and SR-1. Project-generated trip volume in the PM peak hour is lower than in the AM peak hour.

3. Environmental Analysis

The three segments are 1, Dume Drive north of Grayfox Street; 2, Fernhill Drive north of Grayfox Street; and, 3, Grayfox Street west of Fernhill Drive (see Figure 12, *Traffic Study Area*). Three speeds were measured on May 21 and 22, 2018.

- Average speed
- Critical speed: speed below which 85 percent of traffic was measured
- Pace: 10-mph interval containing speeds of most vehicles measured

The methodology for establishing speed limits is described in the Traffic Impact Study (see Appendix F to this Mitigated Negative Declaration).

Segment 1: Dume Drive north of Grayfox Street

Speeds measured on Monday, May 21, 2018 include an average of 29 MPH, a 10 MPH pace from 26 through 35, and a critical speed of 33 MPH. Speeds measured on May 22 were nearly the same. The posted speed limit is 30 mph. The speed limit on Dume Drive is consistent with California Vehicle Code (CVC) guidelines. Excessive speeding was not observed on this segment, and no changes to the roadway, roadway striping or speed limits are recommended.

Segment 2: Fernhill Drive north of Grayfox Street

Speeds measured on Monday, May 21, 2018 include an average of 30 MPH, a 10 MPH pace from 26 through 35, and a critical speed of 34 MPH. Speeds measured on May 22, 2018 were the same. The posted speed limit is 25 mph. The speed limit on Fernhill Drive is consistent with CVC guidelines. Excessive speeding was not observed on this segment. No changes to the roadway, roadway striping or speed limits are recommended.

Segment 3: Grayfox Street west of Fernhill Drive

Speeds measured on Monday, May 21, 2018 include an average of 27 MPH, a 10 MPH pace from 26 through 35, and a critical speed of 34 MPH. Speeds measured on Tuesday, May 22, 2018 were the same. The posted speed limit is 25 mph when students are present. The critical speed on Fernhill Drive is 9 MPH higher than the posted speed limit. As this location is both within the residential neighborhood and adjacent to Point Dune Elementary School, speeds observed on this segment of Grayfox Street may pose a hazard. This impact would be potentially significant. Implementation of Mitigation Measure TRAFFIC-2—requiring placement of radar speed signs; an engineering and traffic survey; and traffic calming devices—would reduce this impact to less than significant. Note that California Vehicle Code (CVC) Section 21373 requires a city or county to undertake an engineering and traffic survey within 90 days upon request by a school district regarding guidelines for the placement of traffic control devices near schools set forth in CVC Section 21372. The city or county may require the district to pay up to 50 percent of the cost of the survey. If traffic control devices are determined to be warranted, the city or county must install such devices (CVC Section 21373).

Mitigation Measure

TRAFFIC-2 At least one month before opening of Phase I of the Proposed Project, the District shall work with the City to install radar speed signs on both sides of Grayfox Street near the west end of the campus (so that drivers passing the signs would not be reducing speed for the curve, and the four-way stop sign, to the east.

Within six to twelve months of the installation of these signs, the District shall request the City of Malibu Public Works Department to have an additional speed survey conducted. If speeds have not been reduced to a level at or below standards set forth in California Vehicle Code Section 627 and in the California 2014 Manual of Uniform Traffic Control Devices (MUTCD) Revision 3, the District shall request the City of Malibu Public Works Department to install traffic calming measures that either narrow the perceived width of travel lanes (such as roadway striping); or that narrow the physical width of the roadway (such as curb extensions).

e) Result in inadequate emergency access?

Less Than Significant Impact. During the Project construction period, a daily employee population would be present at the school site, and daily truck movements would be required for dirt hauling for various site grading activities and for delivery of construction materials. Various phases of the construction process would have varying intensities.

All staging of materials and construction employee vehicle parking would occur onsite. Dirt export trips would travel between the school site and Santa Paula to the north. The maximum daily truck haul trips would be 12 trips for the first two phases of construction.

Overall, the maximum total daily trips for Phase 1 would be 50 trips per day and would occur during the overlap of the grading, grading haul, and utility trenching activities during a one-week period in June/July of 2019.

The max total daily trips for Phase 2, occurring after the school student seating increase was complete, would be 88 trips per day and would occur during the overlap of the rough grading, rough grading haul, fine grading, and fine grading phases during a one-week period in 2020.

During the maximum period of Phase 1 construction, 30 workers would be on site and would generate commute trips to and from the site each day. During the maximum period of Phase 2, 60 workers would be on site.

The peak periods of construction truck trip activity would be for one week at a time, and would not be continuous throughout the construction phases. The inbound construction employee trips would occur during the early morning at the start of the construction shift and outbound trips would occur outside of the afternoon student pick-up time. Due to the temporary nature of the peak construction truck trip operations, and the non-peak nature of the employee vehicle trips, significant traffic impacts during the construction phase would not occur. As such, project construction is not anticipated to substantially disrupt area traffic or cause a significant increase in daily traffic on area roadways or at local intersections, thereby adversely affecting existing conditions. Per standard construction procedures, the District would prepare and implement a Traffic Control Plan (TCP) to ensure that public safety and emergency access are maintained during the construction phase. Implementation of the TCP would ensure that existing conditions are not adversely affected or substantially degraded by project construction.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Less Than Significant Impact. Project development would not decrease the performance or safety of bicycle or pedestrian facilities or public transit services. Project construction and operation would not block sidewalks along the perimeter of Point Dume School. There nearest bicycle facilities to the campus are on SR-1 about 0.5 mile to the north; project development would not adversely affect those facilities. If relocation of the Metro 534 bus stop on Fernhill Drive to Grayfox Street is chosen as one of the options for project traffic impacts from queuing on operation and safety of Fernhill Drive, the relocated bus stop on Grayfox Street would meet Metro requirements for bus stops and would be functionally equivalent to the existing bus stop on Fernhill Drive. Impacts would be less than significant, and no mitigation is needed.

3.17 TRIBAL CULTURAL RESOURCES

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

Less Than Significant Impact. As discussed in Section 4.5, Cultural Resources, the potential to discover an unknown tribal cultural resource within the project site is highly unlikely given developed nature of the site. In accordance with Public Resources Code Section 21080.1(d), a lead agency is required to provide formal notification of intended development projects to Native American tribes that have requested to be on the lead agency's list for receiving such notification. The formal notification is required to include a brief description of the Proposed Project and its location, lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation for tribal cultural resources. The Torres Martinez Desert Cahuilla Indians and the Gabrieleño Band of Mission Indians–Kizh Nation are on the SMMUSD's notification list pursuant to AB 52 and were notified by the District's on September 27, 2018. As of the time of the publication of this Mitigated Negative Declaration, neither the Torres Martinez Desert Cahuilla Indians, nor the Gabrieleño Band of Mission Indians–Kizh Nation have responded to the District's consultation offer, and as such, no consultation has been in initiated. If any tribal cultural resource is found on the project site, excavation will be halted, mitigation measure CUL-1 shall be implemented as necessary and the NAHC will be contacted. As the property has been previously disturbed and currently supports similar activity field uses, it is not anticipated that unknown tribal cultural resources are present on-site. Impacts would be less than significant.

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1,

the lead agency shall consider the significance of the resource to a California Native American tribe.

Less Than Significant Impact With Mitigation Incorporated. The project site is not listed or eligible for listing in the California Register of Historical Resources (CRHR) or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k). If any tribal cultural resource is found on the project site, excavation will be halted, mitigation measure CUL-1 shall be implemented as necessary and the NAHC will be contacted. As the property has been previously disturbed and currently supports similar activity field uses, it is not anticipated that unknown tribal cultural resources are present on-site. Impacts would be less than significant.

3.18 UTILITIES AND SERVICE SYSTEMS

The utility demand analyses in this Section treat utility demands generated in the two proposed new buildings at Point Dume School to be net new demands [on that campus]. It is understood that project implementation would not increase regional utility demands; therefore, the analyses in this section are conservative respecting regional demands. Utility generation and demand factors used in this Section are default values, based on the proposed total building area and school use, from the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 developed for the California Air Pollution Control Officers Association (CAPCOA 2017).

a) Exceed waste water treatment requirements of the applicable Regional Water Quality Control Board?

Less Than Significant Impact. The Los Angeles Regional Water Quality Control Board (LARWQCB) has not issued site-specific waste water treatment requirements for Point Dume School. The LARWQCB issued waste water treatment requirements for discharges to municipal storm drains in its municipal stormwater permit, Order No. R4-2012-0175 in 2012. The Proposed Project would comply with the aforementioned permit through preparation and implementation of a WQMP in accordance with the City of Malibu Stormwater Management and Discharge Control Ordinance (see Section 3.9.a above for further discussion). Project construction and operation would not exceed waste water treatment requirements, and impacts would be less than significant. No mitigation is needed.

b) Require or result in the construction of new water or waste water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact.

Water Treatment

Water treatment facilities filter and/or disinfect water before it is delivered to customers. Los Angeles County Waterworks District 29 (District 29) provides water to the City of Malibu including the project site. District 29 water supplies are almost entirely water imported from northern California via the State Water Project and from the Colorado River; and purchased from the West Basin Municipal Water District, which in turn buys imported water from the Metropolitan Water District of Southern California (MWDSC). Three MWDSC water treatment plants, with total capacity of approximately 1.8 billion gallons per day, treat imported water used in Los Angeles County (MWDSC 2018).

The addition of 16,500 square feet of building area to the campus would generate net increases of about 140 gallons per day (gpd) in indoor water demand, and about 3,310 gpd in outdoor water demand. Recycled water is not used for irrigation on the campus; thus, all water use would be potable water.

Project implementation would not change total enrollments, and thus would not change total water demands, at the three affected schools. Development would not require expanded water treatment capacity. Impacts would be less than significant.

Wastewater Treatment

All three schools that would be affected by the Proposed Project are served by septic systems. Three relatively small areas in the City of Malibu are served by wastewater treatment plants; the schools are outside of those areas. Wastewater generation at Point Dume due to project development is estimated at 100 percent of the increase in indoor water demands, that is, approximately 140 gpd. The septic system at Point Dume has capacity for 600 students, and thus has sufficient capacity for the projected enrollment at Point Dume of 380 after students from Cabrillo are combined onto the Point Dume campus. Impacts would be less than significant

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact. Grading and drainage improvement plans will be required to be prepared for the Proposed Project, consistent with local, state, and federal water quality requirements and with design standards implemented by the Division of the State Architect. As designed, the Proposed Project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or contribute substantial additional sources of polluted runoff (see the discussion of Best Management Practices and compliance with water quality regulations in Section 3.9, *Hydrology and Water Quality*, of this Mitigated Negative Declaration). Project implementation would involve a small increase in pervious area onsite and is thus not expected to increase the runoff rate or volume from the project site. Thus, the City's existing stormwater infrastructure is adequate to accommodate stormwater runoff from the site. Compliance with the City of Malibu Stormwater Management and Discharge Control Ordinance would ensure that impacts would be less than significant.

Environmental impacts associated with project construction have been addressed throughout this MND. Mitigation has been identified where appropriate to reduce potentially significant short-term construction impacts to below a level of significance. Therefore, the Proposed Project is not anticipated to require or result in the construction of new stormwater drainage facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects. Impacts would be less than significant.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Less Than Significant Impact. District 29 provides water to the City of Malibu including the project site. District 29 forecasts that it will have sufficient water supplies to meet demands in its service area through the 2020-2035 period in normal and dry-year conditions (LACWWD 2017). Project development is estimated to increase water demands on the Point Dume campus by about 3,450 gpd. However, as Project implementation would involve transfers of students from Cabrillo to Point Dume and from Malibu Middle and High School to Cabrillo, implementation of the Proposed Project would not increase enrollment in the region and thus would not increase water demands in the region. There is adequate forecast water supply in the region to meet estimated project water demands, and project development would not require District 29 to obtain new or expanded water supplies. Impacts would be less than significant. No mitigation is needed.

e) Result in a determination by the waste water 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. Wastewater from Point Dume is treated by a septic system that has sufficient capacity for the school's enrollment after students from Cabrillo are transferred to the school. The net increase in wastewater generation at Point Dume is estimated at about 140 gpd. Project development would not require construction of a new or expanded septic system. Impacts would be less than significant, and no mitigation is required.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less Than Significant Impact. Waste Management Inc. collects solid waste from the western part of Malibu. In 2017 about 94 percent of the solid waste landfilled from Malibu was disposed of at the Calabasas Landfill near the City of Calabasas; and the Simi Valley Landfill and Recycling Center in eastern Ventura County (CalRecycle 2018). Project operation is estimated to generate a net increase about 115 pounds of solid waste per day on the Point Dume campus. Project implementation would involve transfers of students from Cabrillo to Point Dume and from Malibu Middle and High School to Cabrillo. Implementation of the project would not increase enrollment in the region and thus would not increase solid waste generation in the region.

The Proposed Project would not involve major demolition of permanent structures and thus would not generate large amounts of demolition debris. The two aforementioned landfills each accept construction debris; and have capacity for estimated project operational solid waste generation and construction debris generation. Impacts would be less than significant, and no mitigation is needed.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

No Impact.

Assembly Bill 939 (AB 939; Integrated Solid Waste Management Act of 1989; Public Resources Code 40050 et seq.) established an integrated waste-management system that focused on source reduction, recycling, composting, and land disposal of waste. AB 939 required every California city and county to divert 50 percent of its waste from landfills by the year 2000. Compliance with AB 939 is measured in part by comparing solid waste disposal rates for a jurisdiction with target disposal rates; actual rates at or below target rates are consistent with AB 939. AB 939 also requires California counties to show 15 years disposal capacity for all jurisdictions within the county; or show a plan to transform or divert its waste.

Assembly Bill 341 (AB 341; Chapter 476, Statutes of 2011) increases the statewide waste diversion goal to 75 percent by 2020, and mandates recycling for commercial and multi-family residential land uses.

Assembly Bill 1826 (AB 1826; California Public Resources Code Sections 42649.8 et seq.) requires recycling of organic matter by businesses, and multifamily residences of five of more units, generating such wastes in amounts over certain thresholds. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. Multifamily residences are not required to have a food waste diversion program.

Section 5.408 (Construction Waste Reduction, Disposal, and Recycling) of the 2016 California Green Building Standards Code (CALGreen; Title 24, California Code of Regulations, Part 11) requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

At least 65 percent of project construction debris would be recycled or salvaged in accordance with CALGreen Section 5.408. Point Dume School has recyclable material storage area pursuant to AB 341. Point Dume School recycles organic matter in compliance with AB 1826. Project implementation would comply with laws and regulations governing solid waste diversion, and no impact would occur. No mitigation is required.

3.19 MANDATORY FINDINGS OF SIGNIFICANCE

a) **Does the project have the potential to 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?**

Less Than Significant Impact With Mitigation Incorporated. Project development would not substantially reduce the population, habitat, or range of a fish or wildlife species or rare or endangered plant or animal and would not threaten to eliminate a plant or animal community. Project development could impact nesting birds protected under state and federal laws; implementation of Mitigation Measure BIO-1, requiring preconstruction nesting bird surveys, would reduce impacts to nesting birds to less than significant. Development would require removal of one western sycamore tree protected under the City's Native Tree Protection Ordinance. That impact would be less than significant after implementation of Mitigation Measure BIO-2 requiring replacement plantings of western sycamores and monitoring of the planted trees.

Project development would not eliminate an important example of California history or prehistory. Development could damage archaeological resources that may be present in site soils; implementation of Mitigation Measure CUL-1 would reduce that impact to less than significant. Project development could damage fossils that may be buried in site soils; implementation of Mitigation Measure CUL-2 would reduce that impact to less than significant.

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. No cumulatively considerable impacts were identified in this Mitigated Negative Declaration, and impacts would be less than significant.

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. The following potentially significant impacts (direct or indirect) on human beings were identified in this Mitigated Negative Declaration:

- archaeological resources (including human remains)
- paleontological resources
- construction noise
- traffic (impacts from pickup and drop-off queuing)

This Initial Study sets forth mitigation measures reducing each of these impacts to less than significant; thus, no significant and unavoidable impacts would occur.

d) Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term goals?

Less Than Significant Impact With Mitigation Incorporated. This Mitigated Negative Declaration addresses both short-term and long-term environmental goals. An example of achieving a short-term environmental goal to the disadvantage of long-term goals is expanding a project site to reduce construction parking and staging impacts on surrounding roadways (short-term goals), and adversely impacting habitat for sensitive species in the process (both long-term and short-term goals). The project, including the mitigation measures set forth herein, have been designed so that long-term environmental goals would not be forfeited in favor of short-term goals. Impacts would be less than significant after implementation of mitigation.

3. Environmental Analysis

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4. Responses Received During Public Review Period

The Santa Monica Malibu School District (SMMUSD or District), prepared a Mitigated Negative Declaration for the SMMUSD Malibu Schools Alignment Project. Pursuant to Section 15072 and 15073 of the California Environmental Quality (CEQA) Guidelines, the MND and Notice of Intent to adopt the MND were circulated for a 20-day public review period that began on September 28, 2018 and ended on October 18, 2018. During that period seven comment letters were received in response the MND. Pursuant to Section 15074(b) of the CEQA Guidelines, the lead agency is required to consider the proposed MND along with any comments received during the public review period. While written responses to comments submitted on MNDs are not required, we have nonetheless provided responses to each comment for the record. Based on the whole record, the District finds that the comments received do not raise any new potentially significant impacts, do not identify any increase to the severity of any of the impacts disclosed in the MND, and do not require substantial revision of the MND. No new mitigation measures are needed as a result of the comments. Therefore, pursuant to Section 15073.5 of the CEQA Guidelines, recirculation of the MND is not required. An EIR is not required since all potentially significant environmental impacts that may result from the project are mitigated to less than significant. Distribution of the MND and Notice of Intent for review and comment included the following agencies and organizations:

- California Air Resources Board
- Caltrans Planning - District 7
- California Department of Education
- California Fish & Wildlife
- California General Services Department – Division of State Architecture
- Native American Heritage Commission
- California Office of Historic Preservation
- General Services Department – Office of Public Schools Construction.
- Los Angeles Regional Water Quality Control Board
- Department of Toxic Substances Control
- South Coast Air Quality Management District
- Department of Parks & Recreation
- Santa Monica Mtns Conservancy
- California Coastal Commission
- Southern California Association of Governments
- City of Malibu - Department of Planning & Community Development
- County of Los Angeles Fire Department
- Los Angeles County Waterworks District 29

4. Response Received During Public Review Period

- Los Angeles County Sheriff's Department
- City of Malibu Public Works
- Los Angeles County of Education
- Metropolitan Transportation Authority of Los Angeles County
- Los Angeles County Department of Regional Planning
- Sanitation Districts of Los Angeles County
- Los Angeles County Department of Public Works

The Notice of Intent to Adopt a Mitigated Negative Declaration was filed with the County of Los Angeles Clerk on September 18, and copies of the NOI were distributed to residences within 500 feet of the Point Dume Campus. day. The NOI (along with the MND in some cases) was mailed to 25 interested parties for receipt on September 18, 2018. Additionally, the MND and the NOI were posted on the SMMUSD website throughout the duration of the public review period and hard copies were made available for public review at the Point Dume campus, and at the SMMUSD offices.

As described in detail below, the information provided in the comments do not constitute a fair argument that the mitigated project would potentially cause a significant environmental impact. The responses to comments demonstrate that the mitigated project would not potentially create a significant environmental impact or be cumulatively considerable. The responses merely provide further data and analysis that clarifies, amplifies, elaborates, or makes minor modifications to the MND.

In addition to considering comment letters received during the public review period, the lead agency is required to adopt a Mitigation Monitoring Program (MMRP), pursuant to Sections 15074(d) and 15097 of the CEQA Guidelines. The MMP is a program for reporting on or monitoring the changes which it has either required in the project or made a condition of approval to mitigate or avoid significant environmental effects. Accordingly, the MMP for the Malibu Schools Alignment Project MND should be included for consideration by the lead agency.

Table 1 (List of Agencies and Persons Submitting Comments), below, provides a list of agencies and/or persons that submitted comments on the MND during the public review period. Comment letters and specific comments are given letters for reference purposes. Revisions to the text of the MND in response to comments are identified by underline for added text and deleted text is shown in ~~strikeout~~.

Number Reference	Commenting Person/Agency	Date of Comment
Agencies & Organizations		
COMA	City of Malibu	October 18, 2018
LASD	County of Los Angeles Sheriff's Department	October 22, 2018
JOAT	John Atwill	October 11, 2018
STRO	Stephanie Rocco	October 12, 2018
KEFL	Kerry Flynn	October 17, 2018
MAPU	Mary Purucker	October 17, 2018
SAKA	Sam Hall Kaplan	October 18, 2018

4. Response Received During Public Review Period

City of Malibu 1 of 3

City of Malibu

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October 18, 2018

Carey Upton, Chief Operations Officer
Santa Monica-Malibu Unified School District
2828 Fourth Street
Santa Monica, CA 90265

Sent via email: cupton@smmusd.org

RE: CITY OF MALIBU COMMENTS ON THE DRAFT MITIGATED NEGATIVE DECLARATION FOR THE MALIBU SCHOOLS ALIGNMENT PROJECT

Thank you for the opportunity to comment on the recently published Draft Mitigated Negative Declaration for the Malibu Schools Alignment Project, which analyzed phased improvements proposed at Point Dume Marine Science (Point Dume) located 6955 Fernhill Drive in the City of Malibu. The phased improvements will facilitate combining the populations of Juan Cabrillo Elementary School and Point Dume on the current Point Dume site. The first phase of the project proposes the placement of ten portable classrooms/buildings and the second phase proposes the construction of a new, two-story, 15,000 square foot classroom building and a 2,500 square foot administrative office building. COMA-1

The City acknowledges the Santa Monica-Malibu Unified School District's (SMMUSD) role in preparing and adopting the Mitigated Negative Declaration (MND). The City intends to rely on the adopted MND to process the coastal development permits required for each phase of the project. Accordingly, the City has the following comments to ensure the adequate assessment and mitigation of potential impacts anticipated by the project:

3.4 BIOLOGICAL RESOURCES

1. Section 3.4(a) (Page 50): The MND concluded that "less than significant impacts" were anticipated for species identified as a candidate, sensitive, or special status species by direct or indirect habitat modification. However, no explanation was provided to specify what impacts, if any, justified the "less than significant impact" determination. COMA-2

2. Monarch Butterfly Overwintering Habitat (Page 51): Sycamores are not known to provide overwintering roosts for monarchs. Moreover, eucalyptus groves must be of a specific size and configuration to provide the suitable microhabitat for monarchs. The photos do not suggest this condition exists. COMA-3

3. Mitigation Measure BIO-1 (Page 51): California Department of Fish and Wildlife (CDFW) requires a 300-foot buffer for common species and 500 feet for special-status species and raptors. Consultation may occur with CDFW to reduce a setback for a specific nest if one is discovered. However, the buffer cannot be reduced without concurrence from CDFW. COMA-4

4. Section 3.4(e) (Page 52): The Malibu Local Coastal Program (LCP) is a CEQA approved document and the project must comply with its standards. Accordingly, CEQA does not require additional COMA-5

1

4. Response Received During Public Review Period

City of Malibu 2 of 3

mitigation measures for potential impacts that are reduced by compliance with applicable development standards of the LCP; the requirement to follow CEQA approved development standards is not mitigation. The MND should state that impacts to native protected trees would be "less than significant" through compliance with the requirements in LIP Chapter 5. Mitigation Measure BIO-2 should reference LIP Chapter 5 and how impacts will be reduced by compliance with the standards. Also, pursuant to LIP Chapter 5, the MND should include a discussion that addresses project alternatives that could avoid impacts to the trees. COMA-5

3.16 TRANSPORTATION / TRAFFIC

1. The traffic study is required to evaluate and discuss the impact analysis for "future with project." Typically future is considered to be in the year 2030 at a growth rate of 1.5%. COMA-6

2. In order to accurately assess potential parking and traffic impacts, a parking demand and traffic study needs to evaluate the demand for parking and expected traffic impacts based on the school's expected capacity of 450 students and the anticipated staff at the Point Dume site. COMA-7

3. The study needs to evaluate parking and traffic impacts associated with increased vehicle trips during parent/teacher conferences and other special events occurring before, during, or after school. COMA-8

4. The traffic study is required to evaluate and discuss the potential impacts to on-street pick-up/drop-off areas expected with the implementation of Phase 1 of the project. COMA-9

5. Section 3.16 of the MND appears to have a typo in the date of the traffic impact report (should be 9/27/18 and not 9/17/18). COMA-10

6. Intersection Operations, Future Year (2019) - Table 15 (Page 99): The existing Level of Service (LOS) at the intersection of Zumirez Drive and Pacific Coast Highway (PCH) is LOS C, but the future LOS expected after the project's implementation is expected to improve to LOS B. Since no improvements are proposed for that intersection to improve the LOS, the expected PM peak hour LOS at Zumirez/PCH for "future with project conditions" needs to be at least at the level of service of "existing plus project conditions." COMA-11

7. The MND needs to discuss the probability of vehicle trips being rerouted northbound on Fernhill Drive during drop off/pick-up times or if measures will be implemented to allow drop-off and pick-up via southbound Fernhill Drive only. COMA-12

8. The MND anticipates the school population to double with the commencement of Phase 1 of the project. Accordingly, traffic mitigation measures need to be implemented with Phase 1 rather than after impacts have exceeded the threshold of significance. The applicant needs to work with a traffic consultant to identify additional mitigation measures to be implemented with Phase 1 of the project, including the possibility of reconfiguring the "visitor lot" accessed from Fernhill Drive in order to lengthen the queuing lane for drop-off and pick-up, the placement of directional signs, driveway realignment, etc. COMA-13

2

4. Response Received During Public Review Period

City of Malibu 3 of 3

3.18 UTILITIES AND SERVICE SYSTEMS

1. In order to determine potential impacts from the proposed project to the existing onsite wastewater treatment system (OWTS), a report from a City Registered OWTS designer must be submitted to Environmental Health Administrator (EH) for review to determine if the existing system can accommodate the additional loading from the increase in population and addition of plumbing drainage fixture units. COMA-14

2. The location of the OWTS must be shown on the site plan to determine if proper setbacks from buildings to all components of the OWTS are maintained.

3. Conformance with any waste discharge requirements from the Los Angeles Regional Water Quality Control Board must be demonstrated.

PROJECT PHASING

1. Once details for the implementation of Phase 2 have been confirmed, i.e., building location, size, etc., a subsequent environmental review needs to be conducted. That CEQA analysis should address the transition from Phase 1 to Phase 2 of the project, including the assessment of potential air quality impacts for the school children as sensitive receptors and the potential parking and traffic impacts anticipated during the implementation of Phase 2. COMA-15

Should you have any questions or comments, please contact Raneika Brooks at (310) 456-2489, extension 276 or at rbrooks@malibucity.org. COMA-16

Sincerely,

BBC

Bonnie Blue, AICP
Planning Director

cc: Reva Feldman, City Manager

3

4. Response Received During Public Review Period

Response to Comments from the City of Malibu, dated October 18, 2018.

CoMA-1 This comment contains introductory language and provides a summary of the Proposed Project. The City of Malibu acknowledges that the SMMUSD is the lead agency responsible for preparation of the MND and the City would utilize the analysis provided in the MND to process the related coastal development permits.

CoMA-2 The comment indicates that the MND's conclusion of less than significant impacts for sensitive species in Section 3.4(a) (page 50) should be revised to No Impact due to the lack of sensitive or special status species on the Project site and surrounding study area. In response to this comment, the text of the Environmental Checklist, Section 3.4(a), Page 33 has been revised as follows:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			~~X~~	X

Additionally, the text Section 3.4(a) page 50 of the MND has been revised as follows:

~~Less Than Significant~~No Impact.

No sensitive species were observed onsite during a reconnaissance of the Project site on August 14, 2018. The study area for the Biological Inventory included all of the development areas (including installation of portable buildings) for Phase I and II of the Project, plus a 100-foot buffer zone surrounding all of those areas (see Figure 10, *Biological Inventory Study Area*). No native or naturally occurring vegetation communities were observed in the study area; and the study area is generally unsuitable for sensitive plant and animal species due to its urban setting. No ~~I~~impacts would occur~~be less than significant~~, and no mitigation is needed.

CoMA-3 The comment indicates that the Proposed Project site does not have suitable habitat for monarch butterfly overwintering. In response to this comment, the following text in Section 3.4(d), page 51 of the MND has been revised as follows:

Monarch Butterfly Overwintering Habitat

The City of Malibu recently joined the National Wildlife Federation's "Mayor's Monarch Pledge" demonstrating the City's commitment to restoring monarch butterfly (*Danaus plexippus*) habitat in its community. The ~~western sycamores located throughout the biological study area and the~~ eucalyptus stand in the southern portion of the study area could potentially provide overwintering roosting habitat for monarch; however, it is unlikely that these . The

Project is not anticipated to impact the eucalyptus stand~~ or the majority of the western sycamores~~.

CoMA-4 The comment states that Mitigation Measure BIO-1 should require surveys consistent with California Fish and Wildlife standards of 300 feet for common species and 500 feet for special status species and raptors. In response to this comment, mitigation measure BIO-1 has been revised as follows:

BIO-1 Prior to the commencement of any proposed actions (e.g., site clearing, demolition, grading) during the breeding/nesting season (February 15 through September 1), a qualified monitoring biologist contracted by the Project applicant shall conduct a preconstruction survey(s) to identify any active nests in and adjacent to the Proposed Project site no more than three days prior to initiation of the action. If the biologist does not find any active nests that would be potentially impacted, the proposed action may proceed. However, if the biologist finds an active nest within or directly adjacent to the action area (within ~~100~~ 300 feet for common species or 500 feet for special status species or raptors) and determines that the nest may be impacted, the biologist shall delineate an appropriate buffer zone around the nest using temporary plastic fencing or other suitable materials, such as barricade tape and traffic cones. The buffer zone shall be determined by the biologist in consultation with applicable resource agencies and in consideration of species sensitivity and existing nest site conditions, and in coordination with the construction contractor. The qualified biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to ensure that no inadvertent impacts on these nests occur. Only specified activities (if any) approved by the qualified biologist in coordination with the construction contractor shall take place within the buffer zone until the nest is vacated. Activities that may be prohibited within the buffer zone by the biologist may include but not be limited to grading and tree clearing. Once the nest is no longer active and upon final determination by the biologist, the proposed action may proceed within the buffer zone.

The monitoring biologist shall prepare a survey report/memorandum summarizing his/her findings and recommendations of the preconstruction survey. Any active nests observed during the survey shall be mapped on a current aerial photograph, including documentation of GPS coordinates, and included in the survey report/memorandum. The completed survey report/memorandum shall be submitted to the District Chief Operations Officer or his/her designee prior to construction-related activities that have the potential to disturb any active nests during the nesting season.

CoMA-5 The comment states that the Proposed Project would be subject to the City of Malibu's Local Coastal Program, including the City of Malibu's Local Implementation Program Chapter 5 with regards to protecting native trees. The City of Malibu provides protection for trees around the city by way of its LCP Section 5.2 (Native Trees) through Section 5.5 (Mitigation Standards) of the

4. Response Received During Public Review Period

LIP. Protected trees include native trees with one trunk measuring 6 inches or more in diameter, or a combination of any two trunks measuring a total of 8 inches or more in diameter measured at 4.5 feet above natural grade. Among the factors considered in the removal of protected trees are the following: their size, age, and species; visual and aesthetic characteristics; cultural or historic characteristics; ecological and location characteristics. Protected trees require a permit for removal. The ordinance also protects trees during construction activities. This ordinance applies to areas of the Proposed Project site where there are currently protected trees. The Proposed Project would be subject to specific tree protection requirements during construction and mitigation of affected trees identified as protected in accordance with the City's LCP and mitigation measure BIO-2.

The MND was prepared in accordance with CEQA Guidelines, Section 15071, and included the following required content:

- Brief description of the project, location, and proponent's
- name (CCR §15071[a,b])
- Proposed finding that the project will have no significant
- effect (CCR §15071[c])
- Initial study documenting reasons supporting the finding
- (CCR §15071[d])
- Mitigation measures to avoid potentially significant effects
- (CCR §15071[e])

CEQA does not require that an MND provide an alternatives analysis; however, the District is in the process of obtaining a Coastal Development Permit for Phase I of the Proposed Project and a separate CDP will be required for Phase II. The CDP will require the District to address project alternatives that could avoid impacts to protected trees that may be impacted by the Proposed Project. The District will provide the required alternative analysis as part of the CDP process.

CoMA-6 The comment requests that the MND provide an evaluation of future with project at General Plan Build-out, which is considered to be the year 2030 and have a growth rate of 1.5 percent. A supplemental General Plan-year (2030) analysis was conducted for the project, as a supplement to the MND traffic study document. The growth included in the traffic study to increase year-2018 volumes to year-2019 volumes (in addition to trips included from cumulative/planned area projects, was two percent. For the subsequent years to the year 2030, an annual growth rate of 1.5 percent was applied, which is typical for traffic studies in Malibu.

For the 11 years of growth between 2019 and 2030, the rate of 1.5 percent was compounded annually, resulting in an overall factor of 1.178 or an increase of 17.8 percent. This added growth rate defined the baseline General Plan year volumes, added to the year-2019 baseline volumes. This analysis does not indicate that any new significant project impact would occur. The MND conclusions therefore do not change, with the analysis of this additional scenario. In response to this comment, the following revision has been made to Section 3.16(a), page 99 of the MND:

Intersection Operation, Future (2030) With-Project Conditions

Intersection operation in future (2030) with-project conditions was estimated by adding project-generated traffic to forecast future without-project conditions. All study area intersections are forecast to operate at acceptable LOS in future with-project conditions, as shown below in Table 16.

Table 16 Intersection Operation, Future Year (2030) With-Project Conditions

Intersection	Peak Hour	Future (2030)		Future (2030) Plus Project		Significant Impact?
		Delay (sec.)	LOS	Delay (sec.)	LOS	
Heathercliff Road/Pacific Coast Highway	AM	10.6	B	10.6	B	No
	PM	22.9	C	22.9	C	No
Heathercliff Road/Dume Drive	AM	8.7	A	9.2	A	No
	PM	8.8	A	9.3	A	No
Dume Drive/Grayfox Street	AM	7.9	A	8.5	A	No
	PM	8.0	A	8.6	A	No
Grasswood Avenue/Grayfox Street	AM	7.6	A	8.2	A	No
	PM	7.6	A	8.2	A	No
Fernhill Drive/Grayfox Street	AM	8.2	A	10.3	B	No
	PM	8.3	A	10.6	B	No
Fernhill Drive/Wildlife Road	AM	7.9	A	8.9	A	No
	PM	8.2	A	9.1	A	No
Zumirez Drive/Pacific Coast Highway	AM	17.5	B	19.2	B	No
	PM	20.7	C	23.4	C	No

Significance Threshold: City of Malibu significance thresholds for signalized intersections are shown below.

- LOS C: Project-related V/C increase equal to or greater than 0.04
- LOS D: Project-related V/C increase equal to or greater than 0.02
- LOS E/F: Project-related V/C increase equal to or greater than 0.01

The City also considers any increase in delay of five seconds or more at an unsignalized intersection operating at an unacceptable level of service (LOS E or F) a significant impact.

Source: KOA 2018

CoMA-7 The comment requests that the District evaluate potential parking and traffic impacts for the maximum design plan of 450 students and staff at Point Dume Elementary. As stated on page 15 of the MND, the existing (2017-18) student population at Juan Cabrillo is 185 students, the existing student population at Point Dume is 195. The District anticipates that the combined Juan Cabrillo and Point Dume campus would result in 380 students for the 2019-20 school year. As originally construction in 1967, Point Dume has a historical capacity of 600 students. Both Juan Cabrillo and Point Dume have experienced a steady decrease in enrollment over the past several years. Since a peak of 520 students during the 1996-1997 school year, Juan Cabrillo's enrollment has steadily decreased to the current enrollment of 185 students. Similarly, Point Dume's peak enrollment occurred during the 2003-2004 school year, with 325 students. Juan Cabrillo has not had an enrollment above 250 students since the 2002-2003 school year, while Point Dume has not had over 250 students since the 2003-2004 school year.

4. Response Received During Public Review Period

Based upon studies prepared by SMMUSD by DecisionInsite, the overall enrollment of the Proposed Project attendance area is anticipated to decline over the next eight years. With implementation of the Proposed Project, the enrollment at Point Dume would be 380 students. Enrollment levels are expected to decrease over the coming decade, with a projected enrollment at the combined Point Dume of 338 students in 2022, and 322 students in 2026 (DecisionInsite 2017). The reasons for this decrease in enrollment include an overall decline in kindergarten enrollment, and elementary aged school children in the west Malibu area.

The design capacity of 450 students identified in the MND represents the maximum number of students that would be permitted to attend Point Dume under current California Department of Education and District standards and guidelines. However, it is the District's intention to create a learning environment that can meet the needs of the existing and projected student population. As stated on page 15 of the MND, the District is designing the Point Dume campus to include shared collaboration areas, new resource tools, technology, and display. Classrooms and Labs, specialized learning and innovation spaces are all required to transition from a traditional teacher led front of the classroom model to a decentralized multi-zoned instructional model that provides a variety of spaces to enrich a collaborative culture for project-based work. The standard 960-square foot classroom cannot meet the needs of progressive project-based learning model, so the District is moving to a 1,200 square foot classroom. While the Project is necessary to accommodate the increase in students transferring over from Juan Cabrillo, implementation of both Phase I and Phase II would result in improved education opportunities for west Malibu students by providing larger classroom spaces that accommodate diverse learning styles and allow for variable uses. The Project's square footage is intended to provide for a high-quality twenty-first century learning environment for the western Malibu students.

Therefore, based upon the history of declining enrollments for the past 15 years at the Point Dume campus, and the District's demographic projections that show that a further decrease is anticipated in the next decade, as well as the District's stated intent for the design of the Proposed Project, the District as the Lead Agency determined that the Project's actual enrollment was the appropriate demand to determine the Project's potential impacts. Therefore, no further analysis is required in the MND.

CoMA-8 The comment requests that the MND evaluate parking and traffic impacts associated with increase vehicle trips during parent teacher conferences, and other events. The Point Dume campus currently hosts a limited number of special events that occur in evening hours, including Back to School Night, Open House, and recitals/performances. Events such as recitals and performances take place in the evening hours in the school's auditorium, which has a maximum capacity of approximately 100. Parking for these events are accommodated within the existing visitor and staff parking lot, as the teachers have left for the day. Under the Proposed Project, these types of events would still be limited to a maximum capacity of approximately 100 guests due to the size of the auditorium, as such, traffic and parking conditions would remain the same as existing conditions.

Back to School Night and Open House each occur once a year in the early fall and spring respectively. Under existing conditions, the District coordinates with the City of Malibu and the

Los Angeles Count Sheriff's Department to relax parking restrictions in the vicinity of the Point Dume campus. The District will continue to implement this coordination under the Proposed Project. As these events are coordinated with the City and Sheriff's Department, and only occur once a year, potential impacts would be similar to existing conditions and no further analysis is required.

CoMA-9 The comment request that potential impacts to on-street pick-up/drop-off areas expected with implementation of Phase I. As described on page 100 of the MND, on-site pick-up/drop-off and parking for the Point Dume campus is currently provided on the west side of Fernhill Drive, to the south of Grayfox Street. An additional on-street pick-up/drop-off area is provided on the south side of Grayfox Street. Currently the pick-up/drop-off area on Grayfox Street sees minimal activity.

The MND identified that the Proposed Project has the potential to increase vehicle queuing above the 2-minute increase established as the significance threshold during the morning and afternoon peaks. In order to reduce this potential impact, the District identified mitigation measure Traffic-1, which included the potential that the District would "Establish as secondary formal pick-up/drop-off area within the curb area of Grayfox Street." The establishment of a formal pick-up/drop-off on Grayfox Street is only one of five potential options to the District to mitigation potential queuing impacts. Prior to implementing any of the five options (individually or in combination), the District would evaluate the efficiency of each option for reducing the impact, as well as any direct or indirect affect of the mitigation. Further, the District is committed to working closely with the City of Malibu to ensure that any potential mitigation meets the needs of the Point Dume community and ensures the safety of the Point Dume students and residents. In the event the Proposed Project resulted in a two-minute increase in the blocking of the southbound travel lane during the drop-off and pick-up peaks the District would evaluate the options identified in mitigation Traffic-1 and coordinate with the City prior to implementing the identified mitigation.

CoMA-10 The comment identified that the MND mistakenly dates the KOA Traffic Impact Report for the Malibu Schools Alignment Project, Malibu, California, as September 17, 2018, rather than September 27, 2018. In response to this comment, the following revision has been made to Section 3.16, page 90 of the MND:

3.16 TRANSPORTATION/TRAFFIC

The analysis in this Section is based partly on the Traffic Impact Report for the Malibu Schools Alignment Project, Malibu, California, by KOA dated September ~~17~~27, 2018. A complete copy of this report is included as Appendix F to this Mitigated Negative Declaration.

CoMA-11 The comment states that the MND reports in Table 15 (Intersection Operations, Future Year [2019]) that the existing Level of Service (LOS) at the intersection of Zumirez Drive and Pacific Coast Highway (PCH) is LOS C, but the future LOS expected after the project's implementation is expected to improve to LOS B. Since no improvements are proposed for that intersection to improve the LOS, the expected PM peak hour LOS at Zumirez/PCH for "future with project

4. Response Received During Public Review Period

conditions" needs to be at least at the level of service of "existing plus project conditions." In response to this comment, the average vehicle delay and LOS differences from the traffic report impact tables were reviewed for the existing and future conditions. Small changes in volumes can cause the critical movements that determine delay to change and create changes in output than can be negative or positive. In response to this comment **Table 15 (Intersection Operations, Future Year [2019])** Section 3.16(a), page 99 of the MND:

Table 15 Intersection Operation, Future Year (2019) With-Project Conditions

Intersection	Peak Hour	Future (2019)		Future (2019) Plus Project		Significant Impact?
		Delay (sec.)	LOS	Delay (sec.)	LOS	
Heathercliff Road/Pacific Coast Highway	AM	~~9.2~~9.4	A	~~9.2~~9.4	A	No
	PM	15.6	B	~~14.0~~15.6	B	No
Heathercliff Road/Dume Drive	AM	8.3	A	8.7	A	No
	PM	8.3	A	8.8	A	No
Dume Drive/Grayfox Street	AM	7.7	A	8.2	A	No
	PM	7.7	A	8.3	A	No
Grasswood Avenue/Grayfox Street	AM	7.5	A	8.0	A	No
	PM	7.5	A	8.0	A	No
Fernhill Drive/Grayfox Street	AM	7.9	A	9.8	A	No
	PM	8.0	A	10.0	A	No
Fernhill Drive/Wildlife Road	AM	7.7	A	8.6	A	No
	PM	7.9	A	8.8	A	No
Zumirez Drive/Pacific Coast Highway	AM	~~17.6~~18.0	B	18.9	B	No
	PM	~~19.6~~21.1	B	~~20.3~~21.1	C	No

Significance Threshold: City of Malibu significance thresholds for signalized intersections are shown below.
- LOS C: Project-related V/C increase equal to or greater than 0.04
- LOS D: Project-related V/C increase equal to or greater than 0.02
- LOS E/F: Project-related V/C increase equal to or greater than 0.01

The City also considers any increase in delay of five seconds or more at an unsignalized intersection operating at an unacceptable level of service (LOS E or F) a significant impact.
Source: KOA 2018

The revised table fixes the drop in delay across scenarios, using the highest outcome from adjacent scenarios to provide a realistic outcome. This does not change the study conclusions on significant impacts, no further analysis is required.

CoMA-12 The comment states that the MND should evaluate the probability of vehicle trips rerouting northbound on Fernhill Drive during pick-up/drop-off times, which would increase the use of left-turn movement from Fernhill Drive to enter the school on-site pick-up/drop-off area. Based on monitoring conducted at the site during a.m. and p.m. peak school periods on for separate occasions, there is no existing issue with northbound left-turn movements into the site. The occasional use of this movement, likely by residents from the south of the school site, does not create traffic backups of any sizeable duration. Although the use of this access route may increase in the future with the proposed project, a large proportion of inbound vehicles will not use this route due to the much longer route needed for travel to reach the school (up to an additional 1.2 miles to circle around the larger area residential block). The potential increased use of this turn movement is not considered significant, and the analysis conclusions do not change.

CoMA-13 The comment states that the District must implement traffic mitigation measures prior to operation of Phase I rather than determine if the threshold of significance is exceeded. Additionally, the comment recommends that the District consider reconfiguring the visitor lot in order to lengthen the on-site queuing lane. The District is committed to mitigating any queuing related impact, and as such established a threshold to determine if the Proposed Project would cause a significant impact and identified a range of mitigation measures to implement if an impact were to occur.

As reported in the MND, observations of the morning drop-off peak period and the afternoon pick-up peak period were conducted in May 2018 and September 2018. Based on the monitoring conducted, the peak activity is limited to 15 to 20 minutes. During this peak, the roadway travel lanes are generally not blocked for any long period of time. For three of the four observation periods, queuing did not extend into travel lanes. On one occasion (afternoon, September 2018), queuing extended into the southbound travel lane on Fernhill, forcing some southbound through vehicles to cross into the northbound lane. The queue began at 2:46 PM and normal traffic operations resumed at 2:52 PM.

CEQA requires that the Lead Agency provide mitigation for potentially significant impacts. The District has determined that an increase in queuing time would be a significant impact. However, based on the field observations, it is not feasible to determine if an increase in queuing time would occur with implementation of the Proposed Project. As such, the District has properly committed to evaluating the effects of the Proposed Project and determining if the significance threshold has been exceeded. The District has further committed to mitigation if required. CEQA allows mitigation to be implemented upon further study if the following has been meet; the District must, (1) commit to mitigation; (2) adopt specific performance standards that the mitigation will achieve; and (3) provide a list of possible mitigation actions that will be considered, analyzed, and potentially incorporated into the mitigation measure. The MND has met these requirements, and any potential queuing impacts will be mitigated to a less than significant level.

As to the comment regarding reconfiguration of the visitor's lot in order to lengthen the queuing to the on-site lane Mitigation Measure Traffic-1 has been revised as follows:

Mitigation Measure

Traffic-1: Should Project implementation result in a two-minute increase in the blocking of the southbound travel lanes during the drop-off and pick-up peaks, the District shall implement one or a combination of the following measures:

- The District shall provide busing from the existing Juan Cabrillo campus to Point Dume for the transferred Elementary Students.

4. Response Received During Public Review Period

- The District shall coordinate with the City of Malibu Public Works Department to widen the school driveway on Fernhill Drive, to provide for both wider ingress lanes and wider egress lane and provide an increased turning radius to allow for improved vehicle turning into and out of the site.
- The District will work with the Los Angeles County Metropolitan Transportation Authority (Metro) to relocate the Metro Line 534 bus stop on Fernhill Drive to Grayfox Street (west of the curve near the all-way stop intersection of the two roadways). This would free up additional on-street parking space on Fernhill Drive, and the on-street no parking/queuing area could be expanded.
- Establish a staggered bell schedule for groups of grades or other potential grouping, to provide for a spacing of pick-up/drop-off activity. The staggering should be 30 minutes or more.
- Establish a secondary formal pick-up/drop-off area within the curb area of Grayfox Street.
- Reconfigure the visitors parking lot to lengthen the on-site queuing lane for pick-up/drop-off.

CoMA-14 The comment provides information regarding the CDP's requirements for the Point Dume campus existing wastewater treatment system (OWTS), including a report from a City Registered OWTS designer, a site plan with the location of the OWTS and conformance with the LARWQCB discharge requirements. The District will provide the City the requested report and site plan with the OWTS location. The District will comply with all waste discharge requirements set forth by the LARWQCB. As stated in Section 3.18(b) on page 110 of the MND, Wastewater generation at Point Dume due to project development is estimated at 100 percent of the increase in indoor water demands, that is, approximately 140 gpd. The septic system at Point Dume has capacity for 600 students, and thus has sufficient capacity for the projected enrollment at Point Dume of 380 after students from Cabrillo are combined onto the Point Dume campus. Impacts would be less than significant

CoMA-15 The comment states that subsequent environmental review would be required when the site plan(s) for Phase II have been finalized. Specifically, the comment states that the subsequent CEQA analysis address the transition from Phase 1 to Phase 2 of the Proposed Project as it relates to potential air quality, parking and traffic impacts. This MND addresses the whole of the project, including any potential impacts that could occur from the construction and operation of Phase II of the Proposed Project, consistent with CEQ Guidelines Section 15378(a)(c).

The term "project" refers to the whole of an action and to the underlying physical activity being approved, not to each government approval (State CEQA Guidelines Section 15378(c)). Thus, even if the Lead Agency needs to grant more than one approval for a project, such as the Proposed Project, only one CEQA document should be prepared. Similarly, if more than one government agency must grant an approval, only one CEQA document should be prepared. This approach ensures that the City of Malibu as the responsible agency in its role of granting the CDP for both Phase I and Phase II can rely on the lead agency's CEQA document. CEQA case law has established that for a phased development project, even if details about future phases are not known, future phases must be included in the project description if they are a reasonably foreseeable consequence of the initial phase and will significantly change the initial project or its impacts. (*Laurel Heights Improvement Association v Regents of University of California (1988) 47 Cal. 3d 376*).

Accordingly, this MND evaluated impacts from the entirety of the Proposed Project. Specifically, the MND provided an evaluation of the potential impacts from construction of Phase II during operation of Phase I, including the potential for construction activities to adversely impact the students and residents in the vicinity of the Point Dume campus. While specific construction details are not known at the time this MND was prepared, the estimates utilized in the MND relied upon the "worst case" construction and design scenario so as to accurately assess potential impacts to the environment.

With regards to air quality regard impacts, as shown in Table 1 (Maximum Daily Regional Construction Emissions) in Section 3.2(b) on pages 45/46 of the MND, peak daily construction activities would not exceed SCAQMD thresholds for any criteria pollutant. Further, and as shown in Table 3 (Localized Construction Emissions) on in Section 3.2(d) on pages 47/48 of the MND, peak daily construction emissions would not exceed the SCAQMD thresholds for localized emissions. The localized thresholds were designated to protect sensitive receptors most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work or exercise.

Similarly, the MND evaluated potential traffic impacts that would occur during construction activities. The District would be required to prepare a Traffic Control Plan to ensure that public safety and emergency access are maintained during the construction phase. Implementation of the TCP would ensure that students and local residents are not adversely affected by project construction.

Upon completion of the final design and siting of the Phase II Building, the District would review the proposed project in accordance with CEQA Guidelines Section 15162. Under Section 15162, no subsequent review is required unless the lead agency determines that the following would occur:

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

4. Response Received During Public Review Period

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

(b) If changes to a project or its circumstances occur or new information becomes available after adoption of a negative declaration, the lead agency shall prepare a subsequent EIR if required under subdivision (a). Otherwise the lead agency shall determine whether to prepare a subsequent negative declaration, an addendum, or no further documentation.

The District in its capacity as Lead Agency will inform the City of Malibu as the Responsible Agency in the unlikely occurrence of any of the circumstances set forth in Section 15162 are met.

CoMA-16 This comment contains contact information and no further response is required.

4. Response Received During Public Review Period

Los Angeles Sheriff Department – 1 of 2

SH-AD-32A (8/17)

COUNTY OF LOS ANGELES

SHERIFF'S DEPARTMENT

"A Tradition of Service Since 1850"

DATE: October 22, 2018
FILE NO:

OFFICE CORRESPONDENCE

FROM: JOSHUA W. THAI, CAPTAIN
MALIBU/LOST HILLS STATION

TO: TRACEY JUE, DIRECTOR
FACILITIES PLANNING BUREAU

SUBJECT: REVIEW COMMENTS ON THE NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION FOR THE MALIBU SCHOOLS ALIGNMENT PROJECT

LASD-1

The Malibu/Lost Hills Sheriff's Station Traffic Division (Station) reviewed the Draft Mitigated Negative Declaration (MND), dated September 2018, completed by the Santa Monica-Malibu Unified School District (District), for the proposed Malibu Schools Alignment Project. The proposed project involves physical improvements at Point Dume Marine Science School (Point Dume) and would be developed in two phases. Phase I includes installation of ten portable units on the Point Dume campus (eight classrooms, one administrative portable unit, and one restroom). These portable units are to be retained for two years until a permanent classroom building is constructed. Phase II includes construction of two permanent buildings: a 15,000 square foot two-story classroom building with 8 classrooms and a new 2,500 square foot administrative office building. The intent of the proposed project is to combine students from two elementary schools (Point Dume and Cabrillo) onto one campus (Point Dume) and to relocate middle school students from Malibu Middle & High School to the Cabrillo campus, which would henceforth operate as a middle school. No physical improvements would be made either to the Malibu Middle & High School or the Cabrillo campuses. The proposed project is located within the service area of the Station.

In September 2018, the Station responded to an inquiry and questionnaire for the proposed project. MND Section 3.14, Public Services, page 89, acknowledged the Station's questionnaire response and concluded that with the Station's current resources and the city of Malibu's employment of one Public Safety Specialist directly, the proposed project's operation is not expected to have a substantial impact on demands for the Station's law enforcement services. Also, in the MND Transportation/Traffic analysis section, Project Traffic Impacts, pages 90-100, no significant direct or cumulative traffic impacts were identified. The Project Access and Impacts

4. Response Received During Public Review Period

Los Angeles Sheriff Department – 2 of 2

DECLARATION FOR THE MALIBU SCHOOLS ALIGNMENT PROJECT **-2-** **October 22, 2018**

of Pick-ups and Drop-offs were also analyzed. Pages 101-102 of MND states that in the event the proposed project implementation resulted in a two-minute increase in the blocking of the southbound travel lanes during the drop-off and pick-up peaks, the District shall implement one or a combination of the Traffic-1 Mitigation Measures as outlined on page 101. LASD-1

The Station generally concurs with the conclusion and has no further comment to submit at this time. Thank you for including the Station in the environmental review process for the proposed project. Should you have any questions regarding this matter, please feel free to contact Lieutenant James Royal at the Malibu/Lost Hills Station Detective Bureau at (818) 878-5515 (JRoyal@lasd.org).

JWT:JR:rt

Response to Comments from the Los Angeles Sheriff's Department, dated October 22, 2018.

LASD-1 This comment contains introductory language and provides a summary of the Proposed Project. The comment also identifies the LASD responded to an inquiry and questionnaire to assist in preparation of the MND. The comment provides a summary of the MND's traffic analysis and recommended mitigation. Nor further response is required.

4. Response Received During Public Review Period

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4. Response Received During Public Review Period

John Atwell – 1 of 2

Julian Capata

~~**From:** Upton, Carey <cupton@smmusd.org>~~
~~**Sent:** Thursday, October 11, 2018 5:54 PM~~
~~**To:** Stan Barankiewicz; Julian Capata~~
~~**Cc:** Massetti, Steve~~
~~**Subject:** FW: Improvement Project Point Dume Campus~~

~~Julian and Stan,~~

~~First email received today on Point Dume MND.~~

~~Warmly,~~

~~Carey Upton~~
~~Chief Operations Officer~~
~~Santa Monica-Malibu Unified School District~~
~~310-450-8338 x79383 w~~
~~424-581-5426 m~~
~~cupton@smmusd.org~~

From: Irene Ahn [mailto:IAhn@growmore.com] **On Behalf Of** John Atwill
Sent: Thursday, October 11, 2018 3:29 PM
To: Upton, Carey <cupton@smmusd.org>
Subject: Improvement Project Point Dume Campus

Carey Upton
Chief Operations Officer
Santa Monica – Malibu Unified School District

By way of this email your office is notified that I and other residents on Grey Fox are strongly objecting to construction of a two story 15,000 sq. ft. classroom along Greyfox Ave.

JOAT-1

A more suitable location for the two permanent buildings described would be the central part of the campus adjacent to the existing parking lot.

I attended the public notice meeting October 9, 2018 at Point Dume Marine Science School and was offended that the presentation tried to convince attendees that the SMMUSD Point Dume campus project was in compliance with CEQA Aesthetics guidelines.

JOAT-2

The proposed construction of two story 15,000 sq. ft. building along Greyfox would have:

1) Substantial adverse effects on the scenic vista of the residences along Greyfox and cars driving along Greyfox that are now used to open field views of the grassland park and trees of the inner campus.
2) The construction of a 15,000 sq. ft. two story building along Greyfox would substantially degrade residential property values along Greyfox Ave. and Fernhill Drive, and would not fit in with the visual character and quality of the surrounding area.

In closing, if you move the proposed two story building to the interior of the campus adjacent to the parking lot I will support your project, otherwise expect strong opposition. JOAT-3

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4. Response Received During Public Review Period

John Atwell – 2 of 2

JOHN & TATIANA ATWILL
29043 Greyfox Ave.

JOAT-3

2

4. Response Received During Public Review Period

Response to Comments from the John Atwill, dated October 11, 2018.

JOAT-1 The comment states objection to the construction of the Phase II Building adjacent to Grayfox Street and recommends that the Phase II Building be built in a more central location adjacent to the existing parking lot. The District will evaluate the additional locations for the Phase II Building as part of the City of Malibu's LCP process; however, the District is constrained by site topography and the location of existing structures, including the existing on-site wastewater treatment system located in the central part of the existing blacktop of the campus. The District is committed to including the Point Dume community in the final design and siting of the Phase II Building and will incorporate local input to the extent practical and feasible.

JOAT-2 The commenter attended the public meeting for the Proposed Project and does not agree with the MND's finding of less than significant relating to visual quality and visual character of the surrounding neighborhood. The commenter also states that implementation of the Phase II Building would substantially degrade property values.

The MND provided an evaluation of the Phase II Buildings potential impact on visual quality and character. As stated in Section 3.1(a), the Proposed Project site itself is not designated as a scenic resource, nor is the site in the vicinity of any City of Malibu or State of California designated scenic vista. Scenic resources in the City of Malibu are associated with the dramatic topography and natural landscape features of the area which includes steep coastal bluffs, hills, rugged slopes, ridgelines, and dense native vegetation. The Proposed Project site is located within a highly developed residential community, with no variation in topography or natural landscape features in the immediate vicinity.

The Phase II Building would be required to comply with all of the City of Malibu design guidelines as set forth in Chapter 6 of the City's LUP, including LUP Policy 6.6, which requires that the final site design avoid impacts to visual resources, and LUP Policy 6.12 which ensures that all new structures are sited and designed to minimize visual impacts by ensuring visual compatibility with the character of the surrounding areas. Implementation of design features such as landscaping and the use of colors and materials that are compatible with the surrounding landscape would ensure that the new Phase II Building conform with the existing design features of the Point Dume campus to minimize visual impact to the surrounding area.

Residences on Grayfox across from the Point Dume campus currently have views of the existing school building, the asphalt play yard, the visitors parking lot along Fernhill Drive and limited views of Cameron Park. As proposed, the Phase II Building would primarily be constructed within the existing blacktop of the Point Dume campus, with a small portion encroaching on the existing playfield, adjacent the walking path. Overall, while the Proposed Project would alter the aesthetic characteristics of the immediate Project area, including those on-campus, it would not block short- or long-range views of valued visual resources. Furthermore, as the Phase II Building would comply with the City of Malibu's minimum setbacks, building heights and structure size for non-residential development in the Institutional Zone. Direct views that would be impacted would

4. Response Received During Public Review Period

obstruct the mid-range views of the existing blacktop play area and the visitor parking lot, and would not result in a significant visual impact. Upon completion, the Phase II Building would reinforce the visual character of the Point Dume campus as an elementary school campus by providing a modern classroom.

JOAT-3 These comments restates the commenters opposition to Phase II of the Proposed Project, no further response is required.

4. Response Received During Public Review Period

Stephanie Rocco – 1 of 2

Julian Capata

~~**From:** Upton, Carey <cupton@smmusd.org>~~
~~**Sent:** Monday, October 15, 2018 8:28 AM~~
~~**To:** Julian Capata; Stan Barankiewicz; Massetti, Steve; Klaus, Kevin~~
~~**Cc:** Staib, Kathy~~
~~**Subject:** FW: Malibu School Alignment Project - Pt. Dume~~

~~2nd email on the MND~~

~~Carey Upton~~
~~Chief Operations Officer~~
~~Santa Monica-Malibu Unified School District~~
~~310-450-8338 x79383 w~~
~~424-581-5426 m~~
~~cupton@smmusd.org~~

From: malibusteph@aol.com [mailto:malibusteph@aol.com]
Sent: Friday, October 12, 2018 12:22 PM
To: Upton, Carey <cupton@smmusd.org>
Subject: Malibu School Alignment Project - Pt. Dume

Carey Upton, CEO
Santa Monica/Malibu School District

This is in response to the meeting held on October 9th at Point Dume Elementary School regarding the Malibu School Alignment Project, proposed Mitigated Negative Declaration STRO-1

I live on Grayfox across from Pt. Dume Elementary, I am very concerned about the plans for future school and placement of not only the Phase I but more importantly - Phase II

You have not engaged nor taken under consideration the residence's of this neighborhood, especially the immediate homes that will be affected, the design and placement of the future school should reflect the surrounding area the quaint rural nature, the character and style of the neighborhood. This is a small quiet neighborhood with STRO-2

very expensive homes we are also concerned that this school-park is used and available for the community. There is no forethought in these plans other than hurriedly ramming this proposed California Environmental Quality and Mitigated Negative Declaration Impact in order to appease the current demands of merging these two elementary schools. Your study states little to no impact on the environment, scenic vista and resources which is not true - the unique and coveted rural surroundings will be impacted, trees, septic conditions, noise, traffic assumptions, damage to current Cameron park. There are too many open ended questions that are not being answered. STRO-3

Phase I - Placement of temporary classroom Units, the cutting down of trees, which you stated were diseased which are "not" they are thriving beautiful trees, the integrity of Cameron Park. STRO-4

Phase II - Concern on Permanent structure of a 15,000 sq ft. two story building 28 feet high along Grayfox Street, also concern is within this are brand new administrative office STRO-5

I believe this is about the children needing new class rooms and not administrative "new offices"

There needs to be serious consideration with community input that will affect the design and permanence of future school building - the lack of logic and forethought is absent.
This review and attention needs more deliberation with long term affect of the Point Dume neighborhood, with the placement of temporary affecting the ability to build a permanent structure STRO-6

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4. Response Received During Public Review Period

Stephanie Rocco – 2 of 2

the emphasis needs to be "well thought out to where this future permanent building is going to go" I suggest moving the temporary portables to a different location and putting the permanent structure on the side of the parking lot so the set back will be better placed within this neighborhood. STRO-6

I have a real objection and problem with a 15,000 square foot - two story 28 feet high commercial building being recklessly and absurdly proposed on Grayfox Street, a exceedingly distracting commercial school building where there are multi-million dollar homes! There is also the concern of the funding of this project and proposed costs involved, the SMMUSD still does not have the funds for the High School nor the proposed moving of the Middle School, this can of worms which seemingly continues to get bigger and is now affecting and disrupting the Pt Dume Neighborhood. I will also make sure our voices are heard with the Malibu City Planning Department. STRO-7

Your attention to this matter is imperative.
Thanking you,

Stephanie Rocco
29055 Grayfox Street
Malibu, Ca 90265

2

4. Response Received During Public Review Period

Response to Comments from the Stephanie Rocco, dated October 12, 2018.

STRO-1 The comment states objection to the construction of the Phase II Building adjacent to Grayfox Street. The District will evaluate the additional locations for the Phase II Building as part of the City of Malibu's LCP process; however, the District is constrained by site topography and the location of existing structures, including the existing on-site wastewater treatment system located in the central part of the existing blacktop of the campus.

STRO-2 The comment states that the District has not engaged the community. Refer to Response JOAT-1, the District is committed to including the Point Dume community in the final design and siting of the Phase II Building and will incorporate local input to the extent practical and feasible.

STRO-3 The comment states that the Point Dume community is a quite residential neighborhood and the District did not evaluate potential impacts with regards to scenic vistas, traffic, the septic system and impacts to Cameron Park. The MND evaluated potential impacts for all CEQA related environmental issues, including the resources identified by the comment. Refer to Response to Comment JOAT-2 regarding scenic vistas, and Response to Comment CoMA-6 through Comment CoMA-13 regarding traffic impacts. Comments regarding septic systems, noise and impacts to recreational resources are non-specific in nature; however, impacts relating to each of these issues were addressed in the MND. Impacts, with the implementation of mitigation measures were found to be less than significant. No further response is required.

STRO-4 The comment states that the District should avoid cutting down trees as part of Phase I, and also disagrees with the MND's conclusion that the trees are diseased. The removal of the eight trees identified as part of Phase I is required in order to construct the portable classrooms. The District would be required to protect all native trees to the extent practicable, and would be required to provide mitigation for the removal or damage of any native trees, as required by mitigation measure BIO-2. The removal of non-native trees does not result in a significant impact on the environment, nor does the health of the identified tree. No further comment is required.

STRO-5 The comment states that the administrative building proposed under Phase II is not required. As this is not a direct comment on the content or adequacy of the MND, and does not raise a specific environmental issue, no response is required. However, it should be noted, that the proposed administrative building would be constructed in part to allow the site staff to control entry onto the campus by placing the administrative offices at the "front" of the campus, adjacent visitors parking.

STRO-6 The comment restates that the District should engage the community regarding the final design of the Point Dume campus. Refer to Response to Comment JOAT-1. The District is committed to including the Point Dume community in the final design and siting of the Phase II Building. As this is not a direct comment on the content or adequacy of the MND, and does not raise a specific environmental issue, no response is required.

STRO-7 The comment restates the commenters objection to the Proposed Project and indicates that the Project is not appropriate for the Point Dume Community. The comment also questions the funding source of the Project. As this is not a direct comment on the content or adequacy of the MND, and does not raise a specific environmental issue, no response is required.

4. Response Received During Public Review Period

Kerry Flynn – 1

Julian Capata

~~**From:**~~ ~~Upton, Carey <cupton@smmusd.org>~~
~~**Sent:**~~ ~~Thursday, October 18, 2018 6:21 PM~~
~~**To:**~~ ~~Julian Capata; Stan Baronkiewicz; Massetti, Steve; Staib, Kathy; Klaus, Kevin~~
~~**Subject:**~~ ~~FW: Realignment of schools~~

~~Another comment on Point Dume. As it came to me during the comment period, it should be considered a comment.~~

~~Warmly~~

~~Carey Upton~~
~~Chief Operations Officer~~
~~Santa Monica-Malibu Unified School District~~
~~310-399-5865 x79383~~
~~cupton@smmusd.org~~

-----Original Message-----
From: Kerry Flynn [mailto:dandkflynn@me.com]
Sent: Wednesday, October 17, 2018 5:56 PM
To: Upton, Carey <cupton@smmusd.org>
Subject: Realignment of schools

To Whom It May Concern:

As a resident of Pt. Dume, I was thrilled to hear about the changes of school sites. This benefits the students as well as the schools. I never felt it was a great idea to have the middle school on the same campus as the high schoolers. There are are many changes an individual has during middle school and undue influence from older peers is not necessary. With Juan Cabrillo becoming a middle school and the elementary students leaving for another school makes sense. KEFL-1

Many residents will complain about the traffic situation. We have traffic throughout the city in the mornings. School starts and ends at a certain time. Traffic may be heavy during those times. This is nothng that cannot be handled.

This is a positive situation for the students and the schools. There will always be pros and cons to any situation.

Sincerely,

Kerry Flynn

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4. Response Received During Public Review Period

Response to Comments from the Kerry Flynn, dated October 17, 2018.

KEFL-1 The comment states general support for the Proposed Project. As this is not a direct comment on the content or adequacy of the MND, and does not raise a specific environmental issue, no response is required.

4. Response Received During Public Review Period

Mary Purucker – 1

Julian Capata

~~**From:** Upton, Carey <cupton@smmusd.org>~~
~~**Sent:** Wednesday, October 17, 2018 10:28 PM~~
~~**To:** Julian Capata; Stan Barankiewicz~~
~~**Cc:** Massetti, Steve; Klaus, Kevin; Staib, Kathy~~
~~**Subject:** FW: Combining Pt. Dume and Cabrillo~~

~~Hello ya'll,~~

~~I'm not sure this is an MND comment, but it has come to me during the comment period.~~

~~Warmly,~~

~~Carey Upton~~
~~Chief Operations Officer~~
~~Santa Monica-Malibu Unified School District~~
~~310-399-5865 x79383~~
~~cupton@smmusd.org~~

From: Mary Purucker [mailto:mipurucker@gmail.com]
Sent: Wednesday, October 17, 2018 5:59 PM
To: Upton, Carey <cupton@smmusd.org>
Subject: Combining Pt. Dume and Cabrillo

My concern, as former librarian at Cabrillo and paid consultant who helped manage Pt. Dume's "new" library when it was reopened some time ago, is what are district plans for combining Cabrillo and Pt. Dume libraries? I hope you have a good plan. It is quite a task. MAPU-1

Thanks,
Mary Purucker
mipurucker@gmail.com

--
Mary Purucker

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4. Response Received During Public Review Period

Response to Comments from the Mary Purucker, dated October 17, 2018.

MAPU-1 The comment expresses concern for the District's plans to combine the existing Point Dume and Juan Cabrillo Libraries. As this is not a direct comment on the content or adequacy of the MND, and does not raise a specific environmental issue, no response is required.

4. Response Received During Public Review Period

Sam Kaplan -1 of 2

PT. DUME SCHOOL PLANS QUESTIONED

A seemingly sincere Santa Monica Malibu Unified School District and a cadre of its consultants descended on Pt. Dume several day ago for a public meeting to review a draft environmental impact report for its proposed ambitious realignment of Malibu schools.

A sparse audience of about 20 Point residents and parents heard that though the report raised some hackles, it was nevertheless needed to expedite the project that will combine the Pt. Dume and Cabrillo elementary schools on the Pt. Dume campus; in the first phase in temporary prefabs and a second stage in a new classroom building SAKA-1

As I comment on public radio 99.1, KBUU, and select websites, the audience had to be wary, given the Santa Monica dominated district board's long history of short changing Malibu schools. And this despite the real estate rich seacoast city's disproportionately subsidizing the district's budget to the tune of millions annually.

In summarizing the dense 700 page plus report of mostly boilerplate bureaucratic blather, the district contingent sought to minimize concerns. In particular, these included the traffic impact on local streets and the siting of a two story, 28 foot high, bulky classroom building fronting Grayfox street. SAKA-2

There also was an impassioned call immodestly by me wearing my proud Pt. Dume parent hat for the flexible design of a community school with a progressive curriculum, to serve adults and seniors as well as students, and lend the Point a prominent public presence. SAKA-3

4. Response Received During Public Review Period

Sam Kaplan -2 of 2

The consultants tried to assure the gathering that the traffic generated by the school doubling its capacity to nearly 400 students can be managed by tweaking commuter patterns. Good luck to that. SAKA-4

As for the indicated siting of the permanent classrooms, district spoke persons said that was just a so-called place holder to expedite the approval process in the project's first phase, and that the eventual design process in the project's second phase would include broad public input. And good luck to that, too. SAKA-5

It also should be noted that designating a place holder is a violation of state planning laws, but the district stumbles on.

To be sure, there is little question that in principle that the Malibu school alignment project is needed, as is the pending passage of Measure M to fund it. Malibu schools are a half century old and outdated.

Certainly it will enhance the city's image and desirability, and while most importantly serving its children and democracy's paragon of pubic education. And as a bonus it can be expected to boost real estate prices. SAKA-6

It also should prompt the inevitable, and I feel imperative, school district divorce allowing Malibu to establish an independent district, hopefully without paying an exorbitant and unjust ransom.

4. Response Received During Public Review Period

Response to Comments from the Sam Hall Kaplan, dated October 18, 2018.

SAKA-1 The comment provides a summary of the Public Meeting held for the Proposed Project on October 9, 2018 at the Point Dume campus. As this is not a direct comment on the content or adequacy of the MND, and does not raise a specific environmental issue, no response is required.

SAKA-2 The comment summarizes the content of the MND and describes the concerns of the residents in attendance of the meeting regarding traffic and the Phase II Building. As this is not a direct comment on the content or adequacy of the MND, and does not raise a specific environmental issue, no response is required

SAKA-3 The commenter accurately describes the verbal comments her provided at the October 9 meeting. As this is not a direct comment on the content or adequacy of the MND, and does not raise a specific environmental issue, no response is required

SAKA-4 The comment states that the Proposed Project would double the capacity of Point Dume to nearly 400 students and that the MND recommended "tweaking" commuting patterns to reduce impacts. The District provided a thorough analysis of the Proposed Project's potential traffic impacts in the MND, and with mitigation no significant impacts would occur. Refer to Response to Comment CoMA-6 through Comment CoMA-13 regarding traffic impacts.

SAKA-5 The comment states that the Phase II Building is a place-holder to expedite the project's first phase and that this is a violation of state planning laws. It is not clear which planning laws the commenter believes are being violated by the District; however, as stated in Response to Comment CoMA-15, the MND addresses the whole of the project, including any potential impacts that could occur from the construction and operation of Phase II of the Proposed Project, consistent with CEQ Guidelines Section 15378(a)(c). Accordingly, this MND evaluated impacts from the entirety of the Proposed Project. While the district will seek community input on the final design and siting of the Proposed Phase II Building, the evaluation provided in the MND represents the District's independent analysis of the entirety of the Project.

SAKA-6 The commenter states the Proposed Project is required due to the age and physical condition of Malibu schools, that improved schools would enhance real estate values and allow the City of Malibu to establish and independent school District. As this is not a direct comment on the content or adequacy of the MND, and does not raise a specific environmental issue, no response is required.

4. Response Received During Public Review Period

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5. Minor Revisions to the Draft Initial Study

5.1 INTRODUCTION

This section contains revisions to the MND based upon (1) additional or revised information required to prepare a response to a specific comment; (2) applicable updated information that was not available at the time of MND publication; and/or (3) typographical errors. The revisions do not alter any impact significance conclusions as disclosed in the MND. Changes made to the MND are identified here in ~~strikeout~~ text to indicate deletions and in underlined text to signify additions.

5.2 MND REVISIONS

The following text has been revised in response to comments received on the MND.

Environmental Checklist, Section 3.4(a), Page 33 is revised in response to Comment CoMA-2.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			~~X~~	X

Environmental Checklist, Section 3.7(a)(b), Page 34 is revised in due to a typographical error.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

5. Minor Revisions to the Draft Initial Study as the Result of Public Comments Received

Environmental Checklist, Section 3.10(c), Page 35 is revised in due to a typographical error.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING. **Would the project:**				
a) Physically divide an established community?				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

Environmental Checklist, Section 3.16(a-f), Page 37 is revised in due to a typographical error.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC. **Would the project:**				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?		X	~~X~~	
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?			X	
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?		X		
e) Result in inadequate emergency access?			X	
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?			X	

5. Minor Revisions to the Draft Initial Study as the Result of Public Comments Received

Environmental Checklist, Section 3.16(a-f), Page 37 is revised in due to a typographical error.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRIBAL CULTURAL RESOURCES. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or			X	
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		X		

Environmental Checklist, Section 3.16(a-f), Page 37 is revised in due to a typographical error.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to 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?		X		
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.)			X	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X		

5. Minor Revisions to the Draft Initial Study as the Result of Public Comments Received

Section 3.4(a) page 50 is revised in response to Comment CoMA-2.

~~Less Than Significant~~No Impact.

No sensitive species were observed onsite during a reconnaissance of the Project site on August 14, 2018. The study area for the Biological Inventory included all of the development areas (including installation of portable buildings) for Phase I and II of the Project, plus a 100-foot buffer zone surrounding all of those areas (see Figure 10, *Biological Inventory Study Area*). No native or naturally occurring vegetation communities were observed in the study area; and the study area is generally unsuitable for sensitive plant and animal species due to its urban setting. No ~~I~~impacts would occur~~be less than significant~~, and no mitigation is needed.

Section 3.4(d), page 51 is revised in response to Comment CoMA-3.

Monarch Butterfly Overwintering Habitat

The City of Malibu recently joined the National Wildlife Federation's "Mayor's Monarch Pledge" demonstrating the City's commitment to restoring monarch butterfly (*Danaus plexippus*) habitat in its community. The ~~western sycamores located throughout the biological study area and the~~ eucalyptus stand in the southern portion of the study area could potentially provide overwintering roosting habitat for monarch; however, it is unlikely that these . The Project is not anticipated to impact the eucalyptus stand~~ or the majority of the western sycamores~~.

Section 3.4(d), page 51, Mitigation Measure BIO-1 is revised in response to Comment CoMA-4.

BIO-1 Prior to the commencement of any proposed actions (e.g., site clearing, demolition, grading) during the breeding/nesting season (February 15 through September 1), a qualified monitoring biologist contracted by the Project applicant shall conduct a preconstruction survey(s) to identify any active nests in and adjacent to the Proposed Project site no more than three days prior to initiation of the action. If the biologist does not find any active nests that would be potentially impacted, the proposed action may proceed. However, if the biologist finds an active nest within or directly adjacent to the action area (within ~~100~~ 300 feet for common species or 500 feet for special status species or raptors) and determines that the nest may be impacted, the biologist shall delineate an appropriate buffer zone around the nest using temporary plastic fencing or other suitable materials, such as barricade tape and traffic cones. The buffer zone shall be determined by the biologist in consultation with applicable resource agencies and in consideration of species sensitivity and existing nest site conditions, and in coordination with the construction contractor. The qualified biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to ensure that no inadvertent impacts on these nests occur. Only specified activities (if any) approved by the qualified biologist in coordination with the construction contractor shall take place within the buffer zone until the nest is vacated. Activities that may be prohibited within the buffer zone by the biologist may include but not be limited to grading and tree clearing. Once the nest is no longer active and upon final determination by the biologist, the proposed action may proceed within the buffer zone.

5. Minor Revisions to the Draft Initial Study as the Result of Public Comments Received

The monitoring biologist shall prepare a survey report/memorandum summarizing his/her findings and recommendations of the preconstruction survey. Any active nests observed during the survey shall be mapped on a current aerial photograph, including documentation of GPS coordinates, and included in the survey report/memorandum. The completed survey report/memorandum shall be submitted to the District Chief Operations Officer or his/her designee prior to construction-related activities that have the potential to disturb any active nests during the nesting season.

Section 3.16(a), page 99 is revised in response to Comment CoMA-6.

Intersection Operation, Future (2030) With-Project Conditions

Intersection operation in future (2030) with-project conditions was estimated by adding project-generated traffic to forecast future without-project conditions. All study area intersections are forecast to operate at acceptable LOS in future with-project conditions, as shown below in Table 16.

Table 16 Intersection Operation, Future Year (2030) With-Project Conditions

Intersection	Peak Hour	Future (2030)		Future (2030) Plus Project		Significant Impact?
		Delay (sec.)	LOS	Delay (sec.)	LOS	
Heathercliff Road/Pacific Coast Highway	AM	10.6	B	10.6	B	No
	PM	22.9	C	22.9	C	No
Heathercliff Road/Dume Drive	AM	8.7	A	9.2	A	No
	PM	8.8	A	9.3	A	No
Dume Drive/Grayfox Street	AM	7.9	A	8.5	A	No
	PM	8.0	A	8.6	A	No
Grasswood Avenue/Grayfox Street	AM	7.6	A	8.2	A	No
	PM	7.6	A	8.2	A	No
Fernhill Drive/Grayfox Street	AM	8.2	A	10.3	B	No
	PM	8.3	A	10.6	B	No
Fernhill Drive/Wildlife Road	AM	7.9	A	8.9	A	No
	PM	8.2	A	9.1	A	No
Zumirez Drive/Pacific Coast Highway	AM	17.5	B	19.2	B	No
	PM	20.7	C	23.4	C	No

Significance Threshold: City of Malibu significance thresholds for signalized intersections are shown below.
- LOS C: Project-related V/C increase equal to or greater than 0.04
- LOS D: Project-related V/C increase equal to or greater than 0.02
- LOS E/F: Project-related V/C increase equal to or greater than 0.01

The City also considers any increase in delay of five seconds or more at an unsignalized intersection operating at an unacceptable level of service (LOS E or F) a significant impact.
Source: KOA 2018

5. Minor Revisions to the Draft Initial Study as the Result of Public Comments Received

Section 3.16, page 90is revised due to a typographical error.

3.16 TRANSPORTATION/TRAFFIC

The analysis in this Section is based partly on the Traffic Impact Report for the Malibu Schools Alignment Project, Malibu, California, by KOA dated September ~~17~~27, 2018. A complete copy of this report is included as Appendix F to this Mitigated Negative Declaration.

Table 15 (Intersection Operations, Future Year [2019]) Section 3.16(a), page 99 is revised in response to Comment CoMA-11.

Table 15 Intersection Operation, Future Year (2019) With-Project Conditions

Intersection	Peak Hour	Future (2019)		Future (2019) Plus Project		Significant Impact?
		Delay (sec.)	LOS	Delay (sec.)	LOS	
Heathercliff Road/Pacific Coast Highway	AM	~~9.2~~9.4	A	~~9.2~~9.4	A	No
	PM	15.6	B	~~14.0~~15.6	B	No
Heathercliff Road/Dume Drive	AM	8.3	A	8.7	A	No
	PM	8.3	A	8.8	A	No
Dume Drive/Grayfox Street	AM	7.7	A	8.2	A	No
	PM	7.7	A	8.3	A	No
Grasswood Avenue/Grayfox Street	AM	7.5	A	8.0	A	No
	PM	7.5	A	8.0	A	No
Fernhill Drive/Grayfox Street	AM	7.9	A	9.8	A	No
	PM	8.0	A	10.0	A	No
Fernhill Drive/Wildlife Road	AM	7.7	A	8.6	A	No
	PM	7.9	A	8.8	A	No
Zumirez Drive/Pacific Coast Highway	AM	~~17.6~~18.0	B	18.9	B	No
	PM	~~19.6~~21.1	B	~~20.3~~21.1	C	No

Significance Threshold: City of Malibu significance thresholds for signalized intersections are shown below.
- LOS C: Project-related V/C increase equal to or greater than 0.04
- LOS D: Project-related V/C increase equal to or greater than 0.02
- LOS E/F: Project-related V/C increase equal to or greater than 0.01

The City also considers any increase in delay of five seconds or more at an unsignalized intersection operating at an unacceptable level of service (LOS E or F) a significant impact.
Source: KOA 2018

Section 3.16(a), page 101, Mitigation Measure Traffic-1 is revised in response to Comment CoMA-11.

Mitigation Measure

Traffic-1: Should Project implementation result in a two-minute increase in the blocking of the southbound travel lanes during the drop-off and pick-up peaks, the District shall implement one or a combination of the following measures:

5. Minor Revisions to the Draft Initial Study as the Result of Public Comments Received

- The District shall provide busing from the existing Juan Cabrillo campus to Point Dume for the transferred Elementary Students.
- The District shall coordinate with the City of Malibu Public Works Department to widen the school driveway on Fernhill Drive, to provide for both wider ingress lanes and wider egress lane and provide an increased turning radius to allow for improved vehicle turning into and out of the site.
- The District will work with the Los Angeles County Metropolitan Transportation Authority (Metro) to relocate the Metro Line 534 bus stop on Fernhill Drive to Grayfox Street (west of the curve near the all-way stop intersection of the two roadways). This would free up additional on-street parking space on Fernhill Drive, and the on-street no parking/queuing area could be expanded.
- Establish a staggered bell schedule for groups of grades or other potential grouping, to provide for a spacing of pick-up/drop-off activity. The staggering should be 30 minutes or more.
- Establish a secondary formal pick-up/drop-off area within the curb area of Grayfox Street.
- Reconfigure the visitors parking lot to lengthen the on-site queuing lane for pick-up/drop-off.

5. Minor Revisions to the Draft Initial Study as the Result of Public Comments Received

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Appendix A Air Quality and Greenhouse Gas Analysis

Appendix

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Air Quality and Greenhouse Gas Background and Modeling Data

AIR QUALITY

Climate/Meteorology

SOUTH COAST AIR BASIN

The project site lies in the South Coast Air Basin (SoCAB), which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The SoCAB is in a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean in the southwest quadrant, with high mountains forming the remainder of the perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds (SCAQMD 2005).

Temperature and Precipitation

The annual average temperature varies little throughout the SoCAB, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station nearest to the project site that best represents the climatological conditions of the project area is the Santa Monica Monitoring Station (ID 047950). The average low is reported at 43.7°F in January, and the average high is 70.5°F in August (WRCC 2018).

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from November through April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast, with slightly heavier shower activity in the east and over the mountains. The historical rainfall average for the project area is 14.59 inches per year (WRCC 2018).

Humidity

Although the SoCAB has a semiarid climate, the air near the earth's surface is typically moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the SoCAB by offshore winds, the "ocean effect" is dominant. Periods of heavy fog, especially along the coast, are frequent. Low clouds, often referred to as high fog, are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SoCAB (SCAQMD 2005).

Wind

Wind patterns across the south coastal region are characterized by westerly or southwesterly onshore winds during the day and by easterly or northeasterly breezes at night. Wind speed is somewhat greater during the dry summer months than during the rainy winter season.

Between periods of wind, periods of air stagnation may occur, both in the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During the winter and fall months, surface high-pressure systems over the SoCAB, combined with other meteorological conditions, can result in very strong, downslope Santa Ana winds. These winds normally continue a few days before predominant meteorological conditions are reestablished.

The mountain ranges to the east affect the transport and diffusion of pollutants by inhibiting their eastward transport. Air quality in the SoCAB generally ranges from fair to poor and is similar to air quality in most of coastal southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions (SCAQMD 2005).

Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, there are two similarly distinct types of temperature inversions that control the vertical depth through which pollutants are mixed. These are the marine/subsidence inversion and the radiation inversion. The combination of winds and inversions are critical determinants in leading to the highly degraded air quality in summer and the generally good air quality in the winter in the project area (SCAQMD 2005).

Air Quality Regulations

The proposed project has the potential to release gaseous emissions of criteria pollutants and dust into the ambient air; therefore, it falls under the ambient air quality standards promulgated at the local, state, and federal levels. The project site is in the SoCAB and is subject to the rules and regulations imposed by the South Coast Air Quality Management District (SCAQMD). However, SCAQMD reports to California Air Resources board (CARB), and all criteria emissions are also governed by the California and national Ambient Air Quality Standards (AAQS). Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized below.

AMBIENT AIR QUALITY STANDARDS

The Clean Air Act (CAA) was passed in 1963 by the US Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The CAA allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS, based on even greater health and welfare concerns.

These National AAQS and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect "sensitive receptors" most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both California and the federal government have established health-based AAQS for seven air pollutants. As shown in Table 1, *Ambient Air Quality Standards for Criteria Pollutants*, these pollutants include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb). In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table 1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
Ozone (O_3)[3]	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Coarse Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 μg/m^3	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 μg/m^3	150 μg/m^3	
Respirable Fine Particulate Matter ($PM_{2.5}$)[4]	Annual Arithmetic Mean	12 μg/m^3	12 μg/m^3	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 μg/m^3	

Table 1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
Lead (Pb)	30-Day Average	1.5 μg/m³	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	*	1.5 μg/m³	
	Rolling 3-Month Average	*	0.15 μg/m³	
Sulfates (SO_4)[5]	24 hours	25 μg/m³	*	Industrial processes.
Visibility Reducing Particles	8 hours	ExCo =0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H_2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hour	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Source: CARB 2016.

Notes: ppm: parts per million; μg/m³: micrograms per cubic meter

* Standard has not been established for this pollutant/duration by this entity.

1 California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than O_3, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m³ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

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

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

5 On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. The 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

California has also adopted a host of other regulations that reduce criteria pollutant emissions, including:

- AB 1493: Pavley Fuel Efficiency Standards
- Title 20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards
- Title 24, Part 6, CCR: Building and Energy Efficiency Standards
- Title 24, Part 11, CCR: Green Building Standards Code

CRITERIA AIR POLLUTANTS

The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. Air pollutants are categorized as primary or secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb) are primary air pollutants. Of these, CO, SO_2, NO_2, PM_{10}, and $PM_{2.5}$ are "criteria air pollutants," which means that ambient air quality standards (AAQS) have been established for them. VOC and oxides of nitrogen (NO_x) are air pollutant precursors that form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and NO_2 are the principal secondary pollutants. A description of each of the primary and secondary criteria air pollutants and their known health effects is presented below.

Carbon Monoxide (CO) is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion, engines and motor vehicles operating at slow speeds are the primary source of CO in the SoCAB. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation (SCAQMD 2005; USEPA 2018a). The SoCAB is designated under the California and National AAQS as being in attainment of CO criteria levels (CARB 2017a).

Volatile Organic Compounds (VOC) are compounds composed primarily of atoms of hydrogen and carbon. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Other sources of VOCs include evaporative emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. There are no ambient air quality standards established for VOCs. However, because they contribute to the formation of ozone (O_3), SCAQMD has established a significance threshold for this pollutant (SCAQMD 2005).

Nitrogen Oxides (NO_x) are a byproduct of fuel combustion and contribute to the formation of O_3, PM_{10}, and $PM_{2.5}$. The two major forms of NO_x are nitric oxide (NO) and nitrogen dioxide (NO_2). The principal form of NO_2 produced by combustion is NO, but NO reacts with oxygen to form NO_2, creating the mixture of NO and NO_2 commonly called NO_x. NO_2 acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO_2 is only potentially irritating. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 part per million (ppm).

NO_2 absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure (SCAQMD 2005; USEPA 2018a). The SoCAB is designated as an attainment area for NO_2 under the National AAQS California AAQS (CARB 2017a).

Sulfur Dioxide (SO_2) is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and from chemical processes at chemical plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO_2 (SCAQMD 2005; USEPA 2018a). When sulfur dioxide forms sulfates (SO_4) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_X). Thus, SO_2 is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO_2 may do greater harm by injuring lung tissue. The SoCAB is designated as attainment under the California and National AAQS (CARB 2017a).

Suspended Particulate Matter (PM_{10} and $PM_{2.5}$) consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM_{10}, include the particulate matter with an aerodynamic diameter of 10 microns (i.e., 10 millionths of a meter or 0.0004 inch) or less. Inhalable fine particles, or $PM_{2.5}$, have an aerodynamic diameter of 2.5 microns (i.e., 2.5 millionths of a meter or 0.0001 inch) or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind action on arid landscapes also contributes substantially to local particulate loading (i.e., fugitive dust). Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems (SCAQMD 2005).

The US Environmental Protection Agency's (EPA) scientific review concluded that $PM_{2.5}$, which penetrates deeply into the lungs, is more likely than PM_{10} to contribute to health effects and at concentrations that extend well below those allowed by the current PM_{10} standards. These health effects include premature death and increased hospital admissions and emergency room visits (primarily the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individuals with cardiopulmonary disease such as asthma); decreased lung functions (particularly in children and individuals with asthma); and alterations in lung tissue and structure and in respiratory tract defense mechanisms (SCAQMD 2005). There has been emerging evidence that even smaller particulates with an aerodynamic diameter of <0.1 microns or less (i.e., ≤0.1 millionths of a meter or <0.000004 inch), known as ultrafine particulates (UFPs), have human health implications, because UFPs toxic components may initiate or facilitate biological processes that may lead to adverse effects to the heart, lungs, and other organs (SCAQMD 2013). However, the EPA or CARB have yet to adopt AAQS to regulate these particulates. Diesel particulate matter (DPM) is classified by the CARB as a carcinogen (CARB 1998). Particulate matter can also cause environmental effects such as visibility impairment,[1] environmental damage,[2] and aesthetic damage[3]

[1] $PM_{2.5}$ is the main cause of reduced visibility (haze) in parts of the United States.
[2] Particulate matter can be carried over long distances by wind and then settle on ground or water, making lakes and streams acidic; changing the nutrient balance in coastal waters and large river basins; depleting the nutrients in soil; damaging sensitive forests and farm crops; and affecting the diversity of ecosystems.

(SCAQMD 2005; USEPA 2018a). The SoCAB is a nonattainment area for $PM_{2.5}$ under California and National AAQS and a nonattainment area for PM_{10} under the California AAQS (CARB 2017a).[4]

Ozone (O_3) is commonly referred to as "smog" and is a gas that is formed when VOCs and NO_x, both by-products of internal combustion engine exhaust, undergo photochemical reactions in the presence of sunlight. O_3 is a secondary criteria air pollutant. O_3 concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for the formation of this pollutant. O_3 poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Breathing O_3 can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level O_3 also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue. O_3 also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. In particular, O_3 harms sensitive vegetation during the growing season (SCAQMD 2005; USEPA 2018a). The SoCAB is designated as extreme nonattainment under the California AAQS (1-hour and 8-hour) and National AAQS (8-hour) (CARB 2017a).

Lead (Pb) is a metal found naturally in the environment as well as in manufactured products. Once taken into the body, lead distributes throughout the body in the blood and accumulates in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen-carrying capacity of the blood. The effects of lead most commonly encountered in current populations are neurological effects in children and cardiovascular effects in adults (e.g., high blood pressure and heart disease). Infants and young children are especially sensitive to even low levels of lead, which may contribute to behavioral problems, learning deficits, and lowered IQ (SCAQMD 2005; USEPA 2018a). The major sources of lead emissions have historically been mobile and industrial sources. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline. However, in 2008 the EPA and CARB adopted stricter lead standards, and special monitoring sites immediately downwind of lead sources recorded very localized violations of the new state and federal standards.[5] As a result of these violations, the Los Angeles County portion of the SoCAB is designated nonattainment under the National AAQS for lead (SCAQMD 2012; CARB 2017a). Because emissions of lead are found only in projects that are permitted by SCAQMD, lead is not a pollutant of concern for the project.

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[3] Particulate matter can stain and damage stone and other materials, including culturally important objects such as statues and monuments.

[4] CARB approved the SCAQMD's request to redesignate the SoCAB from serious nonattainment for PM_{10} to attainment for PM_{10} under the National AAQS on March 25, 2010, because the SoCAB has not violated federal 24-hour PM_{10} standards during the period from 2004 to 2007. In June 2013, the EPA approved the State of California's request to redesignate the PM_{10} nonattainment area to attainment of the PM_{10} National AAQS, effective on July 26, 2013.

[5] Source-oriented monitors record concentrations of lead at lead-related industrial facilities in the SoCAB, which include Exide Technologies in the City of Commerce; Quemetco, Inc., in the City of Industry; Trojan Battery Company in Santa Fe Springs; and Exide Technologies in Vernon. Monitoring conducted between 2004 through 2007 showed that the Trojan Battery Company and Exide Technologies exceed the federal standards (SCAQMD 2012).

TOXIC AIR CONTAMINANTS

The public's exposure to air pollutants classified as toxic air contaminants (TACs) is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The California Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant (HAP) pursuant to Section 112(b) of the federal Clean Air Act (42 United States Code §7412[b]) is a toxic air contaminant. Under state law, the California Environmental Protection Agency (Cal/EPA), acting through CARB, is authorized to identify a substance as a TAC if it determines that the substance is an air pollutant that may cause or contribute to an increase in mortality or to an increase in serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a substance (i.e., a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. To date, CARB has established formal control measures for 11 TACs, all of which are identified as having no safe threshold.

Air toxics from stationary sources are also regulated in California under the Air Toxics "Hot Spot" Information and Assessment Act of 1987. Under AB 2588, toxic air contaminant emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

By the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs (CARB 1999). Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines.

Diesel Particulate Matter

In 1998, CARB identified particulate emissions from diesel-fueled engines (diesel PM) as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particle mass is 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

CARB has promulgated the following specific rules to limit TAC emissions:

- 13 CCR Chapter 10, Section 2485, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

- 13 CCR Chapter 10, Section 2480, Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- 13 CCR Section 2477 and Article 8, Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate

Community Risk

In addition, to reduce exposure to TACs, CARB developed and approved the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB 2005) to provide guidance regarding the siting of sensitive land uses in the vicinity of freeways, distribution centers, rail yards, ports, refineries, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. This guidance document was developed to assess compatibility and associated health risks when placing sensitive receptors near existing pollution sources. CARB's recommendations on the siting of new sensitive land uses were based on a compilation of recent studies that evaluated data on the adverse health effects from proximity to air pollution sources. The key observation in these studies is that proximity to air pollution sources substantially increases exposure and the potential for adverse health effects. There are three carcinogenic toxic air contaminants that constitute the majority of the known health risks from motor vehicle traffic, DPM from trucks, and benzene and 1,3 butadiene from passenger vehicles. CARB recommendations are based on data that show that localized air pollution exposures can be reduced by as much as 80 percent by following CARB minimum distance separations.

Multiple Airborne Toxics Exposure Study (MATES)

The Multiple Air Toxics Exposure Study (MATES) is a monitoring and evaluation study on ambient concentrations of TACs and estimated the potential health risks from air toxics in the SoCAB. In 2008, SCAQMD conducted its third update to the MATES study (MATES III). The results showed that the overall risk for excess cancer from a lifetime exposure to ambient levels of air toxics was about 1,200 in a million. The largest contributor to this risk was diesel exhaust, accounting for 84 percent of the cancer risk (SCAQMD 2008a).

SCAQMD recently released the fourth update (MATES IV). The results showed that the overall monitored risk for excess cancer from a lifetime exposure to ambient levels of air toxics decreased to approximately 418 in one million. Compared to the 2008 MATES III, monitored excess cancer risks decreased by approximately 65 percent. Approximately 90 percent of the risk is attributed to mobile sources while 10 percent is attributed to TACs from stationary sources, such as refineries, metal processing facilities, gas stations, and chrome plating facilities. The largest contributor to this risk was diesel exhaust, accounting for approximately 68 percent of the air toxics risk. Compared to MATES III, MATES IV found substantial improvement in air quality and associated decrease in air toxics exposure. As a result, the estimated basin-wide population-weighted risk decreased by approximately 57 percent compared to the analysis done for the MATES III time period (SCAQMD 2015a).

The Office of Environmental Health Hazard Assessment (OEHHA) updated the guidelines for estimating cancer risks on March 6, 2015 (OEHHA 2015). The new method utilizes higher estimates of cancer potency during early life exposures, which result in a higher calculation of risk. There are also differences in the assumptions on breathing rates and length of residential exposures. When combined together, SCAQMD estimates that risks for a given inhalation exposure level will be about 2.7 times higher using the proposed updated methods identified in MATES IV (e.g., 2.7 times higher than 418 in one million overall excess cancer risk) (SCAQMD 2015a).

Air Quality Management Planning

SCAQMD is the agency responsible for preparing the air quality management plan (AQMP) for the SoCAB in coordination with the Southern California Association of Governments (SCAG). Since 1979, a number of AQMPs have been prepared.

2016 AQMP

On March 3, 2017, SCAQMD adopted the 2016 AQMP as an update to the 2012 AQMP. The 2016 AQMP addresses strategies and measures to attain the following National AAQS:

- 2008 National 8-hour ozone standard by 2031,
- 2012 National annual $PM_{2.5}$ standard by 2025[6],
- 2006 National 24-hour $PM_{2.5}$ standard by 2019,
- 1997 National 8-hour ozone standard by 2023, and the
- 1979 National 1-hour ozone standard by year 2022.

It is projected that total NO_X emissions in the SoCAB would need to be reduced to 150 tons per day (tpd) by year 2023 and to 100 tpd in year 2031 to meet the 1997 and 2008 federal 8-hour ozone standards. The strategy to meet the 1997 federal 8-hour ozone standard would also lead to attaining the 1979 federal 1-hour ozone standard by year 2022 (SCAQMD 2017), which requires reducing NO_X emissions in the SoCAB to 250 tpd. This is approximately 45 percent additional reductions above existing regulations for the 2023 ozone standard and 55 percent additional reductions above existing regulations to meet the 2031 ozone standard.

Reducing NO_X emissions would also reduce $PM_{2.5}$ concentrations in the SoCAB. However, as the goal is to meet the 2012 federal annual $PM_{2.5}$ standard no later than year 2025, SCAQMD is seeking to reclassify the SoCAB from "moderate" to "serious" nonattainment under this federal standard. A "moderate" non-attainment would require meeting the 2012 federal standard by no later than 2021.

Overall, the 2016 AQMP is composed of stationary and mobile-source emission reductions from regulatory control measures, incentive-based programs, co-benefits from climate programs, mobile-source strategies, and reductions from federal sources such as aircrafts, locomotives, and ocean-going vessels. Strategies outlined in the 2016 AQMP would be implemented in collaboration between CARB and the EPA (SCAQMD 2017).

LEAD STATE IMPLEMENTATION PLAN

In 2008 EPA designated the Los Angeles County portion of the SoCAB nonattainment under the federal lead (Pb) classification due to the addition of source-specific monitoring under the new federal regulation.

[6] The 2016 AQMP requests a reclassification from moderate to serious non-attainment for the 2012 National $PM_{2.5}$ standard.

This designation was based on two source-specific monitors in Vernon and the City of Industry exceeding the new standard. The rest of the SoCAB, outside the Los Angeles County nonattainment area remains in attainment of the new standard. On May 24, 2012, CARB approved the SIP revision for the federal lead standard, which the EPA revised in 2008. Lead concentrations in this nonattainment area have been below the level of the federal standard since December 2011. The SIP revision was submitted to EPA for approval.

AREA DESIGNATIONS

The AQMP provides the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards through the State Implementation Plan (SIP). Areas are classified as attainment or nonattainment areas for particular pollutants, depending on whether they meet ambient air quality standards. Severity classifications for ozone nonattainment range in magnitude from marginal, moderate, and serious to severe and extreme.

- **Unclassified:** a pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.

- **Attainment:** a pollutant is in attainment if the CAAQS for that pollutant was not violated at any site in the area during a three-year period.

- **Nonattainment:** a pollutant is in nonattainment if there was at least one violation of a state AAQS for that pollutant in the area.

- **Nonattainment/Transitional:** a subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the SoCAB is shown in Table 2, *Attainment Status of Criteria Pollutants in the South Coast Air Basin*. The SoCAB is designated in attainment of the California AAQS for sulfates. The SoCAB is designated as nonattainment for lead (Los Angeles County only) under the National AAQS.

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

Pollutant	State	Federal
Ozone – 1-hour	Extreme Nonattainment	No Federal Standard
Ozone – 8-hour	Extreme Nonattainment	Extreme Nonattainment
PM_{10}	Serious Nonattainment	Attainment/Maintenance
$PM_{2.5}$	Nonattainment	Nonattainment[1]
CO	Attainment	Attainment
NO_2	Attainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Lead	Attainment	Nonattainment (Los Angeles County only)[2]
All others	Attainment/Unclassified	Attainment/Unclassified

Source: CARB 2017a.

1 SCAQMD is seeking to reclassify the SoCAB from "moderate" to "serious" nonattainment under federal $PM_{2.5}$ standard.

2 In 2010, the Los Angeles portion of the SoCAB was designated nonattainment for lead under the new federal and existing state AAQS as a result of large industrial emitters. Remaining areas in the SoCAB are unclassified.

Existing Ambient Air Quality

Existing ambient air quality, historical trends, and projections in the vicinity of the project site are best documented by measurements made by SCAQMD. The project site is in Source Receptor Area (SRA) 72 – Northwest Los Angeles County Coastal. The air quality monitoring station closest to the project site is the Los Angeles - Westchester Parkway Monitoring Station. This station monitors O_3, NO_2, and PM_{10}. Additional data for $PM_{2.5}$ is supplemented by the Thousand Oaks - Moorpark Road Monitoring Station, and data for SO_2 and CO, was not available for any monitoring station within Los Angeles and Ventura Counties. The most current five years of data monitored at these stations are included in Table 3, *Ambient Air Quality Monitoring Summary*. The data show recurring violations of the federal $PM_{2.5}$ and standard. The federal and state 8-hr O_3 standard, and the state PM_{10} standard were also frequently exceeded in the last five years. The CO, NO_2, and SO_2 standards have not been violated in the last five years in the project vicinity.

Table 3 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Threshold Were Exceeded and Maximum Levels during Such Violations				
	2013	2014	2015	2016	2017
Ozone (O_3) [1]					
State 1-Hour ≥ 0.09 ppm (days exceed threshold)	1	1	1	0	0
State 8-hour ≥ 0.07 ppm (days exceed threshold)	1	6	3	2	0
Federal 8-Hour > 0.070 ppm (days exceed threshold)	1	3	1	1	0
Max. 1-Hour Conc. (ppm)	0.105	0.114	0.096	0.087	0.086
Max. 8-Hour Conc. (ppm)	0.081	0.080	0.077	0.080	0.070
Carbon Monoxide (CO) [1]					
State 8-Hour > 9.0 ppm (days exceed threshold)	*	*	*	*	*
Federal 8-Hour ≥ 9.0 ppm (days exceed threshold)	*	*	*	*	*
Max. 8-Hour Conc. (ppm)	*	*	*	*	*
Nitrogen Dioxide (NO_2) [1]					
State 1-Hour ≥ 0.18 ppm (days exceed threshold)	0	0	0	0	0
Federal 1-Hour ≥ 0.100 ppm (days exceed threshold)	0	0	0	0	0
Max. 1-Hour Conc. (ppb)	77.8	87.3	87.0	81.5	72.2
Sulfur Dioxide (SO_2)					
State 24-Hour ≥ 0.04 ppm (days exceed threshold)	*	*	*	*	*
Federal 24-Hour ≥ 0.14 ppm (days exceed threshold)	*	*	*	*	*
Max 24-Hour Conc. (ppm)	*	*	*	*	*
Coarse Particulates (PM_{10}) [1]					
State 24-Hour > 50 μg/m^3 (days exceed threshold)	0	0	0	0	0
Federal 24-Hour > 150 μg/m^3 (days exceed threshold)	0	0	0	0	0
Max. 24-Hour Conc. (μg/m^3)	38.0	46.0	42.0	43.0	46.5
Fine Particulates ($PM_{2.5}$) [2]					
Federal 24-Hour > 35 μg/m^3 (days exceed threshold)	0	0	0	1	0
Max. 24-Hour Conc. (μg/m^3)	28.7	33.1	32.2	35.2	32.0

Source: CARB 2018a. Data for O_3, NO_2, CO, and $PM_{2.5}$are from the Pasadena – S Wilson Avenue Monitoring Station.
Notes: ppm = parts per million; ppb = parts per billion, μg/m^3 = micrograms per cubic meter
* Data not available.
[1] Data from the Los Angeles - Westchester Parkway Monitoring Station
[2] Data from the Thousand Oaks - Moorpark Road Monitoring Station

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardio-respiratory diseases.

Residential areas are also considered to be sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Schools are also considered sensitive receptors, as children are present for extended durations and engage in regular outdoor activities. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public. The nearest sensitive receptors include students and staff at the existing school site and the surrounding adjacent residences.

Methodology

Projected construction-related air pollutant emissions are calculated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2. CalEEMod compiles an emissions inventory of construction (fugitive dust, off-gas emissions, on-road emissions, and off-road emissions), area sources, indirect emissions from energy use, mobile sources, indirect emissions from waste disposal (annual only), and indirect emissions from water/wastewater (annual only) use. The calculated emissions of the project are compared to thresholds of significance for individual projects using the SCAQMD's CEQA Air Quality Analysis Guidance Handbook.

Thresholds of Significance

The analysis of the proposed project's air quality impacts follows the guidance and methodologies recommended in SCAQMD's *CEQA Air Quality Handbook* and the significance thresholds on SCAQMD's website (SCAQMD 1993).[7] CEQA allows the significance criteria established by the applicable air quality management or air pollution control district to be used to assess impacts of a project on air quality. SCAQMD has established thresholds of significance for regional air quality emissions for construction activities and project operation. In addition to the daily thresholds listed above, projects are also subject to the AAQS. These are addressed though an analysis of localized CO impacts and localized significance thresholds (LSTs).

REGIONAL SIGNIFICANCE THRESHOLDS

SCAQMD has adopted regional construction and operational emissions thresholds to determine a project's cumulative impact on air quality in the SoCAB. Table 4, *SCAQMD Significance Thresholds*, lists SCAQMD's regional significance thresholds that are applicable for all projects uniformly regardless of size or scope. There is growing evidence that although ultrafine particulates contribute a very small portion of the overall atmospheric mass concentration, they represent a greater proportion of the health risk from PM. However, the EPA or CARB have not yet adopted AAQS to regulate ultrafine particulates; therefore, SCAQMD has not developed thresholds for them.

[7] SCAQMD's Air Quality Significance Thresholds are current as of March 2015 and can be found here: http://www.aqmd.gov/ceqa/hdbk.html.

Table 4 SCAQMD Significance Thresholds

Air Pollutant	Construction Phase	Operational Phase
Reactive Organic Gases (ROGs)/ Volatile Organic Compounds (VOCs)	75 lbs/day	55 lbs/day
Nitrogen Oxides (NO_X)	100 lbs/day	55 lbs/day
Carbon Monoxide (CO)	550 lbs/day	550 lbs/day
Sulfur Oxides (SO_X)	150 lbs/day	150 lbs/day
Particulates (PM_{10})	150 lbs/day	150 lbs/day
Particulates ($PM_{2.5}$)	55 lbs/day	55 lbs/day

Source: SCAQMD 2015b.

Projects that exceed the regional significance threshold contribute to the nonattainment designation of the SoCAB. The attainment designations are based on the AAQS, which are set at levels of exposure that are determined to not result in adverse health. Exposure to fine particulate pollution and ozone causes myriad health impacts, particularly to the respiratory and cardiovascular systems:

- Linked to increased cancer risk ($PM_{2.5}$, TACs)
- Aggravates respiratory disease (O_3, $PM_{2.5}$)
- Increases bronchitis (O_3, $PM_{2.5}$)
- Causes chest discomfort, throat irritation, and increased effort to take a deep breath (O_3)
- Reduces resistance to infections and increases fatigue (O_3)
- Reduces lung growth in children ($PM_{2.5}$)
- Contributes to heart disease and heart attacks ($PM_{2.5}$)
- Contributes to premature death (O_3, $PM_{2.5}$)
- Linked to lower birth weight in newborns ($PM_{2.5}$) (SCAQMD 2015c)

Exposure to fine particulates and ozone aggravates asthma attacks and can amplify other lung ailments such as emphysema and chronic obstructive pulmonary disease. Exposure to current levels of $PM_{2.5}$ is responsible for an estimated 4,300 cardiopulmonary-related deaths per year in the SoCAB. In addition, University of Southern California scientists responsible for a landmark children's health study found that lung growth improved as air pollution declined for children aged 11 to 15 in five communities in the SoCAB (SCAQMD 2015d).

Mass emissions in Table 4 are not correlated with concentrations of air pollutants but contribute to the cumulative air quality impacts in the SoCAB. Therefore, regional emissions from a single project do not single-handedly trigger a regional health impact. SCAQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of air quality in the SoCAB. To achieve the health-based standards established by the EPA, SCAQMD prepares an AQMP that details regional programs to attain the AAQS.

CO HOTSPOTS

Areas of vehicle congestion have the potential to create pockets of CO called hot spots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hot spots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the SoCAB and in the state have steadily declined.

In 2007, the SoCAB was designated in attainment for CO under both the California AAQS and National AAQS. The CO hot spot analysis conducted for the attainment by SCAQMD for busiest intersections in Los Angeles during the peak morning and afternoon periods plan did not predict a violation of CO standards. [8] As identified in SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SoCAB in previous years, prior to redesignation, were a result of unusual meteorological and topographical conditions and not a result of congestion at a particular intersection. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (BAAQMD 2017).

LOCALIZED SIGNIFICANCE THRESHOLDS

SCAQMD developed LSTs for emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at the project site (offsite mobile-source emissions are not included in the LST analysis). LSTs represent the maximum emissions at a project site that are not expected to cause or contribute to an exceedance of the most stringent federal or state AAQS and are shown in Table 5, *SCAQMD Localized Significance Thresholds*.

Table 5 SCAQMD Localized Significance Thresholds

Air Pollutant (Relevant AAQS)	Concentration
1-Hour CO Standard (CAAQS)	20 ppm
8-Hour CO Standard (CAAQS)	9.0 ppm
1-Hour NO_2 Standard (CAAQS)	0.18 ppm
Annual NO_2 Standard (CAAQS)	0.03 ppm
24-Hour PM_{10} Standard – Construction (SCAQMD)[1]	10.4 $\mu g/m^3$
24-Hour $PM_{2.5}$ Standard – Construction (SCAQMD)[1]	10.4 $\mu g/m^3$
24-Hour PM_{10} Standard – Operation (SCAQMD)[1]	2.5 $\mu g/m^3$
24-Hour $PM_{2.5}$ Standard – Operation (SCAQMD)[1]	2.5 $\mu g/m^3$

Source: SCAQMD 2015b.
ppm – parts per million; $\mu g/m^3$ – micrograms per cubic meter
1 Threshold is based on SCAQMD Rule 403. Since the SoCAB is in nonattainment for PM_{10} and $PM_{2.5}$, the threshold is established as an allowable change in concentration. Therefore, background concentration is irrelevant.

[8] The four intersections were: Long Beach Boulevard and Imperial Highway; Wilshire Boulevard and Veteran Avenue; Sunset Boulevard and Highland Avenue; and La Cienega Boulevard and Century Boulevard. The busiest intersection evaluated (Wilshire and Veteran) had a daily traffic volume of approximately 100,000 vehicles per day with LOS E in the morning peak hour and LOS F in the evening peak hour (SCAQMD 2003).

To assist lead agencies, SCAQMD developed screening-level LSTs to back-calculate the mass amount (lbs. per day) of emissions generated onsite that would trigger the levels shown in Table 5 for projects under 5-acres. These "screening-level" LSTs tables are the localized significance thresholds for all projects of five acres and less; however, it can be used as screening criteria for larger projects to determine whether or not dispersion modeling may be required to compare concentrations of air pollutants generated by the project to the localized concentrations shown in Table 5.

LST analysis for construction is applicable to all projects of five acres and less; however, it can be used as screening criteria for larger projects to determine whether or not dispersion modeling may be required. In accordance with SCAQMD's LST methodology, the screening-level construction LSTs are based on the acreage disturbed per day based on equipment use. The screening-level construction LSTs for the project site in SRA 2 are shown in Table 6, *SCAQMD Screening-Level Construction Localized Significance Thresholds,* for receptors within 82 feet (25 meters).

Table 6 SCAQMD Screening-Level Construction Localized Significance Thresholds

	Threshold (lbs/day)[1]			
Acreage Disturbed	Nitrogen Oxides (NO_X)	Carbon Monoxide (CO)	Coarse Particulates (PM_{10})	Fine Particulates ($PM_{2.5}$)
≤1.00 Acre Disturbed Per Day	103	562	4.00	3.00
1.50 Acres Disturbed Per Day	125	694	5.00	3.50
2.00 Acres Disturbed Per Day	147	827	6.00	4.00
2.50 Acres Disturbed Per Day	159	944	7.16	4.33
3.50 Acres Disturbed Per Day	184	1,179	9.49	5.00

Source: SCAQMD 2008b; SCAQMD 2011, Based on receptors in SRA 2.
[1] LSTs are based on receptors within 82 feet (25 meters).

Because the project is not an industrial project that has the potential to emit substantial sources of stationary emissions, operational LSTs are not an air quality impact of concern associated with the project.

HEALTH RISK THRESHOLDS

Whenever a project would require use of chemical compounds that have been identified in SCAQMD Rule 1401, placed on CARB's air toxics list pursuant to AB 1807, or placed on the EPA's National Emissions Standards for Hazardous Air Pollutants, a health risk assessment is required by the SCAQMD. Table 7, *Toxic Air Contaminants Incremental Risk Thresholds*, lists the TAC incremental risk thresholds for operation of a project. The purpose of this environmental evaluation is to identify the significant effects of the proposed project on the environment, not the significant effects of the environment on the proposed project. (*California Building Industry Association v. Bay Area Air Quality Management District (2015) 62 Cal.4th 369 (Case No. S213478)*). CEQA does not require an analysis of the environmental effects of attracting development and people to an area. However, the environmental document must analyze the impacts of environmental hazards on future users, when a proposed project exacerbates an existing environmental hazard or condition.

Residential, commercial, and office uses do not use substantial quantities of TACs and typically do not exacerbate existing hazards, so these thresholds are typically applied to new industrial projects.

Table 7 SCAQMD Toxic Air Contaminants Incremental Risk Thresholds

Maximum Incremental Cancer Risk	≥ 10 in 1 million
Hazard Index (project increment)	≥ 1.0
Cancer Burden in areas ≥ 1 in 1 million	> 0.5 excess cancer cases

Source: SCAQMD 2015b.

GREENHOUSE GAS EMISSIONS

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHG, to the atmosphere. Climate change is the variation of Earth's climate over time, whether due to natural variability or as a result of human activities. The primary source of these GHG is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHG—water vapor,[9] carbon (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed within the 20th and 21st centuries. Other GHG identified by the IPCC that contribute to global warming to a lesser extent include nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001).[10] The major GHG are briefly described below.

- **Carbon dioxide (CO_2)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g. manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.

- **Methane (CH_4)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal landfills and water treatment facilities.

- **Nitrous oxide (N_2O)** is emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.

- **Fluorinated gases** are synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as high global-warming-potential (GWP) gases.

  - *Chlorofluorocarbons (CFCs*) are GHGs covered under the 1987 Montreal Protocol and used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (troposphere, stratosphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down ozone. These gases are also ozone-depleting gases and are therefore being replaced by other compounds that are GHGs covered under the Kyoto Protocol.

[9] Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant, but part of the feedback loop o rather than a primary cause of change.

[10] Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities (CARB 2017b). However, state and national GHG inventories do not yet include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

- ***Perfluorocarbons (PFCs)*** are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF_4] and perfluoroethane [C_2F_6]) were introduced as alternatives, along with HFCs, to the ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high global warming potential.

- ***Sulfur Hexafluoride (SF6)*** is a colorless gas soluble in alcohol and ether, slightly soluble in water. SF_6 is a strong GHG used primarily in electrical transmission and distribution systems as an insulator.

- ***Hydrochlorofluorocarbons (HCFCs)*** contain hydrogen, fluorine, chlorine, and carbon atoms. Although ozone-depleting substances, they are less potent at destroying stratospheric ozone than CFCs. They have been introduced as temporary replacements for CFCs and are also GHGs.

- ***Hydrofluorocarbons (HFCs)*** contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances to serve many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs (IPCC 2001; USEPA 2018b).

GHGs are dependent on the lifetime or persistence of the gas molecule in the atmosphere. Some GHGs have stronger greenhouse effects than others. These are referred to as high GWP gases. The GWP of GHG emissions are shown in Table 8, *GHG Emissions and Their Relative Global Warming Potential Compared to CO_2*. The GWP is used to convert GHGs to CO_2-equivalence (CO_2e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under IPCC's Second Assessment Report GWP values for CH_4, a project that generates 10 metric tons (MT) of CH_4 would be equivalent to 210 MT of CO_2.[11]

[11] CO_2-equivalence is used to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. The global warming potential of a GHG is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

Table 8 GHG Emissions and Their Relative Global Warming Potential Compared to CO_2

GHGs	Second Assessment Report Atmospheric Lifetime (Years)	Fourth Assessment Report Atmospheric Lifetime (Years)	Second Assessment Report Global Warming Potential Relative to CO_2[1]	Fourth Assessment Report Global Warming Potential Relative to CO_2[1]
Carbon Dioxide (CO_2)	50 to 200	50 to 200	1	1
Methane[2] (CH_4)	12 (±3)	12	21	25
Nitrous Oxide (N_2O)	120	114	310	298
Hydrofluorocarbons:				
HFC-23	264	270	11,700	14,800
HFC-32	5.6	4.9	650	675
HFC-125	32.6	29	2,800	3,500
HFC-134a	14.6	14	1,300	1,430
HFC-143a	48.3	52	3,800	4,470
HFC-152a	1.5	1.4	140	124
HFC-227ea	36.5	34.2	2,900	3,220
HFC-236fa	209	240	6,300	9,810
HFC-4310mee	17.1	15.9	1,300	1,030
Perfluoromethane: CF_4	50,000	50,000	6,500	7,390
Perfluoroethane: C_2F_6	10,000	10,000	9,200	12,200
Perfluorobutane: C_4F_{10}	2,600	NA	7,000	8,860
Perfluoro-2-methylpentane: C_6F_{14}	3,200	NA	7,400	9,300
Sulfur Hexafluoride (SF_6)	3,200	NA	23,900	22,800

Source: IPCC 1995; IPCC 2007.

Notes: The GWP values in the IPCC's Fifth Assessment Report (2013) reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO_2. However, SCAQMD uses the AR4 GWP values to maintain consistency in statewide GHG emissions modeling. In addition, the 2014 Scoping Plan Update was based on the AR4 GWP values.

1 Based on 100-year time horizon of the GWP of the air pollutant relative to CO_2.

2 The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.

California's Greenhouse Gas Sources and Relative Contribution

In 2018, the statewide GHG emissions inventory was updated for 2000 to 2016 emissions using the GWPs in IPCC's AR4.[12] Based on these GWPs, California produced 429.4 $MMTCO_2e$ GHG emissions in 2016. California's transportation sector was the single largest generator of GHG emissions, producing 40.5 percent of the state's total emissions. Industrial sector emissions made up 23.4 percent, and electric power generation made up 16.1 percent of the state's emissions inventory. Other major sectors of GHG emissions include commercial and residential (12.0 percent), agriculture and forestry (7.9 percent) and other (solvents and chemicals at 0.2 percent), (CARB 2018b).

California's GHG emissions have followed a declining trend since 2007. In 2016, emissions from routine GHG emitting activities statewide were 429 $MMTCO_2e$, 12 $MMTCO_2e$ lower than 2015 levels or 12 $MMTCO_2e$ lower than 2015 levels. This represents an overall decrease of 13 percent since peak levels in 2004

12 Methodology for determining the statewide GHG inventory is not the same as the methodology used to determine statewide GHG emissions under Assembly Bill 32 (2006).

and 2 $MMTCO_2e$ below the 1990 level and the state's 2020 GHG target. During the 2000 to 2016 period, per capita GHG emissions in California have continued to drop from a peak in 2001 of 14.0 $MTCO_2e$ per capita to 10.8 $MTCO_2e$ per capita in 2016, a 23 percent decrease. Overall trends in the inventory also demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product (GDP)) is declining, representing a 38 percent decline since the 2001 peak, while the state's GDP has grown 41 percent during this period (CARB 2018c).

Regulatory Settings

REGULATION OF GHG EMISSIONS ON A NATIONAL LEVEL

The U.S. Environmental Protection Agency (EPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The EPA's final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings do not in and of themselves impose any emission reduction requirements, but allow the EPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation (USEPA 2009).

To regulate GHGs from passenger vehicles, EPA was required to issue an endangerment finding. The finding identifies emissions of six key GHGs—CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and SF_6—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world. The first three are applicable to the project's GHG emissions inventory because they constitute the majority of GHG emissions and, per South Coast Air Quality Management District guidance, are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

US Mandatory Report Rule for GHGs (2009)

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 MT or more of CO_2 per year are required to submit an annual report.

Update to Corporate Average Fuel Economy Standards (2010/2012)

The current Corporate Average Fuel Economy standards (for model years 2011 to 2016) incorporate stricter fuel economy requirements promulgated by the federal government and California into one uniform standard. Additionally, automakers are required to cut GHG emissions in new vehicles by roughly 25 percent by 2016 (resulting in a fleet average of 35.5 miles per gallon by 2016). Rulemaking to adopt these new standards was completed in 2010. California agreed to allow automakers who show compliance with the national program to also be deemed in compliance with state requirements. The federal government issued new standards in 2012 for model years 2017–2025 that will require a fleet average of 54.5 miles per gallon in 2025. However, the EPA is reexamining the 2017-2025 emissions standards.

EPA Regulation of Stationary Sources under the Clean Air Act (Ongoing)

Pursuant to its authority under the Clean Air Act, the EPA has been developing regulations for new stationary sources such as power plants, refineries, and other large sources of emissions. Pursuant to former President Obama's 2013 Climate Action Plan, the EPA was directed to develop regulations for existing stationary sources also. However, the EPA is reviewing the Clean Power Plan under President Trump's Energy Independence Executive Order.

REGULATION OF GHG EMISSIONS ON A STATE LEVEL

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-3-05, Executive Order B-30-15, Assembly Bill 32, and Senate Bill 375.

Executive Order S-3-05

Executive Order S-3-05, signed June 1, 2005. Executive Order S-3-05 set the following GHG reduction targets for the State:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

Assembly Bill 32, the Global Warming Solutions Act (2006)

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in AB 32. AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-03-05.

CARB 2008 Scoping Plan

The final Scoping Plan was adopted by CARB on December 11, 2008. The *2008 Scoping Plan* identified that GHG emissions in California are anticipated to be approximately 596 $MMTCO_2e$ in 2020. In December 2007, CARB approved a 2020 emissions limit of 427 $MMTCO_2e$ (471 million tons) for the state (CARB 2008). In order to effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 $MTCO_2e$ per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012.

First Update to the Scoping Plan

CARB completed a five-year update to the 2008 Scoping Plan, as required by AB 32. The First Update to the Scoping Plan was adopted at the May 22, 2014, board hearing. The update highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the original 2008 Scoping Plan. As part of the update, CARB recalculated the 1990 GHG emission levels with the updated AR4 GWPs, and the 427 $MMTCO_2e$ 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, is slightly higher at 431 $MMTCO_2e$ (CARB 2014).

As identified in the Update to the Scoping Plan, California is on track to meeting the goals of AB 32. However, the update also addresses the state's longer-term GHG goals within a post-2020 element. The post-2020 element provides a high level view of a long-term strategy for meeting the 2050 GHG goals, including a recommendation for the state to adopt a midterm target. According to the Update to the Scoping Plan, local government reduction targets should chart a reduction trajectory that is consistent with or exceeds the trajectory created by statewide goals (CARB 2014). CARB identified that reducing emissions to 80 percent below 1990 levels will require a fundamental shift to efficient, clean energy in every sector of the economy. Progressing toward California's 2050 climate targets will require significant acceleration of GHG reduction rates. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit (CARB 2014).

Executive Order B-30-15

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions in the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directs CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in Executive Order S-03-05. It also requires the Natural Resources Agency to conduct triennial updates of the California adaption strategy, Safeguarding California, in order to ensure climate change is accounted for in state planning and investment decisions.

Senate Bill 32 and Assembly Bill 197

In September 2016, Governor Brown signed SB 32 and AB 197 into law, making the Executive Order goal for year 2030 into a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires the CARB to prioritize direction emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

2017 Climate Change Scoping Plan Update

Executive Order B-30-15 and SB 32 required CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. On December 24, 2017, CARB adopted the 2017 Climate Change Scoping Plan Update, which outlines potential regulations and programs, including strategies consistent with AB 197 requirements, to achieve the 2030 target. The 2017 Scoping Plan establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030 (CARB 2017c).

California's climate strategy will require contributions from all sectors of the economy, including enhanced focus on zero- and near-zero emission (ZE/NZE) vehicle technologies; continued investment in renewables, such as solar roofs, wind, and other types of distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning, to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for GHG reductions at stationary sources complement local air pollution control efforts by the local air districts to tighten criteria air pollutants and TACs emissions limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZEV buses and trucks;
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementation of SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing methane and hydroflurocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- Continued implementation of SB 375.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

In addition to the statewide strategies listed above, the 2017 Climate Change Scoping Plan also identified local governments as essential partners in achieving the State's long-term GHG reduction goals and identified local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends statewide targets of no more than 6 $MTCO_2e$ or less per capita by 2030 and 2 $MTCO_2e$ or less per capita by 2050. CARB recommends that local governments evaluate and adopt robust and quantitative locally-appropriate goals that align with the statewide per capita targets and the State's sustainable development objectives and develop plans to achieve the local goals. The statewide per capita goals were developed by applying the percent reductions necessary to reach the 2030 and 2050 climate goals (i.e., 40 percent and 80 percent, respectively) to the State's 1990 emissions limit established under AB 32. For CEQA projects, CARB states that lead agencies have discretion to develop evidenced-based numeric thresholds (mass emissions, per capita, or per service population)—consistent with the Scoping Plan and the state's long-term GHG goals. To the degree a project relies on GHG mitigation measures, CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from VMT, and direct investments in GHG reductions within the project's region that contribute potential air quality, health, and economic co-benefits. Where further project design or regional investments are infeasible or not proven to be effective, CARB recommends mitigating potential GHG impacts through purchasing and retiring carbon credits.

The Scoping Plan scenario is set against what is called the business-as-usual (BAU) yardstick—that is, what would the GHG emissions look like if the State did nothing at all beyond the existing policies that are required and already in place to achieve the 2020 limit, as shown in Table 9, *2017 Climate Change Scoping Plan Emissions Reductions Gap*. It includes the existing renewables requirements, advanced clean cars, the "10 percent" Low Carbon Fuel Standard (LCFS), and the SB 375 program for more vibrant communities, among others. However, it does not include a range of new policies or measures that have been developed or put into statute over the past two years. Also shown in the table, the known commitments are expected to result in emissions that are 60 $MMTCO_2e$ above the target in 2030. If the estimated GHG reductions from the known commitments are not realized due to delays in implementation or technology deployment, the post-2020 Cap-and-Trade Program would deliver the additional GHG reductions in the sectors it covers to ensure the 2030 target is achieved.

Table 9 2017 Climate Change Scoping Plan Emissions Reductions Gap

Modeling Scenario	2030 GHG Emissions $MMTCO_2e$
Reference Scenario (Business-as-Usual)	389
With Known Commitments	320
2030 GHG Target	260
Gap to 2030 Target	60

Source: CARB 2017c.

Table 10, *2017 Climate Change Scoping Plan Emissions Change by Sector*, provides estimated GHG emissions by sector, compared to 1990 levels, and the range of GHG emissions for each sector estimated for 2030.

Table 10 2017 Climate Change Scoping Plan Emissions Change by Sector

Scoping Plan Sector	1990 $MMTCO_2e$	2030 Proposed Plan Ranges $MMTCO_2e$	% Change from 1990
Agricultural	26	24-25	-8% to -4%
Residential and Commercial	44	38-40	-14% to -9%
Electric Power	108	30-53	-72% to -51%
High GWP	3	8-11	267% to 367%
Industrial	98	83-90	-15% to -8%
Recycling and Waste	7	8-9	14% to 29%
Transportation (including TCU)	152	103-111	-32% to -27%
Net Sink[1]	-7	TBD	TBD
Sub Total	431	294-339	-32% to -21%
Cap-and-Trade Program	NA	24-79	NA
Total	431	260	-40%

Source: CARB 2017c.
Notes: TCU = Transportation, Communications, and Utilities; TBD: To Be Determined.
[1] Work is underway through 2017 to estimate the range of potential sequestration benefits from the natural and working lands sector.

Senate Bill 1383

On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and CH_4. Black carbon is the light-absorbing component of fine particulate matter produced during incomplete combustion of fuels. SB 1383 requires the state board, no later than January 1, 2018, to approve and begin implementing that comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030, as specified. The bill also establishes targets for reducing organic waste in landfill. On March 14, 2017, CARB adopted the "Final Proposed Short-Lived Climate Pollutant Reduction Strategy," which identifies the state's approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s despite the tripling of diesel fuel use (CARB 2017b). In-use on-road rules are expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020. SCAQMD is one of the air districts that requires air pollution control technologies for chain-driven broilers, which reduces particulate emissions from these char broilers by over 80 percent (CARB 2017b). Additionally, SCAQMD Rule 445 limits installation of new fireplaces in the SoCAB.

Senate Bill 375

In 2008, SB 375, the Sustainable Communities and Climate Protection Act, was adopted to connect the GHG emissions reductions targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce VMT and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning organizations (MPOs). The Southern California Association of Governments (SCAG) is the MPO for the Southern California region, which includes the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial.

Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per capita reduction targets for each of the MPOs rather than a total magnitude reduction target. SCAG's targets are an 8 percent per capita reduction from 2005 GHG emission levels by 2020 and a 13 percent per capita reduction from 2005 GHG emission levels by 2035 (CARB 2010). The 2020 targets are smaller than the 2035 targets because a significant portion of the built environment in 2020 has been defined by decisions that have already been made. In general, the 2020 scenarios reflect that more time is needed for large land use and transportation infrastructure changes. Most of the reductions in the interim are anticipated to come from improving the efficiency of the region's transportation network. The targets would result in 3 $MMTCO_2e$ of reductions by 2020 and 15 $MMTCO_2e$ of reductions by 2035. Based on these reductions, the passenger vehicle target in CARB's Scoping Plan (for AB 32) would be met (CARB 2010).

2017 Update to the SB 375 Targets

CARB is required to update the targets for the MPOs every eight years. In June 2017, CARB released updated targets and technical methodology and recently released another update in February 2018. The updated targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan Update, while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks relative to 2005. This excludes reductions anticipated from implementation of state technology and fuels strategies and any potential future state strategies such as statewide road user pricing. The proposed targets call for greater per capita GHG emission reductions from SB 375 than are currently in place, which for 2035, translate into proposed targets that either match or exceed the emission reduction levels in the MPOs' currently adopted SCSs. As proposed, CARB staff's proposed targets would result in an additional reduction of over 8 $MMTCO_2e$ in 2035 compared to the current targets. For the next round of SCS updates, CARB's updated targets for the SCAG region are an 8 percent per capita GHG reduction in 2020 from 2005 levels (unchanged from the 2010 target) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 13 percent) (CARB 2018b). CARB anticipates adoption of the updated targets and methodology in 2018 and subsequent SCSs adopted afterwards would be subject to these new targets.

SCAG's 2016-2040 RTP/SCS

SB 375 requires each MPO to prepare an SCS in their regional transportation plan. For the SCAG region, the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was adopted on April 7, 2016, and is an update to the 2012 RTP/SCS (SCAG 2016). In general, the SCS outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce vehicle miles traveled from automobiles and light duty trucks and thereby reduce GHG emissions from these sources.

The 2016-2040 RTP/SCS projects that the SCAG region will meet or exceed the passenger per capita targets set in 2010 by CARB. It is projected that VMT per capita in the region for year 2040 would be reduced by 7.4 percent with implementation of the 2016-2040 RTP/SCS compared to a no-plan year 2040 scenario. Under the 2016-2040 RTP/SCS, SCAG anticipates lowering GHG emissions 8 percent below 2005 levels by 2020, 18 percent by 2035, and 21 percent by 2040. The 18 percent reduction by 2035 over 2005 levels represents a 2 percent increase in reduction compared to the 2012 RTP/SCS projection. Overall, the SCS is meant to provide growth strategies that will achieve the aforementioned regional GHG emissions reduction targets. Land use strategies to achieve the region's targets include planning for new growth around high quality transit areas and livable corridors, and creating neighborhood mobility areas to integrate land use and transportation and plan for more active lifestyles (SCAG 2016). However, the SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS; instead, it provides incentives to governments and developers for consistency.

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and was anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles (see also the discussion on the update to the Corporate Average Fuel Economy standards under *Federal Laws*, above). In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

Executive Order S-01-07

On January 18, 2007, the state set a new LCFS for transportation fuels sold in the state. Executive Order S-01-07 sets a declining standard for GHG emissions measured in carbon dioxide equivalent gram per unit of fuel energy sold in California. The LCFS requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applies to refiners, blenders, producers, and importers of transportation fuels, and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods.

Senate Bills 1078, 107, X1-2, and Executive Order S-14-08

A major component of California's Renewable Energy Program is the RPS established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08 was signed in November 2008, which expanded the state's Renewable Energy Standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects, because electricity production from renewable sources is generally considered carbon neutral.

Senate Bill 350

Senate Bill 350 (de Leon), was signed into law in September 2015. SB 350 establishes tiered increases to the RPS of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

Executive Order B-16-2012

On March 23, 2012, the state identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate zero-emissions vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directs the number of zero-emission vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are zero-emission by 2015 and at least 25 percent by 2020. The executive order also establishes a target for the transportation sector of reducing GHG emissions from the transportation sector 80 percent below 1990 levels.

California Building Code: Building Energy Efficiency Standards

Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2016 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On June 10, 2015, the CEC adopted the 2016 Building Energy Efficiency Standards, which went into effect on January 1, 2017. The 2019 Building Energy Efficiency Standards, which were adopted on May 9, 2018, go into effect starting January 1, 2020.

The 2016 Standards continues to improve upon the previous 2013 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. Under the 2016 Standards, residential and nonresidential buildings are 28 and 5 percent more energy efficient than the 2013 Standards, respectively (CEC 2015a). Buildings that are constructed in accordance with the 2013 Building Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the prior 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features. While the 2016 standards do not achieve zero net energy, they do get very close to the state's goal and make important steps toward changing residential building practices in California. The 2019 standards will take the final step to achieve zero net energy for newly constructed residential buildings throughout California (CEC 2015b).

The 2019 standards move towards cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic systems for single-family homes and multi-family buildings of 3 stories and less. Four key areas the 2019 standards will focus on include 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements (CEC 2018a). Under the 2019 standards, nonresidential buildings will be 30 percent more energy efficient compared to the 2016 standards while single-family homes will be 7 percent more energy efficient (CEC 2018b). When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards (CEC 2018b).

California Building Code: CALGreen

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.[13] The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2016. The 2016 CALGreen became effective on January 1, 2017. The CEC adopted the 2019 CALGreen on May 9, 2018. The 2019 CALGreen standards become effective January 1, 2020.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (20 CCR §§ 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. Though these regulations are now often viewed as "business as usual," they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.

Solid Waste Regulations

California's Integrated Waste Management Act of 1989 (AB 939; Public Resources Code §§ 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses.

The California Solid Waste Reuse and Recycling Access Act (AB 1327; Public Resources Code §§ 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

Section 5.408 of the 2016 CALGreen also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

In October of 2014 Governor Brown signed AB 1826, requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that

13 The green building standards became mandatory in the 2010 edition of the code.

consist of five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

Water Efficiency Regulations

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed "SBX7-7." SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 requires urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

Thresholds of Significance

The CEQA Guidelines recommend that a lead agency consider the following when assessing the significance of impacts from GHG emissions on the environment:

1. The extent to which the project may increase (or reduce) GHG emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;
3. The extent to which the project complies with regulations or requirements adopted to implement an adopted statewide, regional, or local plan for the reduction or mitigation of GHG emissions.[14]

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD has convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting (Meeting No. 15) held in September 2010, SCAQMD is proposing to adopt a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency (SCAQMD 2010):

[14] The Governor's Office of Planning and Research recommendations include a requirement that such a plan must be adopted through a public review process and include specific requirements that reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable, notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

- **Tier 1.** If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.

- **Tier 2.** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (i.e., city or county), project-level and cumulative GHG emissions are less than significant.

- **Tier 3.** If GHG emissions are less than the screening-level threshold, project-level and cumulative GHG emissions are less than significant.

  For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, SCAQMD requires an assessment of GHG emissions. SCAQMD is proposing a screening-level threshold of 3,000 $MTCO_2e$ annually for all land use types or the following land-use-specific thresholds: 1,400 $MTCO_2e$ for commercial projects, 3,500 $MTCO_2e$ for residential projects, or 3,000 $MTCO_2e$ for mixed-use projects. These bright-line thresholds are based on a review of the Governor's Office of Planning and Research database of CEQA projects. Based on their review of 711 CEQA projects, 90 percent of CEQA projects would exceed the bright-line thresholds identified above. Therefore, projects that do not exceed the bright-line threshold would have a nominal, and therefore, less than cumulatively considerable impact on GHG emissions:

- **Tier 4.** If emissions exceed the screening threshold, a more detailed review of the project's GHG emissions is warranted.

  The SCAQMD Working Group has identified an efficiency target for projects that exceed the screening threshold of 4.8 $MTCO_2e$ per year per service population ($MTCO_2e$/year/SP) for project-level analyses and 6.6 $MTCO_2e$/year/SP for plan level projects (e.g., program-level projects such as general plans) for the year 2020.[15] The per capita efficiency targets are based on the AB 32 GHG reduction target and 2020 GHG emissions inventory prepared for CARB's 2008 Scoping Plan.[16] If a proposed project's horizon year is beyond year 2020, the efficiency target would need to be adjusted based on the mid-term GHG reduction target of SB 32, which establishes a target of 40 percent below 1990 levels by 2030, and the long-term reduction goal of Executive Order S-03-05, which sets a goal of 80 percent below 1990 levels by 2050.

For projects that would be implemented beyond year 2020, the efficiency targets have been adjusted based on the GHG reduction targets of SB 32. The 2017 Scoping Plan establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030 as established under SB 32. While the State has identified additional GHG reduction goal for year 2050 (Executive Order S-03-05), because buildout of the proposed project would occur by 2030, the applicable threshold is based on the GHG reduction target for the buildout year of the proposed project (2022) and the

[15] It should be noted that the Working Group also considered efficiency targets for 2035 for the first time in this Working Group meeting.

[16] SCAQMD took the 2020 statewide GHG reduction target for land use only GHG emissions sectors and divided it by the 2020 statewide employment for the land use sectors to derive a per capita GHG efficiency metric that coincides with the GHG reduction targets of AB 32 for year 2020.

legislative target under SB 32. As shown in Table 11, *Post-2020 Project-Level GHG Reduction Targets*, using the latest land use emissions inventory developed for the 2017 Scoping Plan, the estimated 2030 GHG project-level efficiency target would be 3.2 $MTCO_2e$ per service population per year ($MTCO_2e$/SP/yr). The estimated 2021 (project opening year) GHG project-level efficiency target would be 4.9 $MTCO_2e$/SP/yr).

Table 11 Post-2020 Project-Level GHG Reduction Targets

GHG Sector[1]	Scoping Plan Scenario GHG Emissions $MMTCO_2e$
Emissions Inventory	
Year 2020 Emissions Inventory[2]	287
Year 2030 Emissions Inventory	191
Forecasted Year 2022 Emissions Inventory[3]	268
2021 Project-Level Efficiency Target	
2021 Population[4]	40,980,939
2021 Employment[5]	15,162,873
2021 Service Population	56,143,812
2022 Efficiency Target	4.9 $MTCO_2e$/SP
2030 Project-Level Efficiency Target	
2030 Population[4]	43,939,250
2030 Employment[5]	16,454,761
2030 Service Population	60,394,011
2030 Efficiency Target	3.2 $MTCO_2e$/SP

Sources:
[1] CARB 2017c.
[2] CARB 2007.
[3] Forecast based on year 2020 and year 2030 project-level emissions inventories.
[4] CDOF 2018.
[5] Caltrans 2017.

The proposed project has an anticipated buildout year beyond 2020. SCAQMD's bright-line threshold of 3,000 $MTCO_2e$ per year is used as screening criteria to determine if additional analysis of project-related emissions exceed the year 2021 efficiency metric of 4.9 $MTCO_2e$/SP/yr. If the project operation-phase emissions exceed the bright-line and efficiency targets, GHG emissions would be considered potentially significant in the absence of mitigation measures.

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Regional Construction Emissions Worksheet

*CalEEMod, Version 2016.3.2

P1 Asphalt Demolition

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2019 Summer						
	Off-Road		4.5921	47.1684	24.4231	4.32E-02	2.4371	2.2604
	Total		**4.5921**	**47.1684**	**24.4231**	**4.32E-02**	**2.4371**	**2.2604**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		1.66E-02	0.4629	0.1228	1.05E-03	0.0269	9.79E-03
	Worker		0.0749	0.0551	0.7233	1.83E-03	0.156	0.0426
	Total		**0.0916**	**0.518**	**0.8461**	**2.88E-03**	**0.1829**	**0.0524**
TOTAL			***4.6837***	***47.6864***	***25.2692***	***0.0461***	***2.6200***	***2.3128***
Onsite		**2019 Winter**						
	Off-Road		4.5921	47.1684	24.4231	4.32E-02	2.4371	2.2604
	Total		**4.5921**	**47.1684**	**24.4231**	**4.32E-02**	**2.4371**	**2.2604**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		1.73E-02	0.4635	0.1354	1.02E-03	0.027	9.84E-03
	Worker		0.0831	0.061	0.6637	1.72E-03	0.156	0.0426
	Total		**0.1004**	**0.5245**	**0.7991**	**2.74E-03**	**0.183**	**0.0524**
TOTAL			***4.6925***	***47.6929***	***25.2222***	***0.0459***	***2.6201***	***2.3128***
Onsite		**2019**						
	Off-Road		4.5921	47.1684	24.4231	0.0432	2.4371	2.2604
	Total		**4.5921**	**47.1684**	**24.4231**	**0.0432**	**2.4371**	**2.2604**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.0173	0.4635	0.1354	0.00105	0.027	0.00984
	Worker		0.0831	0.061	0.7233	0.00183	0.156	0.0426
	Total		**0.1004**	**0.5245**	**0.8461**	**0.00288**	**0.183**	**0.0524**
TOTAL			***5***	***48***	***25***	***0***	***3***	***2***

P1 Demo Haul

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2019** Summer						
	Fugitive Dust						0.2043	3.09E-02
	Off-Road		0	0	0	0	0	0
	Total		**0**	**0**	**0**	**0**	**0.2043**	**3.09E-02**
Offsite								
	Hauling		0.1098	3.2385	0.7659	9.83E-03	0.2344	7.47E-02
	Vendor		0.0166	0.4629	0.1228	1.05E-03	0.0269	9.79E-03
	Worker		0.0749	0.0551	0.7233	1.83E-03	0.156	0.0426
	Total		**0.2014**	**3.7564**	**1.612**	**1.27E-02**	**0.4173**	**1.27E-01**
TOTAL			***0.2014***	***3.7564***	***1.6120***	***0.0127***	***0.6216***	***0.1579***
Onsite		**2019 Winter**						
	Fugitive Dust						0.2043	0.0309
	Off-Road		0	0	0	0	0	0
	Total		0	0	0	0	0.2043	0.0309
Offsite								
	Hauling		0.1109	3.3295	0.7825	9.76E-03	0.2345	7.48E-02
	Vendor		0.0173	0.4635	0.1354	1.02E-03	0.027	9.84E-03
	Worker		0.0831	0.061	0.6637	1.72E-03	0.156	0.0426
	Total		**0.2113**	**3.854**	**1.5816**	**1.25E-02**	**0.4174**	**1.27E-01**
TOTAL			***0.2113***	***3.8540***	***1.5816***	***0.0125***	***0.6217***	***0.1581***
Onsite		**2019**						
	Off-Road		0	0	0	0	0	0
	Total		**0**	**0**	**0**	**0**	**0.2043**	**0.0309**
Offsite								
	Hauling		0.1109	3.3295	0.7825	0.00983	0.2345	0.0748
	Vendor		0.0173	0.4635	0.1354	0.00105	0.027	0.00984
	Worker		0.0831	0.061	0.7233	0.00183	0.156	0.0426
	Total		**0.2113**	**3.854**	**1.612**	**0.0127**	**0.4174**	**0.1272**
TOTAL			***0***	***4***	***2***	***0***	***1***	***0***

P1 Site Prep Haul

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2019** Summer						
	Fugitive Dust					1.14E-03	1.70E-04
	Off-Road	0	0	0	0	0	0
	Total	**0**	**0**	**0**	**0.00E+00**	**1.14E-03**	**1.70E-04**
Offsite							
	Hauling	0.0651	1.9191	0.4539	5.82E-03	0.1389	0.0442
	Vendor	0.00E+00	0	0	0.00E+00	0	0.00E+00
	Worker	0	0	0	0.00E+00	0	0
	Total	**0.0651**	**1.9191**	**0.4539**	**5.82E-03**	**0.1389**	**0.0442**
TOTAL		***0.0651***	***1.9191***	***0.4539***	***0.0058***	***0.1400***	***0.0444***
Onsite	**2019 Winter**						
	Fugitive Dust					1.14E-03	1.70E-04
	Off-Road	0	0	0	0.00E+00	0	0
	Total	**0**	**0**	**0**	**0.00E+00**	**1.14E-03**	**1.70E-04**
Offsite							
	Hauling	0.0657	1.973	0.4637	5.79E-03	0.139	0.0443
	Vendor	0.00E+00	0	0	0.00E+00	0	0.00E+00
	Worker	0	0	0	0.00E+00	0	0
	Total	**0.0657**	**1.973**	**0.4637**	**5.79E-03**	**0.139**	**0.0443**
TOTAL		***0.0657***	***1.9730***	***0.4637***	***0.0058***	***0.1401***	***0.0445***
Onsite	**2019**						
	Fugitive Dust	0	0	0	0	0.00114	0.00017
	Off-Road	0	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0.00114**	**0.00017**
Offsite							
	Hauling	0.0657	1.973	0.4637	0.00582	0.139	0.0443
	Vendor	0	0	0	0	0	0
	Worker	0	0	0	0	0	0
	Total	**0.0657**	**1.973**	**0.4637**	**0.00582**	**0.139**	**0.0443**
TOTAL		***0.0657***	***1.9730***	***0.4637***	***0.0058***	***0.1401***	***0.0445***
	Site Prep Haul + Demo Haul	***0.28***	***5.83***	***2.08***	***0.02***	***0.76***	***0.20***

P1 Grading

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2019 Summer						
	Fugitive Dust						2.8011	1.44E+00
	Off-Road		2.1149	23.6733	11.688	0.0234	1.0853	0.9985
	Total		**2.1149**	**23.6733**	**11.688**	**0.0234**	**3.8864**	**2.44E+00**
Offsite								
	Hauling		0	0	0	0.00E+00	0	0.00E+00
	Vendor		0.0166	0.4629	0.1228	1.05E-03	0.0269	9.79E-03
	Worker		0.0749	0.0551	0.7233	1.83E-03	0.156	0.0426
	Total		**0.0916**	**0.518**	**0.8461**	**2.88E-03**	**0.1829**	**5.24E-02**
TOTAL			***2.2065***	***24.1913***	***12.5341***	***0.0263***	***4.0693***	***2.4905***
Onsite		2019 Winter						
	Fugitive Dust						2.5744	1.42E+00
	Off-Road		2.1149	23.6733	11.688	0.0234	1.0853	0.9985
	Total		**2.1149**	**23.6733**	**11.688**	**0.0234**	**3.6597**	**2.41E+00**
Offsite								
	Hauling		0	0	0	0.00E+00	0	0.00E+00
	Vendor		0.0173	0.4635	0.1354	1.02E-03	0.027	9.84E-03
	Worker		0.0831	0.061	0.6637	1.72E-03	0.156	0.0426
	Total		**0.1004**	**0.5245**	**0.7991**	**2.74E-03**	**0.183**	**5.24E-02**
TOTAL			***2.2153***	***24.1978***	***12.4871***	***0.0261***	***3.8427***	***2.4660***
Onsite		2019						
	Fugitive Dust		0	0	0	0	2.8011	1.4396
	Off-Road		2.1149	23.6733	11.688	0.0234	1.0853	0.9985
	Total		**2.1149**	**23.6733**	**11.688**	**0.0234**	**3.8864**	**2.4381**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.0173	0.4635	0.1354	0.00105	0.027	0.00984
	Worker		0.0831	0.061	0.7233	0.00183	0.156	0.0426
	Total		**0.1004**	**0.5245**	**0.8461**	**0.00288**	**0.183**	**0.0524**
TOTAL			***2.2153***	***24.1978***	***12.5341***	***0.0263***	***4.0694***	***2.4905***

P1 Grading Haul

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2019** Summer					
	Fugitive Dust					4.75E-03	7.20E-04
	Off-Road	0	0	0	0.00E+00	0	0
	Total	**0**	**0**	**0**	**0.00E+00**	**4.75E-03**	**7.20E-04**
Offsite							
	Hauling	0.3156	9.21	2.2017	0.0284	0.6821	0.2172
	Vendor	0.00E+00	0	0	0.00E+00	0	0.00E+00
	Worker	0	0	0	0.00E+00	0	0
	Total	**0.3156**	**9.21**	**2.2017**	**2.84E-02**	**0.6821**	**0.2172**
TOTAL		***0.3156***	***9.2100***	***2.2017***	***0.0284***	***0.6869***	***0.2179***
Onsite		**2019 Winter**					
	Fugitive Dust					4.75E-03	7.20E-04
	Off-Road	0	0	0	0.00E+00	0	0
	Total	**0**	**0**	**0**	**0.00E+00**	**4.75E-03**	**7.20E-04**
Offsite							
	Hauling	0.3181	9.4837	2.2393	0.0282	0.6823	0.2174
	Vendor	0.00E+00	0	0	0.00E+00	0	0.00E+00
	Worker	0	0	0	0.00E+00	0	0
	Total	**0.3181**	**9.4837**	**2.2393**	**2.82E-02**	**0.6823**	**0.2174**
TOTAL		***0.3181***	***9.4837***	***2.2393***	***0.0282***	***0.6871***	***0.2181***
Onsite		**2019**					
	Fugitive Dust	0	0	0	0	0.00475	0.00072
	Off-Road	0	0	0	0	0	0
	Total	0	**0**	**0**	**0**	**0.00475**	**0.00072**
Offsite							
	Hauling	0.3181	9.4837	2.2393	0.0284	0.6823	0.2174
	Vendor	0	0	0	0	0	0
	Worker	0	0	0	0	0	0
	Total	**0.3181**	**9.4837**	**2.2393**	**0.0284**	**0.6823**	**0.2174**
TOTAL		***0.3181***	***9.4837***	***2.2393***	***0.0284***	***0.6871***	***0.2181***
	P1 Grading + Haul	***2.53***	***33.68***	***14.77***	***0.05***	***4.76***	***2.71***

P1 Trenching

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2019 Summer						
	Off-Road		0.4656	4.6747	4.6054	6.21E-03	0.3121	0.2871
	Total		**0.4656**	**4.6747**	**4.6054**	**6.21E-03**	**0.3121**	**2.87E-01**
Offsite								
	Hauling		0	0	0	0.00E+00	0	0.00E+00
	Vendor		0.0166	0.4629	0.1228	1.05E-03	0.0269	9.79E-03
	Worker		0.0749	0.0551	0.7233	1.83E-03	0.156	0.0426
	Total		**0.0916**	**0.518**	**0.8461**	**2.88E-03**	**0.1829**	**5.24E-02**
TOTAL			***0.5572***	***5.1927***	***5.4515***	***0.0091***	***0.4950***	***0.3395***
Onsite		**2019 Winter**						
	Off-Road		0.4656	4.6747	4.6054	6.21E-03	0.3121	0.2871
	Total		**0.4656**	**4.6747**	**4.6054**	**6.21E-03**	**0.3121**	**2.87E-01**
Offsite								
	Hauling		0	0	0	0.00E+00	0	0.00E+00
	Vendor		0.0173	0.4635	0.1354	1.02E-03	0.027	9.84E-03
	Worker		0.0831	0.061	0.6637	1.72E-03	0.156	0.0426
	Total		**0.1004**	**0.5245**	**0.7991**	**2.74E-03**	**0.183**	**5.24E-02**
TOTAL			***0.5660***	***5.1992***	***5.4045***	***0.0090***	***0.4951***	***0.3395***
Onsite		**2019**						
	Off-Road		0.4656	4.6747	4.6054	0.00621	0.3121	0.2871
	Total		**0.4656**	**4.6747**	**4.6054**	**0.00621**	**0.3121**	**0.2871**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.0173	0.4635	0.1354	0.00105	0.027	0.00984
	Worker		0.0831	0.061	0.7233	0.00183	0.156	0.0426
	Total		**0.1004**	**0.5245**	**0.8461**	**0.00288**	**0.183**	**0.0524**
TOTAL			***0.5660***	***5.1992***	***5.4515***	***0.0091***	***0.4951***	***0.3395***
	P1 Trenching + Grading + Haul		***3.10***	***38.88***	***20.22***	***0.06***	***5.25***	***3.05***

P1 Portables Installation

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2019** Summer						
	Off-Road		1.9975	17.6053	13.9547	2.27E-02	1.0427	0.9853
	Total		**1.9975**	**17.6053**	**13.9547**	**2.27E-02**	**1.0427**	**0.9853**
Offsite								
	Hauling		0.0436	1.2373	0.3047	3.97E-03	0.0976	0.031
	Vendor		1.66E-02	0.4629	0.1228	1.05E-03	0.0269	9.79E-03
	Worker		0.0749	0.0551	0.7233	1.83E-03	0.156	0.0426
	Total		**0.1352**	**1.7553**	**1.1508**	**6.85E-03**	**0.2805**	**0.0834**
TOTAL			***2.1327***	***19.3606***	***15.1055***	***0.0296***	***1.3232***	***1.0687***
Onsite		**2019 Winter**						
	Off-Road		1.9975	17.6053	13.9547	2.27E-02	1.0427	0.9853
	Total		**1.9975**	**17.6053**	**13.9547**	**2.27E-02**	**1.0427**	**0.9853**
Offsite								
	Hauling		0.0438	1.2797	0.3062	3.96E-03	0.0976	0.031
	Vendor		1.73E-02	0.4635	0.1354	1.02E-03	0.027	9.84E-03
	Worker		0.0831	0.061	0.6637	1.72E-03	0.156	0.0426
	Total		**0.1442**	**1.8042**	**1.1053**	**6.70E-03**	**0.2805**	**0.0835**
TOTAL			***2.1417***	***19.4095***	***15.0600***	***0.0294***	***1.3232***	***1.0688***
Onsite		**2019**						
	Off-Road		1.9975	17.6053	13.9547	0.0227	1.0427	0.9853
	Total		**1.9975**	**17.6053**	**13.9547**	**0.0227**	**1.0427**	**0.9853**
Offsite								
	Hauling		0.0438	1.2797	0.3062	0.00397	0.0976	0.031
	Vendor		0.0173	0.4635	0.1354	0.00105	0.027	0.00984
	Worker		0.0831	0.061	0.7233	0.00183	0.156	0.0426
	Total		**0.1442**	**1.8042**	**1.1508**	**0.00685**	**0.2805**	**0.0835**
TOTAL			***2.1417***	***19.4095***	***15.1055***	***0.0296***	***1.3232***	***1.0688***
	P1 Portables Installation + Hardscaping		***3.56***	***32.69***	***28.26***	***0.05***	***2.23***	***1.78***

P1 Asphalt Paving

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2019** Summer						
	Off-Road	1.2679	12.7604	12.313	0.0189	0.7196	0.6637
	Off-Road	0.0546				0	0
	Total	**1.3225**	**12.7604**	**12.313**	**1.89E-02**	**0.7196**	**0.6637**
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0.0166	0.4629	0.1228	1.05E-03	0.0269	9.79E-03
	Worker	0.0749	0.0551	0.7233	1.83E-03	0.156	0.0426
	Total	**0.0916**	**0.518**	**0.8461**	**2.88E-03**	**0.1829**	**0.0524**
TOTAL		***1.4141***	***13.2784***	***13.1591***	***0.0218***	***0.9025***	***0.7161***
Onsite	**2019** Winter						
	Off-Road	1.2679	12.7604	12.313	0.0189	0.7196	0.6637
	Paving	0.0546				0	0
	Total	**1.3225**	**12.7604**	**12.313**	**1.89E-02**	**0.7196**	**0.6637**
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0.0173	0.4635	0.1354	1.02E-03	0.027	9.84E-03
	Worker	0.0831	0.061	0.6637	1.72E-03	0.156	0.0426
	Total	**0.1004**	**0.5245**	**0.7991**	**2.74E-03**	**0.183**	**0.0524**
TOTAL		***1.4229***	***13.2849***	***13.1121***	***0.0216***	***0.9026***	***0.7161***
Onsite	**2019**						
	Hauling	1.2679	12.7604	12.313	0.0189	0.7196	0.6637
	Off-Road	0.0546	0	0	0	0	0
	Total	**1.3225**	**12.7604**	**12.313**	**0.0189**	**0.7196**	**0.6637**
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0.0173	0.4635	0.1354	0.00105	0.027	0.00984
	Worker	0.0831	0.061	0.7233	0.00183	0.156	0.0426
	Total	**0.1004**	**0.5245**	**0.8461**	**0.00288**	**0.183**	**0.0524**
TOTAL		***1.4229***	***13.2849***	***13.1591***	***0.0218***	***0.9026***	***0.7161***

P2 Asphalt Demolition

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2020** Summer					
	Off-Road	2.8222	28.3757	15.2176	2.85E-02	1.425	1.3268
	Total	**2.8222**	**28.3757**	**15.2176**	**2.85E-02**	**1.425**	**1.3268**
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	1.49E-02	0.4254	0.123	1.01E-03	0.026	8.92E-03
	Worker	0.0767	0.0544	0.6015	1.67E-03	0.156	0.0425
	Total	**0.0915**	**0.4798**	**0.7245**	**2.68E-03**	**0.182**	**0.0515**
TOTAL		***2.9137***	***28.8555***	***15.9421***	***0.0312***	***1.6070***	***1.3783***
Onsite		**2020 Winter**					
	Off-Road	2.8222	28.3757	15.2176	2.85E-02	1.425	1.3268
	Total	**2.8222**	**28.3757**	**15.2176**	**2.85E-02**	**1.425**	**1.3268**
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	1.49E-02	0.4254	0.123	1.01E-03	0.026	8.92E-03
	Worker	0.0767	0.0544	0.6015	1.67E-03	0.156	0.0425
	Total	**0.0915**	**0.4798**	**0.7245**	**2.68E-03**	**0.182**	**0.0515**
TOTAL		***2.9137***	***28.8555***	***15.9421***	***0.0312***	***1.6070***	***1.3783***
Onsite		**2020**					
	Off-Road	2.8222	28.3757	15.2176	0.0285	1.425	1.3268
	Total	**2.8222**	**28.3757**	**15.2176**	**0.0285**	**1.425**	**1.3268**
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0.0149	0.4254	0.123	0.00101	0.026	0.00892
	Worker	0.0767	0.0544	0.6015	0.00167	0.156	0.0425
	Total	**0.0915**	**0.4798**	**0.7245**	**0.00268**	**0.182**	**0.0515**
TOTAL		***2.9137***	***28.8555***	***15.9421***	***0.0312***	***1.6070***	***1.3783***

P2 Demo Haul

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2020**	Summer					
	Fugitive Dust						0.5489	0.0831
	Off-Road		0	0	0	0	0	0
	Total		**0**	**0**	**0**	**0**	**0.5489**	**8.31E-02**
Offsite								
	Hauling		0.2764	8.2671	2.0448	2.57E-02	0.6183	1.93E-01
	Vendor		0.0149	0.4254	0.123	1.01E-03	0.026	8.92E-03
	Worker		0.0767	0.0544	0.6015	1.67E-03	0.156	0.0425
	Total		**0.3679**	**8.7469**	**2.7693**	**2.84E-02**	**0.8002**	**2.44E-01**
TOTAL			***0.3679***	***8.7469***	***2.7693***	***0.0284***	***1.3491***	***0.3272***
Onsite		**2020**	**Winter**					
	Fugitive Dust						0.5489	0.0831
	Off-Road		0	0	0	0	0	0
	Total		**0**	**0**	**0**	**0**	**0.5489**	**8.31E-02**
Offsite								
	Hauling		0.2764	8.2671	2.0448	2.57E-02	0.6183	1.93E-01
	Vendor		0.0149	0.4254	0.123	1.01E-03	0.026	8.92E-03
	Worker		0.0767	0.0544	0.6015	1.67E-03	0.156	0.0425
	Total		**0.3679**	**8.7469**	**2.7693**	**2.84E-02**	**0.8002**	**2.44E-01**
TOTAL			***0.3679***	***8.7469***	***2.7693***	***0.0284***	***1.3491***	***0.3272***
Onsite		**2020**						
	Fugitive Dust		0	0	0	0	0.5489	0.0831
	Off-Road		0	0	0	0	0	0
	Total		**0**	**0**	**0**	**0**	**0.5489**	**0.0831**
Offsite								
	Hauling		0.2764	8.2671	2.0448	0.0257	0.6183	0.1926
	Vendor		0.0149	0.4254	0.123	0.00101	0.026	0.00892
	Worker		0.0767	0.0544	0.6015	0.00167	0.156	0.0425
	Total		**0.3679**	**8.7469**	**2.7693**	**0.0284**	**0.8002**	**0.2441**
TOTAL			***0.3679***	***8.7469***	***2.7693***	***0.0284***	***1.3491***	***0.3272***
	P2 Demo Debris Haul + Site Preparation		***1.97***	***24.78***	***12.31***	***0.05***	***4.96***	***2.56***

P2 Site Preparation

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2020 Summer						
	Fugitive Dust						2.5744	1.4151
	Off-Road		1.4985	15.5425	8.691	1.47E-02	0.8212	0.7555
	Total		**1.4985**	**15.5425**	**8.691**	**1.47E-02**	**3.3957**	**2.1706**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		1.49E-02	0.4254	0.123	1.01E-03	0.026	8.92E-03
	Worker		0.092	0.0652	0.7218	2.00E-03	0.1871	0.051
	Total		**0.1069**	**0.4906**	**0.8448**	**3.01E-03**	**0.2131**	**0.06**
TOTAL			***1.6054***	***16.0331***	***9.5358***	***0.0177***	***3.6088***	***2.2306***
Onsite		**2020 Winter**						
	Fugitive Dust						2.5744	1.4151
	Off-Road		1.4985	15.5425	8.691	1.47E-02	0.8212	0.7555
	Total		**1.4985**	**15.5425**	**8.691**	**1.47E-02**	**3.3957**	**2.1706**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		1.49E-02	0.4254	0.123	1.01E-03	0.026	8.92E-03
	Worker		0.092	0.0652	0.7218	2.00E-03	0.1871	0.051
	Total		**0.1069**	**0.4906**	**0.8448**	**3.01E-03**	**0.2131**	**0.06**
TOTAL			***1.6054***	***16.0331***	***9.5358***	***0.0177***	***3.6088***	***2.2306***
Onsite		**2020**						
	Off-Road		1.4985	15.5425	8.691	0.0147	0.8212	0.7555
	Total		**1.4985**	**15.5425**	**8.691**	**0.0147**	**3.3957**	**2.1706**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.0149	0.4254	0.123	0.00101	0.026	0.00892
	Worker		0.092	0.0652	0.7218	0.002	0.1871	0.051
	Total		**0.1069**	**0.4906**	**0.8448**	**0.00301**	**0.2131**	**0.06**
TOTAL			***1.6054***	***16.0331***	***9.5358***	***0.0177***	***3.6088***	***2.2306***

P2 Site Prep Haul

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2020** Summer						
	Fugitive Dust						0.0784	8.59E-03
	Off-Road		0	0	0	0.00E+00	0	0
	Total		**0**	**0**	**0**	**0.00E+00**	**0.0784**	**8.59E-03**
Offsite								
	Hauling		0.1497	4.478	1.1076	0.0139	0.3349	0.1044
	Vendor		1.49E-02	0.4254	0.123	1.01E-03	0.026	8.92E-03
	Worker		0.0767	0.0544	0.6015	1.67E-03	0.156	4.25E-02
	Total		**0.2412**	**4.9578**	**1.8321**	**1.66E-02**	**0.5169**	**1.56E-01**
TOTAL			***0.2412***	***4.9578***	***1.8321***	***0.0166***	***0.5953***	***0.1644***
Onsite		**2020 Winter**						
	Fugitive Dust						0.0784	8.59E-03
	Off-Road		0	0	0	0.00E+00	0	0
	Total		**0**	**0**	**0**	**0.00E+00**	**0.0784**	**8.59E-03**
Offsite								
	Hauling		0.1497	4.478	1.1076	0.0139	0.3349	0.1044
	Vendor		1.49E-02	0.4254	0.123	1.01E-03	0.026	8.92E-03
	Worker		0.0767	0.0544	0.6015	1.67E-03	0.156	4.25E-02
	Total		**0.2412**	**4.9578**	**1.8321**	**1.66E-02**	**0.5169**	**1.56E-01**
TOTAL			***0.2412***	***4.9578***	***1.8321***	***0.0166***	***0.5953***	***0.1644***
Onsite		**2020**						
	Fugitive Dust		0	0	0	0	0.0784	0.00859
	Off-Road		0	0	0	0	0	0
	Total		0	0	0	0	0.0784	0.00859
Offsite								
	Hauling		0.1497	4.478	1.1076	0.0139	0.3349	0.1044
	Vendor		0.0149	0.4254	0.123	0.00101	0.026	0.00892
	Worker		0.0767	0.0544	0.6015	0.00167	0.156	0.0425
	Total		**0.2412**	**4.9578**	**1.8321**	**0.0166**	**0.5169**	**0.1558**
TOTAL			***0.2412***	***4.9578***	***1.8321***	***0.0166***	***0.5953***	***0.1644***
	P2 Site Prep Haul + Site Preparation		***1.85***	***20.99***	***11.37***	***0.03***	***4.20***	***2.39***

P2 Rough Grading

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2020 Summer						
	Fugitive Dust						2.8011	1.4396
	Off-Road		2.2193	24.2807	13.7733	2.65E-02	1.1403	1.0491
	Total		**2.2193**	**24.2807**	**13.7733**	**2.65E-02**	**3.9414**	**2.4887**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		1.49E-02	0.4254	0.123	1.01E-03	0.026	8.92E-03
	Worker		0.0767	0.0544	0.6015	1.67E-03	0.156	0.0425
	Total		**0.0915**	**0.4798**	**0.7245**	**2.68E-03**	**0.182**	**0.0515**
TOTAL			***2.3108***	***24.7605***	***14.4978***	***0.0292***	***4.1234***	***2.5402***
Onsite		**2020 Winter**						
	Archit. Coating						2.8011	1.4396
	Off-Road		2.2193	24.2807	13.7733	2.65E-02	1.1403	1.0491
	Total		**2.2193**	**24.2807**	**13.7733**	**2.65E-02**	**3.9414**	**2.4887**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		1.49E-02	0.4254	0.123	1.01E-03	0.026	8.92E-03
	Worker		0.0767	0.0544	0.6015	1.67E-03	0.156	0.0425
	Total		**0.0915**	**0.4798**	**0.7245**	**2.68E-03**	**0.182**	**0.0515**
TOTAL			***2.3108***	***24.7605***	***14.4978***	***0.0292***	***4.1234***	***2.5402***
Onsite		**2020**						
	Fugitive Dust		0	0	0	0	2.8011	1.4396
	Off-Road		2.2193	24.2807	13.7733	0.0265	1.1403	1.0491
	Total		**2.2193**	**24.2807**	**13.7733**	**0.0265**	**3.9414**	**2.4887**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.0149	0.4254	0.123	0.00101	0.026	0.00892
	Worker		0.0767	0.0544	0.6015	0.00167	0.156	0.0425
	Total		**0.0915**	**0.4798**	**0.7245**	**0.00268**	**0.182**	**0.0515**
TOTAL			***2.3108***	***24.7605***	***14.4978***	***0.0292***	***4.1234***	***2.5402***
	P2 Rough Grading + Fine Grading + Rough/Fine Haul		***3.76***	***45.05***	***25.12***	***0.08***	***6.27***	***3.38***
	P2 Rough Grading + Fine Grading		***3.30***	***35.78***	***21.60***	***0.04***	***5.00***	***3.05***

P2 Fine Grading

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2020** Summer						
	Off-Road						0.2267	0.0245
	Paving		0.8948	10.5358	6.3739	1.29E-02	0.4685	0.431
	Total		**0.8948**	**10.5358**	**6.3739**	**1.29E-02**	**0.6951**	**0.4555**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.0149	0.4254	0.123	1.01E-03	0.026	8.92E-03
	Worker		0.0767	0.0544	0.6015	1.67E-03	0.156	0.0425
	Total		**0.0915**	**0.4798**	**0.7245**	**2.68E-03**	**0.182**	**0.0515**
TOTAL			***0.9863***	***11.0156***	***7.0984***	***0.0156***	***0.8771***	***0.5070***
Onsite		**2020** Winter						
	Off-Road						0.2267	0.0245
	Paving		0.8948	10.5358	6.3739	1.29E-02	0.4685	0.431
	Total		**0.8948**	**10.5358**	**6.3739**	**1.29E-02**	**0.6951**	**0.4555**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.0149	0.4254	0.123	1.01E-03	0.026	8.92E-03
	Worker		0.0767	0.0544	0.6015	1.67E-03	0.156	0.0425
	Total		**0.0915**	**0.4798**	**0.7245**	**2.68E-03**	**0.182**	**0.0515**
TOTAL			***0.9863***	***11.0156***	***7.0984***	***0.0156***	***0.8771***	***0.5070***
Onsite		**2020**						
	Off-Road		0	0	0	0	0.2267	0.0245
	Paving		0.8948	10.5358	6.3739	0.0129	0.4685	0.431
	Total		**0.8948**	**10.5358**	**6.3739**	**0.0129**	**0.6951**	**0.4555**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.0149	0.4254	0.123	0.00101	0.026	0.00892
	Worker		0.0767	0.0544	0.6015	0.00167	0.156	0.0425
	Total		**0.0915**	**0.4798**	**0.7245**	**0.00268**	**0.182**	**0.0515**
TOTAL			***1***	***11***	***7***	***0***	***1***	***1***
	P2 Fine Grading + Trenching		***2.58***	***25.26***	***22.15***	***0.04***	***1.91***	***1.37***

P2 Rough Grading Haul

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2020** Summer						
Fugitive Dust						0.1161	0.0127
Off-Road		0	0	0	0.00E+00	0	0
Total		**0**	**0**	**0**	**0.00E+00**	**0.1161**	**0.0127**
Offsite							
Hauling		0.177	5.2378	1.3057	0.0166	0.4024	0.1253
Vendor		0.0149	0.4254	0.123	1.01E-03	0.026	8.92E-03
Worker		0.0767	5.44E-02	0.6015	1.67E-03	0.156	4.25E-02
Total		**0.2685**	**5.72E+00**	**2.0302**	**1.93E-02**	**0.5844**	**1.77E-01**
TOTAL		***0.2685***	***5.7176***	***2.0302***	***0.0193***	***0.7005***	***0.1895***
Onsite	**2020** Winter						
Fugitive Dust						0.1161	0.0127
Off-Road		0	0	0	0.00E+00	0	0
Total		**0**	**0**	**0**	**0.00E+00**	**0.1161**	**0.0127**
Offsite							
Hauling		0.177	5.2378	1.3057	0.0166	0.4024	0.1253
Vendor		0.0149	0.4254	0.123	1.01E-03	0.026	8.92E-03
Worker		0.0767	5.44E-02	0.6015	1.67E-03	0.156	4.25E-02
Total		**0.2685**	**5.72E+00**	**2.0302**	**1.93E-02**	**0.5844**	**1.77E-01**
TOTAL		***0.2685***	***5.7176***	***2.0302***	***0.0193***	***0.7005***	***0.1895***
Onsite	**2020**						
Fugitive Dust		0	0	0	0	0.1161	0.0127
Off-Road		0	0	0	0	0	0
Total		**0**	**0**	**0**	**0**	**0.1161**	**0.0127**
Offsite							
Hauling		0.177	5.2378	1.3057	0.0166	0.4024	0.1253
Vendor		0.0149	0.4254	0.123	0.00101	0.026	0.00892
Worker		0.0767	0.0544	0.6015	0.00167	0.156	0.0425
Total		**0.2685**	**5.7176**	**2.0302**	**0.0193**	**0.5844**	**0.1768**
TOTAL		***0.2685***	***5.7176***	***2.0302***	***0.0193***	***0.7005***	***0.1895***
P2 Rough Grading + Rough Grade Haul + Fine Grading		***3.57***	***41.49***	***23.63***	***0.06***	***5.70***	***3.24***

P2 Fine Grading Haul

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2020 Summer						
	Fugitive Dust						0.1527	0.0166
	Off-Road		0	0	0	0.00E+00	0	0
	Total		**0**	**0**	**0**	**0.00E+00**	**0.1527**	**0.0166**
Offsite								
	Hauling		0.1038	3.0728	0.766	9.73E-03	0.2361	0.0735
	Vendor		0.0149	0.4254	0.123	1.01E-03	0.026	8.92E-03
	Worker		0.0767	5.44E-02	0.6015	1.67E-03	0.156	4.25E-02
	Total		**0.1953**	**3.55E+00**	**1.4905**	**1.24E-02**	**0.418**	**1.25E-01**
TOTAL			***0.1953***	***3.5526***	***1.4905***	***0.0124***	***0.5707***	***0.1416***
Onsite		2020 Winter						
	Fugitive Dust						0.1527	0.0166
	Off-Road		0	0	0	0.00E+00	0	0
	Total		**0**	**0**	**0**	**0.00E+00**	**0.1527**	**0.0166**
Offsite								
	Hauling		0.1038	3.0728	0.766	9.73E-03	0.2361	0.0735
	Vendor		0.0149	0.4254	0.123	1.01E-03	0.026	8.92E-03
	Worker		0.0767	5.44E-02	0.6015	1.67E-03	0.156	4.25E-02
	Total		**0.1953**	**3.55E+00**	**1.4905**	**1.24E-02**	**0.418**	**1.25E-01**
TOTAL			***0.1953***	***3.5526***	***1.4905***	***0.0124***	***0.5707***	***0.1416***
Onsite		2020						
	Fugitive Dust		0	0	0	0	0.1527	0.0166
	Off-Road		0	0	0	0	0	0
	Total		**0**	**0**	**0**	**0**	**0.1527**	**0.0166**
Offsite								
	Hauling		0.1038	3.0728	0.766	0.00973	0.2361	0.0735
	Vendor		0.0149	0.4254	0.123	0.00101	0.026	0.00892
	Worker		0.0767	0.0544	0.6015	0.00167	0.156	0.0425
	Total		**0.1953**	**3.5526**	**1.4905**	**0.0124**	**0.418**	**0.125**
TOTAL			***0.1953***	***3.5526***	***1.4905***	***0.0124***	***0.5707***	***0.1416***

P2 Trenching

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2020** Summer						
	Off-Road		1.5051	13.7625	14.331	2.24E-02	0.8521	0.8153
	Total		**1.5051**	**13.7625**	**14.331**	**2.24E-02**	**0.8521**	**0.8153**
Offsite								
	Hauling		0	0	0	0.00E+00	0	0
	Vendor		0.0149	0.4254	0.123	1.01E-03	0.026	8.92E-03
	Worker		0.0767	5.44E-02	0.6015	1.67E-03	0.156	4.25E-02
	Total		**0.0915**	**4.80E-01**	**0.7245**	**2.68E-03**	**0.182**	**5.15E-02**
TOTAL			***1.5966***	***14.2423***	***15.0555***	***0.0251***	***1.0341***	***0.8668***
Onsite		**2020** Winter						
	Off-Road		1.5051	13.7625	14.331	2.24E-02	0.8521	0.8153
	Total		**1.5051**	**13.7625**	**14.331**	**2.24E-02**	**0.8521**	**0.8153**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.0149	0.4254	0.123	1.01E-03	0.026	8.92E-03
	Worker		0.0767	5.44E-02	0.6015	1.67E-03	0.156	4.25E-02
	Total		**0.0915**	**4.80E-01**	**0.7245**	**2.68E-03**	**0.182**	**5.15E-02**
TOTAL			***1.5966***	***14.2423***	***15.0555***	***0.0251***	***1.0341***	***0.8668***
Onsite		**2020**						
	Off-Road		1.5051	13.7625	14.331	0.0224	0.8521	0.8153
	Total		**1.5051**	**13.7625**	**14.331**	**0.0224**	**0.8521**	**0.8153**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.0149	0.4254	0.123	0.00101	0.026	0.00892
	Worker		0.0767	0.0544	0.6015	0.00167	0.156	0.0425
	Total		**0.0915**	**0.4798**	**0.7245**	**0.00268**	**0.182**	**0.0515**
TOTAL			***1.5966***	***14.2423***	***15.0555***	***0.0251***	***1.0341***	***0.8668***
	P2 Building Construction + Trenching		***4.16***	***36.12***	***37.83***	***0.06***	***2.44***	***2.16***

P2 Building Construction

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2020** Summer						
	Off-Road		2.5212	21.4257	22.4086	3.50E-02	1.315	1.2639
	Total		**2.5212**	**21.4257**	**22.4086**	**3.50E-02**	**1.315**	**1.2639**
Offsite								
	Hauling		0	0	0	0.00E+00	0	0
	Vendor		0.0149	0.4254	0.123	1.01E-03	0.026	8.92E-03
	Worker		0.0307	2.18E-02	0.2406	6.70E-04	0.0624	1.70E-02
	Total		**0.0455**	**4.47E-01**	**0.3636**	**1.68E-03**	**0.0884**	**2.59E-02**
TOTAL			***2.5667***	***21.8729***	***22.7722***	***0.0367***	***1.4034***	***1.2898***
Onsite		**2020** Winter						
	Off-Road		2.5212	21.4257	22.4086	3.50E-02	1.315	1.2639
	Total		**2.5212**	**21.4257**	**22.4086**	**3.50E-02**	**1.315**	**1.2639**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.0149	0.4254	0.123	1.01E-03	0.026	8.92E-03
	Worker		0.0307	2.18E-02	0.2406	6.70E-04	0.0624	1.70E-02
	Total		**0.0455**	**4.47E-01**	**0.3636**	**1.68E-03**	**0.0884**	**2.59E-02**
TOTAL			***2.5667***	***21.8729***	***22.7722***	***0.0367***	***1.4034***	***1.2898***
Onsite		**2020**						
	Off-Road		2.5212	21.4257	22.4086	0.035	1.315	1.2639
	Total		**2.5212**	**21.4257**	**22.4086**	**0.035**	**1.315**	**1.2639**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.0149	0.4254	0.123	0.00101	0.026	0.00892
	Worker		0.0307	0.0218	0.2406	0.00067	0.0624	0.017
	Total		**0.0455**	**0.4472**	**0.3636**	**0.00168**	**0.0884**	**0.0259**
TOTAL			***3***	***22***	***23***	***0***	***1***	***1***

P2 Building Construction

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2021** Summer						
	Off-Road	2.2544	19.5212	22.2096	3.50E-02	1.1218	1.0783
	Total	**2.2544**	**19.5212**	**22.2096**	**3.50E-02**	**1.1218**	**1.0783**
Offsite							
	Hauling	0	0	0	0.00E+00	0	0
	Vendor	0.0128	0.3876	0.1123	1.00E-03	0.0248	7.75E-03
	Worker	0.0286	1.96E-02	0.221	6.50E-04	0.0624	1.70E-02
	Total	**0.0414**	**4.07E-01**	**0.3333**	**1.65E-03**	**0.0872**	**2.48E-02**
TOTAL		***2.2958***	***19.9283***	***22.5429***	***0.0367***	***1.2090***	***1.1031***
Onsite	**2021** Winter						
	Off-Road	2.2544	19.5212	22.2096	3.50E-02	1.1218	1.0783
	Total	**2.2544**	**19.5212**	**22.2096**	**3.50E-02**	**1.1218**	**1.0783**
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0.0128	0.3876	0.1123	1.00E-03	0.0248	7.75E-03
	Worker	0.0286	1.96E-02	0.221	6.50E-04	0.0624	1.70E-02
	Total	**0.0414**	**4.07E-01**	**0.3333**	**1.65E-03**	**0.0872**	**2.48E-02**
TOTAL		***2.2958***	***19.9283***	***22.5429***	***0.0367***	***1.2090***	***1.1031***
Onsite	**2021**						
	Off-Road	2.2544	19.5212	22.2096	0.035	1.1218	1.0783
	Total	**2.2544**	**19.5212**	**22.2096**	**0.035**	**1.1218**	**1.0783**
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0.0128	0.3876	0.1123	0.001	0.0248	0.00775
	Worker	0.0286	0.0196	0.221	0.00065	0.0624	0.017
	Total	**0.0414**	**0.4071**	**0.3333**	**0.00165**	**0.0872**	**0.0248**
TOTAL		***2***	***20***	***23***	***0***	***1***	***1***

P2 Paving

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2021** Summer						
	Fugitive Dust		1.094	10.8399	12.2603	1.89E-02	0.5788	0.5342
	Off-Road		7.28E-03				0	0
	Total		**1.1012**	**10.8399**	**12.2603**	**1.89E-02**	**0.5788**	**0.5342**
Offsite								
	Hauling		0	0	0	0.00E+00	0	0
	Vendor		0.0128	0.3876	0.1123	1.00E-03	0.0248	7.75E-03
	Worker		0.0954	6.52E-02	0.7365	2.15E-03	0.2079	5.67E-02
	Total		**0.1081**	**4.53E-01**	**0.8488**	**3.15E-03**	**0.2327**	**6.44E-02**
TOTAL			***1.2093***	***11.2927***	***13.1091***	***0.0221***	***0.8115***	***0.5986***
Onsite		**2021** Winter						
	Fugitive Dust		1.094	10.8399	12.2603	1.89E-02	0.5788	0.5342
	Off-Road		7.28E-03				0	0
	Total		**1.1012**	**10.8399**	**12.2603**	**1.89E-02**	**0.5788**	**0.5342**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.0128	0.3876	0.1123	1.00E-03	0.0248	7.75E-03
	Worker		0.0954	6.52E-02	0.7365	2.15E-03	0.2079	5.67E-02
	Total		**0.1081**	**4.53E-01**	**0.8488**	**3.15E-03**	**0.2327**	**6.44E-02**
TOTAL			***1.2093***	***11.2927***	***13.1091***	***0.0221***	***0.8115***	***0.5986***
Onsite		**2021**						
	Fugitive Dust		1.094	10.8399	12.2603	0.0189	0.5788	0.5342
	Off-Road		0.00728	0	0	0	0	0
	Total		**1.1012**	**10.8399**	**12.2603**	**0.0189**	**0.5788**	**0.5342**
Offsite								
	Hauling		0	0	0	0	0	0
	Vendor		0.0128	0.3876	0.1123	0.001	0.0248	0.00775
	Worker		0.0954	0.0652	0.7365	0.00215	0.2079	0.0567
	Total		**0.1081**	**0.4528**	**0.8488**	**0.00315**	**0.2327**	**0.0644**
TOTAL			***1***	***11***	***13***	***0***	***1***	***1***

P2 Architectural Coating

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2021** Summer						
Fugitive Dust		7.2229				0	0
Off-Road		2.19E-01	1.5268	1.8176	2.97E-03	0.0941	0.0941
Total		**7.4418**	**1.5268**	**1.8176**	**2.97E-03**	**0.0941**	**0.0941**
Offsite							
Hauling		0	0	0	0.00E+00	0	0
Vendor		0.0128	0.3876	0.1123	1.00E-03	0.0248	7.75E-03
Worker		4.77E-03	3.26E-03	0.0368	1.10E-04	0.0104	2.83E-03
Total		**0.0175**	**3.91E-01**	**0.1491**	**1.11E-03**	**0.0352**	**1.06E-02**
TOTAL		***7.4593***	***1.9176***	***1.9667***	***0.0041***	***0.1293***	***0.1047***
Onsite	**2021** Winter						
Fugitive Dust		7.2229				0	0
Off-Road		2.19E-01	1.5268	1.8176	2.97E-03	0.0941	0.0941
Total		**7.4418**	**1.5268**	**1.8176**	**2.97E-03**	**0.0941**	**0.0941**
Offsite							
Hauling		0	0	0	0	0	0
Vendor		0.0128	0.3876	0.1123	1.00E-03	0.0248	7.75E-03
Worker		4.77E-03	3.26E-03	0.0368	1.10E-04	0.0104	2.83E-03
Total		**0.0175**	**3.91E-01**	**0.1491**	**1.11E-03**	**0.0352**	**1.06E-02**
TOTAL		***7.4593***	***1.9176***	***1.9667***	***0.0041***	***0.1293***	***0.1047***
Onsite	**2021**						
Fugitive Dust		7.2229	0	0	0	0	0
Off-Road		0.2189	1.5268	1.8176	0.00297	0.0941	0.0941
Total		**7.4418**	**1.5268**	**1.8176**	**0.00297**	**0.0941**	**0.0941**
Offsite							
Hauling		0	0	0	0	0	0
Vendor		0.0128	0.3876	0.1123	0.001	0.0248	0.00775
Worker		0.00477	0.00326	0.0368	0.00011	0.0104	0.00283
Total		**0.0175**	**0.3908**	**0.1491**	**0.00111**	**0.0352**	**0.0106**
TOTAL		***7***	***2***	***2***	***0***	***0***	***0***

P2 Finishing/Landscaping

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2021** Summer						
Fugitive Dust		0				0	0
Off-Road		2.93E-01	2.838	3.1456	4.25E-03	0.1815	0.167
Total		**0.2932**	**2.838**	**3.1456**	**4.25E-03**	**0.1815**	**0.167**
Offsite							
Hauling		0	0	0	0.00E+00	0	0
Vendor		0.0128	0.3876	0.1123	1.00E-03	0.0248	7.75E-03
Worker		7.15E-02	4.89E-02	0.5524	1.61E-03	0.1559	4.25E-02
Total		**0.0843**	**4.37E-01**	**0.6647**	**2.61E-03**	**0.1807**	**5.02E-02**
TOTAL		***0.3775***	***3.2745***	***3.8103***	***0.0069***	***0.3622***	***0.2172***
Onsite	**2021** Winter						
Fugitive Dust		0				0	0
Off-Road		0.2932	2.838	3.1456	4.25E-03	0.1815	0.167
Total		**0.2932**	**2.838**	**3.1456**	**4.25E-03**	**0.1815**	**0.167**
Offsite							
Hauling		0	0	0	0	0	0
Vendor		0.0128	0.3876	0.1123	1.00E-03	0.0248	7.75E-03
Worker		7.15E-02	4.89E-02	0.5524	1.61E-03	0.1559	4.25E-02
Total		**0.0843**	**4.37E-01**	**0.6647**	**2.61E-03**	**0.1807**	**5.02E-02**
TOTAL		***0.3775***	***3.2745***	***3.8103***	***0.0069***	***0.3622***	***0.2172***
Onsite	**2021**						
Fugitive Dust		0	0	0	0	0	0
Off-Road		0.2932	2.838	3.1456	0.00425	0.1815	0.167
Total		**0.2932**	**2.838**	**3.1456**	**0.00425**	**0.1815**	**0.167**
Offsite							
Hauling		0	0	0	0	0	0
Vendor		0.0128	0.3876	0.1123	0.001	0.0248	0.00775
Worker		0.0715	0.0489	0.5524	0.00161	0.1559	0.0425
Total		**0.0843**	**0.4365**	**0.6647**	**0.00261**	**0.1807**	**0.0502**
TOTAL		***0.3775***	***3.2745***	***3.8103***	***0.0069***	***0.3622***	***0.2172***
inishing/Landscaping + Portable Removal + Arch Coating		***9.89***	***25.04***	***23.56***	***0.05***	***1.81***	***1.33***

P2 Portables Removal

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2021** Summer						
Fugitive Dust		0				0	0
Off-Road		1.90E+00	17.4321	16.5752	2.69E-02	0.9586	0.9013
Total		**1.9009**	**17.4321**	**16.5752**	**2.69E-02**	**0.9586**	**0.9013**
Offsite							
Hauling		0.0715	1.9825	0.5435	7.02E-03	0.1746	0.0537
Vendor		0.0128	0.3876	0.1123	1.00E-03	0.0248	7.75E-03
Worker		7.15E-02	4.89E-02	0.5524	1.61E-03	0.1559	4.25E-02
Total		**0.1558**	**2.42E+00**	**1.2082**	**9.63E-03**	**0.3553**	**1.04E-01**
TOTAL		***2.0567***	***19.8511***	***17.7834***	***0.0365***	***1.3139***	***1.0053***
Onsite	**2021** Winter						
Fugitive Dust		0				0	0
Off-Road		1.9009	17.4321	16.5752	2.69E-02	0.9586	0.9013
Total		**1.9009**	**17.4321**	**16.5752**	**2.69E-02**	**0.9586**	**0.9013**
Offsite							
Hauling		0.0715	1.9825	0.5435	7.02E-03	0.1746	0.0537
Vendor		0.0128	0.3876	0.1123	1.00E-03	0.0248	7.75E-03
Worker		0.0715	4.89E-02	0.5524	1.61E-03	0.1559	4.25E-02
Total		**0.1558**	**2.42E+00**	**1.2082**	**9.63E-03**	**0.3553**	**1.04E-01**
TOTAL		***2.0567***	***19.8511***	***17.7834***	***0.0365***	***1.3139***	***1.0053***
Onsite	**2021**						
Fugitive Dust		0	0	0	0	0	0
Off-Road		1.9009	17.4321	16.5752	0.0269	0.9586	0.9013
Total		**1.9009**	**17.4321**	**16.5752**	**0.0269**	**0.9586**	**0.9013**
Offsite							
Hauling		0.0715	1.9825	0.5435	0.00702	0.1746	0.0537
Vendor		0.0128	0.3876	0.1123	0.001	0.0248	0.00775
Worker		0.0715	0.0489	0.5524	0.00161	0.1559	0.0425
Total		**0.1558**	**2.419**	**1.2082**	**0.00963**	**0.3553**	**0.104**
TOTAL		***2.0567***	***19.8511***	***17.7834***	***0.0365***	***1.3139***	***1.0053***
P2 Finishing/Landscaping + Portable Removal		***2.43***	***23.13***	***21.59***	***0.04***	***1.68***	***1.22***

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
MAX DAILY	**9.89**	**47.69**	**37.83**	**0.08**	**6.27**	**3.38**
Year 2019	3.56	38.88	28.26	0.06	5.25	3.05
Year 2020	4.16	28.86	15.94	0.05	4.96	2.56
Year 2021	9.89	25.04	23.56	0.05	1.81	1.33
Regional Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	No	No	No	No	No	No

Localized Construction Emissions Worksheet

*CalEEMod, Version 2016.3.2

P1 Asphalt Demolition

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2019**				
	Off-Road		47.1684	24.4231	2.4371	2.2604
	Total		47.1684	24.4231	2.4371	2.2604
	2.50-Acre LSTs		***159***	***944***	***7.16***	***4.33***
	Exceed LST?		***No***	***No***	***No***	***No***

P1 Demo Haul

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2019**				
	Off-Road		0	0	0	0
	Total		0	0	0.2043	0.0309

P1 Site Prep Haul

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2019**				
	Fugitive Dust		0	0	0.00114	0.00017
	Off-Road		0	0	0	0
	Total		0	0	0.00114	0.00017
	P1 Demo Haul + P1 Site Prep Haul		***0.00***	***0.00***	***0.21***	***0.03***
	1-Acre LSTs		***103***	***562***	***4.00***	***3.00***
	Demo Haul + Site Prep Haul Exceed LST?		***No***	***No***	***No***	***No***

P1 Grading

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2019**				
	Fugitive Dust		0	0	2.8011	1.4396
	Off-Road		23.6733	11.688	1.0853	0.9985
	Total		23.6733	11.688	3.8864	2.4381
	P1 Grading + Haul		***23.67***	***11.69***	***3.89***	***2.44***
	1.50-Acre LSTs		***125***	***694***	***5.00***	***3.50***
	Grading + Haul Exceed LST?		***No***	***No***	***No***	***No***
	P1 Trenching + Grading + Haul		***28.35***	***16.29***	***4.20***	***2.73***
	2.50-Acre LSTs		***159***	***944***	***7.16***	***4.33***
	Grading + Haul + Trenching Exceed LST?		***No***	***No***	***No***	***No***

P1 Grading Haul

		NOx	CO	PM10 Total	PM2.5 Total
Onsite	2019				
Fugitive Dust		0	0	0.00475	0.00072
Off-Road		0	0	0	0
Total		0	0	0.00475	0.00072

P1 Trenching

		NOx	CO	PM10 Total	PM2.5 Total
Onsite	2019				
Off-Road		4.6747	4.6054	0.3121	0.2871
Total		4.6747	4.6054	0.3121	0.2871
1-Acre LSTs		***103***	***562***	***4.00***	***3.00***
Trenching Exceed LST?		***No***	***No***	***No***	***No***

P1 Portables Installation

		NOx	CO	PM10 Total	PM2.5 Total
Onsite	2019				
Off-Road		17.6053	13.9547	1.0427	0.9853
Total		17.6053	13.9547	1.0427	0.9853
1-Acre LSTs		***103***	***562***	***4.00***	***3.00***
Portable Installation Exceed LST?		***No***	***No***	***No***	***No***
P1 Portables Installation + Hardscaping		***30.37***	***26.27***	***1.76***	***1.65***
1-Acre LSTs		***103***	***562***	***4.00***	***3.00***
Portable Installation + Hardscaping Exceed LST?		***No***	***No***	***No***	***No***

P1 Asphalt Paving

		NOx	CO	PM10 Total	PM2.5 Total
Onsite	2019				
Hauling		12.7604	12.313	0.7196	0.6637
Off-Road		0	0	0	0
Total		12.7604	12.313	0.7196	0.6637
<1.00-Acre LSTs		***103***	***562***	***4.00***	***3.00***
Exceed LST?		***No***	***No***	***No***	***No***

P2 Asphalt Demolition

		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2020**				
Off-Road		28.3757	15.2176	1.425	1.3268
Total		28.3757	15.2176	1.425	1.3268
1.00-Acre LSTs		***103***	***562***	***4.00***	***3.00***
Exceed LST?		***No***	***No***	***No***	***No***

P2 Demo Haul

		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2020**				
Fugitive Dust		0	0	0.5489	0.0831
Off-Road		0	0	0	0
Total		0	0	0.5489	0.0831
P2 Demo Debris Haul + Site Preparation		***15.54***	***8.69***	***3.94***	***2.25***
1.50-Acre LSTs		***125***	***694***	***5.00***	***3.50***
Demo + Haul Exceed LST?		***No***	***No***	***No***	***No***

P2 Site Preparation

		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2020**				
Off-Road		15.5425	8.691	0.8212	0.7555
Total		15.5425	8.691	3.3957	2.1706
1.50-Acre LSTs		***125***	***694***	***5.00***	***3.50***
Site Prep Exceed LST?		***No***	***No***	***No***	***No***
P2 Site Prep Haul + Site Preparation		***15.54***	***8.69***	***3.47***	***2.18***
1.50-Acre LSTs		***125***	***694***	***5.00***	***3.50***
Site Prep + Haul Exceed LST?		***No***	***No***	***No***	***No***

P2 Site Prep Haul

		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2020**				
Fugitive Dust		0	0	0.0784	0.00859
Off-Road		0	0	0	0
Total		0	0	0.0784	0.00859

P2 Rough Grading

		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2020**				
Fugitive Dust		0	0	2.8011	1.4396
Off-Road		24.2807	13.7733	1.1403	1.0491
Total		24.2807	13.7733	3.9414	2.4887
P2 Rough Grading + Fine Grading		***34.82***	***20.15***	***4.64***	***2.94***
3.50-Acre LSTs		***184***	***1,179***	***9.49***	***5.00***
Rough + Fine Grading Exceed LST?		***No***	***No***	***No***	***No***

P2 Fine Grading

		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2020**				
Fugitive Dust		0	0	0.2267	0.0245
Off-Road		10.5358	6.3739	0.4685	0.431
Total		10.5358	6.3739	0.6951	0.4555
1.50-Acre LSTs		***125***	***694***	***5.00***	***3.50***
Fine Grading Exceed LST?		***No***	***No***	***No***	***No***
P2 Fine Grading + Trenching		***24.30***	***20.70***	***1.55***	***1.27***
2.50-Acre LSTs		***159***	***944***	***7.16***	***4.33***
Fine Grading + Trenching Exceed LST?		***No***	***No***	***No***	***No***

P2 Rough Grading Haul

		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2020**				
Fugitive Dust		0	0	0.1161	0.0127
Off-Road		0	0	0	0
Total		0	0	0.1161	0.0127
P2 Rough Grading + Fine Grading + Rough/Fine Haul		***34.82***	***20.15***	***4.91***	***2.97***
3.50-Acre LSTs		***184***	***1,179***	***9.49***	***5.00***
Phase Sum Exceed LST?		***No***	***No***	***No***	***No***
P2 Rough Grading + Fine Grading + RoughHaul		***34.82***	***20.15***	***4.75***	***2.96***
3.50-Acre LSTs		***184***	***1,179***	***9.49***	***5.00***
P2 Rough Grading + Fine Grading + RoughHaul Exceeds LSTs?		***No***	***No***	***No***	***No***

P2 Fine Grading Haul

		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2020**				
Fugitive Dust		0	0	0.1527	0.0166
Off-Road		0	0	0	0
Total		0	0	0.1527	0.0166

P2 Trenching

		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2020**				
Off-Road		13.7625	14.331	0.8521	0.8153
Total		13.7625	14.331	0.8521	0.8153

P2 Building Construction

		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2020**				
Off-Road		21.4257	22.4086	1.315	1.2639
Total		21.4257	22.4086	1.315	1.2639
1.50-Acre LSTs		***125***	***694***	***5.00***	***3.50***
Building Construction Exceed LST?		***No***	***No***	***No***	***No***
P2 Trenching + Building Construction		***35.19***	***36.74***	***2.17***	***2.08***
2.50-Acre LSTs		***159***	***944***	***7.16***	***4.33***
Building Construction + Trenching Exceed LST?		***No***	***No***	***No***	***No***

P2 Building Construction

		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2021**				
Off-Road		19.5212	22.2096	1.1218	1.0783
Total		19.5212	22.2096	1.1218	1.0783
1.50-Acre LSTs		***125***	***694***	***5.00***	***3.50***
Exceed LST?		***No***	***No***	***No***	***No***

P2 Paving

		NOx	CO	PM10 Total	PM2.5 Total
Onsite	**2021**				
Paving		10.8399	12.2603	0.5788	0.5342
Off-Road		0	0	0	0
Total		10.8399	12.2603	0.5788	0.5342
<1.00-Acre LSTs		***103***	***562***	***4.00***	***3.00***
Exceed LST?		***No***	***No***	***No***	***No***

P2 Architectural Coating

		NOx	CO	PM10 Total	PM2.5 Total
Onsite	2021				
Paving		0	0	0	0
Off-Road		1.5268	1.8176	0.0941	0.0941
Total		1.5268	1.8176	0.0941	0.0941
<1.00-Acre LSTs		***103***	***562***	***4.00***	***3.00***
Exceed LST?		***No***	***No***	***No***	***No***
P2 Arch. Coating + Finishing + Portable Removal		***21.80***	***21.54***	***1.23***	***1.16***
2.00-Acre LSTs		***147***	***827***	***6.00***	***4.00***
Exceed LST?		***No***	***No***	***No***	***No***

P2 Finishing/Landscaping

		NOx	CO	PM10 Total	PM2.5 Total
Onsite	2021				
Paving		0	0	0	0
Off-Road		2.838	3.1456	0.1815	0.167
Total		2.838	3.1456	0.1815	0.167

P2 Portables Removal

		NOx	CO	PM10 Total	PM2.5 Total
Onsite	2021				
Paving		0	0	0	0
Off-Road		17.4321	16.5752	0.9586	0.9013
Total		17.4321	16.5752	0.9586	0.9013
P2 Portable Removal + Finishing/Landscaping		***20.27***	***19.72***	***1.14***	***1.07***
2.00-Acre LSTs		***147***	***827***	***6.00***	***4.00***
Exceed LST?		***No***	***No***	***No***	***No***

Regional Operation Emissions Worksheet*

*CalEEMod, Version 2016.3.2

Proposed Project

Summer

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	0.366	4.00E-05	4.33E-03	0	2.00E-05	2.00E-05
Energy	5.67E-03	0.0515	0.0433	3.10E-04	3.92E-03	3.92E-03
Mobile	0.5983	0.8908	8.3324	0.0252	2.4917	0.6735
Total	**0.97**	**0.9424**	**8.38**	**2.55E-02**	**2.4957**	**0.6774**

Winter

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	0.366	4.00E-05	4.33E-03	0	2.00E-05	2.00E-05
Energy	5.67E-03	0.0515	0.0433	3.10E-04	3.92E-03	3.92E-03
Mobile	0.5764	0.9523	7.8178	0.0237	2.4918	0.6735
Total	**0.948**	**1.0039**	**7.8654**	**2.41E-02**	**2.4957**	**0.6775**

Max Daily

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	0.366	0.000	0.004	0.000	0.000	0.000
Energy	0.006	0.052	0.043	0.000	0.004	0.004
Mobile	0.598	0.952	8.332	0.025	2.492	0.674
Total	**0.970**	**1.004**	**8.380**	**0.026**	**2.496**	**0.678**

Regional Thresholds	**55**	**55**	**550**	**150**	**150**	**550**
Exceeds Thresholds?	No	No	No	No	No	No

GHG Emissions Inventory

Proposed Project Buildout

Construction

	$MTCO_2e$ Total*
2019 - Phase 1	123
2020 - Phase 2	263
2021 - Phase 2	237
Total Construction	**623**

*CalEEMod, Version 2016.3.2.

Operation*

Proposed Project	MTCO2e	Percent of Total	
Area	0	0%	$MTCO_2e$/Year**
Energy	42	11%	$MTCO_2e$/Year
Mobile	284	78%	$MTCO_2e$/Year
Solid Waste	11	3%	$MTCO_2e$/Year
Water	8	2%	$MTCO_2e$/Year
Amortized Construction Emissions***	21	6%	$MTCO_2e$/Year
Total	**365**		**$MTCO_2e$/Year**
SCAQMD Bright-Line Screening Threshold	3,000		$MTCO_2e$/Year
Exceed Threshold?	**No**		

*CalEEMod, Version 2016.3.2.

** $MTCO_2e$=metric tons of carbon dioxide equivalent.

*** Total construction emissions are amortized over 30 years per SCAQMD methodology; SCAQMD. 2009, November 19. Greenhouse Gases (GHG) CEQA Significance Thresholds Working Group Meeting 14. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-14/ghg-meeting-14-main-presentation.pdf?sfvrsn=2.

GHG Emissions Target Setting - Forecasting the 2030 Efficiency Target

2020 Scoping Plan Emissions Inventory

Source: CARB 1990 Inventory. California Air Resources Board. 2007, November. California Greenhouse Gas Inventory (millions of metric tonnes of CO2 equivalent) — Summary by Economic Sector. https://www.arb.ca.gov/cc/inventory/1990level/1990data.htm

1990 End Use Sector	**MTCO2e**	**MMTCO2e**	**Notes**
Electricity	94,754,207	94.8	Removed Industrial
Transportation	137,901,182	137.9	On-Road Only
Landfills	7,447,544	7.4	Landfill
Wastewater	3,183,648	3.2	Domestic Wastewater Treatment
Commercial	13,848,597	13.8	Removed National Security
Residential	29,740,487	29.7	Includes all
TOTAL LAND USE	286,875,666	286.9	

2017 Scoping Plan Emissions Inventory

Source: Pathways Main Outputs Final (Dec 2017). California Air Resources Board. 2017, December. The 2017 Climate Change Scoping Plan Update: The Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

End Use Sector 2030	MMTCO2e				
	Reference Scenario	Scoping Plan Scenario	Change	Percent Change	Sector Definition
Residential	46.5	41.4	-5.1	-11.0%	Residential final energy consumption
Commercial	36.00	30.1	-5.90	-16.4%	Commercial final energy consumption
Transportation	123.1	105.1	-18	-14.6%	Transportation energy consumption
Industrial*	33.8	30.7	-3.1	-9.2%	Industrial manufacturing final energy consumption,
Oil & Gas Extraction*	19.5	19.4	-0.1	-0.5%	Energy used in the extraction of oil and gas
Petroleum Refining*	32.6	32.5	-0.1	-0.3%	Energy used in petroleum Refining
Agriculture	7.7	6.8	-0.9	-11.7%	Energy use of physical infrastructure of agriculture, like buildings and pumps
Transportation Communications and Utilities	5.5	5.00	-0.5	-9.1%	Transportation Communications and Utilities (TCU) energy supports public infrastructure, like street lighting and waste treatment facilities
Non-Energy GHGs*	84.3	49.4	-34.9	-41.40%	Examples of non-energy GHG emissions include methane and N2O emissions from agriculture and waste, refrigerant F-gases, and emissions from cement production
Solid Waste Non-Energy GHGs	10.7	9.1	-1.6	-14.95%	Isolated the Solid Waste Subsector
Unspecified	0	0	0	n/a	
	389	320.4	-68.6	-17.63%	
Target	260	260			
Gap	-129	-60.4			

CARB 2017 Scoping Plan Assumes GAP from the Scoping Plan Scenario is closed by the Cap-and-Trade

GHG Emissions Target Setting - Forecasting the 2030 Efficiency Target

STATEWIDE SERVICE POPULATION CALCULATIONS

Population

2020	40,639,392
2021	40,980,939
2022	41,321,565
2023	41,659,526
2024	41,994,283
2025	42,326,397
2026	42,655,695
2027	42,981,484
2028	43,304,691
2029	43,624,393
2030	43,939,250
2031	44,250,503
2032	44,556,617
2033	44,856,079
2034	45,150,800
2035	45,440,735
2036	45,726,459
2037	46,006,009
2038	46,277,743
2039	46,544,307
2040	46,804,202
2050	49,077,801

California Department of Finance. 2018, March 8. Report P-1 (County): State and County Total Population Projections, 2010-2060 (1 -year increments).http://www.dof.ca.gov/Forecasting/Demographics/Projections/

CALIFORNIA SERVICE POPULATION (ESTIMATE)

Employment

	Total Employment	Farm Employment	Natural Resources and Mining Employment	Manufacturing + Durable Manufacturing Employment	Employment w/o Industrial and Agricultural Sectors
2020	17,630,930	418,171	22,268	2,177,747	15,012,744
2021	17,787,640	417,961	22,388	2,184,418	15,162,873

GHG Emissions Target Setting - Forecasting the 2030 Efficiency Target

2022	17,939,780	418,291	22,578	2,190,008	15,308,902
2023	18,083,910	418,582	22,538	2,192,829	15,449,961
2024	18,224,870	418,862	22,398	2,195,081	15,588,529
2025	18,370,230	419,122	22,188	2,204,979	15,723,941
2026	18,511,920	419,372	22,198	2,215,447	15,854,903
2027	18,648,200	419,612	22,408	2,224,416	15,981,764
2028	18,808,150	419,872	22,438	2,229,397	16,136,443
2029	18,971,340	420,142	22,478	2,234,398	16,294,322
2030	19,137,080	420,402	22,508	2,239,408	16,454,761
2031	19,299,670	420,673	22,538	2,244,399	16,612,060
2032	19,458,160	420,933	22,578	2,249,420	16,765,229
2033	19,615,470	421,203	22,608	2,254,441	16,917,218
2034	19,770,890	421,463	22,648	2,259,502	17,067,277
2035	19,924,140	421,733	22,678	2,264,562	17,215,166
2036	20,078,780	421,993	22,718	2,269,643	17,364,425
2037	20,235,200	422,263	22,748	2,274,724	17,515,465
2038	20,395,030	422,523	22,788	2,279,835	17,669,884
2039	20,551,830	422,794	22,818	2,284,955	17,821,263
2040	20,709,630	423,054	22,859	2,290,086	17,973,632
2050	22,371,010	425,715	23,209	2,342,246	19,579,840

California Department of Transportation. 2017. Long-Term Socio-Economic Forecasts by County.
http://www.dot.ca.gov/hq/tpp/offices/eab/socio_economic.html

Service Population (SP)

	Total Employment	Employment w/o Industrial and Agricultural Sectors
2020	58,270,322	55,652,136
2021	58,768,579	56,143,812
2022	59,261,345	56,630,467
2023	59,743,436	57,109,487
2024	60,219,153	57,582,812
2025	60,696,627	58,050,338
2026	61,167,615	58,510,598
2027	61,629,684	58,963,248
2028	62,112,841	59,441,134
2029	62,595,733	59,918,715
2030	63,076,330	60,394,011
2031	63,550,173	60,862,563
2032	64,014,777	61,321,846
2033	64,471,549	61,773,297
2034	64,921,690	62,218,077
2035	65,364,875	62,655,901

GHG Emissions Target Setting - Forecasting the 2030 Efficiency Target

	2036	65,805,239	63,090,884
	2037	66,241,209	63,521,474
	2038	66,672,773	63,947,627
	2039	67,096,137	64,365,570
	2040	67,513,832	64,777,834
	2050	71,448,811	68,657,641

Project Horizon Year Estimate	2021
2021 population	40,980,939
2021 employment (w/o industrial & Ag)	15,162,873
2021 SP	56,143,812

2030 Scoping Plan - Efficiency Metric

Year 2020 Plan-Level		
2020 Target (Plan-Level)	MMTCO2e	431
2020 Per Capita Target	MTCO2e/pc	10.6
2020 Per Service Population Target (Plan-Level)	MTCO2e/sp	7.7
Year 2020 Project-Level		
2020 Target (Project-Level)	MMTCO2e	286.9
2020 Per Capita Target	MTCO2e/pc	7.1
2020 Per Service Population Target (Project-Level)	MTCO2e/sp	5.2
Year 2030 Plan-Level		
2030 Target (Plan-Level)	MMTCO2e	260
2030 Per Capita Target	MTCO2e/pc	5.9
2030 Per Service Population Target (Plan-Level)	MTCO2e/sp	4.3
Year 2030 Project-Level		
Land Use Inventory (Project-Level)	MMTCO2e	190.7
2030 Per Capita Target	MTCO2e/pc	4.3
2030 Per Service Population Target (Project-Level)	MTCO2e/sp	3.2
Year 2050 Plan-Level		
2050 Target estimated (Plan-Level)	MMTCO2e	86
2050 Per Capita Target	MTCO2e/pc	1.8
2050 Per Service Population Target (Plan-Level)	MTCO2e/sp	1.3
Year 2050 Project-Level		
2050 Target estimated (Plan-Level)	MMTCO2e	57
2050 Per Capita Target	MTCO2e/pc	1.2
2050 Per Service Population Target (Plan-Level)	MTCO2e/sp	0.8

GHG Emissions Target Setting - Forecasting the 2030 Efficiency Target

Project Horizon Year Estimate	2021		
Land Use Inventory (Plan-Level)	MMTCO2e	277.3	-3%
2040 Per Service Population Target (Project-Level)	MTCO2e/sp	4.94	

CalEEMod Land Use Inputs: Proposed

Name:	Point Dume Elementary School
Project Location:	Fernhill Drive, Malibu, CA
County/Air Basin:	Los Angeles County
Climate Zone:	8
Land Use Setting:	Urban
Operational Year:	2021
Utility Company:	SoCal Gas

Total Project Site Acreage:	6.43	acres
Total Project Site Acreage:	6.43	acres
Projected Students	185	Students

Totals					
Type	**Land Use Type**	**Land Use Unit Amount**	**Land Use Size Metric**	**Lot Acreage**	**Land Use Square Feet**
High School	Educational	16.5	1000BSF	0.22	26,580
Other Asphalt Surfaces	Other Asphalt	13.0	1000sqft	0.30	13,000
Other Non-Asphalt Surfaces	Hardscape	13.0	1000sqft	0.30	13,000
				0.81	**acres**

Phase 1					
Type	**Land Use Type**	**Land Use Unit Amount**	**Land Use Size Metric**	**Lot Acreage**	**Land Use Square Feet**
Portable Buildings	Educational	10.1	1000BSF	0.23	10,080
Other Asphalt Surfaces	Other Asphalt	11.0	1000sqft	0.25	0
Other Non-Asphalt Surfaces	Hardscape	11.0	1000sqft	0.25	0
				0.74	**acres**

Phase 2					
Type	**Land Use Type**	**Land Use Unit Amount**	**Land Use Size Metric**	**Lot Acreage**	**Land Use Square Feet**
High School	Educational	16.5	1000BSF	0.22	16,500
Other Asphalt Surfaces	Other Asphalt	2.0	1000sqft	0.05	0
Other Non-Asphalt Surfaces	Hardscape	2.0	1000sqft	0.05	0
				0.31	**acres**

**Based on information provided by the Applicant.*

CalEEMod Land Use Inputs: Proposed

Land Uses/Development

	Number of Portables	Building Square Feet	Portable Haul Trips
Classroom	7 (24' x 40')	6720	21
Classroom	1 (36' x 40')	1440	3
Admin Building	1 (36' x 40')	1440	3
Restroom Building	1 (12' x 40')	480	3
Total	**10**	**10080**	**30**

Distance the new temporary portables would be transported from:	150	miles

Building Totals:		
Portables	*10,080*	building square feet
Permanent Buildings	*16,500*	building square feet
Total Building	**26,580**	**BSF**

Other Surfaces			
Total Asphalt:	11,000	2,000	**13,000**
Total Hardscape:	11,000	2,000	**13,000**
Total Landscaping:	0	2,000	**2,000**

**Based on information provided by the Applicant.*

Soil Hauling*

Construction Activity	Import Volume (CY)	Export Volume (CY)	Total Volume (CY)	Haul Truck Capacity (CY)	Total Haul Trips (One-Way)	CalEEMod Haul Distance
Phase 1						
Site Preparation	0	142	142	18	16	60
Grading	967	211	1,179	18	131	72
Phase 2						
Site Preparation	0	350	350	18	39	60
Rough Grading	225	0	225	18	25	75
Fine Grading	100	0	100	18	11	75

Import Haul Travel Distance:	75	miles
Export Haul Travel Distance:	60	miles

**Based on information provided by the Applicant.*

Asphalt Demolition

Component	Amount to be Demolished (Tons)*	Haul Truck Capacity (tons)*	Haul Distance (miles)*	Total Trip Ends	Duration (days)	Trips Ends/Day
Phase 1	134	10	60	27	6	15
Phase 2	300	10	60	60	5	30

**Based in information provuded by the Applicant.*

CalEEMod Land Use Inputs: Proposed

Architectural Coating

*Building Painted Interior Surface (%):**	80%	
*Building Painted Exterior Surface (%):**	100%	
*Parking Paint VOC content :***	100	grams per liter
*Parking Paint VOC content:***	100	grams per liter

***Provided by the Applicant*

***Based on SCAQMD Rule 1113, Architectural Coatings.*

Land Use	Land Use Amount (BSF)	CalEEMod Paintable Surface Area Multiplier*	Total Paintable Surface Area (BSF)	Total Paintable Interior Surface Area (BSF)*	Total Paintable Exterior Surface Area (BSF)*
Phase 2					
Permanent Buildings	16,500	2.0	33,000	19,800	8,250
Operational					
Permanent Buildings	16,500	2.0	33,000	19,800	8,250

**Based on CalEEMod methodology in calculating the paintable surface areas for a nonresidential building and surface parking lot.*

Construction - Unmitigated Run

SCAQMD Rule 403			
Replace Ground Cover	PM10:	5	% Reduction
	PM25:	5	% Reduction
Water Exposed Area	Frequency:	2	per day
	PM10:	55	% Reduction
	PM25:	55	% Reduction
Unpaved Roads	Vehicle Speed:	15	mph
SCAQMD Rule 1186			
Clean Paved Road	9	% PM Reduction	

Water Use CalEEMod Defaults*

	Indoor	**Outdoor**	**Total**
CalEEMod Default (gal/year)	469,750.060	1,207,928.720	1,677,679

**CalEEMod default.*

CalEEMod Land Use Inputs: Proposed

Solid Waste*

Land Use	Total Solid Waste (ton/yr)*
CalEEMod Default (tons/year)	21.06

**CalEEMod default.*

Energy

Built to meet the 2016 Building Energy Efficiency Standards and CALGreen.

Trip Generation

Trip Rate	1.89	Trips per student
Average Daily Trips	350	*ADT*
CalEEMod Trip Rate	21.19	Trips per 1000 sqft

Source: KOA, 2018. Traffic Impact Report - Malibu Schools Alignment Project

Water Mitigation

Install Low Flow Bathroom Faucet	32	% Reduction in flow
Install Low Flow Kitchen Faucet	18	% Reduction in flow
Install Low Flow Toilet	20	% Reduction in flow
Install Low Flow Shower	20	% Reduction in flow
Use Water Efficiency Irrigation System	6.1	% Reduction in flow

Construction Phasing*

5-Day Work Week

Phase 1

Phase Name	Start Date	End Date	Workdays	Total Days
Asphalt Demolition + Site Prep	6/4/2019	6/11/2019	6	7
Demo Debris Haul	*6/12/2019*	*6/18/2019*	*6*	*6*
Site Prep Haul	*6/12/2019*	*6/18/2019*	*6*	*6*
Grading	6/19/2019	7/2/2019	12	13
Grading Haul	*6/19/2019*	*7/2/2019*	*12*	*13*
Trenching	6/25/2019	7/16/2019	19	21
Hardscaping	7/17/2019	7/30/2019	12	13
Portables Installation	7/17/2019	8/31/2019	40	44

Phase 1 utilizes a 6-day workweek

Phase 2

Phase Name	Start Date	End Date	Workdays	Total Days
Asphalt Demolition	6/1/2020	6/5/2020	5	4
Demo Debris Haul	*6/8/2020*	*6/12/2020*	*5*	*4*
Site Preparation	6/8/2020	7/3/2020	20	25
Site Preparation Soil Haul	*6/15/2020*	*6/22/2020*	*6*	*7*
Rough Grading	7/4/2020	7/15/2020	8	11
Rough Grading Soil Haul	*7/10/2020*	*7/15/2020*	*4*	*5*
Utility Trenching	7/16/2020	7/31/2020	12	15
Fine Grading	7/4/2020	7/17/2020	10	13
Fine Grading Soil Haul	*7/10/2020*	*7/14/2020*	*3*	*4*
Building Construction	7/18/2020	6/2/2021	228	314
Asphalt Paving	6/3/2021	6/28/2021	18	25
Architectural Coating	6/29/2021	7/22/2021	18	23
Finishing/Landscaping	7/1/2021	7/31/2021	22	30
Portable Removal	7/1/2021	7/31/2021	22	30

*Based on schedule provided by the Applicant.

Construction Equipment Mix*

***Based on information provided by the Applicant unless otherwise noted.**

CalEEMod Equipment Type	Equipment Model	Amount	Hrs Op	HP	Worker Trips/ Day	CalEEMod Vendor Trips**
Asphalt Demolition + Site Preparation						
Concrete/Industrial Saws	Concrete/Industrial Saws	**1**	8	81		
Excavators	Excavators	**1**	8	158		
Rubber Tired Dozers	Rubber Tired Dozers	**3**	8	247		
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	**2**	8			
Worker Trips					**15**	
Vendor Trips						**4**
Grading						
Excavators	Excavators	**1**	8	158		
Graders	Graders	**1**	8	187		
Rubber Tired Dozers	Rubber Tired Dozers	**1**	8	247		
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	**1**	8	97		
Worker Trips					**15**	
Vendor Trips						**4**
Trenching						
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	**2**	8	97		
Worker Trips					**15**	
Vendor Trips						**4**
Portables Insallation						
Cranes	Cranes	**1**	7	231		
Forklifts	Forklifts	**2**	8	89		
Generator Sets	Generator Sets	**1**	8	84		
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	**2**	7	97		
Welders	Welders	**1**	8	46		
Delivery Trucks	Delivery Trucks	**3**				
Worker Trips					**15**	
Vendor Trips						**4**
Hardscaping						
Cement and Mortar Mixers	Cement and Mortar Mixers	**2**	6	9		
Pavers	Pavers	**1**	8	130		
Paving Equipment	Paving Equipment	**2**	6	132		
Rollers	Rollers	**2**	6	80		
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	**1**	8	97		
Worker Trips					**15**	
Vendor Trips						**4**

** Inclues water truck trips

Construction Equipment Mix*

***Based on information provided by the Applicant unless otherwise noted.**

CalEEMod Equipment Type	Equipment Model	Amount	Hrs Op	HP	LF	Worker Trips/ Day	CalEEMod Vendor Trips**
Asphalt Demolition							
Concrete/Industrial Saws	Concrete/Industrial Saws	**1**	8	81			
Excavators	Excavators	**1**	8	158			
Rubber Tired Dozers	Rubber Tired Dozers	**2**	8	247			
Worker Trips						**15**	
Vendor Trips							**4**
Site Preparation							
Rubber Tired Dozers	Rubber Tired Dozers	**1**	8	247			
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	**2**	8	97			
Worker Trips						**18**	
Vendor Trips							**4**
Rough Grading							
Excavators	Excavators	**1**	8	158			
Graders	Graders	**1**	8	187			
Rubber Tired Dozers	Rubber Tired Dozers	**1**	8	247			
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	**2**	8	97			
Worker Trips						**15**	
Vendor Trips							**4**
Trenching							
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	**2**	8	97			
Forklifts	Forklifts	**2**	8				
Generator Sets	Generator Sets	**2**	8				
Worker Trips						**15**	
Vendor Trips							**4**
Fine Grading							
Graders	Graders	**1**	8	187			
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	**2**	8	97			
Worker Trips						**15**	
Vendor Trips							**4**
Building Construction							
Forklifts	Forklifts	**3**	8	231			
Generator Sets	Generator Sets	**3**	8	89			
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	**3**	7	84			
Welders	Welders	**1**	8	97			
Worker Trips						**6**	
Vendor Trips							**2**
Paving							
Cement and Mortar Mixers	Cement and Mortar Mixers	**2**	6	9			
Pavers	Pavers	**1**	8	130			
Paving Equipment	Paving Equipment	**2**	6	132			
Rollers	Rollers	**2**	6	80			
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	**1**	8	97			
Worker Trips						**20**	
Vendor Trips							**4**
Architectural Coating							
Air Compressor	Air Compressor	**1**	6	78			
Worker Trips						**1**	
Vendor Trips							**4**
Finishing							
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	**1**	7	97			
Forklifts	Forklifts	**1**	8				
Worker Trips						**15**	
Vendor Trips							**4**
Portables Removal							
Cranes	Cranes	**1**	7	231			
Forklifts	Forklifts	**3**	8	89			
Generator Sets	Generator Sets	**1**	8	84			
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	**3**	7	97			
Welders	Welders	**1**	8	46			
Delivery Trucks	Delivery Trucks	**3**					
Worker Trips						**15**	
Vendor Trips							**4**

** Includes water truck trips

Changes to the CalEEMod Defaults - Fleet Mix 2021 (Proposed)

Trips 317

Default	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
FleetMix (Model Default)	0.5472	0.045177	0.202743	0.12151	0.016147	0.006143	0.019743	0.029945	0.002479	0.00227	0.005078	0.000682	0.000891	100%
Trips	173	14	64	39	5	2	6	9	1	1	2	0	0	317
Percent	80%			12%	8%									100%
without buses/MH	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0	0	0.005078	0.000682	0	99%
Percent	80%			12%	7%									99%
Adjusted without buses/MH	0.547192	0.045177	0.202743	0.121510	0.017400	0.006620	0.021275	0.032269	0.000000	0.000000	0.005472	0.000735	0.000000	
Percent check	80%			12%	8%									100%
Assumed Mix	98.0%			1.00%	1.00%									100%
adjusted with Assumed	0.669821	0.055301	0.248179	0.010000	0.002222	0.000845	0.002717	0.004121	0.000000	0.000000	0.006699	0.000094	0.000000	100%
Trips	212	18	79	3	1	0	1	1	0	0	2	0	0	317
Check	*311*			*3*	*3*									

Construction Trips Worksheet*

**Based on information provided and CalEEMod defaults*

Phase 1

CalEEMod Output

Construction Activity	Daily Worker Trips	Daily Vendor Trips	Daily Haul Trips	Hauling Trip Number	Start Date	End Date	Number of Workdays Per Week	Number of Workdays
Demolition	15	4	0	0	2019/06/04	2019/06/11	6	7
Demo Haul	15	4	6	27	2019/06/12	2019/06/18	6	6
Site Prep Haul	0	0	4	16	2019/06/12	2019/06/18	6	6
Grading	15	4	0	0	2019/06/19	2019/07/02	6	12
Grading Haul	0	0	12	131	2019/06/19	2019/07/02	6	12
Trenching	15	4	0	0	2019/06/25	2019/07/16	6	19
Portables Installation	15	4	2	30	2019/07/17	2019/08/31	6	40
Hardscaping	15	4	0	0	2019/07/17	2019/07/30	6	12

Maximum Daily Trips

Construction Activity	Daily Worker Trips	Daily Vendor Trips	Daily Haul Trips	Total Daily Trips	Start Date	End Date	Duration (Workdays)
Demolition & Site Prep	15	4	0	19	6/4/2019	6/11/2019	7
Demolition, Demolition Haul, & Site Prep Haul	30	8	10	48	6/12/2019	6/18/2019	6
Grading & Grading Haul	15	4	12	31	6/19/2019	6/24/2019	5
Grading, Grading Haul, & Utility Trenching	30	8	12	50	6/25/2019	7/2/2019	7
Utility Trenching	15	4	0	19	7/3/2019	7/16/2019	12
Hardscaping & Portables Installation	30	8	2	40	7/17/2019	7/30/2019	12
Portables Installation	15	4	2	21	7/31/2019	8/31/2019	28
Max Daily	**30**	**8**	**12**	**50**			

Phase 2

CalEEMod Output

Construction Activity	Daily Worker Trips	Daily Vendor Trips	Daily Haul Trips	Hauling Trip Number	Start Date	End Date	Number of Workdays Per Week	Number of Workdays
Asphalt Demolition	15	4	0	0	2020/06/01	2020/06/05	5	5
Demo Haul	15	4	12	60	2020/06/08	2020/06/12	5	5
Site Preparation	18	4	0	0	2020/06/08	2020/07/03	5	20
Site Prep Haul	15	4	8	39	2020/06/15	2020/06/22	5	6
Rough Grading	15	4	0	0	2020/07/04	2020/07/15	5	8
Fine Grading	15	4	0	0	2020/07/04	2020/07/17	5	10
Rough Grading Haul	15	4	8	25	2020/07/10	2020/07/15	5	4
Fine Grading Haul	15	4	4	11	2020/07/10	2020/07/14	5	3
Trenching	15	4	0	0	2020/07/16	2020/07/31	5	12
Building Construction	6	4	0	0	2020/07/16	2021/06/02	5	230
Paving	20	4	0	0	2021/06/03	2021/06/28	5	18
Architectural Coating	1	4	0	0	2021/06/29	2021/07/22	5	18
Finishing/Landscaping	15	4	0	0	2021/07/01	2021/07/30	5	22
Portable Removal	15	4	2	30	2021/07/01	2021/07/30	5	22

Maximum Daily Trips

Construction Activity	Daily Worker Trips	Daily Vendor Trips	Daily Haul Trips	Total Daily Trips	Start Date	End Date	Duration (Workdays)
Asphalt Demolition	15	4	0	19	6/1/2020	6/5/2020	5
Asphalt Demolition Debris Haul & Site Prep	33	8	12	53	6/8/2020	6/12/2020	5
Site Preparation	18	4	0	22	6/13/2020	6/14/2020	1
Site Preparation & Site Prep Haul	33	8	8	49	6/15/2020	6/22/2020	7
Site Preparation	18	4	0	22	6/23/2020	7/3/2020	10
Rough Grading & Fine Grading	30	8	0	38	7/4/2020	7/9/2020	5
Rough Grading, Rough Grading Haul, Fine Grading, & Fine Grading Haul	60	16	12	88	7/10/2020	7/14/2020	4
Rough Grading, Rough Grading Haul, & Fine Grading	45	12	8	65	7/15/2020	7/15/2020	1
Fine Grading	15	4	0	19	7/16/2020	7/16/2020	1
Fine Grading & Utility Trenching	30	8	0	38	7/17/2020	7/17/2020	1
Building Construction & Utility Trenching	21	8	0	29	7/18/2020	7/31/2020	12
Building Construction	6	4	0	10	7/18/2020	6/2/2021	274
Asphalt Paving	20	4	0	24	6/3/2021	6/28/2021	22
Architectural Coating	1	4	0	5	6/29/2021	6/30/2021	2
Architectural Coating, Fishing/Landscaping, & Portables Removal	31	12	2	45	7/1/2021	7/22/2021	19
Finishing/Landscaping & Portables Removal	30	8	2	40	7/23/2021	7/31/2021	8
Max Daily	**60**	**16**	**12**	**88**			

Point Dume Elementary School - Operation

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	16.20	1000sqft	0.22	16,200.00	0
Other Asphalt Surfaces	13.00	1000sqft	0.30	13,000.00	0
Other Non-Asphalt Surfaces	13.00	1000sqft	0.30	13,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**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 - See CalEEMod Assumptions

Construction Phase -

Vehicle Trips - See CalEEMod Assumptions

Water And Wastewater - See CalEEMod Assumptions

Water Mitigation -

Fleet Mix - See CalEEMod Assumptions

Area Coating - See CalEEMod Assumptions

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	8100	8250
tblAreaCoating	Area_Nonresidential_Interior	24300	19800
tblAreaCoating	Area_Parking	1560	0
tblFleetMix	HHD	0.03	4.1210e-003
tblFleetMix	LDA	0.55	0.67
tblFleetMix	LDT1	0.05	0.06
tblFleetMix	LDT2	0.20	0.25
tblFleetMix	LHD1	0.02	2.2220e-003
tblFleetMix	LHD2	6.1430e-003	8.4500e-004
tblFleetMix	MCY	5.0780e-003	6.6990e-003
tblFleetMix	MDV	0.12	0.01
tblFleetMix	MH	8.9100e-004	0.00
tblFleetMix	MHD	0.02	2.7170e-003
tblFleetMix	OBUS	2.4790e-003	0.00
tblFleetMix	SBUS	6.8200e-004	9.4000e-005
tblFleetMix	UBUS	2.2700e-003	0.00
tblLandUse	LotAcreage	0.37	0.22
tblVehicleTrips	WD_TR	15.43	21.19
tblWater	AerobicPercent	87.46	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	100.00

2.0 Emissions Summary

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	0.0668	0.0000	5.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0500e-003	1.0500e-003	0.0000	0.0000	1.1200e-003
Energy	1.0300e-003	9.4000e-003	7.9000e-003	6.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	41.6185	41.6185	1.4900e-003	4.6000e-004	41.7916
Mobile	0.0731	0.1265	1.0357	3.1300e-003	0.3151	2.4700e-003	0.3176	0.0837	2.2800e-003	0.0860	0.0000	283.9556	283.9556	0.0103	0.0000	284.2141
Waste						0.0000	0.0000		0.0000	0.0000	4.2750	0.0000	4.2750	0.2526	0.0000	10.5911
Water						0.0000	0.0000		0.0000	0.0000	0.0000	6.2248	6.2248	0.1070	4.1000e-004	9.0221
Total	**0.1409**	**0.1359**	**1.0442**	**3.1900e-003**	**0.3151**	**3.1800e-003**	**0.3183**	**0.0837**	**2.9900e-003**	**0.0867**	**4.2750**	**331.8000**	**336.0750**	**0.3714**	**8.7000e-004**	**345.6200**

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	0.0668	0.0000	5.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0500e-003	1.0500e-003	0.0000	0.0000	1.1200e-003
Energy	1.0300e-003	9.4000e-003	7.9000e-003	6.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	41.6185	41.6185	1.4900e-003	4.6000e-004	41.7916
Mobile	0.0731	0.1265	1.0357	3.1300e-003	0.3151	2.4700e-003	0.3176	0.0837	2.2800e-003	0.0860	0.0000	283.9556	283.9556	0.0103	0.0000	284.2141
Waste						0.0000	0.0000		0.0000	0.0000	4.2750	0.0000	4.2750	0.2526	0.0000	10.5911
Water						0.0000	0.0000		0.0000	0.0000	0.0000	5.5742	5.5742	0.0856	3.4000e-004	7.8141
Total	**0.1409**	**0.1359**	**1.0442**	**3.1900e-003**	**0.3151**	**3.1800e-003**	**0.3183**	**0.0837**	**2.9900e-003**	**0.0867**	**4.2750**	**331.1494**	**335.4244**	**0.3501**	**8.0000e-004**	**344.4121**

	ROG	NOx	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	0.20	0.19	5.75	8.05	0.35

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	0.0731	0.1265	1.0357	3.1300e-003	0.3151	2.4700e-003	0.3176	0.0837	2.2800e-003	0.0860	0.0000	283.9556	283.9556	0.0103	0.0000	284.2141
Unmitigated	0.0731	0.1265	1.0357	3.1300e-003	0.3151	2.4700e-003	0.3176	0.0837	2.2800e-003	0.0860	0.0000	283.9556	283.9556	0.0103	0.0000	284.2141

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	343.28	0.00	0.00	845,048	845,048
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	343.28	0.00	0.00	845,048	845,048

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
Elementary School	16.60	8.40	6.90	65.00	30.00	5.00	63	25	12
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-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
Elementary School	0.669821	0.055301	0.248179	0.010000	0.002222	0.000845	0.002717	0.004121	0.000000	0.000000	0.006699	0.000094	0.000000
Other Asphalt Surfaces	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0.002479	0.002270	0.005078	0.000682	0.000891
Other Non-Asphalt Surfaces	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0.002479	0.002270	0.005078	0.000682	0.000891

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	31.3829	31.3829	1.3000e-003	2.7000e-004	31.4952
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	31.3829	31.3829	1.3000e-003	2.7000e-004	31.4952
NaturalGas Mitigated	1.0300e-003	9.4000e-003	7.9000e-003	6.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	10.2356	10.2356	2.0000e-004	1.9000e-004	10.2964
NaturalGas Unmitigated	1.0300e-003	9.4000e-003	7.9000e-003	6.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	10.2356	10.2356	2.0000e-004	1.9000e-004	10.2964

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					
Elementary School	191808	1.0300e-003	9.4000e-003	7.9000e-003	6.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	10.2356	10.2356	2.0000e-004	1.9000e-004	10.2964
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
Other Non-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		**1.0300e-003**	**9.4000e-003**	**7.9000e-003**	**6.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**10.2356**	**10.2356**	**2.0000e-004**	**1.9000e-004**	**10.2964**

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					
Elementary School	191808	1.0300e-003	9.4000e-003	7.9000e-003	6.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	10.2356	10.2356	2.0000e-004	1.9000e-004	10.2964
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
Other Non-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		**1.0300e-003**	**9.4000e-003**	**7.9000e-003**	**6.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**10.2356**	**10.2356**	**2.0000e-004**	**1.9000e-004**	**10.2964**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	98496	31.3829	1.3000e-003	2.7000e-004	31.4952
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**31.3829**	**1.3000e-003**	**2.7000e-004**	**31.4952**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	98496	31.3829	1.3000e-003	2.7000e-004	31.4952
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**31.3829**	**1.3000e-003**	**2.7000e-004**	**31.4952**

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	0.0668	0.0000	5.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0500e-003	1.0500e-003	0.0000	0.0000	1.1200e-003
Unmitigated	0.0668	0.0000	5.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0500e-003	1.0500e-003	0.0000	0.0000	1.1200e-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	6.5000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0602					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	0.0000	5.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0500e-003	1.0500e-003	0.0000	0.0000	1.1200e-003
Total	**0.0668**	**0.0000**	**5.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0500e-003**	**1.0500e-003**	**0.0000**	**0.0000**	**1.1200e-003**

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	6.5000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0602					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	0.0000	5.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0500e-003	1.0500e-003	0.0000	0.0000	1.1200e-003
Total	**0.0668**	**0.0000**	**5.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0500e-003**	**1.0500e-003**	**0.0000**	**0.0000**	**1.1200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.5742	0.0856	3.4000e-004	7.8141
Unmitigated	6.2248	0.1070	4.1000e-004	9.0221

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Elementary School	0.46975 / 1.20793	6.2248	0.1070	4.1000e-004	9.0221
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**6.2248**	**0.1070**	**4.1000e-004**	**9.0221**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Elementary School	0.3758 / 1.13425	5.5742	0.0856	3.4000e-004	7.8141
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**5.5742**	**0.0856**	**3.4000e-004**	**7.8141**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO_2	CH_4	N_2O	CO_2e
	MT/yr			
Mitigated	4.2750	0.2526	0.0000	10.5911
Unmitigated	4.2750	0.2526	0.0000	10.5911

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO_2	CH_4	N_2O	CO_2e
Land Use	tons	MT/yr			
Elementary School	21.06	4.2750	0.2526	0.0000	10.5911
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**4.2750**	**0.2526**	**0.0000**	**10.5911**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Elementary School	21.06	4.2750	0.2526	0.0000	10.5911
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**4.2750**	**0.2526**	**0.0000**	**10.5911**

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

Point Dume Elementary School - Operation

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	16.20	1000sqft	0.22	16,200.00	0
Other Asphalt Surfaces	13.00	1000sqft	0.30	13,000.00	0
Other Non-Asphalt Surfaces	13.00	1000sqft	0.30	13,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**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 - See CalEEMod Assumptions

Construction Phase -

Vehicle Trips - See CalEEMod Assumptions

Water And Wastewater - See CalEEMod Assumptions

Water Mitigation -

Fleet Mix - See CalEEMod Assumptions

Area Coating - See CalEEMod Assumptions

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	8100	8250
tblAreaCoating	Area_Nonresidential_Interior	24300	19800
tblAreaCoating	Area_Parking	1560	0
tblFleetMix	HHD	0.03	4.1210e-003
tblFleetMix	LDA	0.55	0.67
tblFleetMix	LDT1	0.05	0.06
tblFleetMix	LDT2	0.20	0.25
tblFleetMix	LHD1	0.02	2.2220e-003
tblFleetMix	LHD2	6.1430e-003	8.4500e-004
tblFleetMix	MCY	5.0780e-003	6.6990e-003
tblFleetMix	MDV	0.12	0.01
tblFleetMix	MH	8.9100e-004	0.00
tblFleetMix	MHD	0.02	2.7170e-003
tblFleetMix	OBUS	2.4790e-003	0.00
tblFleetMix	SBUS	6.8200e-004	9.4000e-005
tblFleetMix	UBUS	2.2700e-003	0.00
tblLandUse	LotAcreage	0.37	0.22
tblVehicleTrips	WD_TR	15.43	21.19
tblWater	AerobicPercent	87.46	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	100.00

2.0 Emissions Summary

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	0.3660	4.0000e-005	4.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.2400e-003	9.2400e-003	2.0000e-005		9.8500e-003
Energy	5.6700e-003	0.0515	0.0433	3.1000e-004		3.9200e-003	3.9200e-003		3.9200e-003	3.9200e-003		61.8237	61.8237	1.1800e-003	1.1300e-003	62.1911
Mobile	0.5983	0.8908	8.3324	0.0252	2.4727	0.0190	2.4917	0.6559	0.0176	0.6735		2,514.6717	2,514.6717	0.0894		2,516.9070
Total	**0.9700**	**0.9424**	**8.3800**	**0.0255**	**2.4727**	**0.0230**	**2.4957**	**0.6559**	**0.0215**	**0.6774**		**2,576.5046**	**2,576.5046**	**0.0906**	**1.1300e-003**	**2,579.1079**

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	0.3660	4.0000e-005	4.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.2400e-003	9.2400e-003	2.0000e-005		9.8500e-003
Energy	5.6700e-003	0.0515	0.0433	3.1000e-004		3.9200e-003	3.9200e-003		3.9200e-003	3.9200e-003		61.8237	61.8237	1.1800e-003	1.1300e-003	62.1911
Mobile	0.5983	0.8908	8.3324	0.0252	2.4727	0.0190	2.4917	0.6559	0.0176	0.6735		2,514.6717	2,514.6717	0.0894		2,516.9070
Total	**0.9700**	**0.9424**	**8.3800**	**0.0255**	**2.4727**	**0.0230**	**2.4957**	**0.6559**	**0.0215**	**0.6774**		**2,576.5046**	**2,576.5046**	**0.0906**	**1.1300e-003**	**2,579.1079**

	ROG	NOx	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**

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	0.5983	0.8908	8.3324	0.0252	2.4727	0.0190	2.4917	0.6559	0.0176	0.6735		2,514.6717	2,514.6717	0.0894		2,516.9070
Unmitigated	0.5983	0.8908	8.3324	0.0252	2.4727	0.0190	2.4917	0.6559	0.0176	0.6735		2,514.6717	2,514.6717	0.0894		2,516.9070

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	343.28	0.00	0.00	845,048	845,048
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	343.28	0.00	0.00	845,048	845,048

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
Elementary School	16.60	8.40	6.90	65.00	30.00	5.00	63	25	12
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-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
Elementary School	0.669821	0.055301	0.248179	0.010000	0.002222	0.000845	0.002717	0.004121	0.000000	0.000000	0.006699	0.000094	0.000000
Other Asphalt Surfaces	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0.002479	0.002270	0.005078	0.000682	0.000891
Other Non-Asphalt Surfaces	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0.002479	0.002270	0.005078	0.000682	0.000891

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	5.6700e-003	0.0515	0.0433	3.1000e-004		3.9200e-003	3.9200e-003		3.9200e-003	3.9200e-003		61.8237	61.8237	1.1800e-003	1.1300e-003	62.1911
NaturalGas Unmitigated	5.6700e-003	0.0515	0.0433	3.1000e-004		3.9200e-003	3.9200e-003		3.9200e-003	3.9200e-003		61.8237	61.8237	1.1800e-003	1.1300e-003	62.1911

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					
Elementary School	525.501	5.6700e-003	0.0515	0.0433	3.1000e-004		3.9200e-003	3.9200e-003		3.9200e-003	3.9200e-003		61.8237	61.8237	1.1800e-003	1.1300e-003	62.1911
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
Other Non-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		**5.6700e-003**	**0.0515**	**0.0433**	**3.1000e-004**		**3.9200e-003**	**3.9200e-003**		**3.9200e-003**	**3.9200e-003**		**61.8237**	**61.8237**	**1.1800e-003**	**1.1300e-003**	**62.1911**

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					
Elementary School	0.525501	5.6700e-003	0.0515	0.0433	3.1000e-004		3.9200e-003	3.9200e-003		3.9200e-003	3.9200e-003		61.8237	61.8237	1.1800e-003	1.1300e-003	62.1911
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
Other Non-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		**5.6700e-003**	**0.0515**	**0.0433**	**3.1000e-004**		**3.9200e-003**	**3.9200e-003**		**3.9200e-003**	**3.9200e-003**		**61.8237**	**61.8237**	**1.1800e-003**	**1.1300e-003**	**62.1911**

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	0.3660	4.0000e-005	4.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.2400e-003	9.2400e-003	2.0000e-005		9.8500e-003
Unmitigated	0.3660	4.0000e-005	4.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.2400e-003	9.2400e-003	2.0000e-005		9.8500e-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	lb/day										lb/day					
Architectural Coating	0.0356					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0000e-004	4.0000e-005	4.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.2400e-003	9.2400e-003	2.0000e-005		9.8500e-003
Total	**0.3660**	**4.0000e-005**	**4.3300e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**9.2400e-003**	**9.2400e-003**	**2.0000e-005**		**9.8500e-003**

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	0.0356					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0000e-004	4.0000e-005	4.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.2400e-003	9.2400e-003	2.0000e-005		9.8500e-003
Total	**0.3660**	**4.0000e-005**	**4.3300e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**9.2400e-003**	**9.2400e-003**	**2.0000e-005**		**9.8500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

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

Point Dume Elementary School - Operation

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	16.20	1000sqft	0.22	16,200.00	0
Other Asphalt Surfaces	13.00	1000sqft	0.30	13,000.00	0
Other Non-Asphalt Surfaces	13.00	1000sqft	0.30	13,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**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 - See CalEEMod Assumptions

Construction Phase -

Vehicle Trips - See CalEEMod Assumptions

Water And Wastewater - See CalEEMod Assumptions

Water Mitigation -

Fleet Mix - See CalEEMod Assumptions

Area Coating - See CalEEMod Assumptions

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	8100	8250
tblAreaCoating	Area_Nonresidential_Interior	24300	19800
tblAreaCoating	Area_Parking	1560	0
tblFleetMix	HHD	0.03	4.1210e-003
tblFleetMix	LDA	0.55	0.67
tblFleetMix	LDT1	0.05	0.06
tblFleetMix	LDT2	0.20	0.25
tblFleetMix	LHD1	0.02	2.2220e-003
tblFleetMix	LHD2	6.1430e-003	8.4500e-004
tblFleetMix	MCY	5.0780e-003	6.6990e-003
tblFleetMix	MDV	0.12	0.01
tblFleetMix	MH	8.9100e-004	0.00
tblFleetMix	MHD	0.02	2.7170e-003
tblFleetMix	OBUS	2.4790e-003	0.00
tblFleetMix	SBUS	6.8200e-004	9.4000e-005
tblFleetMix	UBUS	2.2700e-003	0.00
tblLandUse	LotAcreage	0.37	0.22
tblVehicleTrips	WD_TR	15.43	21.19
tblWater	AerobicPercent	87.46	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	100.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Area	0.3660	4.0000e-005	4.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.2400e-003	9.2400e-003	2.0000e-005		9.8500e-003
Energy	5.6700e-003	0.0515	0.0433	3.1000e-004		3.9200e-003	3.9200e-003		3.9200e-003	3.9200e-003		61.8237	61.8237	1.1800e-003	1.1300e-003	62.1911
Mobile	0.5764	0.9523	7.8178	0.0237	2.4727	0.0190	2.4918	0.6559	0.0176	0.6735		2,371.5904	2,371.5904	0.0872		2,373.7693
Total	**0.9480**	**1.0039**	**7.8654**	**0.0241**	**2.4727**	**0.0230**	**2.4957**	**0.6559**	**0.0215**	**0.6775**		**2,433.4234**	**2,433.4234**	**0.0884**	**1.1300e-003**	**2,435.9703**

Mitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Area	0.3660	4.0000e-005	4.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.2400e-003	9.2400e-003	2.0000e-005		9.8500e-003
Energy	5.6700e-003	0.0515	0.0433	3.1000e-004		3.9200e-003	3.9200e-003		3.9200e-003	3.9200e-003		61.8237	61.8237	1.1800e-003	1.1300e-003	62.1911
Mobile	0.5764	0.9523	7.8178	0.0237	2.4727	0.0190	2.4918	0.6559	0.0176	0.6735		2,371.5904	2,371.5904	0.0872		2,373.7693
Total	**0.9480**	**1.0039**	**7.8654**	**0.0241**	**2.4727**	**0.0230**	**2.4957**	**0.6559**	**0.0215**	**0.6775**		**2,433.4234**	**2,433.4234**	**0.0884**	**1.1300e-003**	**2,435.9703**

	ROG	NOx	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**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Mitigated	0.5764	0.9523	7.8178	0.0237	2.4727	0.0190	2.4918	0.6559	0.0176	0.6735		2,371.5904	2,371.5904	0.0872		2,373.7693
Unmitigated	0.5764	0.9523	7.8178	0.0237	2.4727	0.0190	2.4918	0.6559	0.0176	0.6735		2,371.5904	2,371.5904	0.0872		2,373.7693

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	343.28	0.00	0.00	845,048	845,048
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	343.28	0.00	0.00	845,048	845,048

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
Elementary School	16.60	8.40	6.90	65.00	30.00	5.00	63	25	12
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-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
Elementary School	0.669821	0.055301	0.248179	0.010000	0.002222	0.000845	0.002717	0.004121	0.000000	0.000000	0.006699	0.000094	0.000000
Other Asphalt Surfaces	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0.002479	0.002270	0.005078	0.000682	0.000891
Other Non-Asphalt Surfaces	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0.002479	0.002270	0.005078	0.000682	0.000891

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
NaturalGas Mitigated	5.6700e-003	0.0515	0.0433	3.1000e-004		3.9200e-003	3.9200e-003		3.9200e-003	3.9200e-003		61.8237	61.8237	1.1800e-003	1.1300e-003	62.1911
NaturalGas Unmitigated	5.6700e-003	0.0515	0.0433	3.1000e-004		3.9200e-003	3.9200e-003		3.9200e-003	3.9200e-003		61.8237	61.8237	1.1800e-003	1.1300e-003	62.1911

5.2 Energy by Land Use - NaturalGas

Unmitigated

Land Use	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
	kBTU/yr	lb/day										lb/day					
Elementary School	525.501	5.6700e-003	0.0515	0.0433	3.1000e-004		3.9200e-003	3.9200e-003		3.9200e-003	3.9200e-003		61.8237	61.8237	1.1800e-003	1.1300e-003	62.1911
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
Other Non-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		**5.6700e-003**	**0.0515**	**0.0433**	**3.1000e-004**		**3.9200e-003**	**3.9200e-003**		**3.9200e-003**	**3.9200e-003**		**61.8237**	**61.8237**	**1.1800e-003**	**1.1300e-003**	**62.1911**

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					
Elementary School	0.525501	5.6700e-003	0.0515	0.0433	3.1000e-004		3.9200e-003	3.9200e-003		3.9200e-003	3.9200e-003		61.8237	61.8237	1.1800e-003	1.1300e-003	62.1911
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
Other Non-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		**5.6700e-003**	**0.0515**	**0.0433**	**3.1000e-004**		**3.9200e-003**	**3.9200e-003**		**3.9200e-003**	**3.9200e-003**		**61.8237**	**61.8237**	**1.1800e-003**	**1.1300e-003**	**62.1911**

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	0.3660	4.0000e-005	4.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.2400e-003	9.2400e-003	2.0000e-005		9.8500e-003
Unmitigated	0.3660	4.0000e-005	4.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.2400e-003	9.2400e-003	2.0000e-005		9.8500e-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	lb/day										lb/day					
Architectural Coating	0.0356					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0000e-004	4.0000e-005	4.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.2400e-003	9.2400e-003	2.0000e-005		9.8500e-003
Total	**0.3660**	**4.0000e-005**	**4.3300e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**9.2400e-003**	**9.2400e-003**	**2.0000e-005**		**9.8500e-003**

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	0.0356					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0000e-004	4.0000e-005	4.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.2400e-003	9.2400e-003	2.0000e-005		9.8500e-003
Total	**0.3660**	**4.0000e-005**	**4.3300e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**9.2400e-003**	**9.2400e-003**	**2.0000e-005**		**9.8500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

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

Point Dume Elementary School - Phase 1

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	10.10	1000sqft	0.23	10,100.00	0
Other Asphalt Surfaces	11.00	1000sqft	0.25	0.00	0
Other Non-Asphalt Surfaces	11.00	1000sqft	0.25	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**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 - See CalEEMod Assumptions

Construction Phase - See CalEEMod Assumptions

Off-road Equipment - Haul Phase

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - Haul Phase

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - Haul Phase

Off-road Equipment - See CalEEMod Assumptions

Trips and VMT - See CalEEMod Assumptions

Demolition -

Grading - See CalEEMod Assumptions

Construction Off-road Equipment Mitigation - SCAQMD Rule 403

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	0	1320
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	7.00
tblConstructionPhase	NumDays	10.00	6.00
tblConstructionPhase	NumDays	1.00	6.00
tblConstructionPhase	NumDays	2.00	12.00
tblConstructionPhase	NumDays	2.00	12.00
tblConstructionPhase	NumDays	100.00	40.00
tblConstructionPhase	NumDays	5.00	12.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblGrading	MaterialExported	0.00	211.00
tblGrading	MaterialExported	0.00	142.00

tblGrading	MaterialImported	0.00	967.00
tblLandUse	LandUseSquareFeet	11,000.00	0.00
tblLandUse	LandUseSquareFeet	11,000.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	4.00	7.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripLength	20.00	60.00
tblTripsAndVMT	HaulingTripLength	20.00	60.00

tblTripsAndVMT	HaulingTripLength	20.00	72.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripNumber	13.00	27.00
tblTripsAndVMT	HaulingTripNumber	18.00	16.00
tblTripsAndVMT	HaulingTripNumber	147.00	131.00
tblTripsAndVMT	HaulingTripNumber	0.00	30.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	2.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	18.00	15.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	10.00	15.00
tblTripsAndVMT	WorkerTripNumber	5.00	15.00
tblTripsAndVMT	WorkerTripNumber	4.00	15.00
tblTripsAndVMT	WorkerTripNumber	20.00	15.00

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					
2019	0.0888	0.9061	0.6143	1.3500e-003	0.0570	0.0438	0.1008	0.0248	0.0409	0.0658	0.0000	122.3327	122.3327	0.0239	0.0000	122.9310
Maximum	**0.0888**	**0.9061**	**0.6143**	**1.3500e-003**	**0.0570**	**0.0438**	**0.1008**	**0.0248**	**0.0409**	**0.0658**	**0.0000**	**122.3327**	**122.3327**	**0.0239**	**0.0000**	**122.9310**

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					
2019	0.0888	0.9061	0.6143	1.3500e-003	0.0325	0.0438	0.0763	0.0128	0.0409	0.0538	0.0000	122.3326	122.3326	0.0239	0.0000	122.9309
Maximum	**0.0888**	**0.9061**	**0.6143**	**1.3500e-003**	**0.0325**	**0.0438**	**0.0763**	**0.0128**	**0.0409**	**0.0538**	**0.0000**	**122.3326**	**122.3326**	**0.0239**	**0.0000**	**122.9309**

	ROG	**NOx**	**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**	**43.05**	**0.00**	**24.34**	**48.27**	**0.00**	**18.23**	**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	**6-4-2019**	**9-3-2019**	1.0362	1.0362
		Highest	1.0362	1.0362

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/4/2019	6/11/2019	6	7	
2	Demo Haul	Demolition	6/12/2019	6/18/2019	6	6	
3	Site Prep Haul	Site Preparation	6/12/2019	6/18/2019	6	6	
4	Grading	Grading	6/19/2019	7/2/2019	6	12	
5	Grading Haul	Grading	6/19/2019	7/2/2019	6	12	
6	Trenching	Trenching	6/25/2019	7/16/2019	6	19	
7	Portables Installation	Building Construction	7/17/2019	8/31/2019	6	40	
8	Hardscaping	Paving	7/17/2019	7/30/2019	6	12	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6

Acres of Paving: 0.5

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	1.00	247	0.40
Demolition	Rubber Tired Dozers	3	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demo Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Demo Haul	Graders	0	8.00	187	0.41
Demo Haul	Rubber Tired Dozers	0	1.00	247	0.40
Demo Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Prep Haul	Graders	0	8.00	187	0.41

Site Prep Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Grading	Excavators	1	8.00	158	0.38
Grading	Generator Sets	0	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Grading Haul	Rubber Tired Dozers	0	1.00	247	0.40
Grading Haul	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Trenching	Air Compressors	0	6.00	78	0.48
Trenching	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Portables Installation	Cranes	1	7.00	231	0.29
Portables Installation	Forklifts	2	8.00	89	0.20
Portables Installation	Generator Sets	1	8.00	84	0.74
Portables Installation	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Portables Installation	Welders	1	8.00	46	0.45
Hardscaping	Cement and Mortar Mixers	2	6.00	9	0.56
Hardscaping	Pavers	1	8.00	130	0.42
Hardscaping	Paving Equipment	2	6.00	132	0.36
Hardscaping	Rollers	2	6.00	80	0.38
Hardscaping	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	7	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demo Haul	0	15.00	4.00	27.00	14.70	6.90	60.00	LD_Mix	HDT_Mix	HHDT
Site Prep Haul	0	0.00	0.00	16.00	14.70	6.90	60.00	LD_Mix	HDT_Mix	HHDT
Grading	4	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading Haul	0	0.00	0.00	131.00	14.70	6.90	72.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Portables Installation	7	15.00	4.00	30.00	14.70	6.90	150.00	LD_Mix	HDT_Mix	HHDT
Hardscaping	8	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2019

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	0.0161	0.1651	0.0855	1.5000e-004		8.5300e-003	8.5300e-003		7.9100e-003	7.9100e-003	0.0000	13.5108	13.5108	3.8100e-003	0.0000	13.6061
Total	**0.0161**	**0.1651**	**0.0855**	**1.5000e-004**		**8.5300e-003**	**8.5300e-003**		**7.9100e-003**	**7.9100e-003**	**0.0000**	**13.5108**	**13.5108**	**3.8100e-003**	**0.0000**	**13.6061**

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	1.6500e-003	4.5000e-004	0.0000	9.0000e-005	1.0000e-005	1.0000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3501	0.3501	2.0000e-005	0.0000	0.3507
Worker	2.6000e-004	2.2000e-004	2.3800e-003	1.0000e-005	5.8000e-004	1.0000e-005	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5530	0.5530	2.0000e-005	0.0000	0.5535
Total	**3.2000e-004**	**1.8700e-003**	**2.8300e-003**	**1.0000e-005**	**6.7000e-004**	**2.0000e-005**	**6.8000e-004**	**1.8000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.9031**	**0.9031**	**4.0000e-005**	**0.0000**	**0.9042**

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0161	0.1651	0.0855	1.5000e-004		8.5300e-003	8.5300e-003		7.9100e-003	7.9100e-003	0.0000	13.5107	13.5107	3.8100e-003	0.0000	13.6060
Total	**0.0161**	**0.1651**	**0.0855**	**1.5000e-004**		**8.5300e-003**	**8.5300e-003**		**7.9100e-003**	**7.9100e-003**	**0.0000**	**13.5107**	**13.5107**	**3.8100e-003**	**0.0000**	**13.6060**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	1.6500e-003	4.5000e-004	0.0000	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3501	0.3501	2.0000e-005	0.0000	0.3507
Worker	2.6000e-004	2.2000e-004	2.3800e-003	1.0000e-005	5.3000e-004	1.0000e-005	5.4000e-004	1.4000e-004	0.0000	1.5000e-004	0.0000	0.5530	0.5530	2.0000e-005	0.0000	0.5535
Total	**3.2000e-004**	**1.8700e-003**	**2.8300e-003**	**1.0000e-005**	**6.1000e-004**	**2.0000e-005**	**6.3000e-004**	**1.6000e-004**	**1.0000e-005**	**1.8000e-004**	**0.0000**	**0.9031**	**0.9031**	**4.0000e-005**	**0.0000**	**0.9042**

3.3 Demo Haul - 2019

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					1.4300e-003	0.0000	1.4300e-003	2.2000e-004	0.0000	2.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.4300e-003**	**0.0000**	**1.4300e-003**	**2.2000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	3.3000e-004	0.0102	2.3200e-003	3.0000e-005	7.0000e-004	4.0000e-005	7.4000e-004	1.9000e-004	4.0000e-005	2.3000e-004	0.0000	2.8868	2.8868	1.8000e-004	0.0000	2.8912
Vendor	5.0000e-005	1.4200e-003	3.9000e-004	0.0000	8.0000e-005	1.0000e-005	8.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3001	0.3001	2.0000e-005	0.0000	0.3006
Worker	2.3000e-004	1.9000e-004	2.0400e-003	1.0000e-005	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4740	0.4740	2.0000e-005	0.0000	0.4744
Total	**6.1000e-004**	**0.0118**	**4.7500e-003**	**4.0000e-005**	**1.2700e-003**	**5.0000e-005**	**1.3200e-003**	**3.4000e-004**	**5.0000e-005**	**3.9000e-004**	**0.0000**	**3.6609**	**3.6609**	**2.2000e-004**	**0.0000**	**3.6662**

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Fugitive Dust					6.1000e-004	0.0000	6.1000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6.1000e-004**	**0.0000**	**6.1000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	3.3000e-004	0.0102	2.3200e-003	3.0000e-005	6.5000e-004	4.0000e-005	6.9000e-004	1.8000e-004	4.0000e-005	2.2000e-004	0.0000	2.8868	2.8868	1.8000e-004	0.0000	2.8912
Vendor	5.0000e-005	1.4200e-003	3.9000e-004	0.0000	7.0000e-005	1.0000e-005	8.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3001	0.3001	2.0000e-005	0.0000	0.3006
Worker	2.3000e-004	1.9000e-004	2.0400e-003	1.0000e-005	4.5000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.4740	0.4740	2.0000e-005	0.0000	0.4744
Total	**6.1000e-004**	**0.0118**	**4.7500e-003**	**4.0000e-005**	**1.1700e-003**	**5.0000e-005**	**1.2300e-003**	**3.2000e-004**	**5.0000e-005**	**3.8000e-004**	**0.0000**	**3.6609**	**3.6609**	**2.2000e-004**	**0.0000**	**3.6662**

3.4 Site Prep Haul - 2019

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					1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	2.0000e-004	6.0300e-003	1.3700e-003	2.0000e-005	4.1000e-004	3.0000e-005	4.4000e-004	1.1000e-004	2.0000e-005	1.4000e-004	0.0000	1.7107	1.7107	1.0000e-004	0.0000	1.7133
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	0.0000	0.0000	0.0000	0.0000	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	**2.0000e-004**	**6.0300e-003**	**1.3700e-003**	**2.0000e-005**	**4.1000e-004**	**3.0000e-005**	**4.4000e-004**	**1.1000e-004**	**2.0000e-005**	**1.4000e-004**	**0.0000**	**1.7107**	**1.7107**	**1.0000e-004**	**0.0000**	**1.7133**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	2.0000e-004	6.0300e-003	1.3700e-003	2.0000e-005	3.8000e-004	3.0000e-005	4.1000e-004	1.1000e-004	2.0000e-005	1.3000e-004	0.0000	1.7107	1.7107	1.0000e-004	0.0000	1.7133
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	0.0000	0.0000	0.0000	0.0000	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	**2.0000e-004**	**6.0300e-003**	**1.3700e-003**	**2.0000e-005**	**3.8000e-004**	**3.0000e-005**	**4.1000e-004**	**1.1000e-004**	**2.0000e-005**	**1.3000e-004**	**0.0000**	**1.7107**	**1.7107**	**1.0000e-004**	**0.0000**	**1.7133**

3.5 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0393	0.0000	0.0393	0.0202	0.0000	0.0202	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1420	0.0701	1.4000e-004		6.5100e-003	6.5100e-003		5.9900e-003	5.9900e-003	0.0000	12.6374	12.6374	4.0000e-003	0.0000	12.7374
Total	**0.0127**	**0.1420**	**0.0701**	**1.4000e-004**	**0.0393**	**6.5100e-003**	**0.0458**	**0.0202**	**5.9900e-003**	**0.0262**	**0.0000**	**12.6374**	**12.6374**	**4.0000e-003**	**0.0000**	**12.7374**

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	1.0000e-004	2.8300e-003	7.8000e-004	1.0000e-005	1.5000e-004	2.0000e-005	1.7000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.6002	0.6002	4.0000e-005	0.0000	0.6012
Worker	4.5000e-004	3.8000e-004	4.0900e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9480	0.9480	3.0000e-005	0.0000	0.9488
Total	**5.5000e-004**	**3.2100e-003**	**4.8700e-003**	**2.0000e-005**	**1.1400e-003**	**3.0000e-005**	**1.1600e-003**	**3.0000e-004**	**3.0000e-005**	**3.3000e-004**	**0.0000**	**1.5482**	**1.5482**	**7.0000e-005**	**0.0000**	**1.5500**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0168	0.0000	0.0168	8.6400e-003	0.0000	8.6400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1420	0.0701	1.4000e-004		6.5100e-003	6.5100e-003		5.9900e-003	5.9900e-003	0.0000	12.6374	12.6374	4.0000e-003	0.0000	12.7373
Total	**0.0127**	**0.1420**	**0.0701**	**1.4000e-004**	**0.0168**	**6.5100e-003**	**0.0233**	**8.6400e-003**	**5.9900e-003**	**0.0146**	**0.0000**	**12.6374**	**12.6374**	**4.0000e-003**	**0.0000**	**12.7373**

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	1.0000e-004	2.8300e-003	7.8000e-004	1.0000e-005	1.4000e-004	2.0000e-005	1.6000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.6002	0.6002	4.0000e-005	0.0000	0.6012
Worker	4.5000e-004	3.8000e-004	4.0900e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.9480	0.9480	3.0000e-005	0.0000	0.9488
Total	**5.5000e-004**	**3.2100e-003**	**4.8700e-003**	**2.0000e-005**	**1.0500e-003**	**3.0000e-005**	**1.0800e-003**	**2.8000e-004**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**1.5482**	**1.5482**	**7.0000e-005**	**0.0000**	**1.5500**

3.6 Grading Haul - 2019

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					7.0000e-005	0.0000	7.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	1.9000e-003	0.0579	0.0133	1.7000e-004	4.0500e-003	2.5000e-004	4.3000e-003	1.1100e-003	2.4000e-004	1.3600e-003	0.0000	16.6780	16.6780	1.0000e-003	0.0000	16.7031
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	0.0000	0.0000	0.0000	0.0000	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	**1.9000e-003**	**0.0579**	**0.0133**	**1.7000e-004**	**4.0500e-003**	**2.5000e-004**	**4.3000e-003**	**1.1100e-003**	**2.4000e-004**	**1.3600e-003**	**0.0000**	**16.6780**	**16.6780**	**1.0000e-003**	**0.0000**	**16.7031**

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					3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	1.9000e-003	0.0579	0.0133	1.7000e-004	3.7700e-003	2.5000e-004	4.0300e-003	1.0400e-003	2.4000e-004	1.2900e-003	0.0000	16.6780	16.6780	1.0000e-003	0.0000	16.7031
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	0.0000	0.0000	0.0000	0.0000	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	**1.9000e-003**	**0.0579**	**0.0133**	**1.7000e-004**	**3.7700e-003**	**2.5000e-004**	**4.0300e-003**	**1.0400e-003**	**2.4000e-004**	**1.2900e-003**	**0.0000**	**16.6780**	**16.6780**	**1.0000e-003**	**0.0000**	**16.7031**

3.7 Trenching - 2019

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	4.4200e-003	0.0444	0.0438	6.0000e-005		2.9600e-003	2.9600e-003		2.7300e-003	2.7300e-003	0.0000	5.3010	5.3010	1.6800e-003	0.0000	5.3429
Total	**4.4200e-003**	**0.0444**	**0.0438**	**6.0000e-005**		**2.9600e-003**	**2.9600e-003**		**2.7300e-003**	**2.7300e-003**	**0.0000**	**5.3010**	**5.3010**	**1.6800e-003**	**0.0000**	**5.3429**

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	1.6000e-004	4.4900e-003	1.2300e-003	1.0000e-005	2.4000e-004	3.0000e-005	2.7000e-004	7.0000e-005	3.0000e-005	1.0000e-004	0.0000	0.9503	0.9503	6.0000e-005	0.0000	0.9518
Worker	7.1000e-004	5.9000e-004	6.4700e-003	2.0000e-005	1.5600e-003	1.0000e-005	1.5800e-003	4.1000e-004	1.0000e-005	4.3000e-004	0.0000	1.5010	1.5010	5.0000e-005	0.0000	1.5023
Total	**8.7000e-004**	**5.0800e-003**	**7.7000e-003**	**3.0000e-005**	**1.8000e-003**	**4.0000e-005**	**1.8500e-003**	**4.8000e-004**	**4.0000e-005**	**5.3000e-004**	**0.0000**	**2.4513**	**2.4513**	**1.1000e-004**	**0.0000**	**2.4542**

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	4.4200e-003	0.0444	0.0438	6.0000e-005		2.9600e-003	2.9600e-003		2.7300e-003	2.7300e-003	0.0000	5.3009	5.3009	1.6800e-003	0.0000	5.3429
Total	**4.4200e-003**	**0.0444**	**0.0438**	**6.0000e-005**		**2.9600e-003**	**2.9600e-003**		**2.7300e-003**	**2.7300e-003**	**0.0000**	**5.3009**	**5.3009**	**1.6800e-003**	**0.0000**	**5.3429**

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	1.6000e-004	4.4900e-003	1.2300e-003	1.0000e-005	2.2000e-004	3.0000e-005	2.5000e-004	7.0000e-005	3.0000e-005	9.0000e-005	0.0000	0.9503	0.9503	6.0000e-005	0.0000	0.9518
Worker	7.1000e-004	5.9000e-004	6.4700e-003	2.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	4.0000e-004	0.0000	1.5010	1.5010	5.0000e-005	0.0000	1.5023
Total	**8.7000e-004**	**5.0800e-003**	**7.7000e-003**	**3.0000e-005**	**1.6600e-003**	**4.0000e-005**	**1.7000e-003**	**4.5000e-004**	**4.0000e-005**	**4.9000e-004**	**0.0000**	**2.4513**	**2.4513**	**1.1000e-004**	**0.0000**	**2.4542**

3.8 Portables Installation - 2019

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	0.0400	0.3521	0.2791	4.5000e-004		0.0209	0.0209		0.0197	0.0197	0.0000	39.3929	39.3929	9.0400e-003	0.0000	39.6189
Total	**0.0400**	**0.3521**	**0.2791**	**4.5000e-004**		**0.0209**	**0.0209**		**0.0197**	**0.0197**	**0.0000**	**39.3929**	**39.3929**	**9.0400e-003**	**0.0000**	**39.6189**

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	8.7000e-004	0.0261	6.0900e-003	8.0000e-005	1.9300e-003	1.2000e-004	2.0500e-003	5.3000e-004	1.2000e-004	6.5000e-004	0.0000	7.7964	7.7964	4.5000e-004	0.0000	7.8077
Vendor	3.4000e-004	9.4500e-003	2.5800e-003	2.0000e-005	5.0000e-004	6.0000e-005	5.6000e-004	1.5000e-004	6.0000e-005	2.0000e-004	0.0000	2.0005	2.0005	1.3000e-004	0.0000	2.0039
Worker	1.5000e-003	1.2500e-003	0.0136	3.0000e-005	3.2900e-003	3.0000e-005	3.3200e-003	8.7000e-004	3.0000e-005	9.0000e-004	0.0000	3.1601	3.1601	1.1000e-004	0.0000	3.1628
Total	**2.7100e-003**	**0.0368**	**0.0223**	**1.3000e-004**	**5.7200e-003**	**2.1000e-004**	**5.9300e-003**	**1.5500e-003**	**2.1000e-004**	**1.7500e-003**	**0.0000**	**12.9570**	**12.9570**	**6.9000e-004**	**0.0000**	**12.9744**

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	0.0400	0.3521	0.2791	4.5000e-004		0.0209	0.0209		0.0197	0.0197	0.0000	39.3928	39.3928	9.0400e-003	0.0000	39.6189
Total	**0.0400**	**0.3521**	**0.2791**	**4.5000e-004**		**0.0209**	**0.0209**		**0.0197**	**0.0197**	**0.0000**	**39.3928**	**39.3928**	**9.0400e-003**	**0.0000**	**39.6189**

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	8.7000e-004	0.0261	6.0900e-003	8.0000e-005	1.8000e-003	1.2000e-004	1.9200e-003	5.0000e-004	1.2000e-004	6.1000e-004	0.0000	7.7964	7.7964	4.5000e-004	0.0000	7.8077
Vendor	3.4000e-004	9.4500e-003	2.5800e-003	2.0000e-005	4.7000e-004	6.0000e-005	5.3000e-004	1.4000e-004	6.0000e-005	1.9000e-004	0.0000	2.0005	2.0005	1.3000e-004	0.0000	2.0039
Worker	1.5000e-003	1.2500e-003	0.0136	3.0000e-005	3.0300e-003	3.0000e-005	3.0600e-003	8.1000e-004	3.0000e-005	8.4000e-004	0.0000	3.1601	3.1601	1.1000e-004	0.0000	3.1628
Total	**2.7100e-003**	**0.0368**	**0.0223**	**1.3000e-004**	**5.3000e-003**	**2.1000e-004**	**5.5100e-003**	**1.4500e-003**	**2.1000e-004**	**1.6400e-003**	**0.0000**	**12.9570**	**12.9570**	**6.9000e-004**	**0.0000**	**12.9744**

3.9 Hardscaping - 2019

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	7.6100e-003	0.0766	0.0739	1.1000e-004		4.3200e-003	4.3200e-003		3.9800e-003	3.9800e-003	0.0000	10.0334	10.0334	3.0900e-003	0.0000	10.1106
Paving	3.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.9400e-003**	**0.0766**	**0.0739**	**1.1000e-004**		**4.3200e-003**	**4.3200e-003**		**3.9800e-003**	**3.9800e-003**	**0.0000**	**10.0334**	**10.0334**	**3.0900e-003**	**0.0000**	**10.1106**

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	1.0000e-004	2.8300e-003	7.8000e-004	1.0000e-005	1.5000e-004	2.0000e-005	1.7000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.6002	0.6002	4.0000e-005	0.0000	0.6012
Worker	4.5000e-004	3.8000e-004	4.0900e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9480	0.9480	3.0000e-005	0.0000	0.9488
Total	**5.5000e-004**	**3.2100e-003**	**4.8700e-003**	**2.0000e-005**	**1.1400e-003**	**3.0000e-005**	**1.1600e-003**	**3.0000e-004**	**3.0000e-005**	**3.3000e-004**	**0.0000**	**1.5482**	**1.5482**	**7.0000e-005**	**0.0000**	**1.5500**

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	7.6100e-003	0.0766	0.0739	1.1000e-004		4.3200e-003	4.3200e-003		3.9800e-003	3.9800e-003	0.0000	10.0334	10.0334	3.0900e-003	0.0000	10.1105
Paving	3.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.9400e-003**	**0.0766**	**0.0739**	**1.1000e-004**		**4.3200e-003**	**4.3200e-003**		**3.9800e-003**	**3.9800e-003**	**0.0000**	**10.0334**	**10.0334**	**3.0900e-003**	**0.0000**	**10.1105**

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	1.0000e-004	2.8300e-003	7.8000e-004	1.0000e-005	1.4000e-004	2.0000e-005	1.6000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.6002	0.6002	4.0000e-005	0.0000	0.6012
Worker	4.5000e-004	3.8000e-004	4.0900e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.9480	0.9480	3.0000e-005	0.0000	0.9488
Total	**5.5000e-004**	**3.2100e-003**	**4.8700e-003**	**2.0000e-005**	**1.0500e-003**	**3.0000e-005**	**1.0800e-003**	**2.8000e-004**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**1.5482**	**1.5482**	**7.0000e-005**	**0.0000**	**1.5500**

Point Dume Elementary School - Phase 1

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	10.10	1000sqft	0.23	10,100.00	0
Other Asphalt Surfaces	11.00	1000sqft	0.25	0.00	0
Other Non-Asphalt Surfaces	11.00	1000sqft	0.25	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**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 - See CalEEMod Assumptions

Construction Phase - See CalEEMod Assumptions

Off-road Equipment - Haul Phase

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - Haul Phase

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - Haul Phase

Off-road Equipment - See CalEEMod Assumptions

Trips and VMT - See CalEEMod Assumptions

Demolition -

Grading - See CalEEMod Assumptions

Construction Off-road Equipment Mitigation - SCAQMD Rule 403

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	0	1320
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	7.00
tblConstructionPhase	NumDays	10.00	6.00
tblConstructionPhase	NumDays	1.00	6.00
tblConstructionPhase	NumDays	2.00	12.00
tblConstructionPhase	NumDays	2.00	12.00
tblConstructionPhase	NumDays	100.00	40.00
tblConstructionPhase	NumDays	5.00	12.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblGrading	MaterialExported	0.00	211.00
tblGrading	MaterialExported	0.00	142.00

tblGrading	MaterialImported	0.00	967.00
tblLandUse	LandUseSquareFeet	11,000.00	0.00
tblLandUse	LandUseSquareFeet	11,000.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	4.00	7.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripLength	20.00	60.00
tblTripsAndVMT	HaulingTripLength	20.00	60.00

tblTripsAndVMT	HaulingTripLength	20.00	72.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripNumber	13.00	27.00
tblTripsAndVMT	HaulingTripNumber	18.00	16.00
tblTripsAndVMT	HaulingTripNumber	147.00	131.00
tblTripsAndVMT	HaulingTripNumber	0.00	30.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	2.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	18.00	15.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	10.00	15.00
tblTripsAndVMT	WorkerTripNumber	5.00	15.00
tblTripsAndVMT	WorkerTripNumber	4.00	15.00
tblTripsAndVMT	WorkerTripNumber	20.00	15.00

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					
2019	4.6837	47.6864	28.2646	0.0638	7.6365	2.4414	9.0850	3.6610	2.2646	4.9954	0.0000	6,594.522 8	6,594.5228	1.2139	0.0000	6,623.008 5
Maximum	**4.6837**	**47.6864**	**28.2646**	**0.0638**	**7.6365**	**2.4414**	**9.0850**	**3.6610**	**2.2646**	**4.9954**	**0.0000**	**6,594.522 8**	**6,594.5228**	**1.2139**	**0.0000**	**6,623.008 5**

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					
2019	4.6837	47.6864	28.2646	0.0638	3.8027	2.4414	5.2512	1.7134	2.2646	3.0478	0.0000	6,594.5228	6,594.5228	1.2139	0.0000	6,623.0085
Maximum	**4.6837**	**47.6864**	**28.2646**	**0.0638**	**3.8027**	**2.4414**	**5.2512**	**1.7134**	**2.2646**	**3.0478**	**0.0000**	**6,594.5228**	**6,594.5228**	**1.2139**	**0.0000**	**6,623.0085**

	ROG	**NOx**	**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**	**50.20**	**0.00**	**42.20**	**53.20**	**0.00**	**38.99**	**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	Demolition	Demolition	6/4/2019	6/11/2019	6	7	
2	Demo Haul	Demolition	6/12/2019	6/18/2019	6	6	
3	Site Prep Haul	Site Preparation	6/12/2019	6/18/2019	6	6	
4	Grading	Grading	6/19/2019	7/2/2019	6	12	
5	Grading Haul	Grading	6/19/2019	7/2/2019	6	12	
6	Trenching	Trenching	6/25/2019	7/16/2019	6	19	
7	Portables Installation	Building Construction	7/17/2019	8/31/2019	6	40	
8	Hardscaping	Paving	7/17/2019	7/30/2019	6	12	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6

Acres of Paving: 0.5

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	1.00	247	0.40
Demolition	Rubber Tired Dozers	3	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demo Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Demo Haul	Graders	0	8.00	187	0.41
Demo Haul	Rubber Tired Dozers	0	1.00	247	0.40
Demo Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Site Prep Haul	Graders	0	8.00	187	0.41
Site Prep Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Grading	Excavators	1	8.00	158	0.38
Grading	Generator Sets	0	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Grading Haul	Rubber Tired Dozers	0	1.00	247	0.40
Grading Haul	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Trenching	Air Compressors	0	6.00	78	0.48
Trenching	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Portables Installation	Cranes	1	7.00	231	0.29
Portables Installation	Forklifts	2	8.00	89	0.20
Portables Installation	Generator Sets	1	8.00	84	0.74
Portables Installation	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Portables Installation	Welders	1	8.00	46	0.45
Hardscaping	Cement and Mortar Mixers	2	6.00	9	0.56
Hardscaping	Pavers	1	8.00	130	0.42
Hardscaping	Paving Equipment	2	6.00	132	0.36
Hardscaping	Rollers	2	6.00	80	0.38
Hardscaping	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	7	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demo Haul	0	15.00	4.00	27.00	14.70	6.90	60.00	LD_Mix	HDT_Mix	HHDT
Site Prep Haul	0	0.00	0.00	16.00	14.70	6.90	60.00	LD_Mix	HDT_Mix	HHDT
Grading	4	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading Haul	0	0.00	0.00	131.00	14.70	6.90	72.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Portables Installation	7	15.00	4.00	30.00	14.70	6.90	150.00	LD_Mix	HDT_Mix	HHDT
Hardscaping	8	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2019

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	4.5921	47.1684	24.4231	0.0432		2.4371	2.4371		2.2604	2.2604		4,255.1604	4,255.1604	1.2005		4,285.1727
Total	**4.5921**	**47.1684**	**24.4231**	**0.0432**		**2.4371**	**2.4371**		**2.2604**	**2.2604**		**4,255.1604**	**4,255.1604**	**1.2005**		**4,285.1727**

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	0.0166	0.4629	0.1228	1.0500e-003	0.0256	2.9500e-003	0.0286	7.3700e-003	2.8200e-003	0.0102		111.5259	111.5259	7.1500e-003		111.7045
Worker	0.0749	0.0551	0.7233	1.8300e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458		181.9429	181.9429	6.2500e-003		182.0992
Total	**0.0916**	**0.5180**	**0.8461**	**2.8800e-003**	**0.1933**	**4.4000e-003**	**0.1977**	**0.0518**	**4.1500e-003**	**0.0560**		**293.4688**	**293.4688**	**0.0134**		**293.8037**

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	4.5921	47.1684	24.4231	0.0432		2.4371	2.4371		2.2604	2.2604	0.0000	4,255.1604	4,255.1604	1.2005		4,285.1727
Total	**4.5921**	**47.1684**	**24.4231**	**0.0432**		**2.4371**	**2.4371**		**2.2604**	**2.2604**	**0.0000**	**4,255.1604**	**4,255.1604**	**1.2005**		**4,285.1727**

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	0.0166	0.4629	0.1228	1.0500e-003	0.0240	2.9500e-003	0.0269	6.9700e-003	2.8200e-003	9.7900e-003		111.5259	111.5259	7.1500e-003		111.7045
Worker	0.0749	0.0551	0.7233	1.8300e-003	0.1546	1.4500e-003	0.1560	0.0413	1.3300e-003	0.0426		181.9429	181.9429	6.2500e-003		182.0992
Total	**0.0916**	**0.5180**	**0.8461**	**2.8800e-003**	**0.1785**	**4.4000e-003**	**0.1829**	**0.0482**	**4.1500e-003**	**0.0524**		**293.4688**	**293.4688**	**0.0134**		**293.8037**

3.3 Demo Haul - 2019

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					0.4779	0.0000	0.4779	0.0724	0.0000	0.0724			0.0000			0.0000
Off-Road	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.4779**	**0.0000**	**0.4779**	**0.0724**	**0.0000**	**0.0724**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.1098	3.2385	0.7659	9.8300e-003	0.2358	0.0146	0.2504	0.0646	0.0140	0.0786		1,063.4817	1,063.4817	0.0644		1,065.0906
Vendor	0.0166	0.4629	0.1228	1.0500e-003	0.0256	2.9500e-003	0.0286	7.3700e-003	2.8200e-003	0.0102		111.5259	111.5259	7.1500e-003		111.7045
Worker	0.0749	0.0551	0.7233	1.8300e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458		181.9429	181.9429	6.2500e-003		182.0992
Total	**0.2014**	**3.7564**	**1.6120**	**0.0127**	**0.4291**	**0.0190**	**0.4481**	**0.1165**	**0.0181**	**0.1346**		**1,356.9504**	**1,356.9504**	**0.0778**		**1,358.8943**

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					0.2043	0.0000	0.2043	0.0309	0.0000	0.0309			0.0000			0.0000
Off-Road	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2043**	**0.0000**	**0.2043**	**0.0309**	**0.0000**	**0.0309**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.1098	3.2385	0.7659	9.8300e-003	0.2198	0.0146	0.2344	0.0607	0.0140	0.0747		1,063.4817	1,063.4817	0.0644		1,065.0906
Vendor	0.0166	0.4629	0.1228	1.0500e-003	0.0240	2.9500e-003	0.0269	6.9700e-003	2.8200e-003	9.7900e-003		111.5259	111.5259	7.1500e-003		111.7045
Worker	0.0749	0.0551	0.7233	1.8300e-003	0.1546	1.4500e-003	0.1560	0.0413	1.3300e-003	0.0426		181.9429	181.9429	6.2500e-003		182.0992
Total	**0.2014**	**3.7564**	**1.6120**	**0.0127**	**0.3983**	**0.0190**	**0.4173**	**0.1089**	**0.0181**	**0.1270**		**1,356.9504**	**1,356.9504**	**0.0778**		**1,358.8943**

3.4 Site Prep Haul - 2019

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					2.6800e-003	0.0000	2.6800e-003	4.1000e-004	0.0000	4.1000e-004			0.0000			0.0000
Off-Road	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.6800e-003**	**0.0000**	**2.6800e-003**	**4.1000e-004**	**0.0000**	**4.1000e-004**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.0651	1.9191	0.4539	5.8200e-003	0.1398	8.6500e-003	0.1484	0.0383	8.2800e-003	0.0466		630.2114	630.2114	0.0381		631.1648
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	0.0000	0.0000	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	**0.0651**	**1.9191**	**0.4539**	**5.8200e-003**	**0.1398**	**8.6500e-003**	**0.1484**	**0.0383**	**8.2800e-003**	**0.0466**		**630.2114**	**630.2114**	**0.0381**		**631.1648**

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					1.1400e-003	0.0000	1.1400e-003	1.7000e-004	0.0000	1.7000e-004			0.0000			0.0000
Off-Road	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.1400e-003**	**0.0000**	**1.1400e-003**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.0651	1.9191	0.4539	5.8200e-003	0.1302	8.6500e-003	0.1389	0.0360	8.2800e-003	0.0442		630.2114	630.2114	0.0381		631.1648
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	0.0000	0.0000	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	**0.0651**	**1.9191**	**0.4539**	**5.8200e-003**	**0.1302**	**8.6500e-003**	**0.1389**	**0.0360**	**8.2800e-003**	**0.0442**		**630.2114**	**630.2114**	**0.0381**		**631.1648**

3.5 Grading - 2019

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.1149	23.6733	11.6880	0.0234		1.0853	1.0853		0.9985	0.9985		2,321.7231	2,321.7231	0.7346		2,340.0873
Total	**2.1149**	**23.6733**	**11.6880**	**0.0234**	**6.5523**	**1.0853**	**7.6376**	**3.3675**	**0.9985**	**4.3659**		**2,321.7231**	**2,321.7231**	**0.7346**		**2,340.0873**

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	0.0166	0.4629	0.1228	1.0500e-003	0.0256	2.9500e-003	0.0286	7.3700e-003	2.8200e-003	0.0102		111.5259	111.5259	7.1500e-003		111.7045
Worker	0.0749	0.0551	0.7233	1.8300e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458		181.9429	181.9429	6.2500e-003		182.0992
Total	**0.0916**	**0.5180**	**0.8461**	**2.8800e-003**	**0.1933**	**4.4000e-003**	**0.1977**	**0.0518**	**4.1500e-003**	**0.0560**		**293.4688**	**293.4688**	**0.0134**		**293.8037**

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					2.8011	0.0000	2.8011	1.4396	0.0000	1.4396			0.0000			0.0000
Off-Road	2.1149	23.6733	11.6880	0.0234		1.0853	1.0853		0.9985	0.9985	0.0000	2,321.7231	2,321.7231	0.7346		2,340.0873
Total	**2.1149**	**23.6733**	**11.6880**	**0.0234**	**2.8011**	**1.0853**	**3.8864**	**1.4396**	**0.9985**	**2.4381**	**0.0000**	**2,321.7231**	**2,321.7231**	**0.7346**		**2,340.0873**

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	0.0166	0.4629	0.1228	1.0500e-003	0.0240	2.9500e-003	0.0269	6.9700e-003	2.8200e-003	9.7900e-003		111.5259	111.5259	7.1500e-003		111.7045
Worker	0.0749	0.0551	0.7233	1.8300e-003	0.1546	1.4500e-003	0.1560	0.0413	1.3300e-003	0.0426		181.9429	181.9429	6.2500e-003		182.0992
Total	**0.0916**	**0.5180**	**0.8461**	**2.8800e-003**	**0.1785**	**4.4000e-003**	**0.1829**	**0.0482**	**4.1500e-003**	**0.0524**		**293.4688**	**293.4688**	**0.0134**		**293.8037**

3.6 Grading Haul - 2019

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					0.0111	0.0000	0.0111	1.6800e-003	0.0000	1.6800e-003			0.0000			0.0000
Off-Road	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0111**	**0.0000**	**0.0111**	**1.6800e-003**	**0.0000**	**1.6800e-003**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.3156	9.2100	2.2017	0.0284	0.6865	0.0424	0.7289	0.1881	0.0405	0.2287		3,070.7785	3,070.7785	0.1835		3,075.3650
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	0.0000	0.0000	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	**0.3156**	**9.2100**	**2.2017**	**0.0284**	**0.6865**	**0.0424**	**0.7289**	**0.1881**	**0.0405**	**0.2287**		**3,070.7785**	**3,070.7785**	**0.1835**		**3,075.3650**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.7500e-003	0.0000	4.7500e-003	7.2000e-004	0.0000	7.2000e-004			0.0000			0.0000
Off-Road	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.7500e-003**	**0.0000**	**4.7500e-003**	**7.2000e-004**	**0.0000**	**7.2000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.3156	9.2100	2.2017	0.0284	0.6398	0.0424	0.6821	0.1767	0.0405	0.2172		3,070.7785	3,070.7785	0.1835		3,075.3650
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	0.0000	0.0000	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	**0.3156**	**9.2100**	**2.2017**	**0.0284**	**0.6398**	**0.0424**	**0.6821**	**0.1767**	**0.0405**	**0.2172**		**3,070.7785**	**3,070.7785**	**0.1835**		**3,075.3650**

3.7 Trenching - 2019

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	0.4656	4.6747	4.6054	6.2100e-003		0.3121	0.3121		0.2871	0.2871		615.0837	615.0837	0.1946		619.9489
Total	**0.4656**	**4.6747**	**4.6054**	**6.2100e-003**		**0.3121**	**0.3121**		**0.2871**	**0.2871**		**615.0837**	**615.0837**	**0.1946**		**619.9489**

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	0.0166	0.4629	0.1228	1.0500e-003	0.0256	2.9500e-003	0.0286	7.3700e-003	2.8200e-003	0.0102		111.5259	111.5259	7.1500e-003		111.7045
Worker	0.0749	0.0551	0.7233	1.8300e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458		181.9429	181.9429	6.2500e-003		182.0992
Total	**0.0916**	**0.5180**	**0.8461**	**2.8800e-003**	**0.1933**	**4.4000e-003**	**0.1977**	**0.0518**	**4.1500e-003**	**0.0560**		**293.4688**	**293.4688**	**0.0134**		**293.8037**

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	0.4656	4.6747	4.6054	6.2100e-003		0.3121	0.3121		0.2871	0.2871	0.0000	615.0837	615.0837	0.1946		619.9489
Total	**0.4656**	**4.6747**	**4.6054**	**6.2100e-003**		**0.3121**	**0.3121**		**0.2871**	**0.2871**	**0.0000**	**615.0837**	**615.0837**	**0.1946**		**619.9489**

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	0.0166	0.4629	0.1228	1.0500e-003	0.0240	2.9500e-003	0.0269	6.9700e-003	2.8200e-003	9.7900e-003		111.5259	111.5259	7.1500e-003		111.7045
Worker	0.0749	0.0551	0.7233	1.8300e-003	0.1546	1.4500e-003	0.1560	0.0413	1.3300e-003	0.0426		181.9429	181.9429	6.2500e-003		182.0992
Total	**0.0916**	**0.5180**	**0.8461**	**2.8800e-003**	**0.1785**	**4.4000e-003**	**0.1829**	**0.0482**	**4.1500e-003**	**0.0524**		**293.4688**	**293.4688**	**0.0134**		**293.8037**

3.8 Portables Installation - 2019

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	1.9975	17.6053	13.9547	0.0227		1.0427	1.0427		0.9853	0.9853		2,171.1606	2,171.1606	0.4983		2,183.6186
Total	**1.9975**	**17.6053**	**13.9547**	**0.0227**		**1.0427**	**1.0427**		**0.9853**	**0.9853**		**2,171.1606**	**2,171.1606**	**0.4983**		**2,183.6186**

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	0.0436	1.2373	0.3047	3.9700e-003	0.0982	6.0100e-003	0.1043	0.0269	5.7500e-003	0.0327		430.1662	430.1662	0.0248		430.7865
Vendor	0.0166	0.4629	0.1228	1.0500e-003	0.0256	2.9500e-003	0.0286	7.3700e-003	2.8200e-003	0.0102		111.5259	111.5259	7.1500e-003		111.7045
Worker	0.0749	0.0551	0.7233	1.8300e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458		181.9429	181.9429	6.2500e-003		182.0992
Total	**0.1352**	**1.7553**	**1.1508**	**6.8500e-003**	**0.2915**	**0.0104**	**0.3019**	**0.0788**	**9.9000e-003**	**0.0887**		**723.6350**	**723.6350**	**0.0382**		**724.5902**

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	1.9975	17.6053	13.9547	0.0227		1.0427	1.0427		0.9853	0.9853	0.0000	2,171.1606	2,171.1606	0.4983		2,183.6186
Total	**1.9975**	**17.6053**	**13.9547**	**0.0227**		**1.0427**	**1.0427**		**0.9853**	**0.9853**	**0.0000**	**2,171.1606**	**2,171.1606**	**0.4983**		**2,183.6186**

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	0.0436	1.2373	0.3047	3.9700e-003	0.0916	6.0100e-003	0.0976	0.0253	5.7500e-003	0.0310		430.1662	430.1662	0.0248		430.7865
Vendor	0.0166	0.4629	0.1228	1.0500e-003	0.0240	2.9500e-003	0.0269	6.9700e-003	2.8200e-003	9.7900e-003		111.5259	111.5259	7.1500e-003		111.7045
Worker	0.0749	0.0551	0.7233	1.8300e-003	0.1546	1.4500e-003	0.1560	0.0413	1.3300e-003	0.0426		181.9429	181.9429	6.2500e-003		182.0992
Total	**0.1352**	**1.7553**	**1.1508**	**6.8500e-003**	**0.2701**	**0.0104**	**0.2805**	**0.0735**	**9.9000e-003**	**0.0834**		**723.6350**	**723.6350**	**0.0382**		**724.5902**

3.9 Hardscaping - 2019

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	1.2679	12.7604	12.3130	0.0189		0.7196	0.7196		0.6637	0.6637		1,843.3191	1,843.3191	0.5671		1,857.4966
Paving	0.0546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3225**	**12.7604**	**12.3130**	**0.0189**		**0.7196**	**0.7196**		**0.6637**	**0.6637**		**1,843.3191**	**1,843.3191**	**0.5671**		**1,857.4966**

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	0.0166	0.4629	0.1228	1.0500e-003	0.0256	2.9500e-003	0.0286	7.3700e-003	2.8200e-003	0.0102		111.5259	111.5259	7.1500e-003		111.7045
Worker	0.0749	0.0551	0.7233	1.8300e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458		181.9429	181.9429	6.2500e-003		182.0992
Total	**0.0916**	**0.5180**	**0.8461**	**2.8800e-003**	**0.1933**	**4.4000e-003**	**0.1977**	**0.0518**	**4.1500e-003**	**0.0560**		**293.4688**	**293.4688**	**0.0134**		**293.8037**

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	1.2679	12.7604	12.3130	0.0189		0.7196	0.7196		0.6637	0.6637	0.0000	1,843.3191	1,843.3191	0.5671		1,857.4966
Paving	0.0546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3225**	**12.7604**	**12.3130**	**0.0189**		**0.7196**	**0.7196**		**0.6637**	**0.6637**	**0.0000**	**1,843.3191**	**1,843.3191**	**0.5671**		**1,857.4966**

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	0.0166	0.4629	0.1228	1.0500e-003	0.0240	2.9500e-003	0.0269	6.9700e-003	2.8200e-003	9.7900e-003		111.5259	111.5259	7.1500e-003		111.7045
Worker	0.0749	0.0551	0.7233	1.8300e-003	0.1546	1.4500e-003	0.1560	0.0413	1.3300e-003	0.0426		181.9429	181.9429	6.2500e-003		182.0992
Total	**0.0916**	**0.5180**	**0.8461**	**2.8800e-003**	**0.1785**	**4.4000e-003**	**0.1829**	**0.0482**	**4.1500e-003**	**0.0524**		**293.4688**	**293.4688**	**0.0134**		**293.8037**

Point Dume Elementary School - Phase 1

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	10.10	1000sqft	0.23	10,100.00	0
Other Asphalt Surfaces	11.00	1000sqft	0.25	0.00	0
Other Non-Asphalt Surfaces	11.00	1000sqft	0.25	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**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 - See CalEEMod Assumptions

Construction Phase - See CalEEMod Assumptions

Off-road Equipment - Haul Phase

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - Haul Phase

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - Haul Phase

Off-road Equipment - See CalEEMod Assumptions

Trips and VMT - See CalEEMod Assumptions

Demolition -

Grading - See CalEEMod Assumptions

Construction Off-road Equipment Mitigation - SCAQMD Rule 403

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	0	1320
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	40.00
tblConstructionPhase	NumDays	10.00	7.00
tblConstructionPhase	NumDays	10.00	6.00
tblConstructionPhase	NumDays	2.00	12.00
tblConstructionPhase	NumDays	2.00	12.00
tblConstructionPhase	NumDays	5.00	12.00
tblConstructionPhase	NumDays	1.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblGrading	MaterialExported	0.00	211.00
tblGrading	MaterialExported	0.00	142.00

tblGrading	MaterialImported	0.00	967.00
tblLandUse	LandUseSquareFeet	11,000.00	0.00
tblLandUse	LandUseSquareFeet	11,000.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	4.00	7.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripLength	20.00	60.00
tblTripsAndVMT	HaulingTripLength	20.00	60.00

tblTripsAndVMT	HaulingTripLength	20.00	72.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripNumber	13.00	27.00
tblTripsAndVMT	HaulingTripNumber	18.00	16.00
tblTripsAndVMT	HaulingTripNumber	147.00	131.00
tblTripsAndVMT	HaulingTripNumber	0.00	30.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	2.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	18.00	15.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	10.00	15.00
tblTripsAndVMT	WorkerTripNumber	5.00	15.00
tblTripsAndVMT	WorkerTripNumber	4.00	15.00
tblTripsAndVMT	WorkerTripNumber	20.00	15.00

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					
2019	4.6925	47.6929	28.1721	0.0634	7.6365	2.4415	9.0853	3.6610	2.2646	4.9957	0.0000	6,551.2401	6,551.2401	1.2140	0.0000	6,579.7920
Maximum	**4.6925**	**47.6929**	**28.1721**	**0.0634**	**7.6365**	**2.4415**	**9.0853**	**3.6610**	**2.2646**	**4.9957**	**0.0000**	**6,551.2401**	**6,551.2401**	**1.2140**	**0.0000**	**6,579.7920**

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					
2019	4.6925	47.6929	28.1721	0.0634	3.8027	2.4415	5.2515	1.7134	2.2646	3.0481	0.0000	6,551.2401	6,551.2401	1.2140	0.0000	6,579.7920
Maximum	**4.6925**	**47.6929**	**28.1721**	**0.0634**	**3.8027**	**2.4415**	**5.2515**	**1.7134**	**2.2646**	**3.0481**	**0.0000**	**6,551.2401**	**6,551.2401**	**1.2140**	**0.0000**	**6,579.7920**

	ROG	**NOx**	**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**	**50.20**	**0.00**	**42.20**	**53.20**	**0.00**	**38.98**	**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	Demolition	Demolition	6/4/2019	6/11/2019	6	7	
2	Demo Haul	Demolition	6/12/2019	6/18/2019	6	6	
3	Site Prep Haul	Site Preparation	6/12/2019	6/18/2019	6	6	
4	Grading	Grading	6/19/2019	7/2/2019	6	12	
5	Grading Haul	Grading	6/19/2019	7/2/2019	6	12	
6	Trenching	Trenching	6/25/2019	7/16/2019	6	19	
7	Portables Installation	Building Construction	7/17/2019	8/31/2019	6	40	
8	Hardscaping	Paving	7/17/2019	7/30/2019	6	12	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6

Acres of Paving: 0.5

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	1.00	247	0.40
Demolition	Rubber Tired Dozers	3	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demo Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Demo Haul	Graders	0	8.00	187	0.41
Demo Haul	Rubber Tired Dozers	0	1.00	247	0.40
Demo Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Site Prep Haul	Graders	0	8.00	187	0.41
Site Prep Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Grading	Excavators	1	8.00	158	0.38
Grading	Generator Sets	0	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Grading Haul	Rubber Tired Dozers	0	1.00	247	0.40
Grading Haul	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Trenching	Air Compressors	0	6.00	78	0.48
Trenching	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Portables Installation	Cranes	1	7.00	231	0.29
Portables Installation	Forklifts	2	8.00	89	0.20
Portables Installation	Generator Sets	1	8.00	84	0.74
Portables Installation	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Portables Installation	Welders	1	8.00	46	0.45
Hardscaping	Cement and Mortar Mixers	2	6.00	9	0.56
Hardscaping	Pavers	1	8.00	130	0.42
Hardscaping	Paving Equipment	2	6.00	132	0.36
Hardscaping	Rollers	2	6.00	80	0.38
Hardscaping	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	7	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demo Haul	0	15.00	4.00	27.00	14.70	6.90	60.00	LD_Mix	HDT_Mix	HHDT
Site Prep Haul	0	0.00	0.00	16.00	14.70	6.90	60.00	LD_Mix	HDT_Mix	HHDT
Grading	4	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading Haul	0	0.00	0.00	131.00	14.70	6.90	72.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Portables Installation	7	15.00	4.00	30.00	14.70	6.90	150.00	LD_Mix	HDT_Mix	HHDT
Hardscaping	8	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2019

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	4.5921	47.1684	24.4231	0.0432		2.4371	2.4371		2.2604	2.2604		4,255.1604	4,255.1604	1.2005		4,285.1727
Total	**4.5921**	**47.1684**	**24.4231**	**0.0432**		**2.4371**	**2.4371**		**2.2604**	**2.2604**		**4,255.1604**	**4,255.1604**	**1.2005**		**4,285.1727**

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	0.0173	0.4635	0.1354	1.0200e-003	0.0256	3.0000e-003	0.0286	7.3700e-003	2.8700e-003	0.0102		108.5108	108.5108	7.6200e-003		108.7014
Worker	0.0831	0.0610	0.6637	1.7200e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458		171.3196	171.3196	5.8900e-003		171.4670
Total	**0.1004**	**0.5245**	**0.7991**	**2.7400e-003**	**0.1933**	**4.4500e-003**	**0.1977**	**0.0518**	**4.2000e-003**	**0.0560**		**279.8305**	**279.8305**	**0.0135**		**280.1684**

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	4.5921	47.1684	24.4231	0.0432		2.4371	2.4371		2.2604	2.2604	0.0000	4,255.1604	4,255.1604	1.2005		4,285.1727
Total	**4.5921**	**47.1684**	**24.4231**	**0.0432**		**2.4371**	**2.4371**		**2.2604**	**2.2604**	**0.0000**	**4,255.1604**	**4,255.1604**	**1.2005**		**4,285.1727**

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	0.0173	0.4635	0.1354	1.0200e-003	0.0240	3.0000e-003	0.0270	6.9700e-003	2.8700e-003	9.8400e-003		108.5108	108.5108	7.6200e-003		108.7014
Worker	0.0831	0.0610	0.6637	1.7200e-003	0.1546	1.4500e-003	0.1560	0.0413	1.3300e-003	0.0426		171.3196	171.3196	5.8900e-003		171.4670
Total	**0.1004**	**0.5245**	**0.7991**	**2.7400e-003**	**0.1785**	**4.4500e-003**	**0.1830**	**0.0482**	**4.2000e-003**	**0.0524**		**279.8305**	**279.8305**	**0.0135**		**280.1684**

3.3 Demo Haul - 2019

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					0.4779	0.0000	0.4779	0.0724	0.0000	0.0724			0.0000			0.0000
Off-Road	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.4779**	**0.0000**	**0.4779**	**0.0724**	**0.0000**	**0.0724**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.1109	3.3295	0.7825	9.7600e-003	0.2358	0.0147	0.2505	0.0646	0.0141	0.0787		1,056.8837	1,056.8837	0.0654		1,058.5176
Vendor	0.0173	0.4635	0.1354	1.0200e-003	0.0256	3.0000e-003	0.0286	7.3700e-003	2.8700e-003	0.0102		108.5108	108.5108	7.6200e-003		108.7014
Worker	0.0831	0.0610	0.6637	1.7200e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458		171.3196	171.3196	5.8900e-003		171.4670
Total	**0.2113**	**3.8540**	**1.5816**	**0.0125**	**0.4291**	**0.0192**	**0.4483**	**0.1165**	**0.0183**	**0.1347**		**1,336.7142**	**1,336.7142**	**0.0789**		**1,338.6860**

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					0.2043	0.0000	0.2043	0.0309	0.0000	0.0309			0.0000			0.0000
Off-Road	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2043**	**0.0000**	**0.2043**	**0.0309**	**0.0000**	**0.0309**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.1109	3.3295	0.7825	9.7600e-003	0.2198	0.0147	0.2345	0.0607	0.0141	0.0748		1,056.8837	1,056.8837	0.0654		1,058.5176
Vendor	0.0173	0.4635	0.1354	1.0200e-003	0.0240	3.0000e-003	0.0270	6.9700e-003	2.8700e-003	9.8400e-003		108.5108	108.5108	7.6200e-003		108.7014
Worker	0.0831	0.0610	0.6637	1.7200e-003	0.1546	1.4500e-003	0.1560	0.0413	1.3300e-003	0.0426		171.3196	171.3196	5.8900e-003		171.4670
Total	**0.2113**	**3.8540**	**1.5816**	**0.0125**	**0.3983**	**0.0192**	**0.4174**	**0.1089**	**0.0183**	**0.1272**		**1,336.7142**	**1,336.7142**	**0.0789**		**1,338.6860**

3.4 Site Prep Haul - 2019

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					2.6800e-003	0.0000	2.6800e-003	4.1000e-004	0.0000	4.1000e-004			0.0000			0.0000
Off-Road	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.6800e-003**	**0.0000**	**2.6800e-003**	**4.1000e-004**	**0.0000**	**4.1000e-004**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.0657	1.9730	0.4637	5.7900e-003	0.1398	8.7100e-003	0.1485	0.0383	8.3300e-003	0.0466		626.3015	626.3015	0.0387		627.2697
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	0.0000	0.0000	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	**0.0657**	**1.9730**	**0.4637**	**5.7900e-003**	**0.1398**	**8.7100e-003**	**0.1485**	**0.0383**	**8.3300e-003**	**0.0466**		**626.3015**	**626.3015**	**0.0387**		**627.2697**

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					1.1400e-003	0.0000	1.1400e-003	1.7000e-004	0.0000	1.7000e-004			0.0000			0.0000
Off-Road	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.1400e-003**	**0.0000**	**1.1400e-003**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.0657	1.9730	0.4637	5.7900e-003	0.1302	8.7100e-003	0.1390	0.0360	8.3300e-003	0.0443		626.3015	626.3015	0.0387		627.2697
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	0.0000	0.0000	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	**0.0657**	**1.9730**	**0.4637**	**5.7900e-003**	**0.1302**	**8.7100e-003**	**0.1390**	**0.0360**	**8.3300e-003**	**0.0443**		**626.3015**	**626.3015**	**0.0387**		**627.2697**

3.5 Grading - 2019

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.1149	23.6733	11.6880	0.0234		1.0853	1.0853		0.9985	0.9985		2,321.7231	2,321.7231	0.7346		2,340.0873
Total	**2.1149**	**23.6733**	**11.6880**	**0.0234**	**6.5523**	**1.0853**	**7.6376**	**3.3675**	**0.9985**	**4.3659**		**2,321.7231**	**2,321.7231**	**0.7346**		**2,340.0873**

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	0.0173	0.4635	0.1354	1.0200e-003	0.0256	3.0000e-003	0.0286	7.3700e-003	2.8700e-003	0.0102		108.5108	108.5108	7.6200e-003		108.7014
Worker	0.0831	0.0610	0.6637	1.7200e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458		171.3196	171.3196	5.8900e-003		171.4670
Total	**0.1004**	**0.5245**	**0.7991**	**2.7400e-003**	**0.1933**	**4.4500e-003**	**0.1977**	**0.0518**	**4.2000e-003**	**0.0560**		**279.8305**	**279.8305**	**0.0135**		**280.1684**

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					2.8011	0.0000	2.8011	1.4396	0.0000	1.4396			0.0000			0.0000
Off-Road	2.1149	23.6733	11.6880	0.0234		1.0853	1.0853		0.9985	0.9985	0.0000	2,321.7231	2,321.7231	0.7346		2,340.0873
Total	**2.1149**	**23.6733**	**11.6880**	**0.0234**	**2.8011**	**1.0853**	**3.8864**	**1.4396**	**0.9985**	**2.4381**	**0.0000**	**2,321.7231**	**2,321.7231**	**0.7346**		**2,340.0873**

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	0.0173	0.4635	0.1354	1.0200e-003	0.0240	3.0000e-003	0.0270	6.9700e-003	2.8700e-003	9.8400e-003		108.5108	108.5108	7.6200e-003		108.7014
Worker	0.0831	0.0610	0.6637	1.7200e-003	0.1546	1.4500e-003	0.1560	0.0413	1.3300e-003	0.0426		171.3196	171.3196	5.8900e-003		171.4670
Total	**0.1004**	**0.5245**	**0.7991**	**2.7400e-003**	**0.1785**	**4.4500e-003**	**0.1830**	**0.0482**	**4.2000e-003**	**0.0524**		**279.8305**	**279.8305**	**0.0135**		**280.1684**

3.6 Grading Haul - 2019

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					0.0111	0.0000	0.0111	1.6800e-003	0.0000	1.6800e-003			0.0000			0.0000
Off-Road	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0111**	**0.0000**	**0.0111**	**1.6800e-003**	**0.0000**	**1.6800e-003**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.3181	9.4837	2.2393	0.0282	0.6865	0.0426	0.7291	0.1881	0.0408	0.2289		3,054.7724	3,054.7724	0.1859		3,059.4191
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	0.0000	0.0000	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	**0.3181**	**9.4837**	**2.2393**	**0.0282**	**0.6865**	**0.0426**	**0.7291**	**0.1881**	**0.0408**	**0.2289**		**3,054.7724**	**3,054.7724**	**0.1859**		**3,059.4191**

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Fugitive Dust					4.7500e-003	0.0000	4.7500e-003	7.2000e-004	0.0000	7.2000e-004			0.0000			0.0000
Off-Road	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.7500e-003**	**0.0000**	**4.7500e-003**	**7.2000e-004**	**0.0000**	**7.2000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.3181	9.4837	2.2393	0.0282	0.6398	0.0426	0.6823	0.1767	0.0408	0.2174		3,054.7724	3,054.7724	0.1859		3,059.4191
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	0.0000	0.0000	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	**0.3181**	**9.4837**	**2.2393**	**0.0282**	**0.6398**	**0.0426**	**0.6823**	**0.1767**	**0.0408**	**0.2174**		**3,054.7724**	**3,054.7724**	**0.1859**		**3,059.4191**

3.7 Trenching - 2019

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	0.4656	4.6747	4.6054	6.2100e-003		0.3121	0.3121		0.2871	0.2871		615.0837	615.0837	0.1946		619.9489
Total	**0.4656**	**4.6747**	**4.6054**	**6.2100e-003**		**0.3121**	**0.3121**		**0.2871**	**0.2871**		**615.0837**	**615.0837**	**0.1946**		**619.9489**

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	0.0173	0.4635	0.1354	1.0200e-003	0.0256	3.0000e-003	0.0286	7.3700e-003	2.8700e-003	0.0102		108.5108	108.5108	7.6200e-003		108.7014
Worker	0.0831	0.0610	0.6637	1.7200e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458		171.3196	171.3196	5.8900e-003		171.4670
Total	**0.1004**	**0.5245**	**0.7991**	**2.7400e-003**	**0.1933**	**4.4500e-003**	**0.1977**	**0.0518**	**4.2000e-003**	**0.0560**		**279.8305**	**279.8305**	**0.0135**		**280.1684**

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	0.4656	4.6747	4.6054	6.2100e-003		0.3121	0.3121		0.2871	0.2871	0.0000	615.0837	615.0837	0.1946		619.9489
Total	**0.4656**	**4.6747**	**4.6054**	**6.2100e-003**		**0.3121**	**0.3121**		**0.2871**	**0.2871**	**0.0000**	**615.0837**	**615.0837**	**0.1946**		**619.9489**

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	0.0173	0.4635	0.1354	1.0200e-003	0.0240	3.0000e-003	0.0270	6.9700e-003	2.8700e-003	9.8400e-003		108.5108	108.5108	7.6200e-003		108.7014
Worker	0.0831	0.0610	0.6637	1.7200e-003	0.1546	1.4500e-003	0.1560	0.0413	1.3300e-003	0.0426		171.3196	171.3196	5.8900e-003		171.4670
Total	**0.1004**	**0.5245**	**0.7991**	**2.7400e-003**	**0.1785**	**4.4500e-003**	**0.1830**	**0.0482**	**4.2000e-003**	**0.0524**		**279.8305**	**279.8305**	**0.0135**		**280.1684**

3.8 Portables Installation - 2019

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	1.9975	17.6053	13.9547	0.0227		1.0427	1.0427		0.9853	0.9853		2,171.1606	2,171.1606	0.4983		2,183.6186
Total	**1.9975**	**17.6053**	**13.9547**	**0.0227**		**1.0427**	**1.0427**		**0.9853**	**0.9853**		**2,171.1606**	**2,171.1606**	**0.4983**		**2,183.6186**

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	0.0438	1.2797	0.3062	3.9600e-003	0.0982	6.0300e-003	0.1043	0.0269	5.7700e-003	0.0327		429.0666	429.0666	0.0250		429.6908
Vendor	0.0173	0.4635	0.1354	1.0200e-003	0.0256	3.0000e-003	0.0286	7.3700e-003	2.8700e-003	0.0102		108.5108	108.5108	7.6200e-003		108.7014
Worker	0.0831	0.0610	0.6637	1.7200e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458		171.3196	171.3196	5.8900e-003		171.4670
Total	**0.1442**	**1.8042**	**1.1053**	**6.7000e-003**	**0.2915**	**0.0105**	**0.3020**	**0.0788**	**9.9700e-003**	**0.0887**		**708.8970**	**708.8970**	**0.0385**		**709.8592**

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	1.9975	17.6053	13.9547	0.0227		1.0427	1.0427		0.9853	0.9853	0.0000	2,171.1606	2,171.1606	0.4983		2,183.6186
Total	**1.9975**	**17.6053**	**13.9547**	**0.0227**		**1.0427**	**1.0427**		**0.9853**	**0.9853**	**0.0000**	**2,171.1606**	**2,171.1606**	**0.4983**		**2,183.6186**

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	0.0438	1.2797	0.3062	3.9600e-003	0.0916	6.0300e-003	0.0976	0.0253	5.7700e-003	0.0310		429.0666	429.0666	0.0250		429.6908
Vendor	0.0173	0.4635	0.1354	1.0200e-003	0.0240	3.0000e-003	0.0270	6.9700e-003	2.8700e-003	9.8400e-003		108.5108	108.5108	7.6200e-003		108.7014
Worker	0.0831	0.0610	0.6637	1.7200e-003	0.1546	1.4500e-003	0.1560	0.0413	1.3300e-003	0.0426		171.3196	171.3196	5.8900e-003		171.4670
Total	**0.1442**	**1.8042**	**1.1053**	**6.7000e-003**	**0.2701**	**0.0105**	**0.2805**	**0.0735**	**9.9700e-003**	**0.0835**		**708.8970**	**708.8970**	**0.0385**		**709.8592**

3.9 Hardscaping - 2019

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	1.2679	12.7604	12.3130	0.0189		0.7196	0.7196		0.6637	0.6637		1,843.3191	1,843.3191	0.5671		1,857.4966
Paving	0.0546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3225**	**12.7604**	**12.3130**	**0.0189**		**0.7196**	**0.7196**		**0.6637**	**0.6637**		**1,843.3191**	**1,843.3191**	**0.5671**		**1,857.4966**

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	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	0.0173	0.4635	0.1354	1.0200e-003	0.0256	3.0000e-003	0.0286	7.3700e-003	2.8700e-003	0.0102		108.5108	108.5108	7.6200e-003		108.7014
Worker	0.0831	0.0610	0.6637	1.7200e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458		171.3196	171.3196	5.8900e-003		171.4670
Total	**0.1004**	**0.5245**	**0.7991**	**2.7400e-003**	**0.1933**	**4.4500e-003**	**0.1977**	**0.0518**	**4.2000e-003**	**0.0560**		**279.8305**	**279.8305**	**0.0135**		**280.1684**

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Off-Road	1.2679	12.7604	12.3130	0.0189		0.7196	0.7196		0.6637	0.6637	0.0000	1,843.3191	1,843.3191	0.5671		1,857.4966
Paving	0.0546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3225**	**12.7604**	**12.3130**	**0.0189**		**0.7196**	**0.7196**		**0.6637**	**0.6637**	**0.0000**	**1,843.3191**	**1,843.3191**	**0.5671**		**1,857.4966**

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	0.0173	0.4635	0.1354	1.0200e-003	0.0240	3.0000e-003	0.0270	6.9700e-003	2.8700e-003	9.8400e-003		108.5108	108.5108	7.6200e-003		108.7014
Worker	0.0831	0.0610	0.6637	1.7200e-003	0.1546	1.4500e-003	0.1560	0.0413	1.3300e-003	0.0426		171.3196	171.3196	5.8900e-003		171.4670
Total	**0.1004**	**0.5245**	**0.7991**	**2.7400e-003**	**0.1785**	**4.4500e-003**	**0.1830**	**0.0482**	**4.2000e-003**	**0.0524**		**279.8305**	**279.8305**	**0.0135**		**280.1684**

Point Dume Elementary School - Phase 2

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	16.50	1000sqft	0.22	16,500.00	0
Other Asphalt Surfaces	2.00	1000sqft	0.05	0.00	0
Other Non-Asphalt Surfaces	2.00	1000sqft	0.05	0.00	0

1.2 Other Project Characteristics

Urbanization Urban | **Wind Speed (m/s)** 2.2 | **Precipitation Freq (Days)** 33

Climate Zone 8 | **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 - See CalEEMod Assumptions

Construction Phase - See CalEEMod Assumptions

Off-road Equipment -

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - Haul Phase

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - Haul Phase

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - Haul Phase

Off-road Equipment - Haul Phase

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Trips and VMT - See CalEEMod Assumptions

Demolition -

Grading - See CalEEMod Assumptions

Architectural Coating - See CalEEMod Assumptions

Construction Off-road Equipment Mitigation - See CalEEMod Assumptions

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	8,250.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	8,250.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	24,750.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	24,750.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	24,750.00	19,800.00
tblArchitecturalCoating	ConstArea_Parking	240.00	0.00
tblArchitecturalCoating	ConstArea_Parking	240.00	0.00
tblArchitecturalCoating	ConstArea_Parking	240.00	0.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	18.00
tblConstructionPhase	NumDays	5.00	22.00
tblConstructionPhase	NumDays	5.00	22.00
tblConstructionPhase	NumDays	100.00	230.00

tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	10.00	5.00
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tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	2.00	4.00
tblConstructionPhase	NumDays	2.00	3.00
tblConstructionPhase	NumDays	5.00	18.00
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tblConstructionPhase	NumDays	1.00	6.00
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tblGrading	AcresOfGrading	0.00	1.00
tblGrading	AcresOfGrading	0.00	1.00
tblGrading	MaterialExported	0.00	350.00
tblGrading	MaterialImported	0.00	225.00
tblGrading	MaterialImported	0.00	100.00
tblLandUse	LandUseSquareFeet	2,000.00	0.00
tblLandUse	LandUseSquareFeet	2,000.00	0.00
tblLandUse	LotAcreage	0.38	0.22
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	PhaseName		Site Preparation
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tblOffRoadEquipment	UsageHours	1.00	8.00
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tblOffRoadEquipment	UsageHours	6.00	8.00
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tblOffRoadEquipment	UsageHours	6.00	8.00
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tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripLength	20.00	60.00
tblTripsAndVMT	HaulingTripLength	20.00	60.00

tblTripsAndVMT	HaulingTripLength	20.00	75.00
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tblTripsAndVMT	HaulingTripNumber	28.00	25.00
tblTripsAndVMT	HaulingTripNumber	13.00	11.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
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tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
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tblTripsAndVMT	VendorTripNumber	0.00	4.00
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tblTripsAndVMT	WorkerTripNumber	2.00	15.00
tblTripsAndVMT	WorkerTripNumber	2.00	15.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	8.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00

tblTripsAndVMT	WorkerTripNumber	8.00	15.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00

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	0.2044	1.8506	1.7158	3.0000e-003	0.1104	0.1038	0.2142	0.0520	0.0990	0.1510	0.0000	261.9404	261.9404	0.0439	0.0000	263.0369
2021	0.2295	1.4605	1.6021	2.7100e-003	0.0136	0.0800	0.0936	3.6800e-003	0.0764	0.0801	0.0000	235.5973	235.5973	0.0393	0.0000	236.5801
Maximum	**0.2295**	**1.8506**	**1.7158**	**3.0000e-003**	**0.1104**	**0.1038**	**0.2142**	**0.0520**	**0.0990**	**0.1510**	**0.0000**	**261.9404**	**261.9404**	**0.0439**	**0.0000**	**263.0369**

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	0.2044	1.8506	1.7158	3.0000e-003	0.0554	0.1038	0.1592	0.0245	0.0990	0.1235	0.0000	261.9401	261.9401	0.0439	0.0000	263.0367
2021	0.2295	1.4605	1.6021	2.7100e-003	0.0126	0.0800	0.0926	3.4300e-003	0.0764	0.0798	0.0000	235.5970	235.5970	0.0393	0.0000	236.5798
Maximum	**0.2295**	**1.8506**	**1.7158**	**3.0000e-003**	**0.0554**	**0.1038**	**0.1592**	**0.0245**	**0.0990**	**0.1235**	**0.0000**	**261.9401**	**261.9401**	**0.0439**	**0.0000**	**263.0367**

	ROG	NOx	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	45.16	0.00	18.19	49.86	0.00	12.01	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	6-1-2020	8-31-2020	0.9893	0.9893
2	9-1-2020	11-30-2020	0.7942	0.7942
3	12-1-2020	2-28-2021	0.7389	0.7389
4	3-1-2021	5-31-2021	0.7301	0.7301
5	6-1-2021	8-31-2021	0.4851	0.4851
		Highest	0.9893	0.9893

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Asphalt Demolition	Demolition	6/1/2020	6/5/2020	5	5	
2	Demo Haul	Demolition	6/8/2020	6/12/2020	5	5	
3	Site Preparation	Site Preparation	6/8/2020	7/3/2020	5	20	
4	Site Prep Haul	Site Preparation	6/15/2020	6/22/2020	5	6	
5	Rough Grading	Grading	7/4/2020	7/15/2020	5	8	
6	Fine Grading	Grading	7/4/2020	7/17/2020	5	10	
7	Rough Grading Haul	Grading	7/10/2020	7/15/2020	5	4	
8	Fine Grading Haul	Grading	7/10/2020	7/14/2020	5	3	
9	Trenching	Trenching	7/16/2020	7/31/2020	5	12	
10	Building Construction	Building Construction	7/16/2020	6/2/2021	5	230	
11	Paving	Paving	6/3/2021	6/28/2021	5	18	
12	Architectural Coating	Architectural Coating	6/29/2021	7/22/2021	5	18	
13	Finishing/Landscaping	Architectural Coating	7/1/2021	7/30/2021	5	22	
14	Portable Removal	Architectural Coating	7/1/2021	7/30/2021	5	22	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.1

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 19,800; Non-Residential Outdoor: 8,250; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Asphalt Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Asphalt Demolition	Excavators	1	8.00	158	0.38
Asphalt Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Asphalt Demolition	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Demo Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Demo Haul	Rubber Tired Dozers	0	1.00	247	0.40
Demo Haul	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Prep Haul	Graders	0	8.00	187	0.41
Site Prep Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Rough Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Rough Grading	Excavators	1	8.00	158	0.38
Rough Grading	Graders	1	8.00	187	0.41
Rough Grading	Rubber Tired Dozers	1	8.00	247	0.40
Rough Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Fine Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rubber Tired Dozers	0	1.00	247	0.40
Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Rough Grading Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Rough Grading Haul	Rubber Tired Dozers	0	1.00	247	0.40
Rough Grading Haul	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Fine Grading Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Fine Grading Haul	Rubber Tired Dozers	0	1.00	247	0.40
Fine Grading Haul	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Trenching	Forklifts	2	8.00	89	0.20

Trenching	Generator Sets	2	8.00	84	0.74
Trenching	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	0	8.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Finishing/Landscaping	Air Compressors	0	6.00	78	0.48
Finishing/Landscaping	Forklifts	1	8.00	89	0.20
Finishing/Landscaping	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Portable Removal	Air Compressors	0	6.00	78	0.48
Portable Removal	Cranes	1	7.00	231	0.29
Portable Removal	Forklifts	3	8.00	89	0.20
Portable Removal	Generator Sets	1	8.00	84	0.74
Portable Removal	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Portable Removal	Welders	1	8.00	46	0.45

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
Asphalt Demolition	4	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demo Haul	0	15.00	4.00	60.00	14.70	6.90	60.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	18.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Prep Haul	0	15.00	4.00	39.00	14.70	6.90	60.00	LD_Mix	HDT_Mix	HHDT
Rough Grading	5	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	3	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Rough Grading Haul	0	15.00	4.00	25.00	14.70	6.90	75.00	LD_Mix	HDT_Mix	HHDT
Fine Grading Haul	0	15.00	4.00	11.00	14.70	6.90	75.00	LD_Mix	HDT_Mix	HHDT
Trenching	6	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	6.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	2	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Portable Removal	9	15.00	4.00	30.00	14.70	6.90	150.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Asphalt Demolition - 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	7.0600e-003	0.0709	0.0380	7.0000e-005		3.5600e-003	3.5600e-003		3.3200e-003	3.3200e-003	0.0000	6.2312	6.2312	1.6700e-003	0.0000	6.2728
Total	**7.0600e-003**	**0.0709**	**0.0380**	**7.0000e-005**		**3.5600e-003**	**3.5600e-003**		**3.3200e-003**	**3.3200e-003**	**0.0000**	**6.2312**	**6.2312**	**1.6700e-003**	**0.0000**	**6.2728**

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	4.0000e-005	1.0800e-003	2.9000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2484	0.2484	2.0000e-005	0.0000	0.2488
Worker	1.7000e-004	1.4000e-004	1.5400e-003	0.0000	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3830	0.3830	1.0000e-005	0.0000	0.3833
Total	**2.1000e-004**	**1.2200e-003**	**1.8300e-003**	**0.0000**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.6314**	**0.6314**	**3.0000e-005**	**0.0000**	**0.6321**

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	7.0600e-003	0.0709	0.0380	7.0000e-005		3.5600e-003	3.5600e-003		3.3200e-003	3.3200e-003	0.0000	6.2312	6.2312	1.6700e-003	0.0000	6.2728
Total	**7.0600e-003**	**0.0709**	**0.0380**	**7.0000e-005**		**3.5600e-003**	**3.5600e-003**		**3.3200e-003**	**3.3200e-003**	**0.0000**	**6.2312**	**6.2312**	**1.6700e-003**	**0.0000**	**6.2728**

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	4.0000e-005	1.0800e-003	2.9000e-004	0.0000	6.0000e-005	1.0000e-005	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2484	0.2484	2.0000e-005	0.0000	0.2488
Worker	1.7000e-004	1.4000e-004	1.5400e-003	0.0000	3.8000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3830	0.3830	1.0000e-005	0.0000	0.3833
Total	**2.1000e-004**	**1.2200e-003**	**1.8300e-003**	**0.0000**	**4.4000e-004**	**1.0000e-005**	**4.4000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.6314**	**0.6314**	**3.0000e-005**	**0.0000**	**0.6321**

3.3 Demo Haul - 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					3.2100e-003	0.0000	3.2100e-003	4.9000e-004	0.0000	4.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.2100e-003**	**0.0000**	**3.2100e-003**	**4.9000e-004**	**0.0000**	**4.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	6.9000e-004	0.0211	5.0500e-003	6.0000e-005	1.5500e-003	8.0000e-005	1.6300e-003	4.2000e-004	8.0000e-005	5.0000e-004	0.0000	6.3431	6.3431	3.9000e-004	0.0000	6.3529
Vendor	4.0000e-005	1.0800e-003	2.9000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2484	0.2484	2.0000e-005	0.0000	0.2488
Worker	1.7000e-004	1.4000e-004	1.5400e-003	0.0000	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3830	0.3830	1.0000e-005	0.0000	0.3833
Total	**9.0000e-004**	**0.0223**	**6.8800e-003**	**6.0000e-005**	**2.0200e-003**	**9.0000e-005**	**2.1100e-003**	**5.5000e-004**	**8.0000e-005**	**6.3000e-004**	**0.0000**	**6.9746**	**6.9746**	**4.2000e-004**	**0.0000**	**6.9850**

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					1.3700e-003	0.0000	1.3700e-003	2.1000e-004	0.0000	2.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.3700e-003**	**0.0000**	**1.3700e-003**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	6.9000e-004	0.0211	5.0500e-003	6.0000e-005	1.4400e-003	8.0000e-005	1.5200e-003	4.0000e-004	8.0000e-005	4.8000e-004	0.0000	6.3431	6.3431	3.9000e-004	0.0000	6.3529
Vendor	4.0000e-005	1.0800e-003	2.9000e-004	0.0000	6.0000e-005	1.0000e-005	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2484	0.2484	2.0000e-005	0.0000	0.2488
Worker	1.7000e-004	1.4000e-004	1.5400e-003	0.0000	3.8000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3830	0.3830	1.0000e-005	0.0000	0.3833
Total	**9.0000e-004**	**0.0223**	**6.8800e-003**	**6.0000e-005**	**1.8800e-003**	**9.0000e-005**	**1.9600e-003**	**5.2000e-004**	**8.0000e-005**	**6.0000e-004**	**0.0000**	**6.9746**	**6.9746**	**4.2000e-004**	**0.0000**	**6.9850**

3.4 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					0.0602	0.0000	0.0602	0.0331	0.0000	0.0331	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0150	0.1554	0.0869	1.5000e-004		8.2100e-003	8.2100e-003		7.5600e-003	7.5600e-003	0.0000	12.9626	12.9626	4.1900e-003	0.0000	13.0674
Total	**0.0150**	**0.1554**	**0.0869**	**1.5000e-004**	**0.0602**	**8.2100e-003**	**0.0684**	**0.0331**	**7.5600e-003**	**0.0407**	**0.0000**	**12.9626**	**12.9626**	**4.1900e-003**	**0.0000**	**13.0674**

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	1.5000e-004	4.3300e-003	1.1700e-003	1.0000e-005	2.5000e-004	2.0000e-005	2.7000e-004	7.0000e-005	2.0000e-005	9.0000e-005	0.0000	0.9937	0.9937	6.0000e-005	0.0000	0.9953
Worker	8.3000e-004	6.7000e-004	7.4100e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	2.0000e-005	5.4000e-004	0.0000	1.8384	1.8384	6.0000e-005	0.0000	1.8399
Total	**9.8000e-004**	**5.0000e-003**	**8.5800e-003**	**3.0000e-005**	**2.2200e-003**	**4.0000e-005**	**2.2600e-003**	**5.9000e-004**	**4.0000e-005**	**6.3000e-004**	**0.0000**	**2.8321**	**2.8321**	**1.2000e-004**	**0.0000**	**2.8352**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0257	0.0000	0.0257	0.0142	0.0000	0.0142	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0150	0.1554	0.0869	1.5000e-004		8.2100e-003	8.2100e-003		7.5600e-003	7.5600e-003	0.0000	12.9626	12.9626	4.1900e-003	0.0000	13.0674
Total	**0.0150**	**0.1554**	**0.0869**	**1.5000e-004**	**0.0257**	**8.2100e-003**	**0.0340**	**0.0142**	**7.5600e-003**	**0.0217**	**0.0000**	**12.9626**	**12.9626**	**4.1900e-003**	**0.0000**	**13.0674**

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	1.5000e-004	4.3300e-003	1.1700e-003	1.0000e-005	2.4000e-004	2.0000e-005	2.6000e-004	7.0000e-005	2.0000e-005	9.0000e-005	0.0000	0.9937	0.9937	6.0000e-005	0.0000	0.9953
Worker	8.3000e-004	6.7000e-004	7.4100e-003	2.0000e-005	1.8200e-003	2.0000e-005	1.8400e-003	4.9000e-004	2.0000e-005	5.0000e-004	0.0000	1.8384	1.8384	6.0000e-005	0.0000	1.8399
Total	**9.8000e-004**	**5.0000e-003**	**8.5800e-003**	**3.0000e-005**	**2.0600e-003**	**4.0000e-005**	**2.1000e-003**	**5.6000e-004**	**4.0000e-005**	**5.9000e-004**	**0.0000**	**2.8321**	**2.8321**	**1.2000e-004**	**0.0000**	**2.8352**

3.5 Site Prep Haul - 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					5.5000e-004	0.0000	5.5000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	4.5000e-004	0.0137	3.2800e-003	4.0000e-005	1.0000e-003	5.0000e-005	1.0600e-003	2.8000e-004	5.0000e-005	3.3000e-004	0.0000	4.1230	4.1230	2.5000e-004	0.0000	4.1294
Vendor	4.0000e-005	1.3000e-003	3.5000e-004	0.0000	8.0000e-005	1.0000e-005	8.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2981	0.2981	2.0000e-005	0.0000	0.2986
Worker	2.1000e-004	1.7000e-004	1.8500e-003	1.0000e-005	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4596	0.4596	1.0000e-005	0.0000	0.4600
Total	**7.0000e-004**	**0.0152**	**5.4800e-003**	**5.0000e-005**	**1.5700e-003**	**6.0000e-005**	**1.6400e-003**	**4.3000e-004**	**6.0000e-005**	**4.9000e-004**	**0.0000**	**4.8808**	**4.8808**	**2.8000e-004**	**0.0000**	**4.8879**

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					2.4000e-004	0.0000	2.4000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	4.5000e-004	0.0137	3.2800e-003	4.0000e-005	9.4000e-004	5.0000e-005	9.9000e-004	2.6000e-004	5.0000e-005	3.1000e-004	0.0000	4.1230	4.1230	2.5000e-004	0.0000	4.1294
Vendor	4.0000e-005	1.3000e-003	3.5000e-004	0.0000	7.0000e-005	1.0000e-005	8.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2981	0.2981	2.0000e-005	0.0000	0.2986
Worker	2.1000e-004	1.7000e-004	1.8500e-003	1.0000e-005	4.5000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.4596	0.4596	1.0000e-005	0.0000	0.4600
Total	**7.0000e-004**	**0.0152**	**5.4800e-003**	**5.0000e-005**	**1.4600e-003**	**6.0000e-005**	**1.5300e-003**	**4.0000e-004**	**6.0000e-005**	**4.7000e-004**	**0.0000**	**4.8808**	**4.8808**	**2.8000e-004**	**0.0000**	**4.8879**

3.6 Rough 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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.8800e-003	0.0971	0.0551	1.1000e-004		4.5600e-003	4.5600e-003		4.2000e-003	4.2000e-003	0.0000	9.3321	9.3321	3.0200e-003	0.0000	9.4075
Total	**8.8800e-003**	**0.0971**	**0.0551**	**1.1000e-004**	**0.0262**	**4.5600e-003**	**0.0308**	**0.0135**	**4.2000e-003**	**0.0177**	**0.0000**	**9.3321**	**9.3321**	**3.0200e-003**	**0.0000**	**9.4075**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	1.7300e-003	4.7000e-004	0.0000	1.0000e-004	1.0000e-005	1.1000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3975	0.3975	3.0000e-005	0.0000	0.3981
Worker	2.8000e-004	2.2000e-004	2.4700e-003	1.0000e-005	6.6000e-004	1.0000e-005	6.6000e-004	1.7000e-004	1.0000e-005	1.8000e-004	0.0000	0.6128	0.6128	2.0000e-005	0.0000	0.6133
Total	**3.4000e-004**	**1.9500e-003**	**2.9400e-003**	**1.0000e-005**	**7.6000e-004**	**2.0000e-005**	**7.7000e-004**	**2.0000e-004**	**2.0000e-005**	**2.2000e-004**	**0.0000**	**1.0103**	**1.0103**	**5.0000e-005**	**0.0000**	**1.0114**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0112	0.0000	0.0112	5.7600e-003	0.0000	5.7600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.8800e-003	0.0971	0.0551	1.1000e-004		4.5600e-003	4.5600e-003		4.2000e-003	4.2000e-003	0.0000	9.3321	9.3321	3.0200e-003	0.0000	9.4075
Total	**8.8800e-003**	**0.0971**	**0.0551**	**1.1000e-004**	**0.0112**	**4.5600e-003**	**0.0158**	**5.7600e-003**	**4.2000e-003**	**9.9600e-003**	**0.0000**	**9.3321**	**9.3321**	**3.0200e-003**	**0.0000**	**9.4075**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	1.7300e-003	4.7000e-004	0.0000	9.0000e-005	1.0000e-005	1.0000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3975	0.3975	3.0000e-005	0.0000	0.3981
Worker	2.8000e-004	2.2000e-004	2.4700e-003	1.0000e-005	6.1000e-004	1.0000e-005	6.1000e-004	1.6000e-004	1.0000e-005	1.7000e-004	0.0000	0.6128	0.6128	2.0000e-005	0.0000	0.6133
Total	**3.4000e-004**	**1.9500e-003**	**2.9400e-003**	**1.0000e-005**	**7.0000e-004**	**2.0000e-005**	**7.1000e-004**	**1.9000e-004**	**2.0000e-005**	**2.1000e-004**	**0.0000**	**1.0103**	**1.0103**	**5.0000e-005**	**0.0000**	**1.0114**

3.7 Fine 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					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4700e-003	0.0527	0.0319	6.0000e-005		2.3400e-003	2.3400e-003		2.1500e-003	2.1500e-003	0.0000	5.6439	5.6439	1.8300e-003	0.0000	5.6895
Total	**4.4700e-003**	**0.0527**	**0.0319**	**6.0000e-005**	**2.6500e-003**	**2.3400e-003**	**4.9900e-003**	**2.9000e-004**	**2.1500e-003**	**2.4400e-003**	**0.0000**	**5.6439**	**5.6439**	**1.8300e-003**	**0.0000**	**5.6895**

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	7.0000e-005	2.1700e-003	5.9000e-004	1.0000e-005	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.4969	0.4969	3.0000e-005	0.0000	0.4976
Worker	3.5000e-004	2.8000e-004	3.0900e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7660	0.7660	2.0000e-005	0.0000	0.7666
Total	**4.2000e-004**	**2.4500e-003**	**3.6800e-003**	**2.0000e-005**	**9.5000e-004**	**2.0000e-005**	**9.7000e-004**	**2.6000e-004**	**2.0000e-005**	**2.7000e-004**	**0.0000**	**1.2629**	**1.2629**	**5.0000e-005**	**0.0000**	**1.2643**

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					1.1300e-003	0.0000	1.1300e-003	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4700e-003	0.0527	0.0319	6.0000e-005		2.3400e-003	2.3400e-003		2.1500e-003	2.1500e-003	0.0000	5.6438	5.6438	1.8300e-003	0.0000	5.6895
Total	**4.4700e-003**	**0.0527**	**0.0319**	**6.0000e-005**	**1.1300e-003**	**2.3400e-003**	**3.4700e-003**	**1.2000e-004**	**2.1500e-003**	**2.2700e-003**	**0.0000**	**5.6438**	**5.6438**	**1.8300e-003**	**0.0000**	**5.6895**

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	7.0000e-005	2.1700e-003	5.9000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.4969	0.4969	3.0000e-005	0.0000	0.4976
Worker	3.5000e-004	2.8000e-004	3.0900e-003	1.0000e-005	7.6000e-004	1.0000e-005	7.6000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.7660	0.7660	2.0000e-005	0.0000	0.7666
Total	**4.2000e-004**	**2.4500e-003**	**3.6800e-003**	**2.0000e-005**	**8.8000e-004**	**2.0000e-005**	**8.9000e-004**	**2.3000e-004**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**1.2629**	**1.2629**	**5.0000e-005**	**0.0000**	**1.2643**

3.8 Rough Grading Haul - 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					5.4000e-004	0.0000	5.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.4000e-004**	**0.0000**	**5.4000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	3.5000e-004	0.0107	2.5900e-003	3.0000e-005	8.0000e-004	4.0000e-005	8.5000e-004	2.2000e-004	4.0000e-005	2.6000e-004	0.0000	3.2728	3.2728	2.0000e-004	0.0000	3.2777
Vendor	3.0000e-005	8.7000e-004	2.3000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1987	0.1987	1.0000e-005	0.0000	0.1991
Worker	1.4000e-004	1.1000e-004	1.2300e-003	0.0000	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.3064	0.3064	1.0000e-005	0.0000	0.3067
Total	**5.2000e-004**	**0.0117**	**4.0500e-003**	**3.0000e-005**	**1.1800e-003**	**4.0000e-005**	**1.2300e-003**	**3.2000e-004**	**4.0000e-005**	**3.7000e-004**	**0.0000**	**3.7779**	**3.7779**	**2.2000e-004**	**0.0000**	**3.7834**

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					2.3000e-004	0.0000	2.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	3.5000e-004	0.0107	2.5900e-003	3.0000e-005	7.5000e-004	4.0000e-005	7.9000e-004	2.1000e-004	4.0000e-005	2.5000e-004	0.0000	3.2728	3.2728	2.0000e-004	0.0000	3.2777
Vendor	3.0000e-005	8.7000e-004	2.3000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1987	0.1987	1.0000e-005	0.0000	0.1991
Worker	1.4000e-004	1.1000e-004	1.2300e-003	0.0000	3.0000e-004	0.0000	3.1000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.3064	0.3064	1.0000e-005	0.0000	0.3067
Total	**5.2000e-004**	**0.0117**	**4.0500e-003**	**3.0000e-005**	**1.1000e-003**	**4.0000e-005**	**1.1500e-003**	**3.0000e-004**	**4.0000e-005**	**3.5000e-004**	**0.0000**	**3.7779**	**3.7779**	**2.2000e-004**	**0.0000**	**3.7834**

3.9 Fine Grading Haul - 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					5.4000e-004	0.0000	5.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.4000e-004**	**0.0000**	**5.4000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	1.6000e-004	4.6900e-003	1.1400e-003	1.0000e-005	3.5000e-004	2.0000e-005	3.7000e-004	1.0000e-004	2.0000e-005	1.1000e-004	0.0000	1.4400	1.4400	9.0000e-005	0.0000	1.4422
Vendor	2.0000e-005	6.5000e-004	1.8000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1491	0.1491	1.0000e-005	0.0000	0.1493
Worker	1.0000e-004	8.0000e-005	9.3000e-004	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2298	0.2298	1.0000e-005	0.0000	0.2300
Total	**2.8000e-004**	**5.4200e-003**	**2.2500e-003**	**1.0000e-005**	**6.4000e-004**	**2.0000e-005**	**6.6000e-004**	**1.8000e-004**	**2.0000e-005**	**1.9000e-004**	**0.0000**	**1.8189**	**1.8189**	**1.1000e-004**	**0.0000**	**1.8215**

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Fugitive Dust					2.3000e-004	0.0000	2.3000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	1.6000e-004	4.6900e-003	1.1400e-003	1.0000e-005	3.3000e-004	2.0000e-005	3.5000e-004	9.0000e-005	2.0000e-005	1.1000e-004	0.0000	1.4400	1.4400	9.0000e-005	0.0000	1.4422
Vendor	2.0000e-005	6.5000e-004	1.8000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1491	0.1491	1.0000e-005	0.0000	0.1493
Worker	1.0000e-004	8.0000e-005	9.3000e-004	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2298	0.2298	1.0000e-005	0.0000	0.2300
Total	**2.8000e-004**	**5.4200e-003**	**2.2500e-003**	**1.0000e-005**	**6.0000e-004**	**2.0000e-005**	**6.2000e-004**	**1.6000e-004**	**2.0000e-005**	**1.8000e-004**	**0.0000**	**1.8189**	**1.8189**	**1.1000e-004**	**0.0000**	**1.8215**

3.10 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	9.0300e-003	0.0826	0.0860	1.3000e-004		5.1100e-003	5.1100e-003		4.8900e-003	4.8900e-003	0.0000	11.6682	11.6682	1.9600e-003	0.0000	11.7173
Total	**9.0300e-003**	**0.0826**	**0.0860**	**1.3000e-004**		**5.1100e-003**	**5.1100e-003**		**4.8900e-003**	**4.8900e-003**	**0.0000**	**11.6682**	**11.6682**	**1.9600e-003**	**0.0000**	**11.7173**

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	9.0000e-005	2.6000e-003	7.0000e-004	1.0000e-005	1.5000e-004	1.0000e-005	1.6000e-004	4.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5962	0.5962	4.0000e-005	0.0000	0.5972
Worker	4.2000e-004	3.4000e-004	3.7000e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9192	0.9192	3.0000e-005	0.0000	0.9199
Total	**5.1000e-004**	**2.9400e-003**	**4.4000e-003**	**2.0000e-005**	**1.1400e-003**	**2.0000e-005**	**1.1500e-003**	**3.0000e-004**	**2.0000e-005**	**3.3000e-004**	**0.0000**	**1.5154**	**1.5154**	**7.0000e-005**	**0.0000**	**1.5171**

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	9.0300e-003	0.0826	0.0860	1.3000e-004		5.1100e-003	5.1100e-003		4.8900e-003	4.8900e-003	0.0000	11.6682	11.6682	1.9600e-003	0.0000	11.7173
Total	**9.0300e-003**	**0.0826**	**0.0860**	**1.3000e-004**		**5.1100e-003**	**5.1100e-003**		**4.8900e-003**	**4.8900e-003**	**0.0000**	**11.6682**	**11.6682**	**1.9600e-003**	**0.0000**	**11.7173**

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	9.0000e-005	2.6000e-003	7.0000e-004	1.0000e-005	1.4000e-004	1.0000e-005	1.5000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5962	0.5962	4.0000e-005	0.0000	0.5972
Worker	4.2000e-004	3.4000e-004	3.7000e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.9192	0.9192	3.0000e-005	0.0000	0.9199
Total	**5.1000e-004**	**2.9400e-003**	**4.4000e-003**	**2.0000e-005**	**1.0500e-003**	**2.0000e-005**	**1.0700e-003**	**2.8000e-004**	**2.0000e-005**	**3.0000e-004**	**0.0000**	**1.5154**	**1.5154**	**7.0000e-005**	**0.0000**	**1.5171**

3.11 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	0.1525	1.2963	1.3557	2.1200e-003		0.0796	0.0796		0.0765	0.0765	0.0000	181.6788	181.6788	0.0294	0.0000	182.4127
Total	**0.1525**	**1.2963**	**1.3557**	**2.1200e-003**		**0.0796**	**0.0796**		**0.0765**	**0.0765**	**0.0000**	**181.6788**	**181.6788**	**0.0294**	**0.0000**	**182.4127**

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	8.8000e-004	0.0262	7.1000e-003	6.0000e-005	1.5200e-003	1.2000e-004	1.6500e-003	4.4000e-004	1.2000e-004	5.6000e-004	0.0000	6.0119	6.0119	3.8000e-004	0.0000	6.0215
Worker	1.6800e-003	1.3500e-003	0.0149	4.0000e-005	3.9800e-003	3.0000e-005	4.0100e-003	1.0600e-003	3.0000e-005	1.0900e-003	0.0000	3.7075	3.7075	1.2000e-004	0.0000	3.7104
Total	**2.5600e-003**	**0.0276**	**0.0220**	**1.0000e-004**	**5.5000e-003**	**1.5000e-004**	**5.6600e-003**	**1.5000e-003**	**1.5000e-004**	**1.6500e-003**	**0.0000**	**9.7194**	**9.7194**	**5.0000e-004**	**0.0000**	**9.7319**

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	0.1525	1.2963	1.3557	2.1200e-003		0.0796	0.0796		0.0765	0.0765	0.0000	181.6786	181.6786	0.0294	0.0000	182.4125
Total	**0.1525**	**1.2963**	**1.3557**	**2.1200e-003**		**0.0796**	**0.0796**		**0.0765**	**0.0765**	**0.0000**	**181.6786**	**181.6786**	**0.0294**	**0.0000**	**182.4125**

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	8.8000e-004	0.0262	7.1000e-003	6.0000e-005	1.4300e-003	1.2000e-004	1.5500e-003	4.2000e-004	1.2000e-004	5.3000e-004	0.0000	6.0119	6.0119	3.8000e-004	0.0000	6.0215
Worker	1.6800e-003	1.3500e-003	0.0149	4.0000e-005	3.6700e-003	3.0000e-005	3.7000e-003	9.8000e-004	3.0000e-005	1.0100e-003	0.0000	3.7075	3.7075	1.2000e-004	0.0000	3.7104
Total	**2.5600e-003**	**0.0276**	**0.0220**	**1.0000e-004**	**5.1000e-003**	**1.5000e-004**	**5.2500e-003**	**1.4000e-003**	**1.5000e-004**	**1.5400e-003**	**0.0000**	**9.7194**	**9.7194**	**5.0000e-004**	**0.0000**	**9.7319**

3.11 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	0.1229	1.0639	1.2104	1.9100e-003		0.0611	0.0611		0.0588	0.0588	0.0000	163.6781	163.6781	0.0258	0.0000	164.3227
Total	**0.1229**	**1.0639**	**1.2104**	**1.9100e-003**		**0.0611**	**0.0611**		**0.0588**	**0.0588**	**0.0000**	**163.6781**	**163.6781**	**0.0258**	**0.0000**	**164.3227**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.8000e-004	0.0215	5.8300e-003	6.0000e-005	1.3700e-003	4.0000e-005	1.4200e-003	4.0000e-004	4.0000e-005	4.4000e-004	0.0000	5.3736	5.3736	3.3000e-004	0.0000	5.3819
Worker	1.4100e-003	1.1000e-003	0.0124	4.0000e-005	3.5800e-003	3.0000e-005	3.6100e-003	9.5000e-004	3.0000e-005	9.8000e-004	0.0000	3.2338	3.2338	1.0000e-004	0.0000	3.2361
Total	**2.0900e-003**	**0.0226**	**0.0182**	**1.0000e-004**	**4.9500e-003**	**7.0000e-005**	**5.0300e-003**	**1.3500e-003**	**7.0000e-005**	**1.4200e-003**	**0.0000**	**8.6074**	**8.6074**	**4.3000e-004**	**0.0000**	**8.6180**

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	0.1229	1.0639	1.2104	1.9100e-003		0.0611	0.0611		0.0588	0.0588	0.0000	163.6779	163.6779	0.0258	0.0000	164.3225
Total	**0.1229**	**1.0639**	**1.2104**	**1.9100e-003**		**0.0611**	**0.0611**		**0.0588**	**0.0588**	**0.0000**	**163.6779**	**163.6779**	**0.0258**	**0.0000**	**164.3225**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.8000e-004	0.0215	5.8300e-003	6.0000e-005	1.2900e-003	4.0000e-005	1.3300e-003	3.7000e-004	4.0000e-005	4.2000e-004	0.0000	5.3736	5.3736	3.3000e-004	0.0000	5.3819
Worker	1.4100e-003	1.1000e-003	0.0124	4.0000e-005	3.3000e-003	3.0000e-005	3.3300e-003	8.8000e-004	3.0000e-005	9.1000e-004	0.0000	3.2338	3.2338	1.0000e-004	0.0000	3.2361
Total	**2.0900e-003**	**0.0226**	**0.0182**	**1.0000e-004**	**4.5900e-003**	**7.0000e-005**	**4.6600e-003**	**1.2500e-003**	**7.0000e-005**	**1.3300e-003**	**0.0000**	**8.6074**	**8.6074**	**4.3000e-004**	**0.0000**	**8.6180**

3.12 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	9.8500e-003	0.0976	0.1103	1.7000e-004		5.2100e-003	5.2100e-003		4.8100e-003	4.8100e-003	0.0000	14.7336	14.7336	4.6300e-003	0.0000	14.8493
Paving	7.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.9200e-003**	**0.0976**	**0.1103**	**1.7000e-004**		**5.2100e-003**	**5.2100e-003**		**4.8100e-003**	**4.8100e-003**	**0.0000**	**14.7336**	**14.7336**	**4.6300e-003**	**0.0000**	**14.8493**

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	1.1000e-004	3.5500e-003	9.6000e-004	1.0000e-005	2.3000e-004	1.0000e-005	2.3000e-004	7.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.8874	0.8874	5.0000e-005	0.0000	0.8888
Worker	7.7000e-004	6.0000e-004	6.8100e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.7801	1.7801	5.0000e-005	0.0000	1.7814
Total	**8.8000e-004**	**4.1500e-003**	**7.7700e-003**	**3.0000e-005**	**2.2000e-003**	**3.0000e-005**	**2.2200e-003**	**5.9000e-004**	**2.0000e-005**	**6.1000e-004**	**0.0000**	**2.6674**	**2.6674**	**1.0000e-004**	**0.0000**	**2.6701**

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	9.8500e-003	0.0976	0.1103	1.7000e-004		5.2100e-003	5.2100e-003		4.8100e-003	4.8100e-003	0.0000	14.7335	14.7335	4.6300e-003	0.0000	14.8493
Paving	7.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.9200e-003**	**0.0976**	**0.1103**	**1.7000e-004**		**5.2100e-003**	**5.2100e-003**		**4.8100e-003**	**4.8100e-003**	**0.0000**	**14.7335**	**14.7335**	**4.6300e-003**	**0.0000**	**14.8493**

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	1.1000e-004	3.5500e-003	9.6000e-004	1.0000e-005	2.1000e-004	1.0000e-005	2.2000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.8874	0.8874	5.0000e-005	0.0000	0.8888
Worker	7.7000e-004	6.0000e-004	6.8100e-003	2.0000e-005	1.8200e-003	2.0000e-005	1.8300e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.7801	1.7801	5.0000e-005	0.0000	1.7814
Total	**8.8000e-004**	**4.1500e-003**	**7.7700e-003**	**3.0000e-005**	**2.0300e-003**	**3.0000e-005**	**2.0500e-003**	**5.5000e-004**	**2.0000e-005**	**5.7000e-004**	**0.0000**	**2.6674**	**2.6674**	**1.0000e-004**	**0.0000**	**2.6701**

3.13 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	0.0650					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9700e-003	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019
Total	**0.0670**	**0.0137**	**0.0164**	**3.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.6000e-004**	**0.0000**	**2.3019**

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	1.1000e-004	3.5500e-003	9.6000e-004	1.0000e-005	2.3000e-004	1.0000e-005	2.3000e-004	7.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.8874	0.8874	5.0000e-005	0.0000	0.8888
Worker	4.0000e-005	3.0000e-005	3.4000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0890	0.0890	0.0000	0.0000	0.0891
Total	**1.5000e-004**	**3.5800e-003**	**1.3000e-003**	**1.0000e-005**	**3.3000e-004**	**1.0000e-005**	**3.3000e-004**	**1.0000e-004**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**0.9764**	**0.9764**	**5.0000e-005**	**0.0000**	**0.9778**

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	0.0650					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9700e-003	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019
Total	**0.0670**	**0.0137**	**0.0164**	**3.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.6000e-004**	**0.0000**	**2.3019**

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	1.1000e-004	3.5500e-003	9.6000e-004	1.0000e-005	2.1000e-004	1.0000e-005	2.2000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.8874	0.8874	5.0000e-005	0.0000	0.8888
Worker	4.0000e-005	3.0000e-005	3.4000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.0890	0.0890	0.0000	0.0000	0.0891
Total	**1.5000e-004**	**3.5800e-003**	**1.3000e-003**	**1.0000e-005**	**3.0000e-004**	**1.0000e-005**	**3.1000e-004**	**8.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**0.9764**	**0.9764**	**5.0000e-005**	**0.0000**	**0.9778**

3.14 Finishing/Landscaping - 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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2300e-003	0.0312	0.0346	5.0000e-005		2.0000e-003	2.0000e-003		1.8400e-003	1.8400e-003	0.0000	4.1046	4.1046	1.3300e-003	0.0000	4.1378
Total	**3.2300e-003**	**0.0312**	**0.0346**	**5.0000e-005**		**2.0000e-003**	**2.0000e-003**		**1.8400e-003**	**1.8400e-003**	**0.0000**	**4.1046**	**4.1046**	**1.3300e-003**	**0.0000**	**4.1378**

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	1.4000e-004	4.3400e-003	1.1800e-003	1.0000e-005	2.8000e-004	1.0000e-005	2.9000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.0846	1.0846	7.0000e-005	0.0000	1.0863
Worker	7.1000e-004	5.5000e-004	6.2400e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.6317	1.6317	5.0000e-005	0.0000	1.6329
Total	**8.5000e-004**	**4.8900e-003**	**7.4200e-003**	**3.0000e-005**	**2.0900e-003**	**2.0000e-005**	**2.1100e-003**	**5.6000e-004**	**2.0000e-005**	**5.8000e-004**	**0.0000**	**2.7163**	**2.7163**	**1.2000e-004**	**0.0000**	**2.7192**

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2300e-003	0.0312	0.0346	5.0000e-005		2.0000e-003	2.0000e-003		1.8400e-003	1.8400e-003	0.0000	4.1046	4.1046	1.3300e-003	0.0000	4.1377
Total	**3.2300e-003**	**0.0312**	**0.0346**	**5.0000e-005**		**2.0000e-003**	**2.0000e-003**		**1.8400e-003**	**1.8400e-003**	**0.0000**	**4.1046**	**4.1046**	**1.3300e-003**	**0.0000**	**4.1377**

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	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	1.4000e-004	4.3400e-003	1.1800e-003	1.0000e-005	2.6000e-004	1.0000e-005	2.7000e-004	8.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.0846	1.0846	7.0000e-005	0.0000	1.0863
Worker	7.1000e-004	5.5000e-004	6.2400e-003	2.0000e-005	1.6700e-003	1.0000e-005	1.6800e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.6317	1.6317	5.0000e-005	0.0000	1.6329
Total	**8.5000e-004**	**4.8900e-003**	**7.4200e-003**	**3.0000e-005**	**1.9300e-003**	**2.0000e-005**	**1.9500e-003**	**5.3000e-004**	**2.0000e-005**	**5.4000e-004**	**0.0000**	**2.7163**	**2.7163**	**1.2000e-004**	**0.0000**	**2.7192**

3.15 Portable Removal - 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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0209	0.1918	0.1823	3.0000e-004		0.0105	0.0105		9.9100e-003	9.9100e-003	0.0000	25.4801	25.4801	6.1500e-003	0.0000	25.6338
Total	**0.0209**	**0.1918**	**0.1823**	**3.0000e-004**		**0.0105**	**0.0105**		**9.9100e-003**	**9.9100e-003**	**0.0000**	**25.4801**	**25.4801**	**6.1500e-003**	**0.0000**	**25.6338**

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	7.8000e-004	0.0222	5.9500e-003	8.0000e-005	1.9300e-003	9.0000e-005	2.0200e-003	5.3000e-004	9.0000e-005	6.2000e-004	0.0000	7.6192	7.6192	4.5000e-004	0.0000	7.6304
Vendor	1.4000e-004	4.3400e-003	1.1800e-003	1.0000e-005	2.8000e-004	1.0000e-005	2.9000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.0846	1.0846	7.0000e-005	0.0000	1.0863
Worker	7.1000e-004	5.5000e-004	6.2400e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.6317	1.6317	5.0000e-005	0.0000	1.6329
Total	**1.6300e-003**	**0.0271**	**0.0134**	**1.1000e-004**	**4.0200e-003**	**1.1000e-004**	**4.1300e-003**	**1.0900e-003**	**1.1000e-004**	**1.2000e-003**	**0.0000**	**10.3355**	**10.3355**	**5.7000e-004**	**0.0000**	**10.3496**

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0209	0.1918	0.1823	3.0000e-004		0.0105	0.0105		9.9100e-003	9.9100e-003	0.0000	25.4801	25.4801	6.1500e-003	0.0000	25.6338
Total	**0.0209**	**0.1918**	**0.1823**	**3.0000e-004**		**0.0105**	**0.0105**		**9.9100e-003**	**9.9100e-003**	**0.0000**	**25.4801**	**25.4801**	**6.1500e-003**	**0.0000**	**25.6338**

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	7.8000e-004	0.0222	5.9500e-003	8.0000e-005	1.8000e-003	9.0000e-005	1.8900e-003	5.0000e-004	9.0000e-005	5.8000e-004	0.0000	7.6192	7.6192	4.5000e-004	0.0000	7.6304
Vendor	1.4000e-004	4.3400e-003	1.1800e-003	1.0000e-005	2.6000e-004	1.0000e-005	2.7000e-004	8.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.0846	1.0846	7.0000e-005	0.0000	1.0863
Worker	7.1000e-004	5.5000e-004	6.2400e-003	2.0000e-005	1.6700e-003	1.0000e-005	1.6800e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.6317	1.6317	5.0000e-005	0.0000	1.6329
Total	**1.6300e-003**	**0.0271**	**0.0134**	**1.1000e-004**	**3.7300e-003**	**1.1000e-004**	**3.8400e-003**	**1.0300e-003**	**1.1000e-004**	**1.1200e-003**	**0.0000**	**10.3355**	**10.3355**	**5.7000e-004**	**0.0000**	**10.3496**

Point Dume Elementary School - Phase 2

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	16.50	1000sqft	0.22	16,500.00	0
Other Asphalt Surfaces	2.00	1000sqft	0.05	0.00	0
Other Non-Asphalt Surfaces	2.00	1000sqft	0.05	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**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 - See CalEEMod Assumptions

Construction Phase - See CalEEMod Assumptions

Off-road Equipment -

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - Haul Phase

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - Haul Phase

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - Haul Phase

Off-road Equipment - Haul Phase

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Trips and VMT - See CalEEMod Assumptions

Demolition -

Grading - See CalEEMod Assumptions

Architectural Coating - See CalEEMod Assumptions

Construction Off-road Equipment Mitigation - See CalEEMod Assumptions

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	8,250.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	8,250.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	24,750.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	24,750.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	24,750.00	19,800.00
tblArchitecturalCoating	ConstArea_Parking	240.00	0.00
tblArchitecturalCoating	ConstArea_Parking	240.00	0.00
tblArchitecturalCoating	ConstArea_Parking	240.00	0.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	18.00
tblConstructionPhase	NumDays	5.00	22.00
tblConstructionPhase	NumDays	5.00	22.00
tblConstructionPhase	NumDays	100.00	230.00

tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	2.00	8.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	2.00	4.00
tblConstructionPhase	NumDays	2.00	3.00
tblConstructionPhase	NumDays	5.00	18.00
tblConstructionPhase	NumDays	1.00	20.00
tblConstructionPhase	NumDays	1.00	6.00
tblGrading	AcresOfGrading	0.00	1.00
tblGrading	AcresOfGrading	0.00	1.00
tblGrading	AcresOfGrading	0.00	1.00
tblGrading	MaterialExported	0.00	350.00
tblGrading	MaterialImported	0.00	225.00
tblGrading	MaterialImported	0.00	100.00
tblLandUse	LandUseSquareFeet	2,000.00	0.00
tblLandUse	LandUseSquareFeet	2,000.00	0.00
tblLandUse	LotAcreage	0.38	0.22
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	PhaseName		Asphalt Demolition
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	1.00	8.00
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tblOffRoadEquipment	UsageHours	6.00	8.00
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tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripLength	20.00	60.00
tblTripsAndVMT	HaulingTripLength	20.00	60.00

tblTripsAndVMT	HaulingTripLength	20.00	75.00
tblTripsAndVMT	HaulingTripLength	20.00	75.00
tblTripsAndVMT	HaulingTripNumber	0.00	30.00
tblTripsAndVMT	HaulingTripNumber	30.00	60.00
tblTripsAndVMT	HaulingTripNumber	44.00	39.00
tblTripsAndVMT	HaulingTripNumber	28.00	25.00
tblTripsAndVMT	HaulingTripNumber	13.00	11.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	3.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
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tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	10.00	15.00
tblTripsAndVMT	WorkerTripNumber	9.00	6.00
tblTripsAndVMT	WorkerTripNumber	2.00	1.00
tblTripsAndVMT	WorkerTripNumber	2.00	15.00
tblTripsAndVMT	WorkerTripNumber	2.00	15.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	8.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00

tblTripsAndVMT	WorkerTripNumber	8.00	15.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00

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	5.1498	47.1307	44.9260	0.0773	9.1341	2.6450	10.7897	3.8784	2.5191	5.4032	0.0000	7,765.1201	7,765.1201	1.4578	0.0000	7,801.5646
2021	9.8935	25.0432	23.5604	0.0475	0.6020	1.2476	1.8496	0.1630	1.1751	1.3380	0.0000	4,661.7013	4,661.7013	0.8440	0.0000	4,682.8028
Maximum	**9.8935**	**47.1307**	**44.9260**	**0.0773**	**9.1341**	**2.6450**	**10.7897**	**3.8784**	**2.5191**	**5.4032**	**0.0000**	**7,765.1201**	**7,765.1201**	**1.4578**	**0.0000**	**7,801.5646**

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	5.1498	47.1307	44.9260	0.0773	4.6161	2.6450	6.2717	1.8533	2.5191	3.3780	0.0000	7,765.1201	7,765.1201	1.4578	0.0000	7,801.5646
2021	9.8935	25.0432	23.5604	0.0475	0.5578	1.2476	1.8054	0.1521	1.1751	1.3272	0.0000	4,661.7013	4,661.7013	0.8440	0.0000	4,682.8028
Maximum	**9.8935**	**47.1307**	**44.9260**	**0.0773**	**4.6161**	**2.6450**	**6.2717**	**1.8533**	**2.5191**	**3.3780**	**0.0000**	**7,765.1201**	**7,765.1201**	**1.4578**	**0.0000**	**7,801.5646**

	ROG	NOx	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	46.86	0.00	36.10	50.38	0.00	30.20	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	Asphalt Demolition	Demolition	6/1/2020	6/5/2020	5	5	
2	Demo Haul	Demolition	6/8/2020	6/12/2020	5	5	
3	Site Preparation	Site Preparation	6/8/2020	7/3/2020	5	20	
4	Site Prep Haul	Site Preparation	6/15/2020	6/22/2020	5	6	
5	Rough Grading	Grading	7/4/2020	7/15/2020	5	8	
6	Fine Grading	Grading	7/4/2020	7/17/2020	5	10	
7	Rough Grading Haul	Grading	7/10/2020	7/15/2020	5	4	
8	Fine Grading Haul	Grading	7/10/2020	7/14/2020	5	3	
9	Trenching	Trenching	7/16/2020	7/31/2020	5	12	
10	Building Construction	Building Construction	7/16/2020	6/2/2021	5	230	
11	Paving	Paving	6/3/2021	6/28/2021	5	18	
12	Architectural Coating	Architectural Coating	6/29/2021	7/22/2021	5	18	
13	Finishing/Landscaping	Architectural Coating	7/1/2021	7/30/2021	5	22	
14	Portable Removal	Architectural Coating	7/1/2021	7/30/2021	5	22	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.1

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 19,800; Non-Residential Outdoor: 8,250; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Asphalt Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Asphalt Demolition	Excavators	1	8.00	158	0.38
Asphalt Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Asphalt Demolition	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Demo Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Demo Haul	Rubber Tired Dozers	0	1.00	247	0.40
Demo Haul	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Prep Haul	Graders	0	8.00	187	0.41
Site Prep Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Rough Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Rough Grading	Excavators	1	8.00	158	0.38
Rough Grading	Graders	1	8.00	187	0.41
Rough Grading	Rubber Tired Dozers	1	8.00	247	0.40
Rough Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Fine Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rubber Tired Dozers	0	1.00	247	0.40
Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Rough Grading Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Rough Grading Haul	Rubber Tired Dozers	0	1.00	247	0.40
Rough Grading Haul	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Fine Grading Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Fine Grading Haul	Rubber Tired Dozers	0	1.00	247	0.40
Fine Grading Haul	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Trenching	Forklifts	2	8.00	89	0.20

Trenching	Generator Sets	2	8.00	84	0.74
Trenching	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	0	8.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Finishing/Landscaping	Air Compressors	0	6.00	78	0.48
Finishing/Landscaping	Forklifts	1	8.00	89	0.20
Finishing/Landscaping	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Portable Removal	Air Compressors	0	6.00	78	0.48
Portable Removal	Cranes	1	7.00	231	0.29
Portable Removal	Forklifts	3	8.00	89	0.20
Portable Removal	Generator Sets	1	8.00	84	0.74
Portable Removal	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Portable Removal	Welders	1	8.00	46	0.45

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
Asphalt Demolition	4	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demo Haul	0	15.00	4.00	60.00	14.70	6.90	60.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	18.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Prep Haul	0	15.00	4.00	39.00	14.70	6.90	60.00	LD_Mix	HDT_Mix	HHDT
Rough Grading	5	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	3	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Rough Grading Haul	0	15.00	4.00	25.00	14.70	6.90	75.00	LD_Mix	HDT_Mix	HHDT
Fine Grading Haul	0	15.00	4.00	11.00	14.70	6.90	75.00	LD_Mix	HDT_Mix	HHDT
Trenching	6	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	6.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	2	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Portable Removal	9	15.00	4.00	30.00	14.70	6.90	150.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Asphalt Demolition - 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	2.8222	28.3757	15.2176	0.0285		1.4250	1.4250		1.3268	1.3268		2,747.4681	2,747.4681	0.7345		2,765.8293
Total	**2.8222**	**28.3757**	**15.2176**	**0.0285**		**1.4250**	**1.4250**		**1.3268**	**1.3268**		**2,747.4681**	**2,747.4681**	**0.7345**		**2,765.8293**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0256	2.0300e-003	0.0276	7.3700e-003	1.9500e-003	9.3200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.0915**	**0.4798**	**0.7245**	**2.6800e-003**	**0.1933**	**3.4300e-003**	**0.1967**	**0.0518**	**3.2400e-003**	**0.0551**		**273.8927**	**273.8927**	**0.0125**		**274.2038**

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	2.8222	28.3757	15.2176	0.0285		1.4250	1.4250		1.3268	1.3268	0.0000	2,747.4681	2,747.4681	0.7345		2,765.8293
Total	**2.8222**	**28.3757**	**15.2176**	**0.0285**		**1.4250**	**1.4250**		**1.3268**	**1.3268**	**0.0000**	**2,747.4681**	**2,747.4681**	**0.7345**		**2,765.8293**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0240	2.0300e-003	0.0260	6.9700e-003	1.9500e-003	8.9200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1546	1.4000e-003	0.1560	0.0413	1.2900e-003	0.0425		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.0915**	**0.4798**	**0.7245**	**2.6800e-003**	**0.1785**	**3.4300e-003**	**0.1820**	**0.0482**	**3.2400e-003**	**0.0515**		**273.8927**	**273.8927**	**0.0125**		**274.2038**

3.3 Demo Haul - 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					1.2839	0.0000	1.2839	0.1944	0.0000	0.1944			0.0000			0.0000
Off-Road	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.2839**	**0.0000**	**1.2839**	**0.1944**	**0.0000**	**0.1944**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.2764	8.2671	2.0448	0.0257	0.6289	0.0322	0.6611	0.1724	0.0308	0.2032		2,786.5894	2,786.5894	0.1728		2,790.9082
Vendor	0.0149	0.4254	0.1230	1.0100e-003	0.0256	2.0300e-003	0.0276	7.3700e-003	1.9500e-003	9.3200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.3679**	**8.7469**	**2.7693**	**0.0284**	**0.8222**	**0.0356**	**0.8578**	**0.2242**	**0.0340**	**0.2582**		**3,060.4820**	**3,060.4820**	**0.1852**		**3,065.1120**

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					0.5489	0.0000	0.5489	0.0831	0.0000	0.0831			0.0000			0.0000
Off-Road	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.5489**	**0.0000**	**0.5489**	**0.0831**	**0.0000**	**0.0831**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.2764	8.2671	2.0448	0.0257	0.5861	0.0322	0.6183	0.1618	0.0308	0.1926		2,786.5894	2,786.5894	0.1728		2,790.9082
Vendor	0.0149	0.4254	0.1230	1.0100e-003	0.0240	2.0300e-003	0.0260	6.9700e-003	1.9500e-003	8.9200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1546	1.4000e-003	0.1560	0.0413	1.2900e-003	0.0425		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.3679**	**8.7469**	**2.7693**	**0.0284**	**0.7646**	**0.0356**	**0.8002**	**0.2101**	**0.0340**	**0.2441**		**3,060.4820**	**3,060.4820**	**0.1852**		**3,065.1120**

3.4 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					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.4985	15.5425	8.6910	0.0147		0.8212	0.8212		0.7555	0.7555		1,428.8795	1,428.8795	0.4621		1,440.4327
Total	**1.4985**	**15.5425**	**8.6910**	**0.0147**	**6.0221**	**0.8212**	**6.8433**	**3.3102**	**0.7555**	**4.0658**		**1,428.8795**	**1,428.8795**	**0.4621**		**1,440.4327**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0256	2.0300e-003	0.0276	7.3700e-003	1.9500e-003	9.3200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0920	0.0652	0.7218	2.0000e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		199.3357	199.3357	6.2800e-003		199.4927
Total	**0.1069**	**0.4906**	**0.8448**	**3.0100e-003**	**0.2268**	**3.7100e-003**	**0.2305**	**0.0607**	**3.5000e-003**	**0.0642**		**307.1153**	**307.1153**	**0.0135**		**307.4525**

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					2.5744	0.0000	2.5744	1.4151	0.0000	1.4151			0.0000			0.0000
Off-Road	1.4985	15.5425	8.6910	0.0147		0.8212	0.8212		0.7555	0.7555	0.0000	1,428.8795	1,428.8795	0.4621		1,440.4327
Total	**1.4985**	**15.5425**	**8.6910**	**0.0147**	**2.5744**	**0.8212**	**3.3957**	**1.4151**	**0.7555**	**2.1706**	**0.0000**	**1,428.8795**	**1,428.8795**	**0.4621**		**1,440.4327**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0240	2.0300e-003	0.0260	6.9700e-003	1.9500e-003	8.9200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0920	0.0652	0.7218	2.0000e-003	0.1855	1.6800e-003	0.1871	0.0495	1.5500e-003	0.0510		199.3357	199.3357	6.2800e-003		199.4927
Total	**0.1069**	**0.4906**	**0.8448**	**3.0100e-003**	**0.2094**	**3.7100e-003**	**0.2131**	**0.0565**	**3.5000e-003**	**0.0600**		**307.1153**	**307.1153**	**0.0135**		**307.4525**

3.5 Site Prep Haul - 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					0.1834	0.0000	0.1834	0.0201	0.0000	0.0201			0.0000			0.0000
Off-Road	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.1834**	**0.0000**	**0.1834**	**0.0201**	**0.0000**	**0.0201**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.1497	4.4780	1.1076	0.0139	0.3407	0.0174	0.3581	0.0934	0.0167	0.1100		1,509.4026	1,509.4026	0.0936		1,511.7420
Vendor	0.0149	0.4254	0.1230	1.0100e-003	0.0256	2.0300e-003	0.0276	7.3700e-003	1.9500e-003	9.3200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.2412**	**4.9578**	**1.8321**	**0.0166**	**0.5339**	**0.0209**	**0.5548**	**0.1452**	**0.0199**	**0.1651**		**1,783.2953**	**1,783.2953**	**0.1060**		**1,785.9457**

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					0.0784	0.0000	0.0784	8.5900e-003	0.0000	8.5900e-003			0.0000			0.0000
Off-Road	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0784**	**0.0000**	**0.0784**	**8.5900e-003**	**0.0000**	**8.5900e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.1497	4.4780	1.1076	0.0139	0.3175	0.0174	0.3349	0.0877	0.0167	0.1044		1,509.4026	1,509.4026	0.0936		1,511.7420
Vendor	0.0149	0.4254	0.1230	1.0100e-003	0.0240	2.0300e-003	0.0260	6.9700e-003	1.9500e-003	8.9200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1546	1.4000e-003	0.1560	0.0413	1.2900e-003	0.0425		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.2412**	**4.9578**	**1.8321**	**0.0166**	**0.4960**	**0.0209**	**0.5169**	**0.1359**	**0.0199**	**0.1558**		**1,783.2953**	**1,783.2953**	**0.1060**		**1,785.9457**

3.6 Rough 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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2193	24.2807	13.7733	0.0265		1.1403	1.1403		1.0491	1.0491		2,571.7166	2,571.7166	0.8318		2,592.5103
Total	**2.2193**	**24.2807**	**13.7733**	**0.0265**	**6.5523**	**1.1403**	**7.6927**	**3.3675**	**1.0491**	**4.4166**		**2,571.7166**	**2,571.7166**	**0.8318**		**2,592.5103**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0256	2.0300e-003	0.0276	7.3700e-003	1.9500e-003	9.3200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.0915**	**0.4798**	**0.7245**	**2.6800e-003**	**0.1933**	**3.4300e-003**	**0.1967**	**0.0518**	**3.2400e-003**	**0.0551**		**273.8927**	**273.8927**	**0.0125**		**274.2038**

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Fugitive Dust					2.8011	0.0000	2.8011	1.4396	0.0000	1.4396			0.0000			0.0000
Off-Road	2.2193	24.2807	13.7733	0.0265		1.1403	1.1403		1.0491	1.0491	0.0000	2,571.7166	2,571.7166	0.8318		2,592.5103
Total	**2.2193**	**24.2807**	**13.7733**	**0.0265**	**2.8011**	**1.1403**	**3.9414**	**1.4396**	**1.0491**	**2.4887**	**0.0000**	**2,571.7166**	**2,571.7166**	**0.8318**		**2,592.5103**

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	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	0.0149	0.4254	0.1230	1.0100e-003	0.0240	2.0300e-003	0.0260	6.9700e-003	1.9500e-003	8.9200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1546	1.4000e-003	0.1560	0.0413	1.2900e-003	0.0425		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.0915**	**0.4798**	**0.7245**	**2.6800e-003**	**0.1785**	**3.4300e-003**	**0.1820**	**0.0482**	**3.2400e-003**	**0.0515**		**273.8927**	**273.8927**	**0.0125**		**274.2038**

3.7 Fine 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					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.8948	10.5358	6.3739	0.0129		0.4685	0.4685		0.4310	0.4310		1,244.2557	1,244.2557	0.4024		1,254.3161
Total	**0.8948**	**10.5358**	**6.3739**	**0.0129**	**0.5303**	**0.4685**	**0.9987**	**0.0573**	**0.4310**	**0.4882**		**1,244.2557**	**1,244.2557**	**0.4024**		**1,254.3161**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0256	2.0300e-003	0.0276	7.3700e-003	1.9500e-003	9.3200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.0915**	**0.4798**	**0.7245**	**2.6800e-003**	**0.1933**	**3.4300e-003**	**0.1967**	**0.0518**	**3.2400e-003**	**0.0551**		**273.8927**	**273.8927**	**0.0125**		**274.2038**

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					0.2267	0.0000	0.2267	0.0245	0.0000	0.0245			0.0000			0.0000
Off-Road	0.8948	10.5358	6.3739	0.0129		0.4685	0.4685		0.4310	0.4310	0.0000	1,244.2557	1,244.2557	0.4024		1,254.3161
Total	**0.8948**	**10.5358**	**6.3739**	**0.0129**	**0.2267**	**0.4685**	**0.6951**	**0.0245**	**0.4310**	**0.4555**	**0.0000**	**1,244.2557**	**1,244.2557**	**0.4024**		**1,254.3161**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0240	2.0300e-003	0.0260	6.9700e-003	1.9500e-003	8.9200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1546	1.4000e-003	0.1560	0.0413	1.2900e-003	0.0425		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.0915**	**0.4798**	**0.7245**	**2.6800e-003**	**0.1785**	**3.4300e-003**	**0.1820**	**0.0482**	**3.2400e-003**	**0.0515**		**273.8927**	**273.8927**	**0.0125**		**274.2038**

3.8 Rough Grading Haul - 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					0.2715	0.0000	0.2715	0.0296	0.0000	0.0296			0.0000			0.0000
Off-Road	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2715**	**0.0000**	**0.2715**	**0.0296**	**0.0000**	**0.0296**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.1770	5.2378	1.3057	0.0166	0.4094	0.0209	0.4303	0.1122	0.0200	0.1322		1,798.4729	1,798.4729	0.1096		1,801.2121
Vendor	0.0149	0.4254	0.1230	1.0100e-003	0.0256	2.0300e-003	0.0276	7.3700e-003	1.9500e-003	9.3200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.2685**	**5.7176**	**2.0302**	**0.0193**	**0.6027**	**0.0243**	**0.6270**	**0.1640**	**0.0232**	**0.1873**		**2,072.3656**	**2,072.3656**	**0.1220**		**2,075.4159**

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Fugitive Dust					0.1161	0.0000	0.1161	0.0127	0.0000	0.0127			0.0000			0.0000
Off-Road	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.1161**	**0.0000**	**0.1161**	**0.0127**	**0.0000**	**0.0127**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.1770	5.2378	1.3057	0.0166	0.3815	0.0209	0.4024	0.1054	0.0200	0.1253		1,798.4729	1,798.4729	0.1096		1,801.2121
Vendor	0.0149	0.4254	0.1230	1.0100e-003	0.0240	2.0300e-003	0.0260	6.9700e-003	1.9500e-003	8.9200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1546	1.4000e-003	0.1560	0.0413	1.2900e-003	0.0425		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.2685**	**5.7176**	**2.0302**	**0.0193**	**0.5601**	**0.0243**	**0.5844**	**0.1536**	**0.0232**	**0.1768**		**2,072.3656**	**2,072.3656**	**0.1220**		**2,075.4159**

3.9 Fine Grading Haul - 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					0.3573	0.0000	0.3573	0.0387	0.0000	0.0387			0.0000			0.0000
Off-Road	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.3573**	**0.0000**	**0.3573**	**0.0387**	**0.0000**	**0.0387**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.1038	3.0728	0.7660	9.7300e-003	0.2402	0.0123	0.2524	0.0658	0.0117	0.0775		1,055.1041	1,055.1041	0.0643		1,056.7111
Vendor	0.0149	0.4254	0.1230	1.0100e-003	0.0256	2.0300e-003	0.0276	7.3700e-003	1.9500e-003	9.3200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.1953**	**3.5526**	**1.4905**	**0.0124**	**0.4335**	**0.0157**	**0.4492**	**0.1177**	**0.0150**	**0.1326**		**1,328.9968**	**1,328.9968**	**0.0767**		**1,330.9149**

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					0.1527	0.0000	0.1527	0.0166	0.0000	0.0166			0.0000			0.0000
Off-Road	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.1527**	**0.0000**	**0.1527**	**0.0166**	**0.0000**	**0.0166**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.1038	3.0728	0.7660	9.7300e-003	0.2238	0.0123	0.2361	0.0618	0.0117	0.0735		1,055.1041	1,055.1041	0.0643		1,056.7111
Vendor	0.0149	0.4254	0.1230	1.0100e-003	0.0240	2.0300e-003	0.0260	6.9700e-003	1.9500e-003	8.9200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1546	1.4000e-003	0.1560	0.0413	1.2900e-003	0.0425		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.1953**	**3.5526**	**1.4905**	**0.0124**	**0.4024**	**0.0157**	**0.4180**	**0.1100**	**0.0150**	**0.1250**		**1,328.9968**	**1,328.9968**	**0.0767**		**1,330.9149**

3.10 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	1.5051	13.7625	14.3310	0.0224		0.8521	0.8521		0.8153	0.8153		2,143.6678	2,143.6678	0.3605		2,152.6795
Total	**1.5051**	**13.7625**	**14.3310**	**0.0224**		**0.8521**	**0.8521**		**0.8153**	**0.8153**		**2,143.6678**	**2,143.6678**	**0.3605**		**2,152.6795**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0256	2.0300e-003	0.0276	7.3700e-003	1.9500e-003	9.3200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.0915**	**0.4798**	**0.7245**	**2.6800e-003**	**0.1933**	**3.4300e-003**	**0.1967**	**0.0518**	**3.2400e-003**	**0.0551**		**273.8927**	**273.8927**	**0.0125**		**274.2038**

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	1.5051	13.7625	14.3310	0.0224		0.8521	0.8521		0.8153	0.8153	0.0000	2,143.6678	2,143.6678	0.3605		2,152.6795
Total	**1.5051**	**13.7625**	**14.3310**	**0.0224**		**0.8521**	**0.8521**		**0.8153**	**0.8153**	**0.0000**	**2,143.6678**	**2,143.6678**	**0.3605**		**2,152.6795**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0240	2.0300e-003	0.0260	6.9700e-003	1.9500e-003	8.9200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1546	1.4000e-003	0.1560	0.0413	1.2900e-003	0.0425		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.0915**	**0.4798**	**0.7245**	**2.6800e-003**	**0.1785**	**3.4300e-003**	**0.1820**	**0.0482**	**3.2400e-003**	**0.0515**		**273.8927**	**273.8927**	**0.0125**		**274.2038**

3.11 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	2.5212	21.4257	22.4086	0.0350		1.3150	1.3150		1.2639	1.2639		3,310.1913	3,310.1913	0.5349		3,323.5635
Total	**2.5212**	**21.4257**	**22.4086**	**0.0350**		**1.3150**	**1.3150**		**1.2639**	**1.2639**		**3,310.1913**	**3,310.1913**	**0.5349**		**3,323.5635**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0256	2.0300e-003	0.0276	7.3700e-003	1.9500e-003	9.3200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0307	0.0218	0.2406	6.7000e-004	0.0671	5.6000e-004	0.0676	0.0178	5.2000e-004	0.0183		66.4452	66.4452	2.0900e-003		66.4976
Total	**0.0455**	**0.4472**	**0.3636**	**1.6800e-003**	**0.0927**	**2.5900e-003**	**0.0953**	**0.0252**	**2.4700e-003**	**0.0276**		**174.2249**	**174.2249**	**9.3000e-003**		**174.4574**

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	2.5212	21.4257	22.4086	0.0350		1.3150	1.3150		1.2639	1.2639	0.0000	3,310.1913	3,310.1913	0.5349		3,323.5635
Total	**2.5212**	**21.4257**	**22.4086**	**0.0350**		**1.3150**	**1.3150**		**1.2639**	**1.2639**	**0.0000**	**3,310.1913**	**3,310.1913**	**0.5349**		**3,323.5635**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0240	2.0300e-003	0.0260	6.9700e-003	1.9500e-003	8.9200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0307	0.0218	0.2406	6.7000e-004	0.0618	5.6000e-004	0.0624	0.0165	5.2000e-004	0.0170		66.4452	66.4452	2.0900e-003		66.4976
Total	**0.0455**	**0.4472**	**0.3636**	**1.6800e-003**	**0.0858**	**2.5900e-003**	**0.0884**	**0.0235**	**2.4700e-003**	**0.0259**		**174.2249**	**174.2249**	**9.3000e-003**		**174.4574**

3.11 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	2.2544	19.5212	22.2096	0.0350		1.1218	1.1218		1.0783	1.0783		3,310.5366	3,310.5366	0.5215		3,323.5737
Total	**2.2544**	**19.5212**	**22.2096**	**0.0350**		**1.1218**	**1.1218**		**1.0783**	**1.0783**		**3,310.5366**	**3,310.5366**	**0.5215**		**3,323.5737**

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	0.0128	0.3876	0.1123	1.0000e-003	0.0256	8.2000e-004	0.0264	7.3700e-003	7.8000e-004	8.1600e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	0.0286	0.0196	0.2210	6.5000e-004	0.0671	5.4000e-004	0.0676	0.0178	5.0000e-004	0.0183		64.3351	64.3351	1.8900e-003		64.3824
Total	**0.0414**	**0.4071**	**0.3333**	**1.6500e-003**	**0.0927**	**1.3600e-003**	**0.0940**	**0.0252**	**1.2800e-003**	**0.0265**		**171.2733**	**171.2733**	**8.7900e-003**		**171.4932**

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	2.2544	19.5212	22.2096	0.0350		1.1218	1.1218		1.0783	1.0783	0.0000	3,310.5366	3,310.5366	0.5215		3,323.5737
Total	**2.2544**	**19.5212**	**22.2096**	**0.0350**		**1.1218**	**1.1218**		**1.0783**	**1.0783**	**0.0000**	**3,310.5366**	**3,310.5366**	**0.5215**		**3,323.5737**

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	0.0128	0.3876	0.1123	1.0000e-003	0.0240	8.2000e-004	0.0248	6.9700e-003	7.8000e-004	7.7500e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	0.0286	0.0196	0.2210	6.5000e-004	0.0618	5.4000e-004	0.0624	0.0165	5.0000e-004	0.0170		64.3351	64.3351	1.8900e-003		64.3824
Total	**0.0414**	**0.4071**	**0.3333**	**1.6500e-003**	**0.0858**	**1.3600e-003**	**0.0872**	**0.0235**	**1.2800e-003**	**0.0248**		**171.2733**	**171.2733**	**8.7900e-003**		**171.4932**

3.12 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	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342		1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	7.2800e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1012**	**10.8399**	**12.2603**	**0.0189**		**0.5788**	**0.5788**		**0.5342**	**0.5342**		**1,804.5523**	**1,804.5523**	**0.5670**		**1,818.7270**

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	0.0128	0.3876	0.1123	1.0000e-003	0.0256	8.2000e-004	0.0264	7.3700e-003	7.8000e-004	8.1600e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080
Total	**0.1081**	**0.4528**	**0.8488**	**3.1500e-003**	**0.2492**	**2.6300e-003**	**0.2518**	**0.0667**	**2.4400e-003**	**0.0691**		**321.3884**	**321.3884**	**0.0132**		**321.7188**

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	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342	0.0000	1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	7.2800e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1012**	**10.8399**	**12.2603**	**0.0189**		**0.5788**	**0.5788**		**0.5342**	**0.5342**	**0.0000**	**1,804.5523**	**1,804.5523**	**0.5670**		**1,818.7270**

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	0.0128	0.3876	0.1123	1.0000e-003	0.0240	8.2000e-004	0.0248	6.9700e-003	7.8000e-004	7.7500e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	0.0954	0.0652	0.7365	2.1500e-003	0.2061	1.8100e-003	0.2079	0.0550	1.6600e-003	0.0567		214.4502	214.4502	6.3100e-003		214.6080
Total	**0.1081**	**0.4528**	**0.8488**	**3.1500e-003**	**0.2300**	**2.6300e-003**	**0.2327**	**0.0620**	**2.4400e-003**	**0.0644**		**321.3884**	**321.3884**	**0.0132**		**321.7188**

3.13 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	7.2229					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	**7.4418**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

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	0.0128	0.3876	0.1123	1.0000e-003	0.0256	8.2000e-004	0.0264	7.3700e-003	7.8000e-004	8.1600e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	4.7700e-003	3.2600e-003	0.0368	1.1000e-004	0.0112	9.0000e-005	0.0113	2.9600e-003	8.0000e-005	3.0500e-003		10.7225	10.7225	3.2000e-004		10.7304
Total	**0.0175**	**0.3908**	**0.1491**	**1.1100e-003**	**0.0368**	**9.1000e-004**	**0.0377**	**0.0103**	**8.6000e-004**	**0.0112**		**117.6607**	**117.6607**	**7.2200e-003**		**117.8412**

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	7.2229					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	**7.4418**	**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**

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	0.0128	0.3876	0.1123	1.0000e-003	0.0240	8.2000e-004	0.0248	6.9700e-003	7.8000e-004	7.7500e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	4.7700e-003	3.2600e-003	0.0368	1.1000e-004	0.0103	9.0000e-005	0.0104	2.7500e-003	8.0000e-005	2.8300e-003		10.7225	10.7225	3.2000e-004		10.7304
Total	**0.0175**	**0.3908**	**0.1491**	**1.1100e-003**	**0.0343**	**9.1000e-004**	**0.0352**	**9.7200e-003**	**8.6000e-004**	**0.0106**		**117.6607**	**117.6607**	**7.2200e-003**		**117.8412**

3.14 Finishing/Landscaping - 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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2932	2.8380	3.1456	4.2500e-003		0.1815	0.1815		0.1670	0.1670		411.3184	411.3184	0.1330		414.6441
Total	**0.2932**	**2.8380**	**3.1456**	**4.2500e-003**		**0.1815**	**0.1815**		**0.1670**	**0.1670**		**411.3184**	**411.3184**	**0.1330**		**414.6441**

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	0.0128	0.3876	0.1123	1.0000e-003	0.0256	8.2000e-004	0.0264	7.3700e-003	7.8000e-004	8.1600e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.0843**	**0.4365**	**0.6647**	**2.6100e-003**	**0.1933**	**2.1700e-003**	**0.1955**	**0.0518**	**2.0300e-003**	**0.0539**		**267.7759**	**267.7759**	**0.0116**		**268.0668**

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2932	2.8380	3.1456	4.2500e-003		0.1815	0.1815		0.1670	0.1670	0.0000	411.3184	411.3184	0.1330		414.6441
Total	**0.2932**	**2.8380**	**3.1456**	**4.2500e-003**		**0.1815**	**0.1815**		**0.1670**	**0.1670**	**0.0000**	**411.3184**	**411.3184**	**0.1330**		**414.6441**

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	0.0128	0.3876	0.1123	1.0000e-003	0.0240	8.2000e-004	0.0248	6.9700e-003	7.8000e-004	7.7500e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1546	1.3500e-003	0.1559	0.0413	1.2500e-003	0.0425		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.0843**	**0.4365**	**0.6647**	**2.6100e-003**	**0.1785**	**2.1700e-003**	**0.1807**	**0.0482**	**2.0300e-003**	**0.0502**		**267.7759**	**267.7759**	**0.0116**		**268.0668**

3.15 Portable Removal - 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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

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	0.0715	1.9825	0.5435	7.0200e-003	0.1786	8.1200e-003	0.1868	0.0490	7.7700e-003	0.0567		762.3585	762.3585	0.0452		763.4888
Vendor	0.0128	0.3876	0.1123	1.0000e-003	0.0256	8.2000e-004	0.0264	7.3700e-003	7.8000e-004	8.1600e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.1558**	**2.4190**	**1.2082**	**9.6300e-003**	**0.3719**	**0.0103**	**0.3822**	**0.1008**	**9.8000e-003**	**0.1106**		**1,030.1344**	**1,030.1344**	**0.0568**		**1,031.5555**

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

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	0.0715	1.9825	0.5435	7.0200e-003	0.1665	8.1200e-003	0.1746	0.0460	7.7700e-003	0.0537		762.3585	762.3585	0.0452		763.4888
Vendor	0.0128	0.3876	0.1123	1.0000e-003	0.0240	8.2000e-004	0.0248	6.9700e-003	7.8000e-004	7.7500e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1546	1.3500e-003	0.1559	0.0413	1.2500e-003	0.0425		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.1558**	**2.4190**	**1.2082**	**9.6300e-003**	**0.3450**	**0.0103**	**0.3553**	**0.0942**	**9.8000e-003**	**0.1040**		**1,030.1344**	**1,030.1344**	**0.0568**		**1,031.5555**

Point Dume Elementary School - Phase 2

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	16.50	1000sqft	0.22	16,500.00	0
Other Asphalt Surfaces	2.00	1000sqft	0.05	0.00	0
Other Non-Asphalt Surfaces	2.00	1000sqft	0.05	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**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 - See CalEEMod Assumptions

Construction Phase - See CalEEMod Assumptions

Off-road Equipment -

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - Haul Phase

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - Haul Phase

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - Haul Phase

Off-road Equipment - Haul Phase

Off-road Equipment - See CalEEMod Assumptions

Off-road Equipment - See CalEEMod Assumptions

Trips and VMT - See CalEEMod Assumptions

Demolition -

Grading - See CalEEMod Assumptions

Architectural Coating - See CalEEMod Assumptions

Construction Off-road Equipment Mitigation - See CalEEMod Assumptions

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	8,250.00	0.00
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tblArchitecturalCoating	ConstArea_Nonresidential_Interior	24,750.00	19,800.00
tblArchitecturalCoating	ConstArea_Parking	240.00	0.00
tblArchitecturalCoating	ConstArea_Parking	240.00	0.00
tblArchitecturalCoating	ConstArea_Parking	240.00	0.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
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tblConstructionPhase	NumDays	5.00	22.00
tblConstructionPhase	NumDays	5.00	22.00
tblConstructionPhase	NumDays	100.00	230.00

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tblConstructionPhase	NumDays	10.00	5.00
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tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	2.00	4.00
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tblGrading	AcresOfGrading	0.00	1.00
tblGrading	AcresOfGrading	0.00	1.00
tblGrading	MaterialExported	0.00	350.00
tblGrading	MaterialImported	0.00	225.00
tblGrading	MaterialImported	0.00	100.00
tblLandUse	LandUseSquareFeet	2,000.00	0.00
tblLandUse	LandUseSquareFeet	2,000.00	0.00
tblLandUse	LotAcreage	0.38	0.22
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblTripsAndVMT	HaulingTripLength	20.00	150.00
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tblTripsAndVMT	HaulingTripLength	20.00	60.00

tblTripsAndVMT	HaulingTripLength	20.00	75.00
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tblTripsAndVMT	WorkerTripNumber	10.00	15.00
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tblTripsAndVMT	WorkerTripNumber	8.00	15.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00

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	5.1498	47.1307	44.9260	0.0773	9.1341	2.6450	10.7897	3.8784	2.5191	5.4032	0.0000	7,765.1201	7,765.1201	1.4578	0.0000	7,801.5646
2021	9.8935	25.0432	23.5604	0.0475	0.6020	1.2476	1.8496	0.1630	1.1751	1.3380	0.0000	4,661.7013	4,661.7013	0.8440	0.0000	4,682.8028
Maximum	**9.8935**	**47.1307**	**44.9260**	**0.0773**	**9.1341**	**2.6450**	**10.7897**	**3.8784**	**2.5191**	**5.4032**	**0.0000**	**7,765.1201**	**7,765.1201**	**1.4578**	**0.0000**	**7,801.5646**

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	5.1498	47.1307	44.9260	0.0773	4.6161	2.6450	6.2717	1.8533	2.5191	3.3780	0.0000	7,765.1201	7,765.1201	1.4578	0.0000	7,801.5646
2021	9.8935	25.0432	23.5604	0.0475	0.5578	1.2476	1.8054	0.1521	1.1751	1.3272	0.0000	4,661.7013	4,661.7013	0.8440	0.0000	4,682.8028
Maximum	**9.8935**	**47.1307**	**44.9260**	**0.0773**	**4.6161**	**2.6450**	**6.2717**	**1.8533**	**2.5191**	**3.3780**	**0.0000**	**7,765.1201**	**7,765.1201**	**1.4578**	**0.0000**	**7,801.5646**

	ROG	NOx	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	46.86	0.00	36.10	50.38	0.00	30.20	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	Asphalt Demolition	Demolition	6/1/2020	6/5/2020	5	5	
2	Demo Haul	Demolition	6/8/2020	6/12/2020	5	5	
3	Site Preparation	Site Preparation	6/8/2020	7/3/2020	5	20	
4	Site Prep Haul	Site Preparation	6/15/2020	6/22/2020	5	6	
5	Rough Grading	Grading	7/4/2020	7/15/2020	5	8	
6	Fine Grading	Grading	7/4/2020	7/17/2020	5	10	
7	Rough Grading Haul	Grading	7/10/2020	7/15/2020	5	4	
8	Fine Grading Haul	Grading	7/10/2020	7/14/2020	5	3	
9	Trenching	Trenching	7/16/2020	7/31/2020	5	12	
10	Building Construction	Building Construction	7/16/2020	6/2/2021	5	230	
11	Paving	Paving	6/3/2021	6/28/2021	5	18	
12	Architectural Coating	Architectural Coating	6/29/2021	7/22/2021	5	18	
13	Finishing/Landscaping	Architectural Coating	7/1/2021	7/30/2021	5	22	
14	Portable Removal	Architectural Coating	7/1/2021	7/30/2021	5	22	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.1

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 19,800; Non-Residential Outdoor: 8,250; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Asphalt Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Asphalt Demolition	Excavators	1	8.00	158	0.38
Asphalt Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Asphalt Demolition	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Demo Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Demo Haul	Rubber Tired Dozers	0	1.00	247	0.40
Demo Haul	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Prep Haul	Graders	0	8.00	187	0.41
Site Prep Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Rough Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Rough Grading	Excavators	1	8.00	158	0.38
Rough Grading	Graders	1	8.00	187	0.41
Rough Grading	Rubber Tired Dozers	1	8.00	247	0.40
Rough Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Fine Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rubber Tired Dozers	0	1.00	247	0.40
Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Rough Grading Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Rough Grading Haul	Rubber Tired Dozers	0	1.00	247	0.40
Rough Grading Haul	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Fine Grading Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Fine Grading Haul	Rubber Tired Dozers	0	1.00	247	0.40
Fine Grading Haul	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Trenching	Forklifts	2	8.00	89	0.20

Trenching	Generator Sets	2	8.00	84	0.74
Trenching	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	0	8.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Finishing/Landscaping	Air Compressors	0	6.00	78	0.48
Finishing/Landscaping	Forklifts	1	8.00	89	0.20
Finishing/Landscaping	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Portable Removal	Air Compressors	0	6.00	78	0.48
Portable Removal	Cranes	1	7.00	231	0.29
Portable Removal	Forklifts	3	8.00	89	0.20
Portable Removal	Generator Sets	1	8.00	84	0.74
Portable Removal	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Portable Removal	Welders	1	8.00	46	0.45

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
Asphalt Demolition	4	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demo Haul	0	15.00	4.00	60.00	14.70	6.90	60.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	18.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Prep Haul	0	15.00	4.00	39.00	14.70	6.90	60.00	LD_Mix	HDT_Mix	HHDT
Rough Grading	5	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	3	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Rough Grading Haul	0	15.00	4.00	25.00	14.70	6.90	75.00	LD_Mix	HDT_Mix	HHDT
Fine Grading Haul	0	15.00	4.00	11.00	14.70	6.90	75.00	LD_Mix	HDT_Mix	HHDT
Trenching	6	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	6.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	2	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Portable Removal	9	15.00	4.00	30.00	14.70	6.90	150.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Asphalt Demolition - 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	2.8222	28.3757	15.2176	0.0285		1.4250	1.4250		1.3268	1.3268		2,747.4681	2,747.4681	0.7345		2,765.8293
Total	**2.8222**	**28.3757**	**15.2176**	**0.0285**		**1.4250**	**1.4250**		**1.3268**	**1.3268**		**2,747.4681**	**2,747.4681**	**0.7345**		**2,765.8293**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0256	2.0300e-003	0.0276	7.3700e-003	1.9500e-003	9.3200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.0915**	**0.4798**	**0.7245**	**2.6800e-003**	**0.1933**	**3.4300e-003**	**0.1967**	**0.0518**	**3.2400e-003**	**0.0551**		**273.8927**	**273.8927**	**0.0125**		**274.2038**

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	2.8222	28.3757	15.2176	0.0285		1.4250	1.4250		1.3268	1.3268	0.0000	2,747.4681	2,747.4681	0.7345		2,765.8293
Total	**2.8222**	**28.3757**	**15.2176**	**0.0285**		**1.4250**	**1.4250**		**1.3268**	**1.3268**	**0.0000**	**2,747.4681**	**2,747.4681**	**0.7345**		**2,765.8293**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0240	2.0300e-003	0.0260	6.9700e-003	1.9500e-003	8.9200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1546	1.4000e-003	0.1560	0.0413	1.2900e-003	0.0425		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.0915**	**0.4798**	**0.7245**	**2.6800e-003**	**0.1785**	**3.4300e-003**	**0.1820**	**0.0482**	**3.2400e-003**	**0.0515**		**273.8927**	**273.8927**	**0.0125**		**274.2038**

3.3 Demo Haul - 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					1.2839	0.0000	1.2839	0.1944	0.0000	0.1944			0.0000			0.0000
Off-Road	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.2839**	**0.0000**	**1.2839**	**0.1944**	**0.0000**	**0.1944**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.2764	8.2671	2.0448	0.0257	0.6289	0.0322	0.6611	0.1724	0.0308	0.2032		2,786.5894	2,786.5894	0.1728		2,790.9082
Vendor	0.0149	0.4254	0.1230	1.0100e-003	0.0256	2.0300e-003	0.0276	7.3700e-003	1.9500e-003	9.3200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.3679**	**8.7469**	**2.7693**	**0.0284**	**0.8222**	**0.0356**	**0.8578**	**0.2242**	**0.0340**	**0.2582**		**3,060.4820**	**3,060.4820**	**0.1852**		**3,065.1120**

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					0.5489	0.0000	0.5489	0.0831	0.0000	0.0831			0.0000			0.0000
Off-Road	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.5489**	**0.0000**	**0.5489**	**0.0831**	**0.0000**	**0.0831**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.2764	8.2671	2.0448	0.0257	0.5861	0.0322	0.6183	0.1618	0.0308	0.1926		2,786.5894	2,786.5894	0.1728		2,790.9082
Vendor	0.0149	0.4254	0.1230	1.0100e-003	0.0240	2.0300e-003	0.0260	6.9700e-003	1.9500e-003	8.9200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1546	1.4000e-003	0.1560	0.0413	1.2900e-003	0.0425		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.3679**	**8.7469**	**2.7693**	**0.0284**	**0.7646**	**0.0356**	**0.8002**	**0.2101**	**0.0340**	**0.2441**		**3,060.4820**	**3,060.4820**	**0.1852**		**3,065.1120**

3.4 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					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.4985	15.5425	8.6910	0.0147		0.8212	0.8212		0.7555	0.7555		1,428.8795	1,428.8795	0.4621		1,440.4327
Total	**1.4985**	**15.5425**	**8.6910**	**0.0147**	**6.0221**	**0.8212**	**6.8433**	**3.3102**	**0.7555**	**4.0658**		**1,428.8795**	**1,428.8795**	**0.4621**		**1,440.4327**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0256	2.0300e-003	0.0276	7.3700e-003	1.9500e-003	9.3200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0920	0.0652	0.7218	2.0000e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		199.3357	199.3357	6.2800e-003		199.4927
Total	**0.1069**	**0.4906**	**0.8448**	**3.0100e-003**	**0.2268**	**3.7100e-003**	**0.2305**	**0.0607**	**3.5000e-003**	**0.0642**		**307.1153**	**307.1153**	**0.0135**		**307.4525**

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					2.5744	0.0000	2.5744	1.4151	0.0000	1.4151			0.0000			0.0000
Off-Road	1.4985	15.5425	8.6910	0.0147		0.8212	0.8212		0.7555	0.7555	0.0000	1,428.8795	1,428.8795	0.4621		1,440.4327
Total	**1.4985**	**15.5425**	**8.6910**	**0.0147**	**2.5744**	**0.8212**	**3.3957**	**1.4151**	**0.7555**	**2.1706**	**0.0000**	**1,428.8795**	**1,428.8795**	**0.4621**		**1,440.4327**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0240	2.0300e-003	0.0260	6.9700e-003	1.9500e-003	8.9200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0920	0.0652	0.7218	2.0000e-003	0.1855	1.6800e-003	0.1871	0.0495	1.5500e-003	0.0510		199.3357	199.3357	6.2800e-003		199.4927
Total	**0.1069**	**0.4906**	**0.8448**	**3.0100e-003**	**0.2094**	**3.7100e-003**	**0.2131**	**0.0565**	**3.5000e-003**	**0.0600**		**307.1153**	**307.1153**	**0.0135**		**307.4525**

3.5 Site Prep Haul - 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					0.1834	0.0000	0.1834	0.0201	0.0000	0.0201			0.0000			0.0000
Off-Road	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.1834**	**0.0000**	**0.1834**	**0.0201**	**0.0000**	**0.0201**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.1497	4.4780	1.1076	0.0139	0.3407	0.0174	0.3581	0.0934	0.0167	0.1100		1,509.4026	1,509.4026	0.0936		1,511.7420
Vendor	0.0149	0.4254	0.1230	1.0100e-003	0.0256	2.0300e-003	0.0276	7.3700e-003	1.9500e-003	9.3200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.2412**	**4.9578**	**1.8321**	**0.0166**	**0.5339**	**0.0209**	**0.5548**	**0.1452**	**0.0199**	**0.1651**		**1,783.2953**	**1,783.2953**	**0.1060**		**1,785.9457**

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					0.0784	0.0000	0.0784	8.5900e-003	0.0000	8.5900e-003			0.0000			0.0000
Off-Road	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0784**	**0.0000**	**0.0784**	**8.5900e-003**	**0.0000**	**8.5900e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.1497	4.4780	1.1076	0.0139	0.3175	0.0174	0.3349	0.0877	0.0167	0.1044		1,509.4026	1,509.4026	0.0936		1,511.7420
Vendor	0.0149	0.4254	0.1230	1.0100e-003	0.0240	2.0300e-003	0.0260	6.9700e-003	1.9500e-003	8.9200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1546	1.4000e-003	0.1560	0.0413	1.2900e-003	0.0425		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.2412**	**4.9578**	**1.8321**	**0.0166**	**0.4960**	**0.0209**	**0.5169**	**0.1359**	**0.0199**	**0.1558**		**1,783.2953**	**1,783.2953**	**0.1060**		**1,785.9457**

3.6 Rough 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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2193	24.2807	13.7733	0.0265		1.1403	1.1403		1.0491	1.0491		2,571.7166	2,571.7166	0.8318		2,592.5103
Total	**2.2193**	**24.2807**	**13.7733**	**0.0265**	**6.5523**	**1.1403**	**7.6927**	**3.3675**	**1.0491**	**4.4166**		**2,571.7166**	**2,571.7166**	**0.8318**		**2,592.5103**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0256	2.0300e-003	0.0276	7.3700e-003	1.9500e-003	9.3200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.0915**	**0.4798**	**0.7245**	**2.6800e-003**	**0.1933**	**3.4300e-003**	**0.1967**	**0.0518**	**3.2400e-003**	**0.0551**		**273.8927**	**273.8927**	**0.0125**		**274.2038**

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					2.8011	0.0000	2.8011	1.4396	0.0000	1.4396			0.0000			0.0000
Off-Road	2.2193	24.2807	13.7733	0.0265		1.1403	1.1403		1.0491	1.0491	0.0000	2,571.7166	2,571.7166	0.8318		2,592.5103
Total	**2.2193**	**24.2807**	**13.7733**	**0.0265**	**2.8011**	**1.1403**	**3.9414**	**1.4396**	**1.0491**	**2.4887**	**0.0000**	**2,571.7166**	**2,571.7166**	**0.8318**		**2,592.5103**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0240	2.0300e-003	0.0260	6.9700e-003	1.9500e-003	8.9200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1546	1.4000e-003	0.1560	0.0413	1.2900e-003	0.0425		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.0915**	**0.4798**	**0.7245**	**2.6800e-003**	**0.1785**	**3.4300e-003**	**0.1820**	**0.0482**	**3.2400e-003**	**0.0515**		**273.8927**	**273.8927**	**0.0125**		**274.2038**

3.7 Fine 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					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.8948	10.5358	6.3739	0.0129		0.4685	0.4685		0.4310	0.4310		1,244.2557	1,244.2557	0.4024		1,254.3161
Total	**0.8948**	**10.5358**	**6.3739**	**0.0129**	**0.5303**	**0.4685**	**0.9987**	**0.0573**	**0.4310**	**0.4882**		**1,244.2557**	**1,244.2557**	**0.4024**		**1,254.3161**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0256	2.0300e-003	0.0276	7.3700e-003	1.9500e-003	9.3200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.0915**	**0.4798**	**0.7245**	**2.6800e-003**	**0.1933**	**3.4300e-003**	**0.1967**	**0.0518**	**3.2400e-003**	**0.0551**		**273.8927**	**273.8927**	**0.0125**		**274.2038**

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					0.2267	0.0000	0.2267	0.0245	0.0000	0.0245			0.0000			0.0000
Off-Road	0.8948	10.5358	6.3739	0.0129		0.4685	0.4685		0.4310	0.4310	0.0000	1,244.2557	1,244.2557	0.4024		1,254.3161
Total	**0.8948**	**10.5358**	**6.3739**	**0.0129**	**0.2267**	**0.4685**	**0.6951**	**0.0245**	**0.4310**	**0.4555**	**0.0000**	**1,244.2557**	**1,244.2557**	**0.4024**		**1,254.3161**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0240	2.0300e-003	0.0260	6.9700e-003	1.9500e-003	8.9200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1546	1.4000e-003	0.1560	0.0413	1.2900e-003	0.0425		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.0915**	**0.4798**	**0.7245**	**2.6800e-003**	**0.1785**	**3.4300e-003**	**0.1820**	**0.0482**	**3.2400e-003**	**0.0515**		**273.8927**	**273.8927**	**0.0125**		**274.2038**

3.8 Rough Grading Haul - 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					0.2715	0.0000	0.2715	0.0296	0.0000	0.0296			0.0000			0.0000
Off-Road	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2715**	**0.0000**	**0.2715**	**0.0296**	**0.0000**	**0.0296**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.1770	5.2378	1.3057	0.0166	0.4094	0.0209	0.4303	0.1122	0.0200	0.1322		1,798.4729	1,798.4729	0.1096		1,801.2121
Vendor	0.0149	0.4254	0.1230	1.0100e-003	0.0256	2.0300e-003	0.0276	7.3700e-003	1.9500e-003	9.3200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.2685**	**5.7176**	**2.0302**	**0.0193**	**0.6027**	**0.0243**	**0.6270**	**0.1640**	**0.0232**	**0.1873**		**2,072.3656**	**2,072.3656**	**0.1220**		**2,075.4159**

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					0.1161	0.0000	0.1161	0.0127	0.0000	0.0127			0.0000			0.0000
Off-Road	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.1161**	**0.0000**	**0.1161**	**0.0127**	**0.0000**	**0.0127**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.1770	5.2378	1.3057	0.0166	0.3815	0.0209	0.4024	0.1054	0.0200	0.1253		1,798.4729	1,798.4729	0.1096		1,801.2121
Vendor	0.0149	0.4254	0.1230	1.0100e-003	0.0240	2.0300e-003	0.0260	6.9700e-003	1.9500e-003	8.9200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1546	1.4000e-003	0.1560	0.0413	1.2900e-003	0.0425		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.2685**	**5.7176**	**2.0302**	**0.0193**	**0.5601**	**0.0243**	**0.5844**	**0.1536**	**0.0232**	**0.1768**		**2,072.3656**	**2,072.3656**	**0.1220**		**2,075.4159**

3.9 Fine Grading Haul - 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					0.3573	0.0000	0.3573	0.0387	0.0000	0.0387			0.0000			0.0000
Off-Road	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.3573**	**0.0000**	**0.3573**	**0.0387**	**0.0000**	**0.0387**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.1038	3.0728	0.7660	9.7300e-003	0.2402	0.0123	0.2524	0.0658	0.0117	0.0775		1,055.1041	1,055.1041	0.0643		1,056.7111
Vendor	0.0149	0.4254	0.1230	1.0100e-003	0.0256	2.0300e-003	0.0276	7.3700e-003	1.9500e-003	9.3200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.1953**	**3.5526**	**1.4905**	**0.0124**	**0.4335**	**0.0157**	**0.4492**	**0.1177**	**0.0150**	**0.1326**		**1,328.9968**	**1,328.9968**	**0.0767**		**1,330.9149**

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					0.1527	0.0000	0.1527	0.0166	0.0000	0.0166			0.0000			0.0000
Off-Road	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.1527**	**0.0000**	**0.1527**	**0.0166**	**0.0000**	**0.0166**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

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	0.1038	3.0728	0.7660	9.7300e-003	0.2238	0.0123	0.2361	0.0618	0.0117	0.0735		1,055.1041	1,055.1041	0.0643		1,056.7111
Vendor	0.0149	0.4254	0.1230	1.0100e-003	0.0240	2.0300e-003	0.0260	6.9700e-003	1.9500e-003	8.9200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1546	1.4000e-003	0.1560	0.0413	1.2900e-003	0.0425		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.1953**	**3.5526**	**1.4905**	**0.0124**	**0.4024**	**0.0157**	**0.4180**	**0.1100**	**0.0150**	**0.1250**		**1,328.9968**	**1,328.9968**	**0.0767**		**1,330.9149**

3.10 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	1.5051	13.7625	14.3310	0.0224		0.8521	0.8521		0.8153	0.8153		2,143.6678	2,143.6678	0.3605		2,152.6795
Total	**1.5051**	**13.7625**	**14.3310**	**0.0224**		**0.8521**	**0.8521**		**0.8153**	**0.8153**		**2,143.6678**	**2,143.6678**	**0.3605**		**2,152.6795**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0256	2.0300e-003	0.0276	7.3700e-003	1.9500e-003	9.3200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.0915**	**0.4798**	**0.7245**	**2.6800e-003**	**0.1933**	**3.4300e-003**	**0.1967**	**0.0518**	**3.2400e-003**	**0.0551**		**273.8927**	**273.8927**	**0.0125**		**274.2038**

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	1.5051	13.7625	14.3310	0.0224		0.8521	0.8521		0.8153	0.8153	0.0000	2,143.6678	2,143.6678	0.3605		2,152.6795
Total	**1.5051**	**13.7625**	**14.3310**	**0.0224**		**0.8521**	**0.8521**		**0.8153**	**0.8153**	**0.0000**	**2,143.6678**	**2,143.6678**	**0.3605**		**2,152.6795**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0240	2.0300e-003	0.0260	6.9700e-003	1.9500e-003	8.9200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1546	1.4000e-003	0.1560	0.0413	1.2900e-003	0.0425		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.0915**	**0.4798**	**0.7245**	**2.6800e-003**	**0.1785**	**3.4300e-003**	**0.1820**	**0.0482**	**3.2400e-003**	**0.0515**		**273.8927**	**273.8927**	**0.0125**		**274.2038**

3.11 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	2.5212	21.4257	22.4086	0.0350		1.3150	1.3150		1.2639	1.2639		3,310.1913	3,310.1913	0.5349		3,323.5635
Total	**2.5212**	**21.4257**	**22.4086**	**0.0350**		**1.3150**	**1.3150**		**1.2639**	**1.2639**		**3,310.1913**	**3,310.1913**	**0.5349**		**3,323.5635**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0256	2.0300e-003	0.0276	7.3700e-003	1.9500e-003	9.3200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0307	0.0218	0.2406	6.7000e-004	0.0671	5.6000e-004	0.0676	0.0178	5.2000e-004	0.0183		66.4452	66.4452	2.0900e-003		66.4976
Total	**0.0455**	**0.4472**	**0.3636**	**1.6800e-003**	**0.0927**	**2.5900e-003**	**0.0953**	**0.0252**	**2.4700e-003**	**0.0276**		**174.2249**	**174.2249**	**9.3000e-003**		**174.4574**

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	2.5212	21.4257	22.4086	0.0350		1.3150	1.3150		1.2639	1.2639	0.0000	3,310.1913	3,310.1913	0.5349		3,323.5635
Total	**2.5212**	**21.4257**	**22.4086**	**0.0350**		**1.3150**	**1.3150**		**1.2639**	**1.2639**	**0.0000**	**3,310.1913**	**3,310.1913**	**0.5349**		**3,323.5635**

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	0.0149	0.4254	0.1230	1.0100e-003	0.0240	2.0300e-003	0.0260	6.9700e-003	1.9500e-003	8.9200e-003		107.7796	107.7796	7.2100e-003		107.9598
Worker	0.0307	0.0218	0.2406	6.7000e-004	0.0618	5.6000e-004	0.0624	0.0165	5.2000e-004	0.0170		66.4452	66.4452	2.0900e-003		66.4976
Total	**0.0455**	**0.4472**	**0.3636**	**1.6800e-003**	**0.0858**	**2.5900e-003**	**0.0884**	**0.0235**	**2.4700e-003**	**0.0259**		**174.2249**	**174.2249**	**9.3000e-003**		**174.4574**

3.11 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	2.2544	19.5212	22.2096	0.0350		1.1218	1.1218		1.0783	1.0783		3,310.5366	3,310.5366	0.5215		3,323.5737
Total	**2.2544**	**19.5212**	**22.2096**	**0.0350**		**1.1218**	**1.1218**		**1.0783**	**1.0783**		**3,310.5366**	**3,310.5366**	**0.5215**		**3,323.5737**

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	0.0128	0.3876	0.1123	1.0000e-003	0.0256	8.2000e-004	0.0264	7.3700e-003	7.8000e-004	8.1600e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	0.0286	0.0196	0.2210	6.5000e-004	0.0671	5.4000e-004	0.0676	0.0178	5.0000e-004	0.0183		64.3351	64.3351	1.8900e-003		64.3824
Total	**0.0414**	**0.4071**	**0.3333**	**1.6500e-003**	**0.0927**	**1.3600e-003**	**0.0940**	**0.0252**	**1.2800e-003**	**0.0265**		**171.2733**	**171.2733**	**8.7900e-003**		**171.4932**

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	2.2544	19.5212	22.2096	0.0350		1.1218	1.1218		1.0783	1.0783	0.0000	3,310.5366	3,310.5366	0.5215		3,323.5737
Total	**2.2544**	**19.5212**	**22.2096**	**0.0350**		**1.1218**	**1.1218**		**1.0783**	**1.0783**	**0.0000**	**3,310.5366**	**3,310.5366**	**0.5215**		**3,323.5737**

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	0.0128	0.3876	0.1123	1.0000e-003	0.0240	8.2000e-004	0.0248	6.9700e-003	7.8000e-004	7.7500e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	0.0286	0.0196	0.2210	6.5000e-004	0.0618	5.4000e-004	0.0624	0.0165	5.0000e-004	0.0170		64.3351	64.3351	1.8900e-003		64.3824
Total	**0.0414**	**0.4071**	**0.3333**	**1.6500e-003**	**0.0858**	**1.3600e-003**	**0.0872**	**0.0235**	**1.2800e-003**	**0.0248**		**171.2733**	**171.2733**	**8.7900e-003**		**171.4932**

3.12 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	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342		1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	7.2800e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1012**	**10.8399**	**12.2603**	**0.0189**		**0.5788**	**0.5788**		**0.5342**	**0.5342**		**1,804.5523**	**1,804.5523**	**0.5670**		**1,818.7270**

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	0.0128	0.3876	0.1123	1.0000e-003	0.0256	8.2000e-004	0.0264	7.3700e-003	7.8000e-004	8.1600e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080
Total	**0.1081**	**0.4528**	**0.8488**	**3.1500e-003**	**0.2492**	**2.6300e-003**	**0.2518**	**0.0667**	**2.4400e-003**	**0.0691**		**321.3884**	**321.3884**	**0.0132**		**321.7188**

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	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342	0.0000	1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	7.2800e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1012**	**10.8399**	**12.2603**	**0.0189**		**0.5788**	**0.5788**		**0.5342**	**0.5342**	**0.0000**	**1,804.5523**	**1,804.5523**	**0.5670**		**1,818.7270**

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	0.0128	0.3876	0.1123	1.0000e-003	0.0240	8.2000e-004	0.0248	6.9700e-003	7.8000e-004	7.7500e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	0.0954	0.0652	0.7365	2.1500e-003	0.2061	1.8100e-003	0.2079	0.0550	1.6600e-003	0.0567		214.4502	214.4502	6.3100e-003		214.6080
Total	**0.1081**	**0.4528**	**0.8488**	**3.1500e-003**	**0.2300**	**2.6300e-003**	**0.2327**	**0.0620**	**2.4400e-003**	**0.0644**		**321.3884**	**321.3884**	**0.0132**		**321.7188**

3.13 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	7.2229					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	**7.4418**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

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	0.0128	0.3876	0.1123	1.0000e-003	0.0256	8.2000e-004	0.0264	7.3700e-003	7.8000e-004	8.1600e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	4.7700e-003	3.2600e-003	0.0368	1.1000e-004	0.0112	9.0000e-005	0.0113	2.9600e-003	8.0000e-005	3.0500e-003		10.7225	10.7225	3.2000e-004		10.7304
Total	**0.0175**	**0.3908**	**0.1491**	**1.1100e-003**	**0.0368**	**9.1000e-004**	**0.0377**	**0.0103**	**8.6000e-004**	**0.0112**		**117.6607**	**117.6607**	**7.2200e-003**		**117.8412**

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	7.2229					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	**7.4418**	**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**

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	0.0128	0.3876	0.1123	1.0000e-003	0.0240	8.2000e-004	0.0248	6.9700e-003	7.8000e-004	7.7500e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	4.7700e-003	3.2600e-003	0.0368	1.1000e-004	0.0103	9.0000e-005	0.0104	2.7500e-003	8.0000e-005	2.8300e-003		10.7225	10.7225	3.2000e-004		10.7304
Total	**0.0175**	**0.3908**	**0.1491**	**1.1100e-003**	**0.0343**	**9.1000e-004**	**0.0352**	**9.7200e-003**	**8.6000e-004**	**0.0106**		**117.6607**	**117.6607**	**7.2200e-003**		**117.8412**

3.14 Finishing/Landscaping - 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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2932	2.8380	3.1456	4.2500e-003		0.1815	0.1815		0.1670	0.1670		411.3184	411.3184	0.1330		414.6441
Total	**0.2932**	**2.8380**	**3.1456**	**4.2500e-003**		**0.1815**	**0.1815**		**0.1670**	**0.1670**		**411.3184**	**411.3184**	**0.1330**		**414.6441**

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	0.0128	0.3876	0.1123	1.0000e-003	0.0256	8.2000e-004	0.0264	7.3700e-003	7.8000e-004	8.1600e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.0843**	**0.4365**	**0.6647**	**2.6100e-003**	**0.1933**	**2.1700e-003**	**0.1955**	**0.0518**	**2.0300e-003**	**0.0539**		**267.7759**	**267.7759**	**0.0116**		**268.0668**

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2932	2.8380	3.1456	4.2500e-003		0.1815	0.1815		0.1670	0.1670	0.0000	411.3184	411.3184	0.1330		414.6441
Total	**0.2932**	**2.8380**	**3.1456**	**4.2500e-003**		**0.1815**	**0.1815**		**0.1670**	**0.1670**	**0.0000**	**411.3184**	**411.3184**	**0.1330**		**414.6441**

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	0.0128	0.3876	0.1123	1.0000e-003	0.0240	8.2000e-004	0.0248	6.9700e-003	7.8000e-004	7.7500e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1546	1.3500e-003	0.1559	0.0413	1.2500e-003	0.0425		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.0843**	**0.4365**	**0.6647**	**2.6100e-003**	**0.1785**	**2.1700e-003**	**0.1807**	**0.0482**	**2.0300e-003**	**0.0502**		**267.7759**	**267.7759**	**0.0116**		**268.0668**

3.15 Portable Removal - 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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

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	0.0715	1.9825	0.5435	7.0200e-003	0.1786	8.1200e-003	0.1868	0.0490	7.7700e-003	0.0567		762.3585	762.3585	0.0452		763.4888
Vendor	0.0128	0.3876	0.1123	1.0000e-003	0.0256	8.2000e-004	0.0264	7.3700e-003	7.8000e-004	8.1600e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.1558**	**2.4190**	**1.2082**	**9.6300e-003**	**0.3719**	**0.0103**	**0.3822**	**0.1008**	**9.8000e-003**	**0.1106**		**1,030.1344**	**1,030.1344**	**0.0568**		**1,031.5555**

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

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	0.0715	1.9825	0.5435	7.0200e-003	0.1665	8.1200e-003	0.1746	0.0460	7.7700e-003	0.0537		762.3585	762.3585	0.0452		763.4888
Vendor	0.0128	0.3876	0.1123	1.0000e-003	0.0240	8.2000e-004	0.0248	6.9700e-003	7.8000e-004	7.7500e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1546	1.3500e-003	0.1559	0.0413	1.2500e-003	0.0425		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.1558**	**2.4190**	**1.2082**	**9.6300e-003**	**0.3450**	**0.0103**	**0.3553**	**0.0942**	**9.8000e-003**	**0.1040**		**1,030.1344**	**1,030.1344**	**0.0568**		**1,031.5555**

Construction Localized Significance Thresholds: P1 Asphalt Demolition

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Disturbed Site Acreage
2	2.50	25	82	6.43

Source Receptor	Northwest Coastal LA County	Equipment	Acres/8-hr Day		Equipment Used	Daily Hours	Acres
Distance (meters)	25	Tractors	0.5	0.0625	2	8	1
NOx	**159**	Graders	0.5	0.0625			0
CO	**944**	Dozers	0.5	0.0625	3	8	1.5
PM10	**7.16**	Scrapers	1	0.125			0
PM2.5	**4.33**					**Acres**	2.50

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	2	147	143	156	186	262
	3	172	166	179	207	279
		159	155	168	197	270
CO	2	827	1213	1695	2961	8446
	3	1062	1470	2051	3435	9120
		944	1342	1873	3198	8783
PM10	2	6	19	34	64	154
	3	8	26	41	71	161
		7	23	38	67	157
PM2.5	2	4	5	10	21	82
	3	5	6	11	24	86
		4	6	11	22	84

Northwest Coastal LA County

2.50 Acres

	25	**50**	**100**	**200**	**500**
NOx	159	155	168	197	270
CO	944	1342	1873	3198	8783
PM10	7	23	38	67	157
PM2.5	4	6	11	22	84

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
2	2	2	3

Distance Increment Below
25
Distance Increment Above
25

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: P1 Grading

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Disturbed Site Acreage
2	1.50	25	82	6.43

Source Receptor	**Northwest Coastal LA County**	**Equipment**	**Acres/8-hr Day**		**Equipment Used**	**Daily Hours**	**Acres**
Distance (meters)	25	Tractors	0.5	0.0625	1	8	0.5
NOx	**125**	Graders	0.5	0.0625	1	8	0.5
CO	**694**	Dozers	0.5	0.0625	1	8	0.5
PM10	**5.00**	Scrapers	1	0.125			0
PM2.5	**3.50**					**Acres**	1.50

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	103	104	121	156	245
	2	147	143	156	186	262
		125	124	139	171	254
CO	1	562	833	1233	2367	7724
	2	827	1213	1695	2961	8446
		695	1023	1464	2664	8085
PM10	1	4	12	27	57	146
	2	6	19	34	64	154
		5	16	31	61	150
PM2.5	1	3	4	8	18	77
	2	4	5	10	21	82
		4	5	9	20	80

Northwest Coastal LA County

1.50 Acres

	25	**50**	**100**	**200**	**500**
NOx	125	124	139	171	254
CO	695	1023	1464	2664	8085
PM10	5	16	31	61	150
PM2.5	4	5	9	20	80

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
2	1	2	2
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: P1 Trenching

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Disturbed Site Acreage
2	1.00	25	82	6.43

Source Receptor	Northwest Coastal LA County	Equipment	Acres/8-hr Day		Equipment Used	Daily Hours	Acres
Distance (meters)	25	Tractors	0.5	0.0625	2	8	1
NOx	**103**	Graders	0.5	0.0625			0
CO	**562**	Dozers	0.5	0.0625			0
PM10	**4.00**	Scrapers	1	0.125			0
PM2.5	**3.00**					**Acres**	1.00

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	103	104	121	156	245
	1	103	104	121	156	245
		103	104	121	156	245
CO	1	562	833	1233	2367	7724
	1	562	833	1233	2367	7724
		562	833	1233	2367	7724
PM10	1	4	12	27	57	146
	1	4	12	27	57	146
		4	12	27	57	146
PM2.5	1	3	4	8	18	77
	1	3	4	8	18	77
		3	4	8	18	77

Northwest Coastal LA County

1.00 Acres

	25	**50**	**100**	**200**	**500**
NOx	103	104	121	156	245
CO	562	833	1233	2367	7724
PM10	4	12	27	57	146
PM2.5	3	4	8	18	77

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
2	1	2	1

Distance Increment Below
25

Distance Increment Above
25

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: P1 Portables Installation

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Disturbed Site Acreage
2	1.00	25	82	6.43

Source Receptor	Northwest Coastal LA County	Equipment	Acres/8-hr Day		Equipment Used	Daily Hours	Acres
Distance (meters)	25	Tractors	0.5	0.0625	2	8	1
NOx	**103**	Graders	0.5	0.0625			0
CO	**562**	Dozers	0.5	0.0625			0
PM10	**4.00**	Scrapers	1	0.125			0
PM2.5	**3.00**					**Acres**	1.00

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	103	104	121	156	245
	1	103	104	121	156	245
		103	104	121	156	245
CO	1	562	833	1233	2367	7724
	1	562	833	1233	2367	7724
		562	833	1233	2367	7724
PM10	1	4	12	27	57	146
	1	4	12	27	57	146
		4	12	27	57	146
PM2.5	1	3	4	8	18	77
	1	3	4	8	18	77
		3	4	8	18	77

Northwest Coastal LA County

1.00 Acres

	25	**50**	**100**	**200**	**500**
NOx	103	104	121	156	245
CO	562	833	1233	2367	7724
PM10	4	12	27	57	146
PM2.5	3	4	8	18	77

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
2	1	2	1
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: P1 Hardscaping

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Disturbed Site Acreage
2	0.50	25	82	6.43

Source Receptor	**Northwest Coastal LA County**	**Equipment**	**Acres/8-hr Day**		**Equipment Used**	**Daily Hours**	**Acres**
Distance (meters)	25	Tractors	0.5	0.0625	1	8	0.5
NOx	**103**	Graders	0.5	0.0625			0
CO	**562**	Dozers	0.5	0.0625			0
PM10	**4.00**	Scrapers	1	0.125			0
PM2.5	**3.00**					**Acres**	0.50

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	103	104	121	156	245
	1	103	104	121	156	245
		103	104	121	156	245
CO	1	562	833	1233	2367	7724
	1	562	833	1233	2367	7724
		562	833	1233	2367	7724
PM10	1	4	12	27	57	146
	1	4	12	27	57	146
		4	12	27	57	146
PM2.5	1	3	4	8	18	77
	1	3	4	8	18	77
		3	4	8	18	77

Northwest Coastal LA County

0.50 Acres

	25	**50**	**100**	**200**	**500**
NOx	103	104	121	156	245
CO	562	833	1233	2367	7724
PM10	4	12	27	57	146
PM2.5	3	4	8	18	77

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
2	1	2	1
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: P2 Asphalt Demo

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Disturbed Site Acreage
2	1.00	25	82	6.43

Source Receptor	Northwest Coastal LA County	Equipment	Acres/8-hr Day		Equipment Used	Daily Hours	Acres
Distance (meters)	25	Tractors	0.5	0.0625			0
NOx	**103**	Graders	0.5	0.0625			0
CO	**562**	Dozers	0.5	0.0625	2	8	1
PM10	**4.00**	Scrapers	1	0.125			0
PM2.5	**3.00**					**Acres**	1.00

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	103	104	121	156	245
	1	103	104	121	156	245
		103	104	121	156	245
CO	1	562	833	1233	2367	7724
	1	562	833	1233	2367	7724
		562	833	1233	2367	7724
PM10	1	4	12	27	57	146
	1	4	12	27	57	146
		4	12	27	57	146
PM2.5	1	3	4	8	18	77
	1	3	4	8	18	77
		3	4	8	18	77

Northwest Coastal LA County

1.00 Acres

	25	**50**	**100**	**200**	**500**
NOx	103	104	121	156	245
CO	562	833	1233	2367	7724
PM10	4	12	27	57	146
PM2.5	3	4	8	18	77

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
2	1	2	1
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: P2 Site Preparation

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Disturbed Site Acreage
2	1.50	25	82	6.43

Source Receptor	Northwest Coastal LA County	Equipment	Acres/8-hr Day		Equipment Used	Daily Hours	Acres
Distance (meters)	25	Tractors	0.5	0.0625	2	8	1
NOx	**125**	Graders	0.5	0.0625			0
CO	**694**	Dozers	0.5	0.0625	1	8	0.5
PM10	**5.00**	Scrapers	1	0.125			0
PM2.5	**3.50**					**Acres**	1.50

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	103	104	121	156	245
	2	147	143	156	186	262
		125	124	139	171	254
CO	1	562	833	1233	2367	7724
	2	827	1213	1695	2961	8446
		695	1023	1464	2664	8085
PM10	1	4	12	27	57	146
	2	6	19	34	64	154
		5	16	31	61	150
PM2.5	1	3	4	8	18	77
	2	4	5	10	21	82
		4	5	9	20	80

Northwest Coastal LA County

1.50 Acres

	25	**50**	**100**	**200**	**500**
NOx	125	124	139	171	254
CO	695	1023	1464	2664	8085
PM10	5	16	31	61	150
PM2.5	4	5	9	20	80

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
2	1	2	2
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: P2 Rough Grading

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Disturbed Site Acreage
2	2.00	25	82	6.43

Source Receptor	Northwest Coastal LA County	Equipment	Acres/8-hr Day		Equipment Used	Daily Hours	Acres
Distance (meters)	25	Tractors	0.5	0.0625	2	8	1
NOx	**147**	Graders	0.5	0.0625	1	8	0.5
CO	**827**	Dozers	0.5	0.0625	1	8	0.5
PM10	**6.00**	Scrapers	1	0.125			0
PM2.5	**4.00**					**Acres**	2.00

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	2	147	143	156	186	262
	2	147	143	156	186	262
		147	143	156	186	262
CO	2	827	1213	1695	2961	8446
	2	827	1213	1695	2961	8446
		827	1213	1695	2961	8446
PM10	2	6	19	34	64	154
	2	6	19	34	64	154
		6	19	34	64	154
PM2.5	2	4	5	10	21	82
	2	4	5	10	21	82
		4	5	10	21	82

Northwest Coastal LA County

2.00 Acres

	25	**50**	**100**	**200**	**500**
NOx	147	143	156	186	262
CO	827	1213	1695	2961	8446
PM10	6	19	34	64	154
PM2.5	4	5	10	21	82

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
2	2	2	2
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: P2 Fine Grading & Trenching

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Disturbed Site Acreage
2	2.50	25	82	6.43

Source Receptor	Northwest Coastal LA County	Equipment	Acres/8-hr Day		Equipment Used	Daily Hours	Acres
Distance (meters)	25	Tractors	0.5	0.0625	4	8	2
NOx	**159**	Graders	0.5	0.0625	1	8	0.5
CO	**944**	Dozers	0.5	0.0625			0
PM10	**7.16**	Scrapers	1	0.125			0
PM2.5	**4.33**					**Acres**	2.50

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	2	147	143	156	186	262
	3	172	166	179	207	279
		159	155	168	197	270
CO	2	827	1213	1695	2961	8446
	3	1062	1470	2051	3435	9120
		944	1342	1873	3198	8783
PM10	2	6	19	34	64	154
	3	8	26	41	71	161
		7	23	38	67	157
PM2.5	2	4	5	10	21	82
	3	5	6	11	24	86
		4	6	11	22	84

Northwest Coastal LA County

2.50 Acres

	25	**50**	**100**	**200**	**500**
NOx	159	155	168	197	270
CO	944	1342	1873	3198	8783
PM10	7	23	38	67	157
PM2.5	4	6	11	22	84

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
2	2	2	3
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: P2 Fine Grading

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Disturbed Site Acreage
2	1.50	25	82	6.43

Source Receptor	Northwest Coastal LA County	Equipment	Acres/8-hr Day		Equipment Used	Daily Hours	Acres
Distance (meters)	25	Tractors	0.5	0.0625	2	8	1
NOx	**125**	Graders	0.5	0.0625	1	8	0.5
CO	**694**	Dozers	0.5	0.0625			0
PM10	**5.00**	Scrapers	1	0.125			0
PM2.5	**3.50**					**Acres**	1.50

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	103	104	121	156	245
	2	147	143	156	186	262
		125	124	139	171	254
CO	1	562	833	1233	2367	7724
	2	827	1213	1695	2961	8446
		695	1023	1464	2664	8085
PM10	1	4	12	27	57	146
	2	6	19	34	64	154
		5	16	31	61	150
PM2.5	1	3	4	8	18	77
	2	4	5	10	21	82
		4	5	9	20	80

Northwest Coastal LA County

1.50 Acres

	25	**50**	**100**	**200**	**500**
NOx	125	124	139	171	254
CO	695	1023	1464	2664	8085
PM10	5	16	31	61	150
PM2.5	4	5	9	20	80

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
2	1	2	2
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: P2 Building Construction

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Disturbed Site Acreage
2	1.50	25	82	6.43

Source Receptor	Northwest Coastal LA County	Equipment	Acres/8-hr Day		Equipment Used	Daily Hours	Acres
Distance (meters)	25	Tractors	0.5	0.0625	3	8	1.5
NOx	**125**	Graders	0.5	0.0625			0
CO	**694**	Dozers	0.5	0.0625			0
PM10	**5.00**	Scrapers	1	0.125			0
PM2.5	**3.50**					**Acres**	1.50

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	103	104	121	156	245
	2	147	143	156	186	262
		125	124	139	171	254
CO	1	562	833	1233	2367	7724
	2	827	1213	1695	2961	8446
		695	1023	1464	2664	8085
PM10	1	4	12	27	57	146
	2	6	19	34	64	154
		5	16	31	61	150
PM2.5	1	3	4	8	18	77
	2	4	5	10	21	82
		4	5	9	20	80

Northwest Coastal LA County

1.50 Acres

	25	**50**	**100**	**200**	**500**
NOx	125	124	139	171	254
CO	695	1023	1464	2664	8085
PM10	5	16	31	61	150
PM2.5	4	5	9	20	80

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
2	1	2	2
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: P2 Utility Trenching & Building Construction

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Disturbed Site Acreage
2	2.50	25	82	6.43

Source Receptor	Northwest Coastal LA County	Equipment	Acres/8-hr Day		Equipment Used	Daily Hours	Acres
Distance (meters)	25	Tractors	0.5	0.0625	5	8	2.5
NOx	**159**	Graders	0.5	0.0625			0
CO	**944**	Dozers	0.5	0.0625			0
PM10	**7.16**	Scrapers	1	0.125			0
PM2.5	**4.33**					**Acres**	2.50

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	2	147	143	156	186	262
	3	172	166	179	207	279
		159	155	168	197	270
CO	2	827	1213	1695	2961	8446
	3	1062	1470	2051	3435	9120
		944	1342	1873	3198	8783
PM10	2	6	19	34	64	154
	3	8	26	41	71	161
		7	23	38	67	157
PM2.5	2	4	5	10	21	82
	3	5	6	11	24	86
		4	6	11	22	84

Northwest Coastal LA County

2.50 Acres

	25	**50**	**100**	**200**	**500**
NOx	159	155	168	197	270
CO	944	1342	1873	3198	8783
PM10	7	23	38	67	157
PM2.5	4	6	11	22	84

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
2	2	2	3
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: P2 Paving/Finishing

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Disturbed Site Acreage
2	0.50	25	82	6.43

Source Receptor	Northwest Coastal LA County	Equipment	Acres/8-hr Day		Equipment Used	Daily Hours	Acres
Distance (meters)	25	Tractors	0.5	0.0625	1	8	0.5
NOx	**103**	Graders	0.5	0.0625			0
CO	**562**	Dozers	0.5	0.0625			0
PM10	**4.00**	Scrapers	1	0.125			0
PM2.5	**3.00**					**Acres**	0.50

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	103	104	121	156	245
	1	103	104	121	156	245
		103	104	121	156	245
CO	1	562	833	1233	2367	7724
	1	562	833	1233	2367	7724
		562	833	1233	2367	7724
PM10	1	4	12	27	57	146
	1	4	12	27	57	146
		4	12	27	57	146
PM2.5	1	3	4	8	18	77
	1	3	4	8	18	77
		3	4	8	18	77

Northwest Coastal LA County

0.50 Acres

	25	**50**	**100**	**200**	**500**
NOx	103	104	121	156	245
CO	562	833	1233	2367	7724
PM10	4	12	27	57	146
PM2.5	3	4	8	18	77

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
2	1	2	1
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: P2 Paving/Finishing & Asphalt Paving

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Disturbed Site Acreage
2	2.00	25	82	6.43

Source Receptor	Northwest Coastal LA County	Equipment	Acres/8-hr Day		Equipment Used	Daily Hours	Acres
Distance (meters)	25	Tractors	0.5	0.0625	4	8	2
NOx	**147**	Graders	0.5	0.0625			0
CO	**827**	Dozers	0.5	0.0625			0
PM10	**6.00**	Scrapers	1	0.125			0
PM2.5	**4.00**					**Acres**	2.00

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	2	147	143	156	186	262
	2	147	143	156	186	262
		147	143	156	186	262
CO	2	827	1213	1695	2961	8446
	2	827	1213	1695	2961	8446
		827	1213	1695	2961	8446
PM10	2	6	19	34	64	154
	2	6	19	34	64	154
		6	19	34	64	154
PM2.5	2	4	5	10	21	82
	2	4	5	10	21	82
		4	5	10	21	82

Northwest Coastal LA County

2.00 Acres

	25	**50**	**100**	**200**	**500**
NOx	147	143	156	186	262
CO	827	1213	1695	2961	8446
PM10	6	19	34	64	154
PM2.5	4	5	10	21	82

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
2	2	2	2
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: 1-Acre or Less

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Disturbed Site Acreage
2	0.00	25	82	6.43

Source Receptor	**Northwest Coastal LA County**		**Equipment**	**Acres/8-hr Day**		**Equipment Used**	**Daily Hours**	**Acres**
Distance (meters)	25		Tractors	0.5	0.0625			0
NOx	**103**		Graders	0.5	0.0625			0
CO	**562**		Dozers	0.5	0.0625			0
PM10	**4.00**		Scrapers	1	0.125			0
PM2.5	**3.00**						**Acres**	0.00

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	103	104	121	156	245
	1	103	104	121	156	245
		103	104	121	156	245
CO	1	562	833	1233	2367	7724
	1	562	833	1233	2367	7724
		562	833	1233	2367	7724
PM10	1	4	12	27	57	146
	1	4	12	27	57	146
		4	12	27	57	146
PM2.5	1	3	4	8	18	77
	1	3	4	8	18	77
		3	4	8	18	77

Northwest Coastal LA County

0.00 Acres

	25	**50**	**100**	**200**	**500**
NOx	103	104	121	156	245
CO	562	833	1233	2367	7724
PM10	4	12	27	57	146
PM2.5	3	4	8	18	77

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
2	1	2	1
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: P1 Trenching

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Disturbed Site Acreage
2	2.50	25	82	6.43

Source Receptor	Northwest Coastal LA County	Equipment	Acres/8-hr Day		Equipment Used	Daily Hours	Acres
Distance (meters)	25	Tractors	0.5	0.0625	3	8	1.5
NOx	**159**	Graders	0.5	0.0625	1	8	0.5
CO	**944**	Dozers	0.5	0.0625	1	8	0.5
PM10	**7.16**	Scrapers	1	0.125			0
PM2.5	**4.33**					**Acres**	2.50

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	2	147	143	156	186	262
	3	172	166	179	207	279
		159	155	168	197	270
CO	2	827	1213	1695	2961	8446
	3	1062	1470	2051	3435	9120
		944	1342	1873	3198	8783
PM10	2	6	19	34	64	154
	3	8	26	41	71	161
		7	23	38	67	157
PM2.5	2	4	5	10	21	82
	3	5	6	11	24	86
		4	6	11	22	84

Northwest Coastal LA County
2.50 Acres

	25	**50**	**100**	**200**	**500**
NOx	159	155	168	197	270
CO	944	1342	1873	3198	8783
PM10	7	23	38	67	157
PM2.5	4	6	11	22	84

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
2	2	2	3
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Appendix B Biological Resources Inventory

Appendix

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September 17, 2018
(2018-156)

Ms. Kara L. Kosel
PlaceWorks
3 MacArthur Place, Suite 1100
Santa Ana, CA 92707

Subject: **Biological Inventory Conducted for the Santa Monica-Malibu Unified District's Malibu Elementary Schools Alignment Project in the City of Malibu, Los Angeles County, California.**

Dear Ms. Kosel:

This letter report presents the results of a reconnaissance-level biological inventory survey that was conducted by ECORP Consulting, Inc. (ECORP) at the Point Dume Elementary School in the City of Malibu, Los Angeles County, California. The biological inventory is being conducted in order to support the Coastal Development Permit for the Santa Monica-Malibu Unified District's Malibu Elementary Schools Alignment Project (Project) and this report has been prepared to be in compliance with the City's biological inventory reporting requirements. The Project involves two phases of construction. Phase 1 includes construction and installation of eight portable classroom buildings, a portable administration building, and portable restrooms. Phase 2 includes demolition and removal of the Phase 1 portable buildings, construction of a new two-story, 13,500 square foot, eight-classroom building; construction of an approximately 1,500 square foot administration office, and construction of a new entry gate. The survey was conducted to document existing biological conditions, including presence of an Environmental Sensitive Habitat Area, at the Project site and in a 100-foot buffer surrounding the Project site, defined as the biological study area (BSA). The survey was conducted on August 14, 2018. This letter report includes a summary of the results of the biological inventory survey, and a discussion of potential project impacts to the species.

Environmental Sensitive Habitat Area (ESHA)

An ESHA is a biologically sensitive area designated by the City of Malibu (the City) for protection as a zoning overlay in the City's Local Coastal Program (LCP) (City of Malibu 2002). The formal definition of an ESHA, as found in the City's Municipal Code (Chapter 17.45.030), is "…any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments…" In short, ESHAs have been established around areas within the City that support native vegetation and habitats that may provide refuge for native and special-status plant and wildlife species, such as coastal sage scrub, chaparral, riparian areas, and wetlands.

The Project site is not located within a known ESHA based on the LCP and The City of Malibu's online mapping application (City of Malibu 2002 and City of Malibu 2012). The nearest ESHA is over 200 feet from the BSA.

City of Malibu's Native Tree Protection Ordinance (NTPO)

The NTPO provides protection and preservation to certain native trees species that meet a minimum size threshold detailed in the LCP (City of Malibu 2002). The NTPO specially applies to "areas containing one or more native oak (*Quercus species*), California Walnut (*Juglans californica*), Western Sycamore (*Platanus racemosa*), Alder (*Alnus rhombifolia*), or Toyon (*Heteromeles arbutifolia*) tree, that has at least one trunk measuring six inches or more in diameter, or a combination of any two trunks measuring a total of eight inches or more in diameter, measured at four and one-half feet above natural grade. (Ord. 303 § 3, 2007)" (City of Malibu 2002). In terms of a Coastal Development Permit, a tree protection plan is required in the application when the project area contains native trees that meet the size requirements listed in the NTPO. The tree protection plan should be prepared by a qualified biologist and will help maintain compliance with the LCP's regulations by avoiding and minimizing impacts to protected trees. The tree protection plan should provide:

- "An inventory and assessment of the health of native trees on the site by type, size (both trunk circumference and extent of canopy).
- Photographs of the site showing location of all native trees.
- A site map depicting the location of all such trees, including a scale drawing of trunk, canopy location and extent.
- An analysis of all potential construction and post-construction impacts on the identified native trees.
- Project alternatives designed to avoid removal of trees and to avoid and minimize impacts to protected trees.
- Identification of trees proposed to be removed by the project.
- Onsite mitigation measures necessary to minimize or mitigate residual impacts that cannot be avoided through project alternatives, including the provision of replacement trees.
- A long-term maintenance and monitoring program designed to assure long-term protection and health for all native trees. (Ord. 303 § 3, 2007)" (City of Malibu 2002).

Per Section 5 in Chapter 5 of the LCP, "if there is no feasible alternative that can prevent tree removal or encroachment" then a native tree replacement planting program will need to be prepared by a qualified biologist or arborist. The native tree replacement planting program will include: "replacement tree locations, tree or seedling size, planting specifications, and a monitoring program to ensure that the replacement planting program is successful, including performance standards for determining whether replacement trees are healthy and growing normally, and procedures for periodic monitoring and implementation of corrective measures in the event that the health of replacement trees declines" (City of Malibu 2002). Mitigation for tree removal, or loss or reduced health of native trees from development encroachment should include planting at least 10 replacement trees (from seedlings less than a year old) for every native tree removed (City of Malibu 2002). Replacement trees should be planted on the project site if suitable habitat exists. If on site replacement tree planting is not feasible, planting may occur off-site where suitable habitat exists and has restricted development or is public parkland, or a fee based on the type, size, and age of trees removed shall be paid to the Native Tree Impact Mitigation Fund (City of Malibu 2002). In addition, Section 5.6 of the NTPO requires annual monitoring of affected native trees and/or of replacement trees for a minimum of 10 years.

Site Description and Location

The Project is an existing elementary school located in a residential neighborhood at Grayfox St. and Fernhill Dr. within the City of Malibu (City), Los Angeles County, California (Figure 1). It is approximately 0.6 mile south of Highway 1 and approximately 0.8 mi northeast of Point Dume State Beach. Elevation on the Project site is approximately 123 feet above mean sea level. The school's property, on which the Project is located, is bounded to the north by Grayfox St., to the east by Fernhill Dr., and to the south and west by suburban residences.

METHODS

The reconnaissance-level biological inventory survey included a characterization of existing site conditions, evaluation of vegetation communities, documentation of plant and wildlife species within the BSA, and mapping sensitive resources (if detected). Native trees located within the BSA and potentially subject to the NTPO were documented, and total tree height and diameter at breast height (DBH) were recorded. If multiple trunks were present DBH of each was combined to get a sum of the tree's DBH. Although a formal jurisdictional delineation was not conducted, any features potentially jurisdictional to state or federal agencies identified during the survey were noted. The survey was conducted on foot to visually cover 100 percent of the project site. A Global Positioning System handheld device was used to record the location of any special-status biological resources. Binoculars were used to survey areas that were inaccessible on foot. Representative photographs of the site were taken, general weather conditions, survey start and end times, and plant and wildlife observations were recorded in a field notebook.

RESULTS

The reconnaissance-level biological inventory survey of the project site was conducted by ECORP biologist Taylor Dee on August 14, 2018. Weather conditions during the survey are presented in Table 1.

Table 1. Weather Conditions during the Survey

Date	Time		Temperature (˚F)		Cloud Cover (%)		Wind Speed (m.p.h.)	
	start	end	start	end	start	end	start	end
8/14/2018	0855	1055	77	80	1	0	0-1	1-4

Site Characteristics and Existing Conditions

The Project is an existing elementary school surrounded by residential development. The BSA and surrounding vicinity consisted of developed and landscaped areas. The majority of the Project site is composed of asphalt pavement in the form of a multiple basketball courts within the northern section of the Project and a parking lot at the southeastern section. The rest of the Project site includes a shaded lunch spot near the central eastern section; multiple sandpit areas for a volleyball court, swings, and a playground within the southern central section; and landscaped areas, such as planter boxes, and a maintained grass fields with many ornamental trees along the eastern edge, in the central southern, and southwestern corner of the Project site. Representative site photographs are included in Attachment A.

Location: N:\2018\2018-156 Santa Monica Malibu Unified School District\MAPS\Location_Vicinity\SMMUSD_Loc_V1.mxd (LMK)-lking 8/17/2018

Map Date: 8/17/2018

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 1. Project Location

2018-156 Santa Monica Malibu Unified School District

Vegetation Communities and Observations

The majority of the vegetation observed on the Project site and in the surrounding areas was composed of ornamental trees, shrub, and other non-native plants used in landscaping. A stand of eucalyptus trees was observed in the southernmost portion of the BSA, just beyond the school grounds. No native or naturally occurring vegetation communities were identified during the survey. One native tree species, western sycamore, was identified during the survey. Ten western sycamores were observed within the BSA and an additional six were observed on the school grounds outside of the BSA (Figure 2). Approximate tree heights and diameters at breast height for native trees located within the BSA are shown below in Table 2. Dominant plant species observed during the survey included western sycamore, Cajeput (*Melaleuca quinquenervia*), and evergreen pear (*Pyrus kawakamii*). A list of plant species observed and identified during the survey is included in Attachment B.

Table 2. Tree Characteristics of Native Trees within the BSA

Tree No.	Height (feet)	No. of trunks	DBH (inches)
1	40	1	16
2	32	1	11
3	22	1	11
4	22	2	12
5	23	1	15
6	30	1	13
7	42	1	24
8	30	1	10
9	33	1	8
10	25	3	21

Wildlife Observations

Wildlife species observed or detected on the BSA and in the vicinity were characteristic of the residential development of the area. Thirteen bird species were detected during the survey including American crow (*Corvus brachyrhynchos*), mourning dove (*Zenaida macroura*), Anna's hummingbird (*Calypte anna*), bushtit (*Psaltriparus minimus*), and black phoebe (*Sayornis nigricans*). These are all common urban bird species. One insect species, a California dogface (*Zerene cesonia*), was observed flying over the grass field east of the Project site and later within the grass area in the central eastern boundary. Although not observed during the survey, mammal species expected to occur include Eastern fox squirrel (*Sciurus niger*), California ground squirrel (*Spermophilus beecheyi*), and desert cottontail (*Sylvilaqus audubonii*). Reptiles species expected to occur in the BSA include western fence lizard (*Sceloporus occidentalis*) and southern alligator lizard (*Elgaria multicarinata*). Additional bird species expected to occur in the BSA include California towhee (*Melozone crissalis*), Cooper's hawk (*Accipiter cooperii*), house wren (*Troglodytes aedon*), and northern mockingbird (*Mimus polyglottos*). Due to the high level of human activity in the area and the developed nature of the Project site, the BSA represented little to no quality habitat for most native wildlife species. Attachment C contains a complete list of wildlife species observed or detected on the project site.

Jurisdictional Water Features and ESHAs

A formal jurisdictional delineation was not conducted during the biological inventory survey; however, no potentially jurisdictional features were identified on the BSA during the survey. According to the

Figure 2
Biological Resource Map

Map Features

Biological Sensitive Area (BSA)

Western Sycamore

Approximate Project Areas by Phase

Phase 1

Phase 2

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Location: N:\2018\2018-156 Santa Monica Malibu Unified School District\MAPS\SSS_Survey_and_Mapping\Bio_Resources\v1\SMMUSD_BioResources_V1_Rev20180917.mxd *(LMK)-JSwager 9/17/2018*

2018-156 Santa Monica Malibu Unified School District

Scale in Feet
0 80

Photo Source: 2013, USGS

Map Date: 9/17/2018

National Wetlands Inventory, the closest potentially jurisdictional feature is located approximately 300 feet north of the BSA, a freshwater forested/shrub wetland (USFWS 2018). No previously existing ESHAs or natural resources meeting the definition of an ESHA were detected within or adjacent to the BSA.

DISCUSSION

The BSA was developed and generally unsuitable habitat for special-status plant and wildlife species due to the urban setting. No native vegetation communities were present in the BSA. The BSA was composed of development associated with the school grounds and neighboring residential development, and landscaped areas were characterized by ornamental trees and shrubs.

A total of 10 western sycamores, a native tree species that is subject to the NTPO under the City's LCP, were identified within the BSA. All 10 trees also met the size threshold outlined in the NTPO, earning them protection under the NTPO. Due to the presence of these sycamore trees, a tree protection plan will need to be included in the Project's Coastal Development Permit to help avoid impacts and minimize impacts to protected trees to maintain compliance with the LCP's regulations. The tree protection plan will include, but is not limited to:

- an inventory and health assessment of native trees on the site,
- analysis of potential construction and post construction impacts on native trees,
- project alternatives to avoid native tree removal and to avoid and minimize impacts to native trees,
- "onsite mitigation measures necessary to minimize or mitigate residual impacts that cannot be avoided through project alternatives, including provision of replacement trees,"
- and a long-term native tree maintenance and monitoring program (Ord. 303 § 3, 2007) (City of Malibu 2002).

Section 4 of Chapter 5 of the NTPO requires a qualified independent biological consultant or arborist, approved by the Planning Manager, to monitor native trees within or adjacent to construction areas. Avoidance and protection measures may include fencing off protected zones around the trees.

Attachment D, (provided by PlaceWorks) is a figure from the SMMUSD's tree removal plan and identifies trees planned for removal. Based on attachment D, one of the 11 trees identified for removal is one of the native western sycamores identified during the survey. The remaining 10 trees identified for removal in Attachment D are nonnative. If no feasible alternative exists that can prevent removal of or encroachment to this native tree, than a native tree replacement planting program shall be submitted before the Coastal Development Permit is issued (City of Malibu 2002). The program will be prepared by a qualified biologist or arborist with experience conducting tree health assessments and will include components such as planting specifications and a monitoring program. Removal, loss, or reduced health of protected native trees will be mitigated by planting at least 10 replacement trees for every native tree removed. Replacement trees should be planted from seedlings less than a year old and on site as along as suitable habitat exists. If planting replacement trees onsite is not feasible than planting may occur at a suitable off-site location on public parkland or where development is restricted, or a fee shall be paid to the Native Tree Impact Mitigation Fund based on the type, size,

and age of tree(s) removed (City of Malibu 2002). In addition, Section 5.6 of the NTPO requires annual monitoring of affected native trees and/or of replacement trees for a minimum of 10 years.
The majority of wildlife species observed on site are species that have adapted to thrive in developed areas and residential neighborhoods. Native vegetation or habitat for wildlife species was not present within the BSA; however, the landscaped trees and shrubs and residential structures present within the BSA do provide suitable nesting habitat for native bird and raptor species protected under the federal Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code. Additionally the stand of eucalyptus trees in the southernmost portion of the BSA provide suitable nesting habitat for raptors. No active nests were observed in the BSA during the survey; however, should an active nest occur, the Project will need to avoid impacts to nesting bird and raptor species to maintain compliance with MBTA and California Fish and Game Code regulations. Avoidance and protection measures may include pre-construction surveys and construction monitoring if construction is scheduled to occur during the nesting season (typically February 15 to August 31).

The City of Malibu recently joined the National Wildlife Federation's "Mayor's Monarch Pledge" demonstrating the City's commitment to restoring monarch (*Danaus plexippus*) habitat in its community (NWF 2018). Although monarchs are not a special-status species (CDFW 2018b), California Department of Fish and Wildlife (CDFW) recognizes the western monarch population's reliance on coastal overwintering habitats (CDFW 2018c). CDFW also recognizes the western monarch population decline over the last 20 years (CDFW 2018c). There are multiple recent records of monarchs roosting in eucalyptus stands within two miles of the BSA (CDFW 2018a). The western sycamores located throughout the BSA and the eucalyptus stand in the southern portion of the BSA potentially provide overwintering roosting habitat for monarch. The Project is not anticipated to impact the eucalyptus stand and the majority of the western sycamores.

The Project is not anticipated to affect any ESHAs or features potentially jurisdictional to state or federal agencies.

Thank you for the opportunity to work on your project. If you have any questions regarding the contents of this letter report, please contact me at (714) 648-0630.

Sincerely,
ECORP Consulting, Inc.

Taylor Dee
Assistant Biologist
ECORP Consulting, Inc.

Attachment A: Site Photographs
Attachment B: Plant Species Observed
Attachment C: Wildlife Species Observed
Attachment D: Tree Removal Figure from the SMMUSD's tree removal plan (provided by PlaceWorks)

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ATTACHMENT A

Site Photographs

Photo 1. Looking northwest at northern portion of BSA towards location of Phase 2 classroom building.

Photo 2. Looking northeast at northwestern edge of field towards location of Phase 2 classroom building.

Photo 3. Looking southeast toward grass field and playground.

Photo 4. Looking southeast at playground and location of Phase 1 portable classrooms.

Photo 5. Looking southwest at volleyball court and location of Phase 1 portable classrooms.

Photo 6. Western sycamore located west of proposed Phase 2 administration building.

Photo 7. Looking east at school entrance near parking lot and location of proposed Phase 2 gate.

Photo 8. Eucalyptus stand and western sycamores near southern-most Phase 1 portable classrooms.

PLANT SPECIES OBSERVED

Scientific Name	Common Name
ANACARDIACEAE	**SUMAC FAMILY**
*Schinus terebinthifolius**	Brazilian pepper tree
ASTERACEAE	**SUNFLOWER FAMILY**
*Anthemis cotula**	dog fennel/mayweed
*Taraxacum officinale**	common dandelion
BRASSICACEAE	**MUSTARD FAMILY**
*Brassica nigra**	black mustard
FABACEAE	**LEGUME FAMILY**
*Erythrina caffra**	South African coral tree
*Trifolium repens**	white clover
IRIDACEAE	**IRIS FAMILY**
*Dietes grandiflora**	African iris
LAMIACEAE	**MINT FAMILY**
*Mentha spicata**	spearmint
*Rosmarinus officinalis**	rosemary
LAURACEAE	**LAUREL FAMILY**
Persea sp.*	avocado
LILIACEAE	**LILY FAMILY**
*Agapanthus africanus**	African lily
MYRTACEAE	**MYRTLE FAMILY**
Eucalyptus sp.	gum
Melaleuca quinquenervia/***	cajeput
PINACEAE	**PINE FAMILY**
*Pinus pinea**	Italian stone pine
PLATANACEAE	**PLANE TREE FAMILY**
*Platanus racemose***	western sycamore
PLANTAGINACEAE	**PLANTAIN FAMILY**
*Plantago major**	common plantain
PRIMULACEAE	**PRIMROSE FAMILY**
*Anagallis arvensis**	scarlet pimpernel
RHAMNACEAE	**BUCKTHORN FAMILY**
Ceanothus sp.	lilac
ROSACEAE	**ROSE FAMILY**
Pyrus kawakamii/***	evergreen pear
*Rhaphiolepis indica**	Indian hawthorn
Rosa sp.*	rose
STRELITZIACEAE	**BIRD OF PARADISE FAMILY**

*Strelitzia reginae**	bird-of-paradise
ARECACEAE	**PALM FAMILY**
*Washingtonia robusta**	Mexican fan palm
AGAVACEAE	**AGAVE FAMILY**
*agave attenuata**	fox tail agave
POACEAE	**GRASS FAMILY**
*Cynodon dactylon**	Bermuda grass
VITACEAE	**GRAPE FAMILY**
*Vitis sp.**	grape
* non-native species ** species dominant on the Project site	

WILDLIFE SPECIES OBSERVED

SCIENTIFIC NAME	COMMON NAME
Insecta	**Insects**
Zerene cesonia	California dogface
Aves	**Birds**
Aphelocoma californica	California scrub-jay
Buteo jamaicensis	red-tailed hawk
Calypte anna	Anna's hummingbird
Corvus brachyrhynchos	American crow
Haemorhous mexicanus	house finch
Junco hyemalis	dark-eyed junco
Larus sp.	gull
Psaltriparus minimus	bushtit
Sayornis nigricans	black phoebe
Sialia mexicana	western bluebird
Sitta carolinensis	white-breasted nuthatch
*Streptopelia decaocto***	Eurasian collared-dove
Zenaida macroura	mourning dove

* CDFW California Species of Special Concern/Watch List Species/FP Species
** Non-native species

ATTACHMENT D

Tree Removal Figure from the SMMUSD's tree removal plan (provided by PlaceWorks)

Avocado tree to be pruned. No tree removal in this area.
Point Dume Elementary School
Phase 1 - 8 trees to remove. (Located one more that doesn't appear in the survey.)
3 trees to remove, Phase 2. This is worse case scenario. Actual shape of the building may save some or all of these trees.
Grayfox St

Appendix C Cultural Resources Inventory

Appendix

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Cultural Resources Inventory

Santa Monica Malibu Unified School District
Malibu Schools Alignment Project
Point Dume Elementary School

Los Angeles County, California

Prepared For:

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3 MacArthur Place, Suite 1100
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Prepared By:

Robert Cunningham
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Under the direction of Principal Investigator:

Roger Mason, Ph.D., RPA

DRAFT

ECORP Consulting, Inc. has assisted public and private land owners with environmental regulation compliance since 1987. We offer full service capability, from initial baseline environmental studies through environmental planning review, permitting negotiation, liaison to obtain legal agreements, mitigation design, and construction monitoring and reporting.

Citation: ECORP Consulting, Inc. 2018. Inventory Report for the Santa Monica Malibu Unified School District Malibu Elementary Schools Alignment Project, Point Dume Elementary School. Prepared for PlaceWorks, Santa Ana, California. DRAFT.

MANAGEMENT SUMMARY

A cultural resources investigation was conducted for the Santa Monica Malibu Unified School District Malibu Elementary Schools Alignment Project, Point Dume, in the City of Malibu, Los Angeles County. This investigation was conducted in support of the installation of temporary classrooms, bathrooms, and administration buildings, and construction of a permanent 13,500-square foot classroom building and a permanent 1,500-square foot administration building. The project would also include site utility upgrades including sewage system improvements. The study was completed by ECORP Consulting, Inc. in compliance with the California Environmental Quality Act (CEQA).

In August 2018, a cultural resources records search was conducted at the South Central Coastal Information Center at California State University, Fullerton, and a search of the Sacred Lands File was requested from the Native American Heritage Commission (NAHC). The records search results indicated that no cultural resources were previously documented within the Project Area and 25 resources have been documented within a one-mile radius of the Project Area. The records search indicated that the Project Area has not been previously surveyed for cultural resources. In total, 340 cultural resources investigations were conducted within the one-mile records search radius between 1948 and 2014. The results of the search of the Sacred Lands File by the NAHC did not indicate the presence of any Native American cultural resources within one mile of the Project Area. In addition to the search of the Sacred Lands File, the NAHC identified 16 Native American groups and individuals with historical and traditional ties to the Project Area.

No prehistoric or historic-period sites or isolated finds were identified as a result of the field survey; therefore, the proposed project would not result in any significant impacts to Historical Resources under CEQA. The archaeological sensitivity of the Project Area is believed to be moderate to high. Monitoring by an archaeologist is recommended during ground-disturbing activities in native soils.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ATTACHMENTS

LIST OF ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AMSL	Above Mean Sea Level
BP	Before present
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CHRIS	California Historical Resources Information System
CRHR	California Register of Historical Resources
DPR	Department of Parks and Recreation
MLD	Most Likely Descendant
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NPS	National Park Service
NRHP	National Register of Historic Places
OHP	Office of Historic Preservation's
PRC	Public Resources Code
Project	SMMUSD Malibu Elementary Schools Alignment Project, Point Dume Elementary School
RPA	Registered Professional Archaeologist
SB	Senate Bill
SCCIC	South Central Coastal Information Center
SMMUSD	Santa Monica Malibu Unified School District
USC	U.S. Code
USGS	U. S. Geological Survey

1.0 INTRODUCTION

In August 2018, ECORP Consulting, Inc. conducted a cultural resources investigation of the two-acre Project Area for the Santa Monica Malibu Unified School District (SMMUSD) Malibu Elementary Schools Alignment Project, Point Dume, in the City of Malibu, Los Angeles County, California (Figure 1). An archaeological records search and field survey were completed to identify cultural resources that could be impacted by development. This study also includes a Native American Heritage Commission (NAHC) Sacred Lands File search. This report presents the methods and results of these investigations, along with management recommendations. This project was completed in compliance with the California Environmental Quality Act (CEQA).

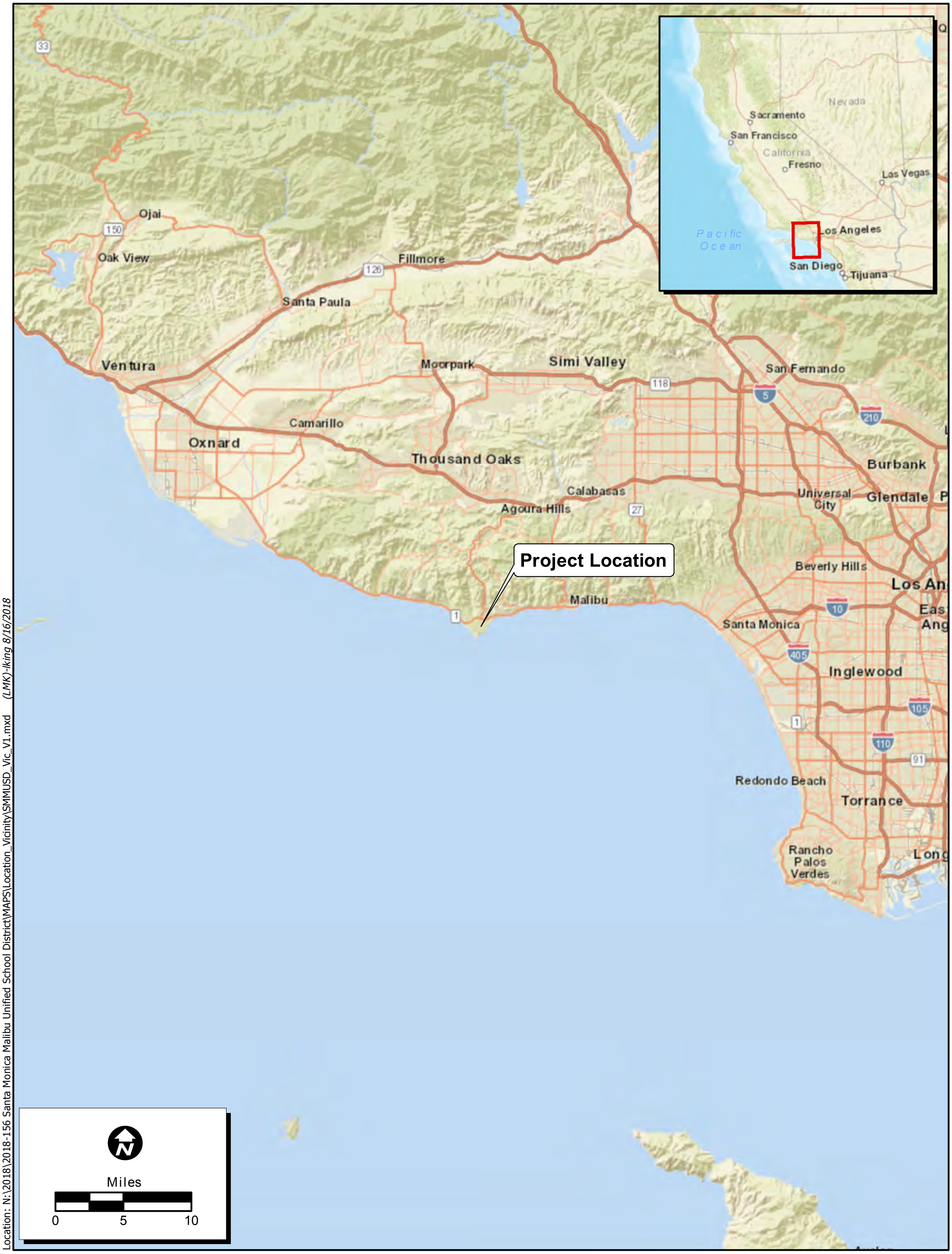
1.1 Project Location

The Project Area is an approximately two-acre area located within the property occupied by Point Dume Elementary School. The Project Area consists of multiple play areas and a paved blacktop area. The school is located west of Fernhill Drive and south of Grayfox Street, at 6955 Fernhill Drive, in the City of Malibu (Figure 1). The Project Area is located in the central portion of the school campus, east of the current permanent classroom buildings. As shown on the U. S. Geological Survey (USGS) 7.5-minute Point Dume, California topographic quadrangle map (1950, Photorevised 1981), the Project Area is located in an unsectioned portion of the Rancho Topanga Malibu Sequit Land Grant (Figure 2).

The elevation of the Project Area ranges from 129 feet above mean sea level (AMSL) to 135 feet AMSL. It is located approximately 0.42 miles (683 meters) north of the Pacific Coast at Dume Cove. An intermittent stream is located 147 meters northeast of the Project Area. The stream drains into the Pacific Ocean 0.43 mile (690 meters) east of the Project Area. Sediments in the area primarily consists of the middle and late Miocene Monterrey Formation consisting of white weathering, thin bedded, platy siliceous shale (Dibblee and Ehrenspeck 1993). Vegetation within the Project Area consists primarily of landscaped nonnative grasses and ornamental plants.

1.2 Project Description

The proposed project consists of two phases of construction. Phase 1 will include the construction and installation of nine portable classroom buildings, a portable administration building, and portable restrooms. Phase 2 will consist of the dismantling and removal of the Phase 1 portable buildings and construction of a two-story, 13,500 square foot classroom building; construction of a 1,500-square-foot administration building, and a new entry gate. The project would include site utility upgrades including sewage system improvements.



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Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

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Figure 1. Project Vicinity Map

2018-156 Santa Monica Malibu Unified School District

Map Date: 9/4/2018

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Figure 2. Project Location

2018-156 Santa Monica Malibu Unified School District

1.3 Regulatory Context

To meet the regulatory requirements of this Project, this cultural resources investigation was conducted pursuant to the provisions for the treatment of cultural resources contained in CEQA (Public Resources Code [PRC] § 21000 et seq.) The goal of CEQA is to develop and maintain a high-quality environment that serves to identify the significant environmental effects of the actions of a proposed project and to either avoid or mitigate those significant effects where feasible. CEQA pertains to all proposed projects that require state or local government agency approval, including the enactment of zoning ordinances, the issuance of conditional use permits, and the approval of development project maps.

CEQA (Title 14, California Code of Regulations [CCR], Article 5, § 15064.5) applies to cultural resources of the historical and prehistoric (pre-contact) periods. Any project with an effect that may cause a substantial adverse change in the significance of a cultural resource, either directly or indirectly, is a project that may have a significant effect on the environment. As a result, such a project would require avoidance or mitigation of impacts to those affected resources. Significant cultural resources must meet at least one of four criteria that define eligibility for listing on the CRHR (PRC § 5024.1, Title 14 CCR, § 4852). Resources listed on or eligible for inclusion in the CRHR are considered Historical Resources under CEQA.

1.4 Report Organization

The following report documents the study and its findings and was prepared in conformance with the California Office of Historic Preservation's (OHP) *Archaeological Resource Management Reports: Recommended Contents and Format.* Attachment A contains documentation of a search of the Sacred Lands File and Native American outreach, Attachment B contains Project Area photographs, and confidential Attachment C contains a Report List.

Sections 6253, 6254, and 6254.10 of the California Code authorize state agencies to exclude archaeological site information from public disclosure under the Public Records Act. In addition, the California Public Records Act (Government Code § 6250 et seq.) and California's open meeting laws (The Brown Act, Government Code § 54950 et seq.) protect the confidentiality of Native American cultural place information. Under Exemption 3 of the federal Freedom of Information Act (5 U.S. Code 5 [USC]), because the disclosure of cultural resources location information is prohibited by the Archaeological Resources Protection Act of 1979 (16 USC 470hh) and Section 304 of the National Historic Preservation Act (NHPA), it is also exempted from disclosure under the Freedom of Information Act. Likewise, the Information Centers of the California Historical Resources Information System maintained by the OHP prohibit public dissemination of records search information. In compliance with these requirements, the results of this cultural resource investigation were prepared as a confidential document, which is not intended for public distribution in either paper or electronic format.

2.0 CULTURAL CONTEXT

2.1 Prehistory and Ethnohistory

The Project Area is located within the territory known to have been used by the Chumash at the time of contact with Europeans, around 1769.

The Project Area is in the region occupied by the Chumash before and at the time of European contact. King (1981) has divided the prehistory of the Chumash region into three periods: Early (8,000 to 3,350 years before present [B.P.]), Middle (3,350 to 800 years B.P.), and Late (800 to 150 years B.P. or approximately A.D. 1150 to 1800). The Early Period has been divided into three phases: X, Y, and Z. The X Phase is characterized by the use of large flake and core tools, millingstones, and handstones. Based on limited archaeological data, it appears that Phase X sites along the Santa Barbara Channel were located on crests of hills away from the ocean, but some Phase Y sites were located on knolls adjacent to sloughs. During Phase Z, sites were located on higher ground (King 1981).

During the Middle Period (3,350 to 800 years B.P.) increasing sedentism and increasing emphasis on marine subsistence along the Santa Barbara Channel is reflected by the appearance of coastal villages occupied during a large part of the year. The plank canoe, which made ocean fishing and travel to the Channel Islands safer and more efficient, came into use about 1,500 years B.P. Use of the plank canoe also promoted trade and exchange between the mainland and the Channel Islands (Arnold 1987).

The full development of the Chumash, one of the most socially and economically complex hunting and gathering groups in North America, occurred during the Late Period (800 to 150 years B.P. or approximately A.D. 1150 to 1800) (Arnold 1987). At this time, there was a series of permanent and semipermanent villages with populations of 200 to 600 or more individuals along the Santa Barbara Channel and on the Channel Islands. The principal economic pursuits of the people of these villages were marine fishing and trading (Grant 1978).

At the time of Spanish contact the Chumash occupied what is now Ventura County, the northwestern corner of Los Angeles County, and the Santa Monica Mountains area of Los Angeles County, Santa Barbara County, the northern Channel Islands, and the southern part of San Luis Obispo County. The Chumash spoke several languages belonging to the Chumashan language family which is not part of, or related to, any other North American language family. Artifactual and skeletal evidence indicate that the Chumash have continuously occupied the Ventura and Santa Barbara County areas from prior to 10,000 years B.P. to historic times. Linguistic evidence suggests that the Chumash expanded during the first millennium A.D. into territory previously occupied by Hokan speakers (Salinan) in southern San Luis Obispo County and on to the northern Channel Islands where an unknown, now extinct, language was spoken (Golla 2007:80).

The Chumash were one of the most socially and economically complex hunting and gathering groups in North America (Arnold 1987:4). Along the Santa Barbara Channel and on the northern Channel Islands there were a series of permanent or semi-permanent villages with populations of 200 to 600 or more individuals (Grant 1978). Chumash Channel-area villages contained circular houses made of willow poles and thatch. A hearth was located in the center of each house. In addition to houses, each village contained a sweat house, a sacred council chamber, a dance floor, and a cemetery (Rogers 1929).

Status differentiation had developed to the point where village chiefs inherited their rank and probably controlled trade and redistribution. Only certain higher ranking lineages built and operated plank canoes for trade with the islands. Trade and redistribution of products from different environmental zones was facilitated by the use of shell bead "money," made almost exclusively on the northern Channel Islands.

Making microdrills (used to make beads) from island chert sources was a specialized industry (Arnold 1987:247).

When the Spanish arrived in A.D. 1769 the Chumash occupied the coast from Malibu Canyon to San Luis Obispo and inland as far as the western edge of the San Joaquin Valley. By 1804, most villages were abandoned as the Chumash were forced to move to the missions. Exposure to diseases introduced by Europeans soon began to decimate their population (Grant 1978). A typical example is the census kept for La Purisima Mission, where the Chumash declined in number from approximately 1,520 in 1804 to 400 in 1832 (Greenwood 1978).

When Spanish authority was removed in 1821, many Chumash left the coastal area and settled in the interior. Those who remained were usually mistreated by Mexican, and later Anglo settlers. European-borne diseases continued to reduce the Chumash population. That, as well as intermarriage with the Spanish, Mexicans, and Anglos, resulted in near extinction of the full-blooded Chumash by 1900 (Grant 1978). In 1855, a reservation of 120 acres was given to the Chumash near Santa Ynez Mission. This small parcel was eventually reduced to 75 acres, the smallest Native American reservation in California. By the 1970s, only about 40 Chumash of mixed blood remained there. Other Chumash with no formal tribal affiliation live outside the reservation (Grant 1978).

2.2 History

The first European to visit Alta California (the area north of Baja California) was Spanish maritime explorer Juan Rodriguez Cabrillo, in 1542. Sent north by the Viceroy of New Spain (Mexico) to look for the Northwest Passage, Cabrillo visited San Diego Bay, Catalina Island, San Pedro Bay, and the northern Channel Islands. In 1579, the English adventurer Francis Drake visited the Miwok Native American group at Drake's Bay or Bodega Bay. Sebastian Vizcaíno explored the coast as far north as Monterey in 1602. He reported that Monterey was an excellent location for a port (Castillo 1978). Vizcaíno also named San Diego Bay to commemorate Saint Didacus. The name began to appear on European maps of the New World by 1624 (Gudde 1998).

Colonization of Alta California began with a land expedition led by Spanish army captain Gaspar de Portolá. In 1769, Portolá and Father Junipero Serra, a Franciscan missionary, explored the California coast from San Diego to the Monterrey Bay area. As a result of this expedition, Spanish missions to convert the native population to Catholicism, presidios (forts), and pueblos (towns) were established. The Franciscan missionary friars built 21 missions in Alta California, beginning with Mission San Diego in 1769 and ending with the missions in San Rafael and Sonoma, founded in 1823. Missions San Buenaventura (Ventura) (1782), Santa Barbara (1786), La Purisima Concepcion (1787), San Luis Obispo (1772), and Santa Ynez (1804) were established to convert the Native Americans that lived in the area, known as the Chumash. (Castillo 1978). The Spanish also constructed presidios, or forts, at San Diego and Santa Barbara, and a pueblo, or town, was established at Los Angeles.

The Spanish period, which had begun in 1769 with the Portolá expedition, ended in 1821 with Mexican independence. After Mexico became independent from Spain, what is now California became the Mexican province of Alta California. The Mexican government secularized the missions in the 1830s and former mission lands were granted to retired soldiers and other Mexican citizens for use as cattle ranches. Much of the land along the coast and in the interior valleys became part of Mexican land grants, or ranchos (Robinson 1948). Rancho owners sometimes lived in one of the towns, such as San Diego (near the presidio), or Los Angeles, but often resided in an adobe house on their own land.

The Mexican Period, which began with independence from Spain in 1821, continued until the Mexican-American War of 1846-1848. The American period began when the Treaty of Guadalupe Hidalgo was signed between Mexico and the United States in 1848. As a result of the treaty, Alta California became part of the United States as the Territory of California. Rapid population increase occasioned by the Gold Rush of 1849 led to statehood in 1850. Most Mexican land grants were confirmed to the grantees by U.S. courts, but usually with more restricted boundaries which were surveyed by the U.S. Surveyor General's office. Floods and drought in the 1860s greatly reduced the cattle herds on the ranchos, making it difficult for their owners to pay the new American taxes on their thousands of acres. Many Mexican-American cattle ranchers borrowed money at usurious rates from newly arrived Anglo-Americans. Foreclosures and land sales eventually resulted in the transfer of most of the land grants into the hands of Anglo-Americans (Cleland 1941).

In 1802. Jose Bartolome Tapia, a retired Spanish soldier, was granted a concession for the Rancho Topanga Malibu Sequit. He died in 1824, leaving the Rancho to his wife. After independence from Spain, the Mexican government never confirmed Tapia's concession, leaving the title in doubt. In 1847, Leon Prudhomme, a French immigrant to California, married Tapia's granddaughter and purchased the Rancho from Tapia's widow. After the U.S. government took control of California in 1848, Prudhomme filed a claim for Rancho Topanga Malibu Sequit with the U.S. Land Commission. Since no title could be proven, and despite the testimony of friends and neighbors confirming the Tapia family had ranched the property for decades, the U.S. Land Commission denied Prudhomme's claim in 1854. In 1857, after years of financial troubles, Prudhomme sold a quit claim deed to the Rancho Topanga Malibu Sequit to an Irish immigrant named Matthew Keller. Keller challenged the finding of the U.S. Land Commission and in 1864 his claim for the Rancho was confirmed. Keller died in 1881 leaving the Rancho to his son Henry Keller, who sold the Rancho in 1882 to Frederick Hastings Rindge (Doyle, et al 2018; Malibu Coastal Vision, Civic Center Group 2014).

Frederick Hastings Rindge was a vice president of Union Oil and director of the Los Angeles Edison Electric Company. After purchasing the Rancho in 1882, he built a ranch house in Malibu Canyon and began operating Malibu Ranch as a cattle and grain raising ranch. To stave off an attempt by the Southern Pacific Railroad to have a portion of the Malibu Ranch condemned for a railroad right-of-way, Frederick Rindge began construction of a 15-mile strip of private railway. He died in 1905, leaving operation of the Malibu Ranch and completion of the railway to his wife, May K. Rindge. Having successfully resisted the incursion of the Southern Pacific Railroad into Malibu Ranch, May K. Rindge would soon face a succession of challenges to open the ranch. May K. Rindge ultimately lost her legal challenges. A county road was opened across the Malibu Ranch in 1921, followed by the Roosevelt (now the Pacific Coast Highway) in 1929. The years of litigation drained Rindge family's finances, and with the coming of the Great Depression, May K. Rindge began leasing and eventually selling portions of the property (Doyle, et al 2018; Malibu Coastal Vision, Civic Center Group 2014).

The Point Dume area of Malibu, a sacred site for the Chumash people, was given the name Point Dume by English Explorer George Culver in 1793 (Guldimann 2013, California State Parks 2018). The area remained largely unoccupied during most of the history of the Malibu Ranch, until the onset of World War II in the early 1940s. During World War II, the Army and Coast Guard used Point Dume as a lookout and artillery training center to defend against a Japanese invasion. In the post-war late 1940s through the 1960s, Point Dume and the surrounding area began to experience rapid development (Doyle, et al 2018; Malibu Coastal Vision, Civic Center Group 2014, Guldimann 2013). In the 1970s through the 1980s, residents of Malibu, wanting to maintain the rural setting of the area, began to push for a halt to growth and development in the region. In 1991, the City of Malibu was incorporated. In 1979, a 34-acre State Park was established, and in 1992 it was upgraded to the Point Dume State Beach and Preserve (Guldimann 2013).

3.0 METHODS

3.1 Personnel Qualifications

All phases of the cultural resources investigation were conducted or supervised by Registered Professional Archaeologist (RPA) Dr. Roger Mason, who meets the Secretary of the Interior's Professional Qualifications Standards for prehistoric and historical archaeologist. Fieldwork was conducted by Staff Archaeologist and Field Director Robert Cunningham; this report was prepared by Mr. Cunningham.

Dr. Mason has been professionally involved with cultural resources management in California since 1983. Dr. Mason is the author of more than 200 reports dealing with cultural resource surveys, evaluations, and mitigation programs in California. He has extensive project experience with the cultural resources requirements of CEQA and Section 106 of the NHPA.

Mr. Cunningham is a Staff Archaeologist for ECORP and has more than 10 years of experience in cultural resources management, primarily in Southern California. He holds a BA degree in Anthropology and has participated in and supervised numerous survey, testing, and data recovery excavations for both prehistoric and historical sites, and has cataloged, identified, and curated thousands of artifacts. He has conducted evaluations of cultural resources for eligibility for the NRHP and CRHR.

3.2 Records Search Methods

A cultural resources records search was conducted in June 2018 at the South Central Coastal Information Center (SCCIC), located at California State University, Fullerton. The purpose of the records search was to determine the extent of previous cultural resources investigations and the presence of previously-recorded archaeological sites or historic-period (i.e., over 50 years in age) resources within a one-mile (1,600-meter) radius of the Project Area. Materials reviewed included reports of previous cultural resources investigations, archaeological site records, historical maps, and listings of resources on the NRHP, CRHR, California Points of Historical Interest, California Landmarks, and National Historic Landmarks.

Historic maps reviewed include:

- 1900 USGS Triunfo Pass, California (15-minute scale)

- 1903 USGS Camulos California (30-minute scale)
- 1921 USGS Triunfo Pass, California (15-minute scale)
- 1932 USGS Dume Point, California (7.5-minute scale)
- 1932 USGS Solstice Canyon, California (7.5-minute scale)
- 1943 USGS Triunfo Pass, California (15-minute scale)
- 1950 USGS Point Dume, California (7.5-minute scale)
- 1967 USGS Point Dume, California (7.5-minute scale)
- 1981 USGS Point Dume, California (7.5-minute scale)
- 1991 USGS Point Dume, California (7.5-minute scale)

Historic aerial photos taken in 1947, 1952, 1959, 1967, 1980, 1990, 1994, 2002, 2003, 2005, 2009, 2010, 2012, and 2014 were also reviewed for any indications of property usage and built environment (NETROnline 2018).

3.3 Sacred Lands File Coordination Methods

A search of the Sacred Lands File by the NAHC in Sacramento, California, was requested by ECORP in August 2018. This search was requested to determine whether there are sensitive or sacred Native American resources in the vicinity of the Project Area that could be affected by the proposed Project. The NAHC was also asked to provide a list of Native American groups that have historic or traditional ties to the Project Area who may have knowledge about the Project Area. It should be noted that this does not constitute consultation in compliance with Senate Bill (SB) 18 or Assembly Bill (AB) 52. A copy of all correspondence between ECORP and the NAHC is attached (Attachment A).

3.4 Field Methods

Archaeological field work was conducted by ECORP archaeologist Robert Cunningham on August 14, 2018 and consisted of an intensive systematic pedestrian survey. The Project Area was examined for the presence of cultural artifacts and features by walking the proposed approximately two-acre Project Area, and, where possible, conducting parallel east-west transects in 15-meter intervals. Notes and photographs were taken on the environmental setting and disturbances within the Project Area.

Newly discovered cultural resources would be assigned a unique temporary number based on the project name and the order in which they were found (i.e. PD-001). As appropriate, the site boundary, features, and artifacts would be mapped using Collector for ArcGIS, a cloud-based geospatial software with two- to five-meter accuracy, with data later post-processed for submeter accuracy. Digital photographs would be taken of select artifacts and features as well as general site overviews showing the general environment and the presence, if any, of human or naturally-occurring impacts. Following fieldwork, Department of Parks and Recreation (DPR) 523 records would be prepared for any resources identified and location and sketch maps would be created using data collected with the Collector ArcGIS application used in the field.

4.0 RESULTS

4.1 Records Search

The records search consisted of a review of previous research and literature, records on file with the SCCIC for previously recorded resources, historical aerial photographs, and maps of the vicinity.

The records search indicated that an area adjacent to the northern boundary of the Project Area was previously surveyed in 1991 as part of a cultural resources survey for a water system improvement project. An additional 339 cultural resources investigations have been conducted within the one-mile records search radius between 1948 and 2014. For details of all 340 investigations, please see the Report List included as confidential Attachment C.

The records search results show that there are no previously recorded resources in the Project Area. Twenty-five previously recorded resources are located within a one-mile radius of the Project Area. These consist of 23 pre-contact resources, one historic-period resource, and one multicomponent resource. The Twenty-three previously recorded pre-contact cultural resources are comprised of three habitation sites; one habitation/ceremonial site with human remains; two village sites; one village site with associated burials; four lithic deposits; one deposit of lithics and ground stone; one ground stone deposit; one shell midden; one site consisting of burials and shell midden; one site consisting of human remains, one projectile point, and shell midden; one artifact deposit; and six isolated finds consisting of three lithic flakes, one metate, one chert artifact, and shell fragments. Historic-period resources consist of one subsurface refuse deposit. One multi-component resource consisting of a pre-contact ceramic deposit and a historic-period structure and water conveyance system were also recorded within a one-mile radius of the Project Area. Details of all 25 previously recorded resources are presented below in Table 1.

Table 1. Previously Recorded Cultural Resources In or Within One Mile of the Project Area

Site Number CA-LAN-	Primary Number P-19-	Recorder and Year	Age/ Period	Site Description	Within Project Area?
40	000040	Mohr (1947); S.L. Peck (1948); Eberhart (1953); Jay Ruby (1961)	Pre-contact	Occupation site	No
174	000174	Mohr (1947); Eberhart (1952)	Pre-contact	Village site	No
196	000196	S.L. Peck (1953)	Pre-contact	Groundstone deposit	No
198	000198	Hal Eberhart (1953)	Pre-contact	Artifact deposit	No
199	000199	C.W. Meighan and H. Eberhart (1952)	Pre-contact	Shell midden	No
201	000201	Peck (1961)	Pre-contact	Village site and burials	No
205	000205	S.L. Peck (1948); Colby 1985	Pre-contact	Village site	No

Table 1. Previously Recorded Cultural Resources In or Within One Mile of the Project Area

Site Number CA-LAN-	Primary Number P-19-	Recorder and Year	Age/ Period	Site Description	Within Project Area?
207	000207	S.L. Peck (1948)	Pre-contact	Human remains, projectile point, and shell midden	No
222	000222	Eberhart (1950); K. Dodge (1960); Reinman (1962)	Pre-contact	Burials and midden	No
223	000223	EOC, King (1961); Chester King (1968)	Pre-contact	Shell midden, occupation site	No
451	000451	Bell, Evans, Coleman, Jones, Leonard (1972); Chester King (1999)	Pre-contact	Midden site with artifact deposit	No
452	000452	Leonard (1972)	Pre-contact	Lithic deposit	No
453	000453	Bell, Evans, Coleman, Leonard, Newman (1972)	Pre-contact	Lithic flakes, tools, and groundstone deposit	No
454	000454	Bell, Evans, Coleman, Leonard, Newman (1972); P. Hines (1979); Chester King (1995)	Pre-contact	Habitation site, ceremonial site, burial site	No
1012	001012	Clay A. Singer (1979)	Pre-contact	Lithic artifact deposit	No
1425	001425	Susan Colby and Bruce Love (1988)	Pre-contact	Lithic deposit	No
2036	002036	John E. Atwood and Shelley M. Gomes (1992)	Pre-contact	Lithic deposit	No
4368H	004368	W. Gillean and J.M. Sanka (2013)	Historic	Subsurface refuse deposit (4'bgs)	No
	100071	Chester King (n.d.)	Pre-contact	Isolated find-Chert artifact	No
	100119	C.A. Singer (1989)	Pre-contact	Isolated find-Lithic flake	No
	100122	Peter E. Haaker (1986)	Pre-contact	Isolated find-Metate	No
	100397	Chester King (1999)	Pre-contact	Isolated find-Lithic flake	No
	100398	Chester King (1996)	Pre-contact	Isolated find-Lithic flake	No
	100593	Gwen Romani (2000)	Pre-contact	Isolated find-Shell fragments	No
	120005	B. MacDougall (1996)	Both	Pre-contact ceramic scatter and shell deposit; historic structure and water conveyance system	No

A review of the historic-period maps indicates the Project Area was undeveloped property from 1900 to 1967. The earliest USGS maps from 1900 and 1903 show that the Project Area was open coastal land with no dwellings in the immediate area. An unnamed, unpaved road is depicted to the north, following a similar alignment to present-day Pacific Coast Highway. Two structures are shown to the west near the mouth of Dume Canyon. The 1932 USGS Dume Point and Solstice Canyon 7.5-minute maps show an unpaved north to south trending road west of the Project Area. A single structure is located near the southern terminus of this road. The road to the north, the unpaved road following a similar alignment to present-day Pacific Coast Highway, has been replaced by a hard-surfaced road identified as State Highway. Additional structures are depicted near the mouth of Dume Canyon and the area is now identified as Rindge Ranch. A sparse distribution of structures is also depicted along the highway in the Zuma Beach and Trancas Beach areas.

The 1943 USGS Triunfo Pass 15-minute map shows the unpaved north-south road west of the Project Area now extends down to the southernmost edge of Point Dume. A second structure is now shown along the west edge of this road. An east to west unpaved road is depicted branching off this road, terminated at a structure located north of the Project Area. The structure is identified as Zuma Patrol Station. Two structures are now shown south of the state highway, and a structure is shown near the coast at Paradise Cove. The highway is now identified as an alternate route of U.S. Highway 101. Six structures are shown to the east at Escondido Beach.

The 1950 Point Dume 7.5-minute map shows that several roads have been established in the vicinity, including Grayfox Street and Fernhill Drive. The area is identified as Malibu Riviera. Structures are sparsely distributed along the roads that cross through the area. The 1967 USGS Point Dume 7.5-minute map shows that development increased in the Project vicinity. Hundreds of structures are shown throughout the Malibu Riviera area and Point Dume Elementary School is shown. The highway passing through the vicinity north of the Project area is now identified as California State Route 1. The 1981 USGS Point Dume 7.5-minute map shows that development continued in the area. Several new streets are depicted west of the Project Area, along with several large developments and residential houses along the existing roadways. Conditions in the vicinity of the Project Area remain unchanged in the 1991 and 1995 maps (USGS 1991, 1995).

On historic aerial photographs from 1947, the Project Area is shown to be located in an undeveloped area. The area appears to contain low shrubs and grasses. Grayfox Street and Fernhill Drive are visible, but no structures are visible near the Project Area. The 1952 photographs show a house has been built north of the Project Area, on the north side of Grayfox Street. Aerial photographs from 1959 show that two additional houses have been built north of the Project Area, on the north side of Grayfox Street. Two houses now border the Project Area to the west, and a house borders the Project Area to the south. Two houses are also now present east of the Project Area, along the east side of Fernhill Drive. The Project Area is still vacant land, the center area of which appears disturbed.

The 1967 aerial photographs show the school buildings under construction. The parking lot and play area are still undeveloped land at this time. Additional residential development has occurred in all directions around the Project Area. In 1980 aerial photographs, the school is depicted with the parking lot and play area to the east of the school buildings. The Project Area is a blacktop, grass field, and a play area. Trees have been added around the school perimeter. By 1990, the eastern play area has been landscaped and a volleyball court has been added, along with paved walkways, trees, and ornamental plants. In 2002, the shed is visible in the northern end of the Project Area. These conditions remain consistent in aerial photographs from 2003, 2005, 2009, 2010, 2012, and 2014 (NETROnline 2018).

4.2 Sacred Lands File Results

The results of the search of the Sacred Lands File by the NAHC did not indicate the presence of any Native American cultural resources within one mile of the Project Area. The NAHC also provided a list of 16 Native American groups that have historic or traditional ties to the Project Area who may have knowledge about the Project Area. It should be noted that this does not constitute consultation in compliance with SB 18 or AB 52. A copy of all correspondence between ECORP and the NAHC is provided as Attachment A.

4.3 Field Visit Results

At the time of the field survey, the Project Area was a developed property and consisted of a black top area and play areas located within the campus of Point Dume Elementary School. Ground visibility was obscured by paved walkways, an asphalt blacktop, sand play areas, dense grasses, and ornamental vegetation. No pre-contact or historic-period sites or isolated finds were identified as a result of the field survey. Photos of the Project Area, detailing the developed state of the property, can be found in Attachment B.

5.0 SUMMARY AND RECOMMENDATIONS

A cultural resources investigation was conducted for an approximately two-acre Project Area in the City of Malibu, Los Angeles County, California. No prehistoric or historic-period sites or isolated finds were identified as a result of the records search and field survey. No known Historical Resources, as defined by CEQA, would be impacted by the project.

Geologic maps show that the Project Area contains sediments from the middle and late Miocene Monterrey Formation (Dibblee and Ehrenspeck 1993). While these sediments predate human occupation, several sites are located in the near vicinity containing subsurface deposits. These include four sites containing pre-contact burials, two of which were found in Miocene sediments, and one site containing a subsurface historic artifact deposit buried in Miocene sediments. Due to the presence of these sites, several of which contain human remains and/or artifacts buried within Miocene sediments, the archaeological sensitivity of the area is considered moderate to high. ECORP recommends full-time archaeological monitoring of any ground-disturbing activity within undisturbed native soil.

CEQA requires the lead agency to address any unanticipated cultural resources discoveries during project construction. Therefore, ECORP recommends the following mitigation measures for unanticipated finds be adopted and implemented by the Lead Agency to reduce potential adverse impacts to less than significant.

If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior’s Professional Qualification Standards for prehistoric and historic archaeologist, shall evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify the CEQA lead agency, and applicable landowner. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be eligible for inclusion in the NRHP or CRHR. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not eligible for the NRHP or CRHR; or 2) that the treatment measures have been completed to their satisfaction.
- If the find includes human remains, or remains that are potentially human, he or she shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Los Angeles County Coroner (as per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the Project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate information center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

For excavation within previously disturbed native soil, there is still a potential for ground-disturbing activities to expose previously unrecorded cultural resources. If subsurface deposits believed to be cultural or human in origin are discovered during construction activities within previously disturbed soil, all work must halt within a 100-foot radius of the find and a qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be contacted to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, and all preceding notifications shall apply, depending on the find.

The lead agency is responsible for ensuring compliance with these mitigation measures because damage to significant cultural resources is in violation of CEQA. Section 15097 of Title 14, Chapter 3, Article 7 of CEQA, *Mitigation Monitoring or Reporting*, "the public agency shall adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity which accepts the delegation; however, until mitigation measures have been completed the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program."

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LIST OF ATTACHMENTS

ATTACHMENT A

Sacred Lands File Coordination

Sacred Lands File & Native American Contacts List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: 2018-156 SMMUSD Malibu

County: Los Angeles

USGS Quadrangle Name: Point Dume, California (1995)

Township: 1S **Range:** 18W **Section(s):** Unsectioned portion of the Topanga Malibu Sequit Land Grant

Company/Firm/Agency: ECORP Consulting, Inc.

Street Address: 215 N. 5th Street

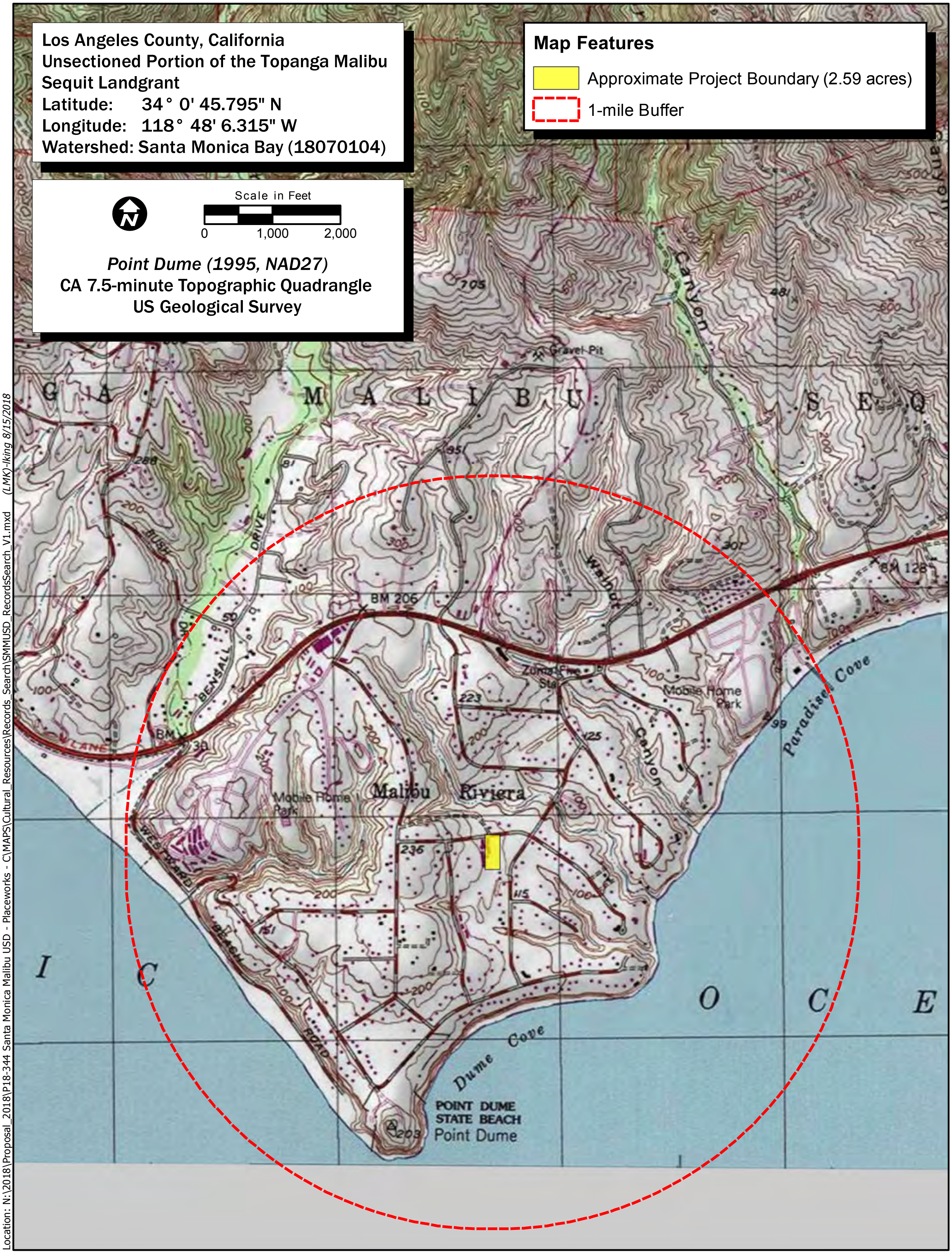
City: Redlands **Zip:** 92373

Phone: (909) 307-0046

Fax: (909) 307-0056

Email: rjcunningham@ecorpconsulting.com

Project Description: The Santa Monica Malibu Unified School District is proposing improvements to Point Dume Elementary School, southwest of the intersection of Grayfox Street and Fernhill Drive in the City of Malibu, Los Angeles County. Improvements will include installation of temporary buildings and construction of two permanent buildings.



Location: N:\2018\Proposal_2018\P18-344 Santa Monica Malibu USD - Placeworks - C\MAPS\Cultural_Resources\Records_Search\SMMUSD_RecordsSearch_V1.mxd (LMK)-lking 8/15/2018

Map Date: 8/15/2018

DRAFT

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Records Search

2018-156 Santa Monica Malibu USD - Placeworks - C

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
Environmental and Cultural Department
1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710
Fax (916) 373-5471

August 23, 2018

Robert Cunningham

ECORP Consulting, Inc.

Sent by Email: rjcunningham@ecorpsconsulting.com

Re:2018 156 SMMUSD Malibu, Los Angeles County

Dear Mr. Cunningham,

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not preclude the presence of cultural resources in any project area. Other sources for cultural resources should also be contacted for information regarding known and/or recorded sites.

Enclosed is a list of Native Americans tribes who may have knowledge of cultural resources in the project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these tribes, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at 916-573-1033 or frank.lienert@nahc.ca.gov.

Sincerely,

Frank Lienert
Associate Governmental Program Analyst

Native American Heritage Commission
Native American Contacts
August 23, 2018

Santa Ynez Band of Chumash Indians
Kenneth Kahn, Chairperson
P.O. Box 517 — Chumash
Santa Ynez, CA 93460
kkahn@santaynezchumash.org
(805) 688-7997

(805) 686-9578 Fax

Fernandeno Tataviam Band of Mission Indians
Rudy Ortega Jr., Tribal President
1019 Second Street, Suite 1 — Fernandeno Tataviam
San Fernando, CA 91340
rortega@tataviam-nsn.us
(818) 837-0794

(818) 837-0796 Fax

Barbareno/Ventureno Band of Mission Indians
Julie Lynn Tumamait-Stenslie, Chair
365 North Poli Ave — Chumash
Ojai, CA 93023
jtumamait@hotmail.com
(805) 646-6214

Barbareno/Ventureno Band of Mission Indians
Patrick Tumamait
992 El Camino Corto — Chumash
Ojai, CA 93023
(805) 216-1253 Cell

Kitanemuk & Yowlumne Tejon Indians
Delia Dominguez, Chairperson
115 Radio Street — Yowlumne Kitanemuk
Bakersfield, CA 93305
deedominguez@juno.com
(626) 339-6785

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

San Manuel Band of Mission Indians
Lee Clauss, Director-CRM Dept.
26569 Community Center Drive — Serrano
Highland, CA 92346
lclauss@sanmanuel-nsn.gov
(909) 864-8933

(909) 864-3370 Fax

Kern Valley Indian Community
Robert Robinson, Chairperson
P.O. Box 1010 — Tubatulabal Kawaiisu
Lake Isabella, CA 93283
brobinson@iwvisp.com
(760) 378-2915 Cell

Gabrielino-Tongva Tribe
Linda Candelaria, Chairperson
No Current Address on File — Gabrielino
,

This list is current only 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 Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American Tribes with regard to cultural resources assessments for the proposed
2018 156 SMMUSD Malibu, Los Angeles County

Native American Heritage Commission
Native American Contacts
August 23, 2018

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) 654-5544 ext 4137
(951) 654-4198 Fax

San Manuel Band of Mission Indians
Lynn Valbuena
26569 Community Center Dr. — Serrano
Highland, CA 92346
(909) 864-8933

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393 — Gabrielino
Covina, CA 91723
admin@gabrielenoindians.org
(626) 926-4131

Barbareno/Ventureno Band of Mission Indians
Eleanor Arrellanes
P.O. Box 5687 — Chumash
Ventura, CA 93005
(805) 701-3246

Barbareno/Ventureno Band of Mission Indians
Raudel Joe Banuelos, Jr.
331 Mira Flores Court — Chumash
Camarillo, CA 93012
(805) 427-0015

Gabrielino-Tongva Tribe
Charles Alvarez, Councilmember
23454 Vanowen St. — Gabrielino
West Hills, CA 91307
roadkingcharles@aol.com
(310) 403-6048

This list is current only 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 Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American Tribes with regard to cultural resources assessments for the proposed
2018 156 SMMUSD Malibu, Los Angeles County

ATTACHMENT B

Project Area Photographs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METROPOLIS
DISPOSAL
800-650-6165





DEERE
318E








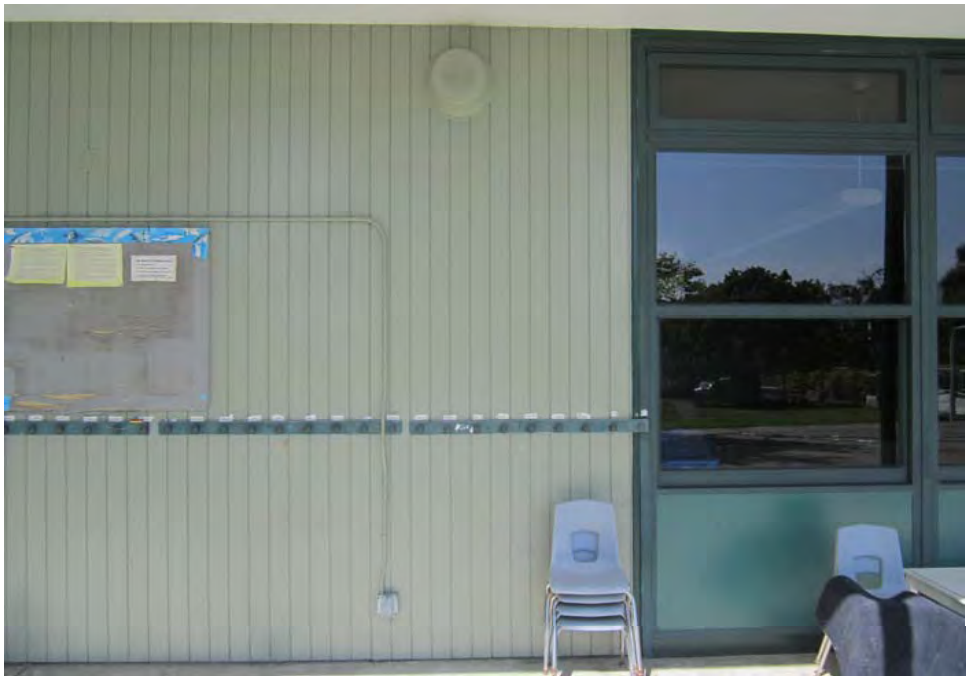




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Photo Log

SITE:

Camera	Photo Number	Description	Facing	Date	Initials
	1162	PORTABLES AREA ~~E~~	E		
	1163	SWINGS AND SANDBOX ~~PORTABLES~~ AREA 2	W		
	1164	PORTABLES AREA	W		
	1165	BENCH IN ~~PORTABLES~~ AREA 2	N		
	1166	FROM SWINGS ~~[illegible]~~ IN ~~PORTABLES~~ AREA 2	N		
	1167	BLACKTOP AREA N OF PORTABLE AREA	N		
	1168	BENCH EAST OF ~~PORTABLE~~ AREA 2	W		
	1169	TETHERBALL POLES IN ~~PORTABLE~~ AREA 2	SW		
	1170	VOLLEYBALL COURT - ~~PORTABLE~~ AREA 2	N		
	1171	TABLE AREA #2	W		
	1172	INSCRIPTION IN CONCRETE - AREA 2	DETAIL		
	1173	TABLES EAST OF BLACKTOP	E		
	1174	BLACKTOP	W		
	1175	AREA #1	W		
	1176	BENCH AREA #1	W		
	1177	TRAILER & STORAGE CONTAINER IN AREA 1	W		
	1178	BLACKTOP AREA 1	S		
	1179	TRAILER DUMPSTERS IN STORAGE AREA 1 CONTAINER	N		
	1180	AREA 1	E		
	1181	AREA 1 NEAR TRAILER	N		

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Photo Log

SITE:

Camera	Photo Number	Description	Facing	Date	Initials
	1182	SHED NORTH OF AREA 1	NE		
	1183	" " "	E		
	1184	SCHOOL BUILDING W OF PROJECT AREA	SW		
	1185	" " "	S		
	1186	" " "	W		
	1187	" " "	W		
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	1189	" " "	W		
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	1191	" " "	W		
	1192	" " "	W		
	1193	AREA 3	E		
	1194	AREA 3	N		
	1195	AREA 3	W		
	1196	AREA 3	S		
	1197	AREA 3 - PLAY AREA	S		
	1198	" " - SWINGS	S		
	1199	" " - JUNGLE GYM	S		
	1200	SCHOOL BUILDING E OF AREA 3	W		
	1201	" "	W		

2

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Photo Log

SITE:

Camera	Photo Number	Description	Facing	Date	Initials
	1202	SCHOOL BUILDING ~~EAST~~ WEST OF AREA 3	NW		
	1203	BLACKTOP WEST OF AREA 3	W		
	1204	SCHOOL BUILDING WEST OF AREA 3	N		
	1205	" " "	W		
	1206	" " "	W		
	1207	~~AR~~ NORTH OF AREA 3	W		
	1208	PARKING LOT E OF AREA 3	E		
	1209	PARKING LOT TOWARD AREA 2	N		
	1210	" " " AREA 3	W		

Appendix D Noise Analysis

Appendix

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Fundamentals of Noise

NOISE

Noise is most often defined as unwanted sound; whether it is loud, unpleasant, unexpected, or otherwise undesirable. Although sound can be easily measured, the perception of noise and the physical response to sound complicate the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as "noisiness" or "loudness."

Noise Descriptors

The following are brief definitions of terminology used in this chapter:

- **Sound.** A disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.

- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.

- **Decibel (dB).** A unitless measure of sound, expressed on a logarithmic scale and with respect to a defined reference sound pressure. The standard reference pressure is 20 micropascals (20 μPa).

- **Vibration Decibel (VdB).** A unitless measure of vibration, expressed on a logarithmic scale and with respect to a defined reference vibration velocity. In the U.S., the standard reference velocity is 1 micro-inch per second (1×10^{-6} in/sec).

- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.

- **Equivalent Continuous Noise Level (L_{eq}); also called the Energy-Equivalent Noise Level.** The value of an equivalent, steady sound level which, in a stated time period (often over an hour) and at a stated location, has the same A-weighted sound energy as the time-varying sound. Thus, the L_{eq} metric is a single numerical value that represents the equivalent amount of variable sound energy received by a receptor over the specified duration.

- **Statistical Sound Level (L_n).** The sound level that is exceeded "n" percent of time during a given sample period. For example, the L_{50} level is the statistical indicator of the time-varying noise signal that is exceeded 50 percent of the time (during each sampling period); that is, half of the sampling time, the changing noise levels are above this value and half of the time they are below it. This is called the "median sound level." The L_{10} level, likewise, is the value that is exceeded 10 percent of the time (i.e., near the maximum) and this is often known as the "intrusive sound level." The L_{90} is the sound level exceeded 90 percent of the time and is often considered the "effective background level" or "residual noise level."

- **Day-Night Sound Level (L_{dn} or DNL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the sound levels occurring during the period from 10:00 PM to 7:00 AM.

- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added from 7:00 PM to 10:00 PM and 10 dB from 10:00 PM to 7:00 AM. NOTE: For general community/environmental noise, CNEL and L_{dn} values rarely differ by more than 1 dB (with the CNEL being only slightly more restrictive – that is, higher than the L_{dn} value). As a matter of practice, L_{dn} and CNEL values are interchangeable and are treated as equivalent in this assessment.

- **Sensitive Receptor.** Noise- and vibration-sensitive receptors include land uses where quiet environments are necessary for enjoyment and public health and safety. Residences, schools, motels and hotels, libraries, religious institutions, hospitals, and nursing homes are examples.

Characteristics of Sound

When an object vibrates, it radiates part of its energy in the form of a pressure wave. Sound is that pressure wave transmitted through the air. Technically, airborne sound is a rapid fluctuation or oscillation of air pressure above and below atmospheric pressure that creates sound waves.

Sound can be described in terms of amplitude (loudness), frequency (pitch), or duration (time). Loudness or amplitude is measured in dB, frequency or pitch is measured in Hertz [Hz] or cycles per second, and duration or time variations is measured in seconds or minutes.

Amplitude

Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale. Because of the physical characteristics of noise transmission and perception, the relative loudness of sound does not closely match the actual amounts of sound energy. Table 1 presents the subjective effect of changes in sound pressure levels. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud). Changes of 1 to 3 dB are detectable under quiet, controlled conditions, and changes of less than 1 dB are usually not discernible (even under ideal conditions). A 3 dB change in noise levels is considered the minimum change that is detectable with human hearing in outside environments. A change of 5 dB is readily discernible to most people in an exterior environment, and a 10 dB change is perceived as a doubling (or halving) of the sound.

Table 1 Noise Perceptibility

Change in dB	Noise Level

± 3 dB	Threshold of human perceptibility
± 5 dB	Clearly noticeable change in noise level
± 10 dB	Half or twice as loud
± 20 dB	Much quieter or louder

Source: Bies, David A. and Colin H. Hansen. 2009. *Engineering Noise Control: Theory and Practice*. 4th ed. New York: Spon Press.

Frequency

The human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all, but are "felt" more as a vibration. Similarly, though people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases, hearing acuity falls off rapidly above about 10,000 Hz and below about 200 Hz.

When describing sound and its effect on a human population, A-weighted (dBA) sound levels are typically used to approximate the response of the human ear. The A-weighted noise level has been found to correlate well with people's judgments of the "noisiness" of different sounds and has been used for many years as a measure of community and industrial noise. Although the A-weighted scale and the energy-equivalent metric are commonly used to quantify the range of human response to individual events or general community sound levels, the degree of annoyance or other response also depends on several other perceptibility factors, including:

- Ambient (background) sound level
- General nature of the existing conditions (e.g., quiet rural or busy urban)
- Difference between the magnitude of the sound event level and the ambient condition
- Duration of the sound event
- Number of event occurrences and their repetitiveness
- Time of day that the event occurs

Duration

Time variation in noise exposure is typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called L_{eq}), or alternately, as a statistical description of the sound level that is exceeded over some fraction of a given observation period. For example, the L_{50} noise level represents the noise level that is exceeded 50 percent of the time; half the time the noise level exceeds this level and half the time the noise level is less than this level. This level is also representative of the level that is exceeded 30 minutes in an hour. Similarly, the L_2, L_8 and L_{25} values represent the noise levels that are exceeded 2, 8, and 25 percent of the time or 1, 5, and 15 minutes per hour, respectively. These "n" values are typically used to demonstrate compliance for stationary noise sources with many cities' noise ordinances. Other values typically noted during a noise survey are the L_{min} and L_{max}. These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period, respectively.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law and many local jurisdictions use an adjusted 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL) or Day-Night Noise Level (L_{dn}). The CNEL descriptor requires that an artificial increment (or "penalty") of 5 dBA be added to the actual noise level for the hours from 7:00 PM to 10:00 PM and 10 dBA for the hours from 10:00 PM to 7:00 AM. The L_{dn} descriptor uses the same methodology except that there is no artificial increment added to the hours between 7:00 PM and 10:00 PM. Both descriptors give roughly the same 24-hour level, with the CNEL being only slightly more restrictive (i.e., higher). The CNEL or L_{dn} metrics are commonly applied to the assessment of roadway and airport-related noise sources.

Sound Propagation

Sound dissipates exponentially with distance from the noise source. This phenomenon is known as "spreading loss." For a single-point source, sound levels decrease by approximately 6 dB for each doubling of distance from the source (conservatively neglecting ground attenuation effects, air absorption factors, and barrier shielding). For example, if a backhoe at 50 feet generates 84 dBA, at 100 feet the noise level would be 79 dBA, and at 200 feet it would be 73 dBA. This drop-off rate is appropriate for noise generated by on-site operations from stationary equipment or activity at a project site. If noise is produced by a line source, such as highway traffic, the sound decreases by 3 dB for each doubling of distance over a reflective ("hard site") surface such as concrete or asphalt. Line source noise in a relatively flat environment with ground-level absorptive vegetation decreases by an additional 1.5 dB for each doubling of distance.

Psychological and Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure and functions of the heart and the nervous system. Extended periods of noise exposure above 90 dBA results in permanent cell damage, which is the main driver for employee hearing protection regulations in the workplace. For community environments, the ambient or background noise problem is widespread, through generally worse in urban areas than in outlying, less-developed areas. Elevated ambient noise levels can result in noise interference (e.g., speech interruption/masking, sleep disturbance, disturbance of concentration) and cause annoyance. Since most people do not routinely work with decibels or A-weighted sound levels, it is often difficult to appreciate what a given sound pressure level number means. To help relate noise level values to common experience, Table 2 shows typical noise levels from familiar sources.

Table 2 Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Onset of physical discomfort	120+	
	110	Rock Band (near amplification system)
Jet Flyover at 1,000 feet		
	100	
Gas Lawn Mower at three feet		
	90	
Diesel Truck at 50 feet, at 50 mph		Food Blender at 3 feet
	80	Garbage Disposal at 3 feet
Noisy Urban Area, Daytime		
	70	Vacuum Cleaner at 10 feet
Commercial Area		Normal speech at 3 feet
Heavy Traffic at 300 feet	60	
		Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (background)
Quiet Suburban Nighttime		
	30	Library
Quiet Rural Nighttime		Bedroom at Night, Concert Hall (background)
	20	
		Broadcast/Recording Studio
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: California Department of Transportation (Caltrans). 2009, November. Technical Noise Supplement (“TeNS”). Prepared by ICF International.

Vibration Fundamentals

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 is normally associated with activities stemming from operations of railroads or vibration-intensive stationary sources, but can also be associated with construction equipment such as jackhammers, pile drivers, and hydraulic hammers. As with noise, vibration can be described by both its amplitude and frequency. Vibration displacement is the distance that a point on a surface moves away from its original static position; velocity is the instantaneous speed that a point on a surface moves; and acceleration is the rate of change of the speed. Each of these descriptors can be used to correlate vibration to human response, building damage, and acceptable equipment vibration levels. During construction, the operation of construction equipment can cause groundborne vibration. During the operational phase of a project, receptors may be subject to levels of vibration that can cause annoyance due to noise generated from vibration of a structure or items within a structure.

Vibration amplitudes are usually described in terms of either the peak particle velocity (PPV) or the root mean square (RMS) velocity. PPV is the maximum instantaneous peak of the vibration signal and RMS is the square root of the average of the squared amplitude of the signal. PPV is more appropriate for evaluating potential building damage and RMS is typically more suitable for evaluating human response.

As with airborne sound, annoyance with vibrational energy is a subjective measure, depending on the level of activity and the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Persons accustomed to elevated ambient vibration levels, such as in an urban environment, may tolerate higher vibration levels. Table 3 displays the human response and the effects on buildings resulting from continuous vibration (in terms of various levels of PPV).

Table 3 Human Reaction to Typical Vibration Levels

Vibration Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.006–0.019	Threshold of perception, possibility of intrusion	Vibrations unlikely to cause damage of any type
0.08	Vibrations readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10	Level at which continuous vibration begins to annoy people	Virtually no risk of “architectural” (i.e. not structural) damage to normal buildings
0.20	Vibrations annoying to people in buildings	Threshold at which there is a risk to “architectural” damage to normal dwelling – houses with plastered walls and ceilings
0.4–0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause “architectural” damage and possibly minor structural damage

Source: California Department of Transportation (Caltrans). 2004, June. Transportation- and Construction-Induced Vibration Guidance Manual. Prepared by ICF International.

LOCAL REGULATIONS AND STANDARDS

CHAPTER 6.0 NOISE ELEMENT

6.1 Introduction

6.1.1 Legislative Authorization

The State of California has mandated that each county and city prepare a noise element as part of its general plan. Section 65302(f) of the California Government Code requires that the element shall:

> *identify and appraise noise problems in the community. The noise element shall recognize the guidelines established by the Office of Noise Control in the State Department of Health Services and shall analyze and quantify, to the extent practicable, as determined by the legislative body, current and projected noise levels for all of the following sources:*
>
> - *Highways and freeways;*
> - *Primary arterials and major local streets;*
> - *Passenger and freight on-line railroad operations and ground rapid transit systems;*
> - *Commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation;*
> - *Local industrial plants, including, but not limited to, railroad classification yards; and*
> - *Other ground stationary noise sources identified by local agencies as contributing to the community noise environment.*

6.1.2 Purpose and Scope

The purpose of the Noise Element is to provide guidance for comprehensive local programs to control and abate excessive noise and to protect residents from adverse noise impacts. The element provides information on the existing and projected noise environment and includes, goals, objectives, policies and implementation programs to ensure an acceptable noise environment. The element also identifies criteria to be used by decision makers in evaluating the noise implications of proposed projects.

The typical community noise environment is comprised of a background noise level and higher noise levels, frequently transportation oriented. Because the background noise level is lower at night, the problems posed by higher noise levels are more pronounced at night.

The predominant noise source in Malibu is vehicular traffic from Pacific Coast Highway, the major canyon roads, and the local arterials. Stationary sources within the City include a wide range of recreational, commercial, and business activities.

6.1.3 Related Information and Terminology

Noise is most often defined as unwanted sound. Sound levels can easily be measured, but the variability in subjective and physical response to sound requires a more detailed analysis to determine the impact on people. People judge the relative magnitude of sound sensation in subjective terms such as “loudness” or “noisiness.” Physically, sound pressure magnitude is measured and quantified on a scale which indicates the sound level in units of decibels (dB). All sound pressure levels discussed in this study are referenced to the standard reference pressure of 20 microPascals.

The human hearing system is not equally sensitive to sound at all frequencies. Because of this variability, a frequency-dependent adjustment called an A-weighting has been devised so that sound may be measured in a manner similar to the way the human hearing system responds. The use of the A-weighted sound level is often indicated by using the abbreviation “dBA” for expressing the sound level. An increase in the sound level by 10 dBA is judged by most people to be approximately twice as loud as the former, whereas most people are unable to detect a change in less than 3 dBA. To acquaint the reader with sound levels produced by common noise sources, measured sound levels for various sources are provided in Figure N-1.

It is desirable to describe a noise environment with a single number representing an hour or even a whole day so that easy reference and comparison can be made. Common methods which are widely used in the United States and abroad consider the average noise level and the maximum level recorded over a period of time, referred to as the Equivalent Level (L_{eq}), the Minimum Level (L_{min}), and Maximum Level (L_{max}), respectively. L_{eq} is a single-number noise descriptor that represents the average sound level in an environment where the actual noise level varies with time, L_{min} and L_{max} are the lowest and highest noise level that occurred during that time.

In a typical outdoor environment, the noise level varies during the day according to various activities in the community. Noise that may be acceptable during the day may be unwanted sound at night; e.g., automobile traffic on a nearby street, aircraft overflight, or dog barking. Thus, additional units of measurements have been developed to evaluate the longer term characteristics of sound. The Community Noise Equivalent Level (CNEL) and the day-night level (L_{dn}), along with L_{eq}, are the measurements commonly used in California.

CNEL is a single-number noise descriptor. However, CNEL represents the average noise level over a 24-hour period and is appropriate in assessing long-term roadway noise impacts. CNEL is similar to a 24-hour L_{eq}, but with a 10 dBA penalty added to nighttime (10 p.m. to 7 a.m.) sound levels and a 5 dBA penalty added to evening sound levels (7 p.m. to 10 a.m.) before the 24-hour average is computed. These penalties are applied to account for the increased annoyance that is generally felt by a person of normal sensitivity during the evening relaxation and nighttime sleep hours.

CNEL is the noise metric currently specified in the State Aeronautics Code for evaluation of the noise impact of airplanes. Additionally, CNEL is specified by the State Noise Insulation Standards for new multiple family dwellings. Local compliance with these standards requires that community noise be specified in terms of CNEL.

Intermittent or occasional noise, such as that associated with a stationary noise source sometimes is not loud enough to exceed the CNEL or L_{eq} community noise standards. To account for such intermittent noise, acoustical engineers characterize noise in terms of percent noise level (L percent). The percent noise level is the level exceeded “x” percent of the time during the measurement period. For example, in an area where noise levels exceed 65 dB 90% of the time, L90 is 65 dB.

6.2 Standards, Plans and Regulations

6.2.1 Noise and Land Use Compatibility Guidelines

Noise has the potential to affect human health in various ways. Community decision makers may use available community noise information, therefore, to ensure that a minimum number of people are exposed to potentially harmful noise sources. To aid decision makers, several federal and state agencies have established noise/land use compatibility guidelines. These guidelines are all based upon cumulative noise criteria, such as L_{eq}, CNEL, or L_{dn}. These land uses and compatibility guidelines are illustrated in Figure N-2.

6.2.2 Environmental Protection Agency (EPA)

In March 1984, the EPA published a document which for the past nine years has served as the primary source of information about noise and its effects on land use and people. The document entitled Information of Levels of Environmental Noise Requisite to Protect Public Health and Welfare With an Adequate Margin of Safety (EPA 550/9-74-004), contains a table which identifies indoor thresholds requisite for protecting human health in both indoor and outdoor environments.

According to this publication, 55 L_{dn} is described as the threshold level with an adequate margin of safety for areas for outdoor activities associated with residential development and recreational activities. The document and the thresholds are not considered standards, specifications, or regulations.

6.2.3 Federal Highway Administration (FHWA)

The FHWA has adopted and published noise abatement criteria for highway construction projects. The FHWA abatement criteria establishes an exterior noise goal for residential land uses of 67 L_{eq}. The interior goal for residences is 52 L_{eq}. The criteria apply to private yard areas and assume that typical wood frame houses with open windows provide a 10 dB noise reduction and a 20 dB noise reduction with the windows closed.

6.2.4 State of California

The State of California has adopted noise standards in areas of regulation not preempted by the federal government*. State standards regulate noise levels of motor vehicles, freeway noise affecting classrooms, sound transmissions, occupational noise control, and airport noise. The purpose of the standards is to establish minimum noise insulation performance standards to protect persons within new hotel, motels, apartment houses, and dwellings other than detached single-family dwellings. The standards specify that interior noise levels, with windows closed, attributable to exterior sources shall not exceed an annual noise level of 45 dB CNEL in any habitable room. In addition, residential buildings or structures within a 60 dB CNEL exterior noise environment due to airport, vehicular, or industrial noise sources are required to have an acoustical analysis prepared indicating that the proposed building has been designed to limit intruding noise to the allowable 45 dB CNEL interior noise level.

In 1976, the Department of Health, State Office of Noise Control published a recommended noise/land use compatibility matrix which many jurisdictions have adopted as a standard in their general plan noise elements. This matrix indicates that residential land uses and other noise sensitive receptors generally should locate in areas where outdoor ambient noise levels do not exceed 65 to 70 dBA (CNEL or L_{dn}).

* The California Sound Transmission Control Standards are found in California Administrative Code, Title 25, Building Standards, Chapter 2.5, as adopted March 1, 1986.

6.3 Existing Noise Environment

6.3.1 In General

The City includes a wide variety of land use and development types that are noise sensitive. Noise sensitive land uses include, single and multiple family residences, schools, libraries, medical facilities, retirement/rest homes, and places of religious worship. The predominant land uses in the City are noise sensitive residential uses.

The existing measurable noise environment was documented through both a community noise survey and computer generated noise contours. The noise survey identified existing noise levels generated by various sources at specific locations within the City while the computer analysis predicted existing and future roadway noise levels.

6.3.2 Community Noise Survey

A community noise survey was conducted on July 16, 1992 to document the existing noise environment within the City of Malibu. Noise measurements were conducted at 10 sites between 9:28 a.m. and 3:03 p.m. The locations were representative of residential, commercial and public use areas. Noise measurement survey data forms for each location are provided in Appendix A of the Background Report to this Element. The approximate locations of the noise measurements are illustrated in Figure N-3 and the results are presented in Table 6-1. Each site was measured for 15 minutes. The quantities measured are in L_{eg}, L_{min}, and L_{max}. The noise measurement results summarized in Table 6-1 should be used as a guide or indication of noise levels throughout the community.

The land uses in the locations surveyed included predominantly noise sensitive land uses such as residential neighborhoods. Commercial uses also exist at three of the measurement sites and one location contains only commercial uses. Public open space such as the Malibu Bluffs Park were also surveyed for noise levels. The noise sources in most of the locations surveyed included vehicular traffic, street maintenance, animals, helicopter and other aircraft; and lawn equipment. The noise survey recorded L_{eg} noise levels throughout the City of 74 dBA and below. Most of the noise levels in these areas are compatible with the land uses, there are however, a few areas identified on Table 6-1 in which the noise levels exceed the normally acceptable levels for the existing land uses.

Table 6-1

NOISE MEASUREMENT SURVEY RESULTS

		Noise Levels (in dBA)		
Location	**Time**	L_{eq}	L_{min}	L_{max}

1. PCH and Decker Canyon Road	1:02 p.m.	73	48	81
2. PCH and Trancas Canyon Road	12:30 p.m.	70	57	78
3. PCH between Busch and Morning View	1:36 p.m.	74	53	81
4. Dume Drive and Grayfox Street	11:54 a.m.	63	37	74
5. PCH and Zuma Mesa Road	11:28 a.m.	72	49	78
6. Malibu Country/Vantage Point	2:16 p.m.	52	36	65
7. PCH and Malibu Canyon Road	10:54 a.m.	68	51	75
8. Cross Creek/Civic Center Way	9:48 a.m.	64	48	75
9. Carbon Canyon/Carbon Mesa	9:22 a.m.	49	32	59
10. PCH/Las Flores Canyon Road	2:48 p.m.	72	51	79

Source: Harland Bartholomew & Associates, July 1992

6.3.3 Roadway Traffic Noise

The dominant noise source in Malibu is roadway traffic from Pacific Coast Highway which runs east/west throughout the City. Additional roadway traffic noise arises from some of the canyon roads including, Malibu Canyon Road and Kanan Dume Road which run north/south.

6.3.4 Noise Contours

The noise contours represent lines of equal noise exposure, just as the lines on a weather map indicate equal temperature or atmospheric pressure. The contours provide a visualization of estimates of sound level. Land forms and man-made structures have very complex effects on sound transmission and on noise contours. Generally, barriers between a source and receiver absorb or reflect noise resulting in a quieter environment. Where barriers or land forms do not interrupt the noise transmission path from source to receiver, the contours prove to be good estimates of the average noise level. In areas where barriers or land forms interrupt the sound transmission, the noise contours overestimate the extent to which a source intrudes into the community. The noise contour distances describe worst-case conditions because they do not account for any obstructions to the noise path, such as walls, berms, or buildings. There were 16 roadway segments that were analyzed; Table 6-2 provides the results of the analysis along Pacific Coast Highway during the summer months which are the peak traffic months.

A graphic display of the 55, 60, 65, 70 and 75 dB CNEL noise contours for the existing major roadway noise sources is provided in Figures 6-4(A-D) and 6-5(A-D). Figure 6-4(A-D) presents an overall picture and several detailed maps of the contours for annual roadway noise. Figure 6-5(A-D) presents an overall picture and several detailed maps of the contours for the summer months/peak season roadway noise along Pacific Coast Highway. The noise contours represent unmitigated conditions. Therefore, on roadways where walls, berms or structures block the noise path, the contours overestimate the noise impact.

It is not possible for a general plan noise element to analyze each roadway segment of the City for barrier noise attenuation. Therefore, where specific projects are proposed within noise impacted areas, an acoustical analysis should be completed to evaluate the noise reduction provided by any barriers to the noise path. A description of the study methodology and data sources is included in the Background Report to this Element.

Table 6-2
EXISTING ROADWAY NOISE LEVELS

	Distance to CNEL from Roadway Centerline				
Roadway Segment	**75′**	**70′**	**65′**	**60′**	**55′**
PCH west of Topanga Canyon Road, east of Serra Road	55.0	139.2	394.7	1,052.4	2,468.1
PCH west of Serra Road, east of Cross Creek	52.2	93.2	185.8	379.4	761.6
PCH west of Cross Creek, east of Civic Center Way	0.0	87.0	172.3	351.7	708.2

PCH west of Civic Center Way, east of Ramirez Canyon Road	0.0	73.8	143.0	291.5	590.6
PCH west of Ramirez Canyon Road, east of Morning View Drive	0.0	69.4	133.2	271.0	550.2
PCH west of Morning View Drive, east of (western) City limit	0.0	55.8	101.8	204.5	417.1
Cross Creek Road north of PCH	0.0	0.0	51.3	104.9	218.3
Malibu Canyon Road north of PCH, south of Civic Center Way	0.0	0.0	50.6	103.5	215.3
Malibu Canyon Road north of Civic Center Way	0.0	0.0	81.5	169.3	350.0
Kanan Dume Drive north of PCH	0.0	0.0	0.0	62.9	130.0

Source: Harland Bartholomew & Associates, 1992

Table 6-3
EXISTING ROADWAY NOISE LEVELS DURING SUMMER MONTHS

	Distance to CNEL from Roadway Centerline				
Roadway Segment	**75′**	**70′**	**65′**	**60′**	**55′**
PCH west of (eastern) City limit, east of Serra Road	58.3	150.5	426.5	1,128.1	2,618.7
PCH west of Serra Road, east of Cross Creek	54.3	98.2	196.7	401.5	803.9
PCH west of Cross Creek, east of Civic Center Way	51.7	92.2	183.6	374.9	752.9
PCH west of Civic Center Way, east of Ramirez Canyon Road	0.0	78.0	152.4	310.8	628.5
PCH west of Ramirez Canyon Road, east of Morning View Drive	0.0	73.9	143.2	291.9	591.4
PCH west of Morning View Drive, east of (western) City limit	0.0	59.3	110.0	222.2	452.9

Source: Harland Bartholomew & Associates, 1992

6.3.5 Interpretation of Roadway Noise Contours

Figures N-4 and N-5 display the 75, 70, 65, 60 and 55 dB CNEL noise contours that were generated using the FHWA noise model for existing roadway noise sources in the City of Malibu. The contours portray areas of equal noise level within an equivalent distance from the roadway centerline.

The eastern segment of Pacific Coast Highway which runs from the eastern City limits to Serra Road, is characterized by the highest noise levels. This area generates a 75 dB CNEL contour which extends 55 feet from the roadway centerline, a 70 dB CNEL contour which extends approximately 140 feet from the roadway centerline, and a 65 dB CNEL contour which extends approximately 400 feet from the roadway centerline. The average half-width of Pacific Coast Highway is 25 feet. Therefore, the 75 dB CNEL extends 30 feet beyond the outer boundary of the roadway. A significant number of the residential dwelling units are located along Pacific Coast Highway with no setbacks. Many of these homes are exposed to noise levels as high as 75 dB CNEL depending on the type of landscaping or other noise-attenuating barriers located at each structure. The 65 db CNEL extends as far as the Pacific Ocean, encompassing all of the beach side residential units along this segment of Pacific Coast Highway. Noise levels of 65, 70 and 75 dB CNEL are considered incompatible with single-family residential dwelling units.

Along Pacific Coast Highway east of the Civic Center area, Serra Road to Cross Creek Road, noise contours of up to 75 dB CNEL are generated approximately 52 feet from the roadway centerline. Undeveloped/open space areas dominate the land adjacent to the street along this segment of Pacific Coast Highway. Noise levels of 75 dB are acceptable with this type of land use. There are noise contours of 70 dB CNEL generated approximately 87 feet from the roadway centerline along the segment of Pacific Coast Highway running through the Civic Center area, Cross Creek Road to Civic Center Road. The land uses along this segment of Pacific Coast Highway are primarily commercial. Noise levels of 70 dB CNEL and lower are compatible with commercial uses. However, most uses such as the Hughes Market are set back from the roadway and/or have large parking lots adjacent to Pacific Coast Highway and therefore the actual use is exposed to even lower noise levels.

The segment of Pacific Coast Highway which runs from Civic Center Way to Ramirez Canyon Road generates noise contours of 70 dB CNEL approximately 74 feet from the roadway centerline. Much of the land along this segment of the road is undeveloped/open space, however there is some commercial and a significant amount of residential land uses along there as well. The undeveloped/open space areas and commercial land uses are compatible with noise levels of 70 dB CNEL and below and are therefore not incompatible with the noise levels. The 65 dB CNEL contour extends 143 feet from the roadway centerline. Therefore residents along Pacific Coast Highway are exposed to noise levels of 65 dB CNEL and to some extent 70 dB CNEL which is incompatible with the state guidelines. Along Cross Creek Road, the noise levels are lower, with the 65 dB CNEL contour extending approximately 51 feet from the roadway centerline. The primary land use along Cross Creek Road is commercial and therefore the noise levels are compatible with the land uses.

Noise contours of up to 65 db CNEL are generated along Malibu Canyon Road between Pacific Coast Highway and Civic Center Way and extend approximately 51 feet from the roadway centerline. The area to the east of the roadway is undeveloped/open space and the area to the west is not within the City limits. North of Civic Center Way, contours of up to 65 dB CNEL extend approximately 82 feet from the roadway centerline. The land uses along this segment of Malibu Canyon Road include the Hughes Aircraft Research Facility, religious facilities and residential uses. Most of the structures are set back from the roadway and are not exposed to this noise level. Noise levels of 60 dB CNEL and below are compatible with all land uses.

There are similar noise contours generated along Pacific Coast Highway running west of Ramirez Canyon Road to Morning View Drive. The noise levels of up to 70 dB CNEL are compatible with the commercial uses in the area, however these noise levels are incompatible with both the multifamily and single-family residential land uses located in the area. The 70 dB CNEL contours extend approximately 70 feet from the roadway centerline and many of the residential uses may be set back farther than 45 feet from the edge of the roadway and would not be exposed to these noise levels. Noise contours of 65 dB CNEL extend approximately 133 feet from the roadway centerline. Multifamily residential uses are compatible with this noise level but 65 dB CNEL noise levels are incompatible with the existing single-family residential land uses.

Along Kanan Dume Drive north of Pacific Coast Highway the highest noise contours are 60 dB CNEL which extend approximately 63 feet from the roadway centerline. This noise level is compatible with all land uses.

The segment of Pacific Coast Highway that runs from Morning View Drive to the western City limits is dominated by undeveloped/open space areas, single-family residential uses, and a limited number of commercial uses. The 70 dB CNEL noise contours extend approximately 56 feet from the roadway centerline or approximately 30 feet from the edge of the roadway. The undeveloped/open spaces areas and commercial uses are not incompatible with this noise level. Many of the single-family residential land uses are set back farther than 30 feet from the edge of the roadway and are not exposed to this noise level. The 65 dB CNEL noise contour extends approximately 100 feet from the roadway centerline, or 75 feet from the edge of the roadway. Many of the single-family residential units may have setbacks of greater than 75 feet or have landscaping or some other form of sound barrier and therefore may not be within the 65 dB CNEL contour. The single-family land uses that are within 65 dB CNEL are exposed to noise levels incompatible with the land uses.

Figure N-5 represents noise contours generated by vehicular traffic along Pacific Coast Highway during the peak traffic months, typically June through September. The noise contours generated by peak vehicular traffic extend slightly farther than the noise contours generated during the non-peak months. There are few differences in the distances of the contours, the higher contours extend approximately two to three feet (75 dB CNEL) farther, three to 11 feet longer (70 dB CNEL), and nine to 30 feet longer (65 dB CNEL) during the peak season. The same land uses which are affected by high noise levels during the off-peak season are affected during the peak season, with no additional uses affected. The exception occurs on the segment of Pacific Coast Highway which runs from Cross Creek Road to Civic Center Way. The 75 dB CNEL contour extends approximately 52 feet from the roadway centerline during the peak season and there is no 75 dB CNEL contour during the off-peak season. The commercial uses along this segment of the road are set back from the highway and would not be exposed to the higher noise levels.

The noise measurements described above indicate that noise levels in the majority of the areas surveyed in the City are compatible with the surrounding land uses according to State guidelines. The noise contours in Malibu indicate that the eastern portion of the City experiences greater noise levels than the western portion and that, according to State guidelines, homes not located along Pacific Coast Highway are generally not exposed to unacceptable levels of noise. However, comments made during all phases of the citizen participation process indicate that City residents have found the level of noise, particularly during peak visitor days, to be unacceptable.

Table 6-4
MAXIMUM EXTERIOR NOISE LIMITS NON-TRANSPORTATION SOURCES

Receiving Land Use Category	General Plan Land Use Districts	Time Period	Noise Level dBA	
			L_{eq}	L_{max}
Rural	All RR Zones and PRF, CR, AH, OS	7:00 a.m. to 7:00 p.m.	55	75
		7:00 p.m. to 10:00 p.m.	50	65
		10:00 p.m. to 7:00 a.m.	40	55
Other Residential	All SFR, MFR and MFBF Zones	7:00 a.m. to 7:00 p.m.	55	75
		7:00 p.m. to 10:00 p.m.	50	65
		10:00 p.m. to 7:00 a.m.	45	60
Commercial, Institutional	CN, CC, CV, CG, and I Zones	7:00 a.m. to 7:00 p.m.	65	85
		7:00 p.m. to 7:00 a.m.	60	70

Table 6-5
MAXIMUM ALLOWABLE NOISE EXPOSURE TRANSPORTATION NOISE SOURCES

Land Use	Outdoor Activity Areas (1) L_{dn}/CNEL, dB	Interior Spaces	
		L_{dn}/CNEL, dB	L_{eq}/dB (2)
Residential	50 (3)	45	—
Transient housing	60 (3)	45	—
Hospitals, long term in-patient medical treatment and care facilities	60 (3)	45	—
Theaters, auditoria, music halls	60 (3)	—	35
Churches and meeting halls	60 (3)	—	40
Office buildings	60 (3)	—	45
Schools, libraries and museums, child care	60 (3)	—	45
Playgrounds and neighborhood parks	70	—	—

(1) Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.
(2) As determined for a typical worst-case hour during periods of use.
(3) Where it is not possible to reduce noise in outdoor activity areas to 50 dB L_{dn}/CNEL or less using practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB L_{dn}/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

6.4 Goals, Objectives, Policies and Implementation Measures

6.4.1 N GOAL 1: ACCEPTABLE NOISE LEVELS

N OBJECTIVE 1.1: A COMPREHENSIVE NOISE CONTROL PROGRAM.

N Policy 1.1.1: The City shall protect residences, parks and recreational areas from excessive noise to permit the enjoyment of activities.

N Policy 1.1.2: The City shall protect noise sensitive land uses from negative impacts of proximity to noise generating uses.

N Policy 1.1.3: The City shall reduce noise along PCH.

N Policy 1.1.4: The City shall work with businesses and residents in a joint effort to plan, control, and attain an acceptable noise environment.

N Policy 1.1.5: The City shall encourage new construction and remodels which utilize designs and materials that reduce exposure to noise sources.

N Policy 1.1.6: The City shall review proposed development to ensure the average ambient noise is as low as feasible to maintain the rural atmosphere.

To implement these policies the City shall:

N Implementation Measure 1: Adopt a noise control ordinance to minimize or eliminate unacceptable noise levels.

N Implementation Measure 2: Limit maximum permissible noise levels from all sources, including but not limited to filming, motorized vehicles, construction, leaf blowers and other landscaping equipment.

N Implementation Measure 3: Maintain the Building Code Sound Transmission Control Standards of the State Building Code, Title 24, Part 2, Appendix 35 within the City's adopted Building Code.

N Implementation Measure 4: Require acoustical studies for major commercial development projects, and impose noise mitigation measures accordingly.

N Implementation Measure 5: Restrict the hours and days of construction, grading, and filming to reduce noise from this source.

N Implementation Measure 6: Require an acoustical analysis as part of proposed development to ensure that noise mitigation is included in the project where activities associated with proposed uses are likely to produce noise levels exceeding the adopted City noise level standards, at existing or planned noise-sensitive uses, including but not limited to, residences, schools, hospitals, long term in-patient medical treatment and care facilities, churches and libraries,

N Implementation Measure 7: Use site planning and project design as noise mitigations to achieve the specified standards for transportation or non-transportation sources.

N Implementation Measure 8: Use open space, wherever practical, to provide an adequate spatial separator between noise sources and sensitive land uses. Use noise barriers as a supplemental means of achieving the noise standards after all feasible design related noise mitigation measures have been integrated into the project.

N Implementation Measure 9: Encourage Caltrans to fund only those re-pavement projects that utilize low-noise paving materials to minimize traffic noise.

N Implementation Measure 10: Incorporate the consideration of noise impacts on significant wildlife habitats into the development review process.

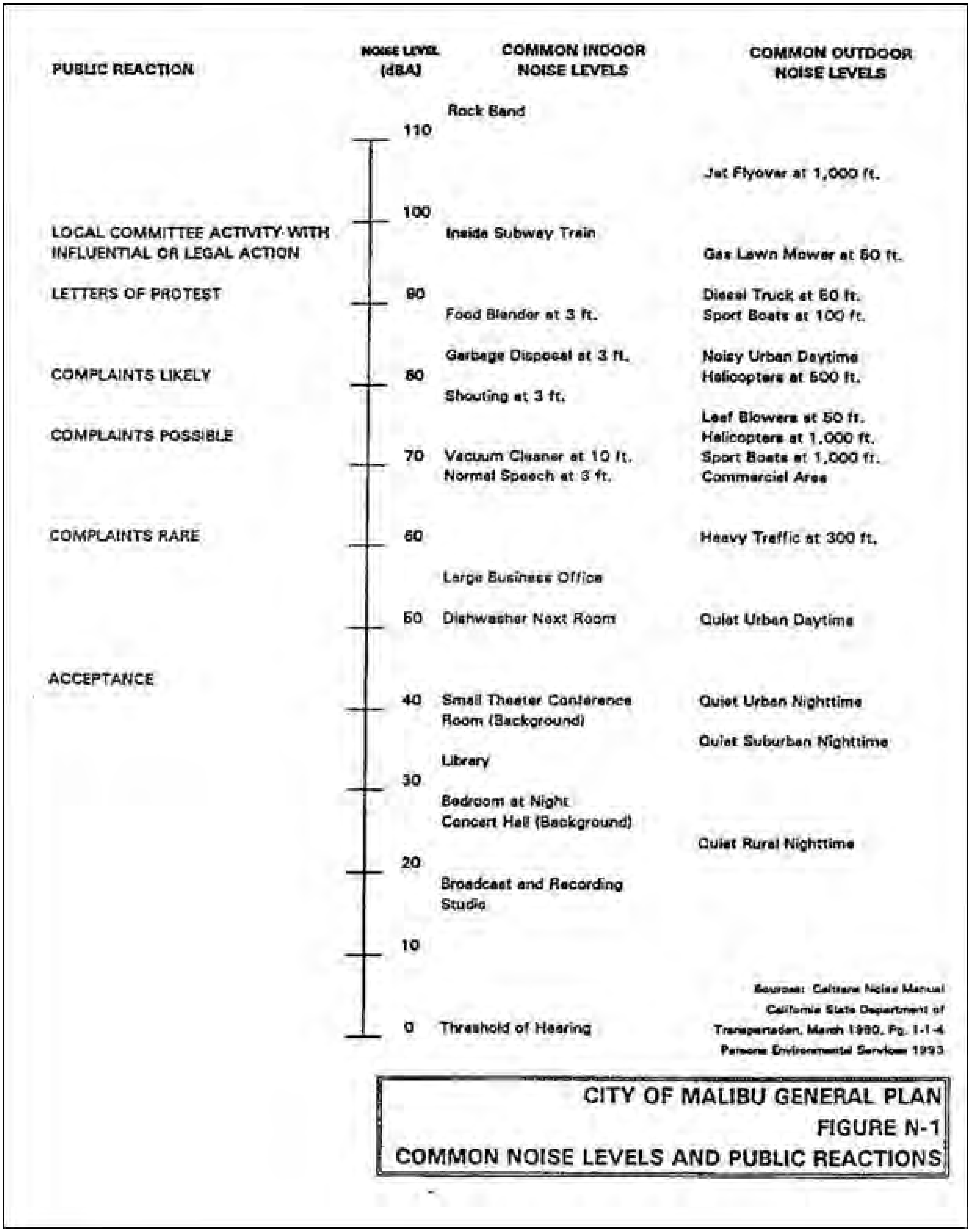
6.5 Appendix—Noise Element Maps and Figures

Figure 5a: Existing Roadway Noise Levels Index—Peak Traffic/Summer Months

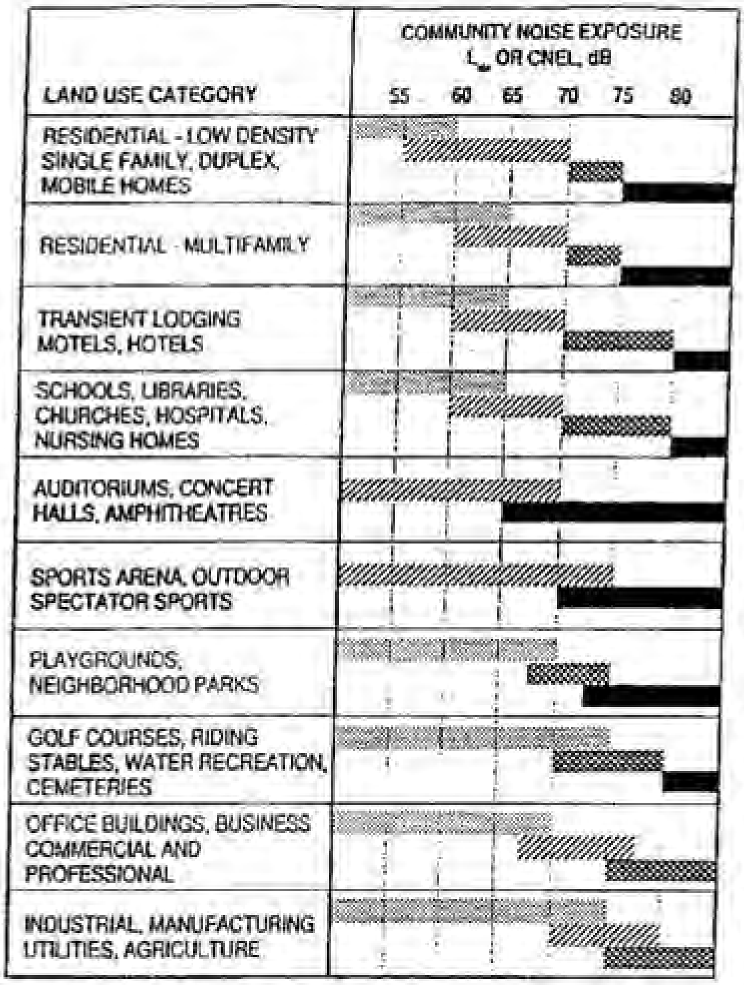
Figure 5b: Existing Roadway Noise Levels Index—Eastern Malibu—Peak Traffic/Summer Months

Figure 5c: Existing Roadway Noise Levels Index—Central Malibu—Peak Traffic/Summer Months

Figure 5d: Existing Roadway Noise Levels Index—Western Malibu—Peak Traffic/Summer Months



CITY OF MALIBU GENERAL PLAN
FIGURE N-1
COMMON NOISE LEVELS AND PUBLIC REACTIONS



LEGEND

NORMALLY ACCEPTABLE
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

CONSIDERATIONS IN DETERMINATION OF NOISE-COMPATIBLE LAND USE

A. NORMALIZED NOISE EXPOSURE INFORMATION DESIRED

Where sufficient data exists, evaluate land use suitability with respect to a "normalized" value of CNEL or L_{dn}. Normalized values are obtained by adding or subtracting the constants described in Table 1 to the measured or calculated value of CNEL or L_{dn}.

B. NOISE SOURCE CHARACTERISTICS

The land use-noise compatibility recommendations should be viewed in relation to the specific source of the noise. For example, aircraft and railroad noise is normally made up of higher single noise events than auto traffic but occurs less frequently. Therefore, different sources yielding the same composite noise exposure do not necessarily create the same noise environment. The State Aeronautics Act uses 65 dB CNEL as the criterion which airports must eventually meet to protect existing residential communities from unacceptable exposure to aircraft noise. In order to facilitate the purposes of the Act, one of which is to encourage land uses compatible with the 65 dB CNEL criterion wherever possible, and in order to facilitate the ability of airports to comply with the Act, residential uses located in Community Noise Exposure Areas greater than 65 dB should be discouraged and considered located within normally unacceptable areas.

C. SUITABLE INTERIOR ENVIRONMENTS

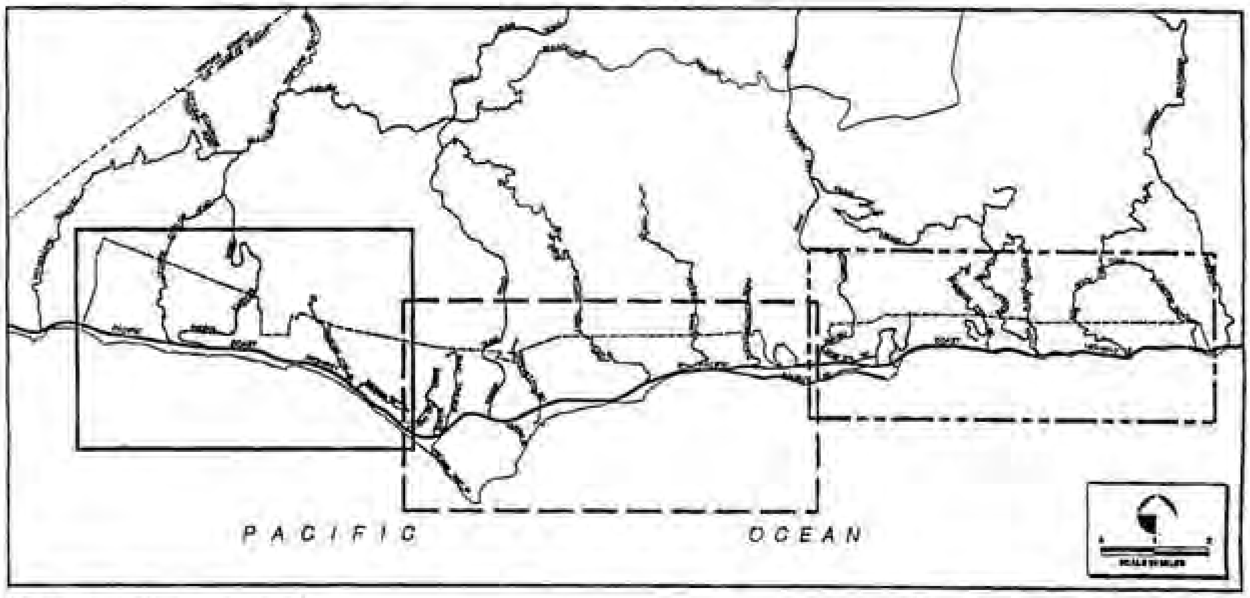
One objective of locating residential units relative to a known noise source is to maintain a suitable interior noise environment at no greater than 45 dB CNEL or L_{dn}. This requirement, coupled with the measured or calculated noise reduction performance of the type of structure under consideration, should govern the minimum acceptable distance to a noise source.

D. ACCEPTABLE OUTDOOR ENVIRONMENTS

Another consideration, which in some communities is an overriding factor, is the desire for an acceptable outdoor noise environment. When this is the case, more restrictive standards for land use compatibility, typically below the maximum considered "normally acceptable" for that land use category, may be appropriate.

Source: California Department of Health, Guidelines for the Preparation and Content of Noise Elements of The General Plan, February, 1976

CITY OF MALIBU GENERAL PLAN
FIGURE N-2
NOISE AND LAND USE COMPATIBILITY GUIDELINES



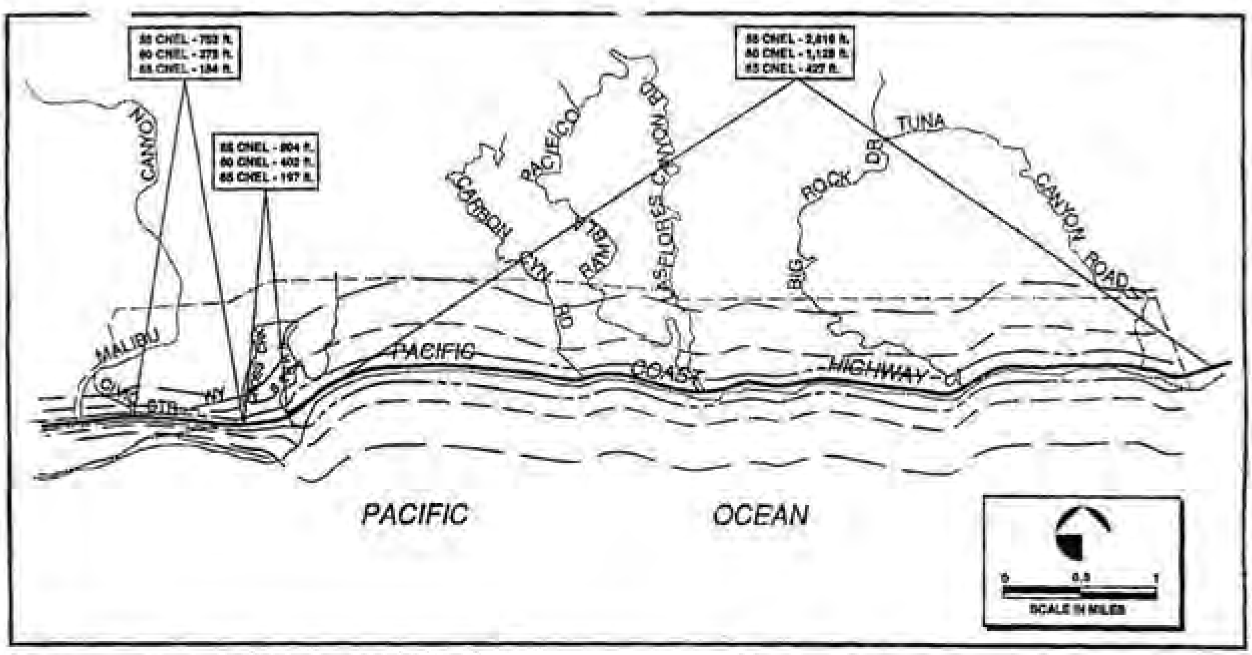
LEGEND

- Malibu City Limits

Area Index

- Eastern Malibu - Figure 5b
- Central Malibu - Figure 5c
- Western Malibu - Figure 5d

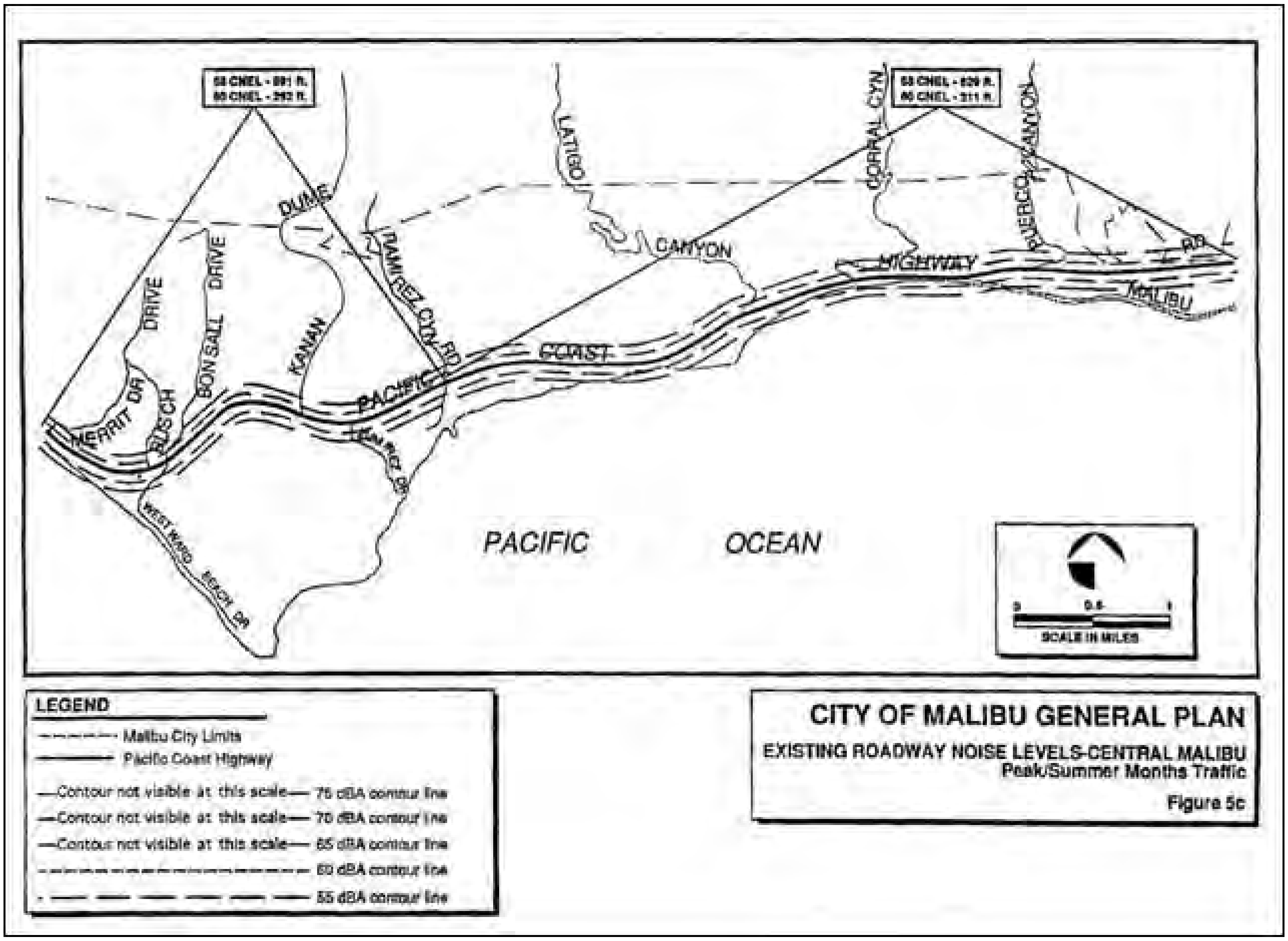
CITY OF MALIBU GENERAL PLAN
EXISTING ROADWAY NOISE LEVELS INDEX - Peak Traffic/Summer Months
Figure 5a

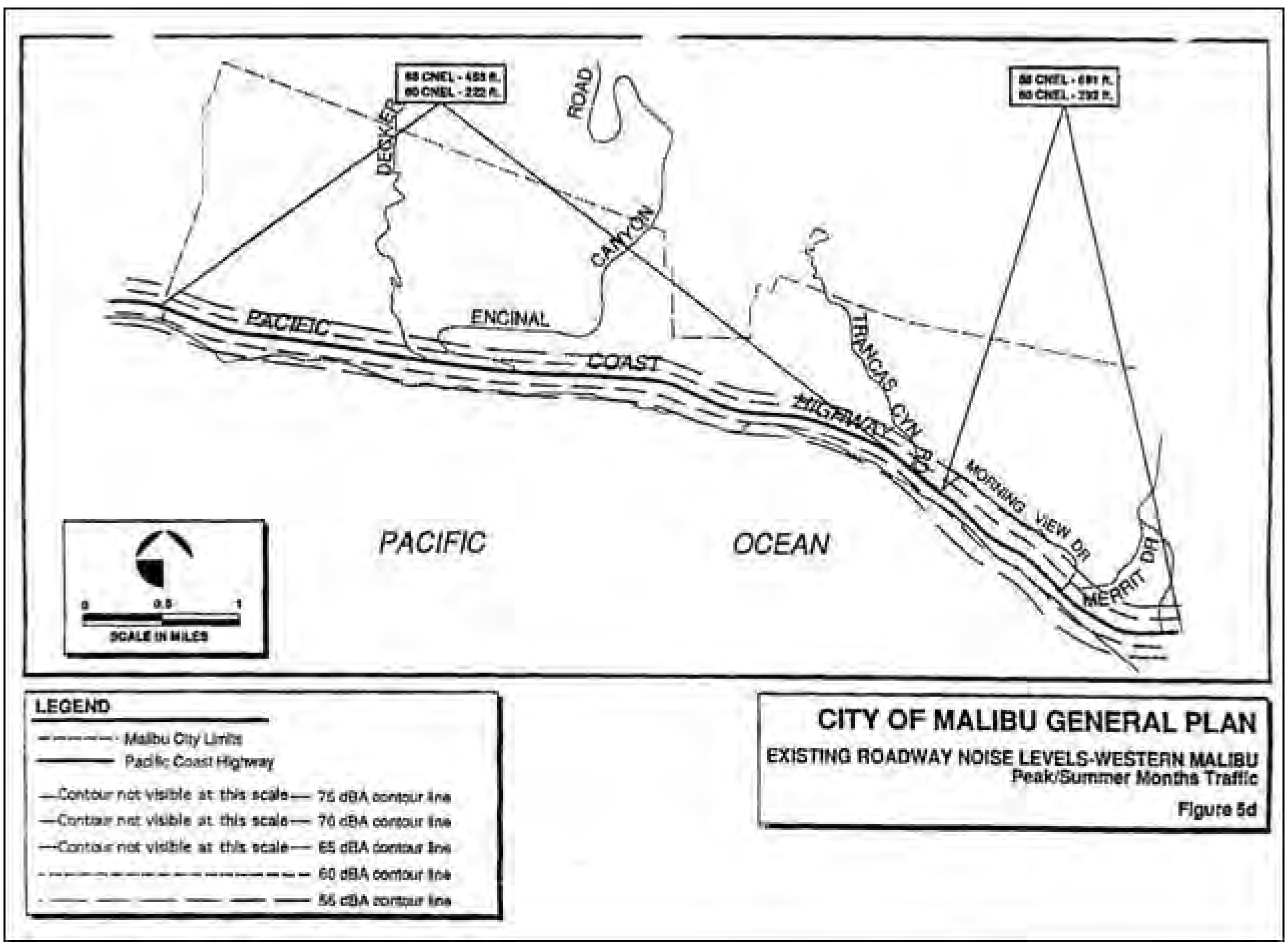


LEGEND

- Malibu City Limits
- Pacific Coast Highway
- Contour not visible at this scale — 75 dBA contour line
- Contour not visible at this scale — 70 dBA contour line
- 65 dBA contour line
- 60 dBA contour line
- 55 dBA contour line

CITY OF MALIBU GENERAL PLAN
EXISTING ROADWAY NOISE LEVELS-EASTERN MALIBU
Peak/Summer Months Traffic
Figure 5b


LATIGO
CANYON
CORRAL CYN
PUERCO
CANYON
RD
DUME
DRIVE
DRIVE
BONSALL
KANAN
RAMIREZ CYN RD
MERRIT DR
BUSCH
PACIFIC
COAST
HIGHWAY
MALIBU
WEST WARD BEACH DR
PACIFIC
OCEAN
SCALE IN MILES
LEGEND
Malibu City Limits
Pacific Coast Highway
Contour not visible at this scale — 75 dBA contour line
Contour not visible at this scale — 70 dBA contour line
Contour not visible at this scale — 65 dBA contour line
60 dBA contour line
55 dBA contour line
CITY OF MALIBU GENERAL PLAN
EXISTING ROADWAY NOISE LEVELS-CENTRAL MALIBU
Peak/Summer Months Traffic
Figure 5c


ROAD
DECKER
CANYON
ENCINAL
PACIFIC
COAST
HIGHWAY
TRANCAS CYN RD
MORNING VIEW DR
MERRIT DR
PACIFIC
OCEAN
0
0.5
1
SCALE IN MILES
LEGEND
Malibu City Limits
Pacific Coast Highway
Contour not visible at this scale — 75 dBA contour line
Contour not visible at this scale — 70 dBA contour line
Contour not visible at this scale — 65 dBA contour line
60 dBA contour line
55 dBA contour line
CITY OF MALIBU GENERAL PLAN
EXISTING ROADWAY NOISE LEVELS-WESTERN MALIBU
Peak/Summer Months Traffic
Figure 5d

Chapter 8.24 NOISE

8.24.010 Short title.

This chapter may be cited as the "Noise Control Ordinance of the City of Malibu." (Prior code § 4200)

8.24.020 Declaration of policy.

In order to control unnecessary, excessive and annoying noise and vibration in the city, it is declared to be the policy of the city to prohibit such noise and vibration. (Prior code § 4201)

8.24.030 Definitions.

The following words, phrases and terms as used in this chapter shall have the meanings indicated as follows:

"City Manager" means the city manager of the city of Malibu or the city manager's designee.

"Construction" means any site preparation, assembly, erection, substantial repair, alteration or similar action, for or of public or private right-of-way, structures, utilities or similar property.

"Emergency machinery, vehicle or alarm" means any machinery, vehicle or alarm used, employed, performed or operated in an effort to protect, provide or restore safe conditions in the community or for the citizenry or work by private or public utilities when restoring utility service.

"Emergency work" means any work performed for the purpose of preventing or alleviating the physical trauma or property damage threatened or caused by an emergency or work by private or public utilities when restoring utility services.

"Holiday" means all designated holidays in Section 2.04.030(B), except 2.04.030(B)(9), (10) and (12) shall not be considered holidays for purposes of this section.

"Person" means any individual, firm, association, partnership, joint venture or corporation.

"Weekday" means any day, Monday through Friday, which is not a legal holiday. (Ord. 203 § 1, 1999; prior code § 4202)

8.24.040 Prohibited noises.

No person shall make, or cause or suffer, or permit to be made upon any premises owned, occupied or controlled by such person, any unnecessary noises, sounds or vibrations which are physically annoying to reasonable persons of ordinary sensitivity or which are so harsh or so prolonged or unnatural or unusual in their use, time, or place as to occasion unnecessary discomfort to any persons within the neighborhood from which the noises emanate or which interfere with the peace and comfort of the residents or their guests, or the operators or customers in places of business in the vicinity, or which may detrimentally or adversely affect such residences or places of business. (Prior code § 4203)

8.24.050 Prohibited acts.

Notwithstanding any other provisions of this chapter, the following acts and the causing or permitting thereof, are declared to be in violation of this chapter:

A. Unnecessary noises: the unnecessary making of, or knowingly and unnecessarily permitting to be made, any loud, boisterous or unusual noise, disturbance, commotion or vibration in any boarding facility, dwelling, place of business or other structure, or upon any public street, park or other place or building, except the ordinary and usual sounds, noises, commotion or vibration incidental to the operation of said places when conducted in accordance with the usual and normal standard of practice applicable thereto and in a manner which will not disturb the peace and comfort of adjacent residences or which will not detrimentally affect the operators or customers of adjacent places of business;

B. Radios, phonographs, etc. the using, operating or permitting to be played, used or operated between the hours of ten p.m. and seven a.m. of any radio, musical instrument, phonograph, television set, or instrument or device similar to those heretofore specifically mentioned for the production or reproduction of sound in volume sufficiently loud as to disturb the peace, quiet or repose of persons of ordinary and normal sensitiveness who are in the immediate vicinity of such machine or device;

C. Band or orchestral rehearsals: the conducting of or carrying on of band or orchestral concerts or rehearsals or practice between the hours of ten p.m. and seven a.m. sufficiently loud as to disturb the peace, quiet or repose of persons of ordinary and normal sensitiveness who reside in the immediate vicinity of such band or orchestral concerts or rehearsals or practice;

D. Engines, motors and mechanical devices near residential district: except as provided in subsection G of this section regarding construction-related noise, the sustained operation or use between the hours of ten p.m. and seven a.m. of any electric or gasoline powered motor or engine or the repair, modification, reconstruction, testing or operation of any automobile, motorcycle, machine or mechanical device or other contrivance or facility unless such motor, engine, automobile, motorcycle, machine or mechanical device is enclosed within a sound insulated structure so as to prevent noise and sound from being plainly audible at a distance of fifty (50) feet from such structure, or within ten (10) feet of any residence;

E. Motor vehicles: racing the engine of any motor vehicle or needlessly bringing to a sudden start or stop of any motor vehicle;

F. Loading and unloading: loading, unloading, opening, closing or other handling of boxes, crates, containers, building materials, garbage cans or similar objects between the hours of ten (10) p.m. and seven a.m. in such a manner as to cause noise disturbance;

G. Construction: operating or causing the operation of any tools, equipment, impact devices, derricks or hoists used in construction, chilling, repair, alteration, demolition or earthwork, on weekdays between the hours of seven p.m. and seven a.m., before eight a.m. or after five p.m. on Saturday, or at any time on Sundays or holidays, except as provided in Section 8.24.060(D);

H. Nonemergency signaling devices: sounding or permitting the sounding of any electronically-amplified signal from any bell, chime, siren, whistle or similar device, intended primarily for nonemergency purposes, from any place, for more than ten (10) consecutive seconds in any hourly period.

Houses of religious worship shall be exempt from the operation of this provision.

Sound sources included within this provision which are not exempted under Section 8.24.060 may be exempted by a variance issued by the city manager;

I. Emergency signaling devices:

1. The intentional sounding or permitting the sounding outdoors of any emergency signaling device including fire, burglar, civil defense alarm, siren whistle or similar emergency signaling device, for testing, except as provided in subsection (H)(2) of this section,

2. Testing of an emergency signaling device shall not occur before seven a.m. or after seven p.m. Any such testing shall use only the minimum cycle test time. In no case shall such test time exceed sixty (60) seconds. Testing of the emergency signaling system shall not occur more than once in each calendar month,

3. Sounding or permitting the sounding of any exterior burglar or fire alarm or any motor vehicle burglar alarm unless such alarm is terminated within fifteen (15) minutes of activation;

J. Noises by Animals. It is unlawful for any person having charge, care, custody, or control of any animal to permit such animal to emit any excessive noise which is disturbing or offensive. The city shall enforce this subsection as follows:

1. Complaints must be submitted in writing and shall include the name, address, and telephone number of the complainant, as well as the address of the animal owner and description of the noise.

2. Upon receiving a complaint involving whining, barking, howling, screeching or similar animal noise, the city shall cause the following to be performed:

a. Issue notice of noise complaint to the animal owner or custodian of the animal advising such person of the alleged noise and requesting immediate steps to abate the same,

b. Notice shall adequately describe the noise complaint to assist the animal owner in recognizing and correcting the problem,

c. If a second complaint is received, the city shall issue a notice apprising the animal owner or custodian of the complaint and directing the same to abate the noise. Such notice shall contain a provisions that within five days of receipt thereof the animal owner or custodian may request a hearing with a city representative to discuss the notice of noncompliance,

d. Should the problem remain unresolved by the end of the time limit noted in the notice of noncompliance, a second notice with a five day limit shall be issued,

e. If the problem is not resolved at the end of this five-day period, a citation shall be issued to the owner or custodian of the animal;

K. Leaf blowers: the use or operation of any portable machine powered with a combustion or gasoline engine used to blow leaves, dirt and other debris off sidewalks, driveways, lawns and other surfaces;

L. Commercial establishments adjacent to residential property: sustained noise from the premises of any commercial establishment, including any outdoor area part of or under the control of the establishment, between the hours of ten p.m. and seven a.m. shall not be plainly audible at a distance of five feet of any residential dwelling unit;

M. No person shall make, or cause or suffer, or permit to be made upon any public beach, occupied by such person, any unnecessary noises, sounds or vibrations which are physically annoying to reasonable persons of ordinary sensitivity or which are so harsh or so prolonged or unnatural or unusual in their use, time, or place as to occasion unnecessary discomfort to any persons within five hundred (500) feet of the place from which said noises emanate or which interfere with the peace and comfort of other occupants of the beach or the residents of the neighborhood or their guests, or the operators or customers in places of business in the vicinity, or which may detrimentally or adversely affect such occupants or residences or places of business. (Ord. 188 § 2, 1999; Ord. 94 § 1, 1993; prior code § 4204)

8.24.060 Exemptions.

The following activities shall be exempt from the provisions of this chapter:

A. Emergency exemption: the emission of sound for the purpose of alerting persons to the existence of an emergency or the emission of sound in the performance of emergency work;

B. Warning devices: warning devices necessary for the protection of public safety as for example, police, fire and ambulance sirens and train horns;

C. Outdoor activities: Activities conducted on public playgrounds and public or private school grounds including but not limited to school athletic and school entertainment events;

D. Construction—Special Circumstances. The provisions of Section 8.24.050 do not apply to any person who performs construction, repair, excavation or earthmoving work pursuant to the expressed written permission of the city manager to perform such work at times prohibited in Section 8.24.050. The applicant must submit to the city manager an application in writing, stating the reasons for the request and the facts upon which such reasons are based. The city manager may grant written permission for the construction if he or she finds that:

1. The work proposed to be done is in the public interest,

2. Hardship, injustice or unreasonable delay would result from the interruption thereof during the hours and days specified in Section 8.24.050, or

3. The building or structure involved is devoted or intended to be devoted to a use immediately incident to public defense.

Any applicant dissatisfied with the decision of the city manager may appeal to the city council by filing a notice of appeal with the city clerk within ten (10) days after notice of the city manager's decision. The city council shall, within thirty (30) days of filing the appeal, affirm, reverse or modify the decision of the city manager.

The provisions of Section 8.24.050 do not apply to the construction, repair, or excavation during prohibited hours as may be necessary for the preservation of life or property, when such necessity arises during such hours as the offices of the city are closed, or where such necessity requires immediate action prior to the time at which it would be possible to obtain a permit pursuant to this section. The person doing such construction, repair or excavation shall obtain a permit therefor within one business day of such construction, repair or excavation;

E. Outdoor gatherings, public dances, shows and sporting events: provided the events are conducted pursuant to a permit issued by the city manager. (Prior code § 4205)

8.24.070 Enforcement.

The city manager shall have primary responsibility for the enforcement of the noise regulations contained herein. Nothing in this chapter shall prevent the city manager from obtaining voluntary compliance by way of warning, notice or education. (Prior code § 4206)

8.24.080 Violation—Penalty.

In addition to any criminal, civil or other legal remedy established by law that may be pursued to address violations of the municipal code, violations of the provisions of this chapter are subject to the administrative penalty provisions of Chapter 1.10. (Ord. 325 § 4, 2008)

CONSTRUCTION NOISE MODELING

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 9/4/2018
Case Description:

---- Receptor #1 ----

		Baselines (dBA)		
Descriptior	Land Use	Daytime	Evening	Night
Asphalt De	Residential	60	55	60

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	50	0
Excavator	No	40		80.7	50	0
Dozer	No	40		81.7	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Saw	89.6	82.6	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A
Total	89.6	84.6	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

	Noise Limit Exceedance (dBA)				
Day		Evening		Night	
Lmax	Leq	Lmax	Leq	Lmax	Leq
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 9/4/2018
Case Description:

---- Receptor #2 ----

		Baselines (dBA)		
Descriptior	Land Use	Daytime	Evening	Night
Site Prep	Residential	60	55	60

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Dozer	No	40		81.7	50	0
Tractor	No	40	84		50	0
Front End Loader	No	40		79.1	50	0
Backhoe	No	40		77.6	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A
Total	84	83.3	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

	Noise Limit Exceedance (dBA)				
Day		Evening		Night	
Lmax	Leq	Lmax	Leq	Lmax	Leq
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 9/4/2018
Case Description:

---- Receptor #3 ----

		Baselines (dBA)		
Descriptior	Land Use	Daytime	Evening	Night
Rough Grad	Residential	60	55	60

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	50	0
Grader	No	40	85		50	0
Dozer	No	40		81.7	50	0
Tractor	No	40	84		50	0
Front End Loader	No	40		79.1	50	0
Backhoe	No	40		77.6	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A
Grader	85	81	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A
Total	85	85.9	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

	Noise Limit Exceedance (dBA)				
Day		Evening		Night	
Lmax	Leq	Lmax	Leq	Lmax	Leq
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 9/4/2018
Case Description:

---- Receptor #4 ----

		Baselines (dBA)		
Descriptior	Land Use	Daytime	Evening	Night
Utility Tren	Residential	60	55	60

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		50	0
Front End Loader	No	40		79.1	50	0
Backhoe	No	40		77.6	50	0
Man Lift	No	20		74.7	50	0
Generator	No	50		80.6	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A	N/A	N/A
Total	84	83.4	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

	Noise Limit Exceedance (dBA)				
Day		Evening		Night	
Lmax	Leq	Lmax	Leq	Lmax	Leq
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 9/4/2018
Case Description:

---- Receptor #5 ----

		Baselines (dBA)		
Descriptior	Land Use	Daytime	Evening	Night
Fine Gradir	Residential	60	55	60

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Dozer	No	40		81.7	50	0

			Results					
	Calculated (dBA)			Noise Limits (dBA)				
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A
Total	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

	Noise Limit Exceedance (dBA)				
Day		Evening		Night	
Lmax	Leq	Lmax	Leq	Lmax	Leq
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 9/4/2018
Case Description:

---- Receptor #6 ----

		Baselines (dBA)		
Descriptior	Land Use	Daytime	Evening	Night
Permanent	Residential	60	55	60

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	50	0
Man Lift	No	20		74.7	50	0
Generator	No	50		80.6	50	0
Tractor	No	40	84		50	0
Front End Loader	No	40		79.1	50	0
Backhoe	No	40		77.6	50	0
Welder / Torch	No	40		74	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A	N/A
Total	84	84.6	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

	Noise Limit Exceedance (dBA)				
Day		Evening		Night	
Lmax	Leq	Lmax	Leq	Lmax	Leq
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 9/4/2018
Case Description:

---- Receptor #7 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
Paving	Residential	60	55	60

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	50	0
Man Lift	No	20		74.7	50	0
Drum Mixer	No	50		80	50	0
Paver	No	50		77.2	50	0
Roller	No	20		80	50	0
Tractor	No	40	84		50	0
Front End Loader	No	40		79.1	50	0
Backhoe	No	40		77.6	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	80	77	N/A	N/A	N/A	N/A	N/A	N/A
Paver	77.2	74.2	N/A	N/A	N/A	N/A	N/A	N/A
Roller	80	73	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A
Total	84	85	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Noise Limit Exceedance (dBA)					
Day		Evening		Night	
Lmax	Leq	Lmax	Leq	Lmax	Leq
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 9/4/2018
Case Description:

---- Receptor #8 ----

		Baselines (dBA)		
Descriptior	Land Use	Daytime	Evening	Night
Architectur	Residential	60	55	60

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40	80		50	0

Results

	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)	80	76	N/A	N/A	N/A	N/A	N/A	N/A
Total	80	76	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

	Noise Limit Exceedance (dBA)				
Day		Evening		Night	
Lmax	Leq	Lmax	Leq	Lmax	Leq
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 9/4/2018
Case Description:

---- Receptor #9 ----

		Baselines (dBA)		
Descriptior	Land Use	Daytime	Evening	Night
Finish/Lanc	Residential	60	55	60

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		50	0
Front End Loader	No	40		79.1	50	0
Backhoe	No	40		77.6	50	0
Man Lift	No	20		74.7	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A	N/A
Total	84	82.1	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

	Noise Limit Exceedance (dBA)				
Day		Evening		Night	
Lmax	Leq	Lmax	Leq	Lmax	Leq
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 9/4/2018
Case Description:

---- Receptor #10 ----

		Baselines (dBA)		
Descriptior	Land Use	Daytime	Evening	Night
Portables F	Residential	60	55	60

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	50	0
Man Lift	No	20		74.7	50	0
Generator	No	50		80.6	50	0
Tractor	No	40	84		50	0
Front End Loader	No	40		79.1	50	0
Backhoe	No	40		77.6	50	0
Welder / Torch	No	40		74	50	0
Dump Truck	No	40		76.5	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	80.6	72.6	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A	N/A
Dump Truck	76.5	72.5	N/A	N/A	N/A	N/A	N/A	N/A
Total	84	84.2	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

	Noise Limit Exceedance (dBA)				
Day		Evening		Night	
Lmax	Leq	Lmax	Leq	Lmax	Leq
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Residence			
L1	Distance (ft)	L2	Distance (ft)
86.5	50	75	190
83.3		72	
85.9		74	
84.5		73	
77.7		66	
85.5		74	
85.4		74	
76		64	
82.1		71	
84.9		73	

TRAFFIC NOISE INCREASE CALCULATIONS

	Segment	Existing	Existing + Project	Future No Project	Future + Project	Noise Increase	Cumulative Increase	Project Cumulative Contribution
N	NA	0	0	0	0			
S	Heathercliff Rd - EPCH to Dume Dr.	793	803	826	817	0.05	0.13	0.05
E	EPCH - W of Heathercliff	2474	2436	2558	2596	-0.07	0.21	-0.06
W	EPCH - E of Heathrecliff	2393	2365	2482	2511	-0.05	0.21	-0.05
N	Heathercliff rd - Dume Rd to PCH	405	415	431	422	0.11	0.18	0.09
S	Heathercliff Rd - Dume Dr to Wandermere Rd	206	206	212	213	0.00	0.15	-0.02
E	Dume Dr -East of Heathercliff Rd	281	297	307	291	0.24	0.15	0.23
W		0	0	0	0			
N	Dume Dr. - Grayfox St to Heathercliff Rd	285	301	311	295	0.24	0.15	0.23
S	Dume Dr - Grafox St to Bluewater Rd	156	163	168	161	0.19	0.14	0.18
E	Grayfox st - East of Dume	195	218	223	200	0.48	0.11	0.47
W		0	0	0	0			
N		0	0	0	0			
S	Grasswood Ave - Grafox St to Cliffside Dr	24	27	27	24	0.51	0.00	0.51
E	Grayfox St - Grasswood Ave to Fernhill Dr	194	219	225	200	0.53	0.13	0.51
W	Grayfox St - Grasswood Ave to Dume Dr	196	218	224	202	0.46	0.13	0.45
N	Fernhill Dr - Grafox St to Sea Ranch Way	273	302	307	278	0.44	0.08	0.43
S	Fernhill Dr - Grafox St to Bison Ct.	256	313	320	263	0.87	0.12	0.85
E	Grayfox St - East of Fernhill Dr	64	67	67	64	0.20	0.00	0.20
W	Grafox St - West of Fernhill Dr	193	218	224	199	0.53	0.13	0.51
N		0	0	0	0			
S	Fernhill Dr -Wildlife Rd to Boniface Dr	230	259	263	234	0.52	0.07	0.51
E	Wildlife Rd East of Fernhill Dr	126	126	128	128	0.00	0.07	0.00
W	Wildlife Rd West of Ferhill Dr	302	331	337	308	0.40	0.09	0.39
N	Zumirez Dr - North of E PCH	45	42	43	45	-0.30	0.00	-0.20
S	Zumirez Dr - E PCH to Zumirez Dr	372	400	408	380	0.32	0.09	0.31
E	E PCH East of Zumirez Dr	2401	2395	2535	2541	-0.01	0.25	-0.01
W	E PCH West of Zumierz Dr	2288	2269	2408	2426	-0.04	0.25	-0.03

Appendix E Service Responses

Appendix

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COUNTY OF LOS ANGELES
FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294
(323) 881-2401
www.fire.lacounty.gov

"Proud Protectors of Life, Property, and the Environment"

DARYL L. OSBY
FIRE CHIEF
FORESTER & FIRE WARDEN

September 21, 2018

Michael Milroy, Associate
Placeworks
Planning Department
3 Macarthur Place
Santa Ana, CA 92707

Dear Mr. Milroy:

MITIGATED NEGATIVE DECLARATION, "MALIBU SCHOOLS REALIGNMENT PROJECT," COMBINE THE POPULATIONS OF JUAN CABRILLO ELEMENTARY SCHOOL AND POINT DUME MARINE SCIENCE SCHOOL ON THE CURRENT POINT DUME CAMPUS BEGINNING IN THE 2019-20 SCHOOL YEAR, MALIBU, FFER 201800093

The Mitigated Negative Declaration has been reviewed by the Planning Division, Land Development Unit, Forestry Division, and Health Hazardous Materials Division of the County of Los Angeles Fire Department.

The following are their comments:

PLANNING DIVISION:

Please confirm or correct the following information we obtained from the Los Angeles County Fire Department (LACoFD) website:

The nearest LACoFD station to Pt. Dume Marine Science School is Station 71 at 28722 W. Pacific Coast Highway in the City of Malibu.

Yes, the above information is correct.

Station 71 is in LACoFD Battalion 5, which comprises 12 fire stations.

Yes, the above information is correct.

What apparatus is stationed at Station 71?

Fire Station 71 is staffed with a 3-person engine company staffed with one captain, one firefighter specialist, one fire fighter/paramedic, and a 2-person paramedic squad staffed with two fire fighters/paramedics on a daily basis.

What is the daily staffing at Station 71?

See response to above Question.

LACoFD participates in the California Fire Service and Rescue Emergency Mutual Aid System.

Yes, that is correct.

Does LACoFD have automatic aid or mutual aid agreements with other agencies relevant to responses in the Malibu area?

There are no mutual aid agreements with other fire protection agencies affecting this project. If, so what agencies:

N/A

LACoFD's response time goals in urban areas are:

Five minutes or less for the first responding unit for fire and emergency medical responses, and Eight minutes or less for the advance life support (paramedic) unit.

Yes, these goals are correct for urban areas. In suburban areas our goals are an 8-minute or less response time for the 1st-arriving unit and a 12-minute or less response for advanced life support (paramedic) unit. The City of Malibu is a mix of urban/suburban areas.

What were LACoFD actual average response times in the latest year for which data is available for Station 71?

During the year 2017, Fire Station 71 had an average emergency response time for 1st arriving units of 6:26 minutes

Are there any existing deficiencies in LACoFD service currently provided to the project site?

Currently, staff levels and facilities are adequate in the project area.

Please summarize any plans for new or expanded fire stations that would serve the project area.

Currently, there are no plans for facility expansion or new facilities in the project area.

What are the funding sources for the planned improvements?

N/A

Would the proposed project adversely impact LACoFD's ability to provide fire services in the project area? Please comment on any area of concern.

No, this project would have a less than significant impact on fire protection services.

Would LACoFD be able to serve the proposed project in addition to all known cumulative developments?

Yes.

If not, please summarize any additional resources (facilities, equipment, personnel) needed.

N/A

What factors or standards are used to project these needs?

The effects of new and/or cumulative developments are evaluated on a case by case basis and mitigation measures may differ. However, this project is expected to have a less than significant impact.

Please provide any additional comments and/or information regarding fire service provision related to the proposed project.

We have no further comments.

LAND DEVELOPMENT UNIT:

The Land Development Unit has no comments regarding the request for Fire Services information for this project.

For any questions regarding the report, please contact FPEA Wally Collins at (323) 890-4243 or Wally.Collins@fire.lacounty.gov.

FORESTRY DIVISION – OTHER ENVIRONMENTAL CONCERNS:

The statutory responsibilities of the County of Los Angeles Fire Department's Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones or Fire Zone 4, archeological and cultural resources, and the County Oak Tree Ordinance. Potential impacts in these areas should be addressed.

The County of Los Angeles Fire Department's Forestry Division has no further comments regarding this project.

HEALTH HAZARDOUS MATERIALS DIVISION:

The Health Hazardous Materials Division of the Los Angeles County Fire Department has no comments regarding the request for "Fire Services" information for the project.

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,

Michael Y. Takeshita

MICHAEL Y. TAKESHITA, ACTING CHIEF, FORESTRY DIVISION
PREVENTION SERVICES BUREAU

MYT:ac

September 13, 2018

Michael Milroy, Associate
Placeworks
3 MacArthur Place, Suite 1100
Santa Ana, California 92707

Dear Mr. Milroy:

INQUIRY REGARDING SHERIFF'S PROTECTION SERVICES FOR THE MALIBU SCHOOLS REALIGNMENT PROJECT

The Los Angeles County Sheriff's Department (Department) provides the attached information in response to an inquiry regarding Sheriff's Protection Services (Request), dated August 27, 2018, from Placeworks (Requestor), in preparation for the Mitigated Negative Declaration for the Malibu Schools Realignment Project (Project).

As a summary, the proposed Project includes the following components:

- Combine the population of Juan Cabrillo Elementary School and Point Dume Marine Science School (Pt. Dume) on the current Pt. Dume campus.
- Expand Pt. Dume campus:
  Phase I is to add 10 portable buildings and Phase II is to construct a two-story classroom building with 8 classrooms. Upon completion of Phase II, the portable buildings installed in Phase I would be removed and a new 2,500 square foot administrative building would be built on the site of the former portable buildings.
- Transfer Malibu Middle School students from the Malibu Middle and High School campus to the existing Cabrillo Campus beginning 2020-2021 school year.

The proposed Project is located within the service area of the Department's Malibu/Lost Hills Sheriff's Station (Station). Accordingly, the Station reviewed the Request and authored the attached responses to the Questionnaire (see correspondence dated September 12, 2018 from Captain Joshua W. Thai).

Should you have any questions regarding this matter, please contact me at (323) 526-5657, or your staff may contact Ms. Maynora Castro at (323) 526-5578.

Sincerely,

JIM McDONNELL, SHERIFF

Tracey Jue, Director
Facilities Planning Bureau

SH-AD-32A (8/17)

COUNTY OF LOS ANGELES

SHERIFF'S DEPARTMENT

"A Tradition of Service Since 1850"

DATE: September 12, 2018

FILE NO:

OFFICE CORRESPONDENCE

FROM: JOSHUA W. THAI, CAPTAIN
MALIBU/LOST HILLS STATION

TO: TRACEY JUE, DIRECTOR
FACILITIES PLANNING BUREAU

SUBJECT: RESPONSE TO AN INQUIRY REGARDING SHERIFF'S FACILITES AND SERVICES TO PREPARE A MITIGATED NEGATIVE DECLARTION FOR THE MALIBU SCHOOLS REALIGNMENT PROJECT

The Malibu/Lost Hills Sheriff's Station Traffic Division reviewed the letter of inquiry, dated August 27, 2018, sent by Placeworks, regarding the Mitigated Negative Declaration (MND) for the Malibu Schools Realignment Project.

In summary, the proposed project description includes the following components:

1. Combine the population of Juan Cabrillo Elementary School and Point Dume Marine Science School (Point Dume) on the current Point Dume campus beginning 2019-2020 school year.

2. Expansion of Point Dume campus:
Phase I – Add ten portable buildings on vacant lots within the campus, which include seven classroom buildings, one kindergarten classroom building, one administrative building, and one restroom building, including landscaping and hardscape, by Summer 2019, and would remain on the campus through the 2020-2021 school year.
Phase II – Construct a two-story classroom building with eight classrooms, in 2020 and 2021. Upon completion of this classroom building, the portable buildings installed in Phase I would be removed and a new 2,500 square foot administrative office building would be constructed on the site of the former portable buildings.

3. Malibu Middle School students would be transferred from the Malibu Middle and High School campuses to the existing Cabrillo Campus beginning 2020-2021 school year. No physical improvements proposed in these schools.

The Malibu/Lost Hills Station provides law enforcement services to the proposed project site. Accordingly, the station provided answers to the attached questionnaire in response to the inquiry. In Addition, the station recommends that an analysis and impacts of the proposed project to the local transportation and circulation system be included in the Environmental Impact Report (EIR). Traffic levels at intersections must be identified, studied and analyzed. Preparation of a Construction Mitigation Plan would also help in reducing impacts to traffic levels.

The proposed project should also provide for the provision of private security to patrol the construction site to minimize potential for trespassing, theft, and other unlawful activities. A construction Traffic Management Plan should also be implemented as part of the proposed project to address construction-related traffic congestion and emergency access issues. If temporary lane closures are necessary for the installation of utilities, emergency access should be maintained at all times. Flag persons and/or detours should also be provided as needed to ensure safe traffic operations. Construction signs should be posted to advise of reduced construction zone speed limits.

While the station is not overly concerned with the proposed project itself, we remain concerned that continued growth and intensification of land uses within our service area will ultimately contribute to significant cumulative impacts on our resources and operations. It is reasonable to expect that continued development will lead to a significant increase in the demand for law enforcement services. Meeting such demands will require additional resources, including patrol deputies, support vehicles, communication equipment, weaponry, station furnishings/fixtures/equipment, etc.
In order to accommodate such additional staff and assets, the station itself will require substantial modernization and/or expansion.

We have no further comment at this time. However, Malibu/Lost Hills Station reserves the right to amend or supplement our assessment upon subsequent review of the proposed Project's EIR. Thank you for including the Malibu/Lost Hills Station in the preparation of environmental review process for the proposed project. If you have questions regarding the stations comments, as well as the responses to the questionnaire, please contact Lieutenant James Royal in the Malibu/Lost Hills Station Detective Bureau at (818) 878-5515
(JRoyal@lasd.org).

JWT:JR:rt

MALIBU SCHOOLS REALIGNMENT PROJECT
Police Services – Los Angeles County Sheriff's Department

1. Please confirm or correct the following information we obtained from the Los Angeles County Sheriff's Department (LASD) website:

   a. The project site is in the service area of LASD Malibu/Lost Hills Station at 27050 Agoura Road in the City of Agoura. Correct

   b. The Malibu/Lost Hills Station serves the cities of Agoura, Calabasas, Hidden Hills, Malibu, and Westlake Village; and unincorporated areas including Chatsworth Lake Manor, Malibu Lake, Topanga, and West Hills. Correct

   c. What is the staffing assigned to the Malibu/Lost Hills Station:

      i. Sworn officers: 144

      ii. Civilian positions: 35

      iii. Approximately how many officers patrol the City of Malibu?
      Per shift:
      - 5 on day shift;
      - 4 on PM shift;
      - 4 on EM shift;
      - Two motor deputies 5 days a week at 8 hours a day.

2. What are the response time goals and the current average response times (latest year for which data is available) for the Malibu/Lost Hills Station service area for the three listed categories of service calls?

Table 1 LASD Malibu/Lost Hills Station Response Times

	Response Time Goal	Actual Response Time
Emergency	10	7.0
Priority	15	12.9
Routine	30	31.8

3. Are there any existing deficiencies—such as in staff or equipment—in LASD service currently provided to the project site?

   None.

4. Please summarize any plans for expanded capacity (new or expanded stations; personnel; equipment) that would serve the project area.

   We believe we have sufficient resources at this time, but will be re-evaluated after the project is complete.

   a. What are the funding sources for the planned improvements?

MALIBU SCHOOLS REALIGNMENT PROJECT
Police Services – Los Angeles County Sheriff's Department

5. Would the proposed project adversely impact LASD's ability to provide police services in the project area? Please comment on any area of specific concern.

   At this time, it is thought not to adversely affect any services, but the station reserves the right to amend or supplement our assessment upon subsequent reviews of the proposed project.

6. Would buildout of the proposed project require construction of new or expanded police facilities?

   There are plans to build a new Malibu Sheriff's sub-station.

7. Would the LASD be able to serve known cumulative developments in addition to the proposed project?

   It is believed we have adequate resources at this time.

   a. Please summarize any additional resources (stations, equipment, personnel) needed.

   b. What factors or standards are used to project these needs?

8. Please provide any additional comments and/or information regarding fire service provision in the project site related to the proposed project.

   Please contact the Los Angeles County Fire Department for information.

Response Prepared By:

Rodney Loughridge

Rodney Loughridge — Sergeant

Name — **Title**

LASD / Malibu/Lost Hills Station — 9/6/2018

Agency — **Date**

Michael Milroy

From: Castro, Maynora G. <MGCastro@lasd.org>
Sent: Tuesday, September 18, 2018 11:24 AM
To: Michael Milroy
Cc: Julian Capata
Subject: FW: Inquiry Re: MND for Malibu Schools Realignment Project - LASD Responses

Mr. Milroy-
Please see answers below in red font.

Thanks,

May

From: Michael Milroy [mailto:mmilroy@placeworks.com]
Sent: Friday, September 14, 2018 11:04 AM
To: Castro, Maynora G. <MGCastro@lasd.org>
Cc: Julian Capata <jcapata@placeworks.com>
Subject: RE: Inquiry Re: MND for Malibu Schools Realignment Project - LASD Responses

Hi May

Do you or Sergeant Loughridge have any information about the planned Malibu sub-station?

- Location?

23525 Civic Center Way, Malibu 90265

- Square feet?

5,700 SF

- Completion target date?

2021 Q4 (approximately)

- How would it be funded?

Santa Monica College

    - Is the funding in place?

Santa Monica College

- Completion target date?

I thank you again for your help

Appendix F Traffic Impact Study

Appendix

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Traffic Impact Report for
Malibu Schools Alignment Project
Malibu, California

September 27, 2018

Prepared For:

Santa Monica-Malibu Unified School District
2828 4th Street
Santa Monica, CA 90405

Prepared by:

KOA

1100 Corporate Center Drive, Suite 201
Monterey Park, California 91754
(323) 260-4703

JB81116

Table of Contents

List of Figures

List of Tables

Appendices

Executive Summary

This traffic study report was produced for the Santa Monica-Malibu Unified School District (SMMUSD or District) by KOA, for use in related environmental documentation for the proposed Malibu Schools Alignment Project. The Project site is located within the City of Malibu.

The following provides a summary of the traffic study results and conclusions:

- The proposed Project includes the renovation of Point Dume Marine Science School (PDMSS) and the closure of Juan Cabrillo Elementary School (JCES), as part of an overall strategy to better serve the student population in Malibu. The seating capacity at JCES will be transferred to PDMSS. The current enrollment at PDMSS is 195 students and at JCES it is 185 students.

- The Project is expected to be completed within the year 2019.

- The study area for this Project traffic impact analysis included seven intersections within the local neighborhood and at two major intersections on Pacific Coast Highway (PCH). Three neighborhood roadway segments were also evaluated for vehicle speeds.

- Under the existing conditions analysis, the study intersections operate at good level of service (LOS) values during the analyzed peak periods.

- The proposed Project, under a conservative trip generation of one vehicle trip per added student, would generate 740 daily vehicle trips (including inbound and outbound site trips for both peak periods), with 370 of these trips occurring in the a.m. peak hour and 370 occurring in the p.m. peak hour.

- An existing plus-Project scenario was included in the impact analysis. The study intersections would continue to operate at good LOS values under those conditions.

- Under future with-Project conditions, the study intersections would continue to operate at good LOS values.

- The speed surveys on the local roadway segments indicated that two of the three locations do not have identified vehicle speeding issues.

- The critical speed on Fernhill Drive was determined to be 9 MPH higher than the posted speed limit, based on the collected data. As this location is both within the residential neighborhood and adjacent to Point Dune Elementary School, it is recommended that traffic speed reduction measures be considered at this location.

- Speed awareness measures should be considered first on Fernhill Drive, such as electronic signs that provide driver feedback on measured speeds. Within six to twelve months of the installation of these signs, an additional speed survey should be conducted. If speeds have not been reduced to a level at or below standards, traffic calming measures should be pursued.

- A potential alternative for Project operations is being considered by the District, which would provide for busing to the PDES school site from the JCES school site with a pick-up/drop-off area to remain at the JCES site.

- Recommended measures that would be considered by the District, if the busing option from JCES is not implemented and if significant impacts of the Project occur at the main school driveway on Fernhill Drive, to potentially reduce queuing on the adjacent roadway during peak times:

  – Work with the Los Angeles County Metropolitan Transportation Authority (Metro) to relocate the Metro Line 534 bus stop on Fernhill Drive to Grayfox Street (west of the curve near the all-way stop intersection of the two roadways). This would free up additional on-street parking space on Fernhill Drive, and the on-street no parking/queuing area could be expanded.
  – Reinforce for parents through written materials and other standard communications how the on-street queuing area is intended to work, and that no student loading/unloading should occur in that area.
  – Widen the school driveway on Fernhill Drive, to provide for both wider ingress lanes and a wider egress lane, and provide an increased turning radius to allow for improved vehicle turning into and out of the site.
  – Establish a staggered bell schedule for groups of grades or other potential grouping, to provide for a spacing of pick-up/drop-off activity. The staggering should be 30 minutes or more.
  – Establish a secondary formal pick-up/drop-off area within the curb area of Grayfox Street.

- The peak periods of construction truck trip activity would be for one week at a time, and would not be continuous throughout the construction phases. The inbound construction employee trips would occur during the early morning at the start of the construction shift and outbound trips would occur outside of the afternoon student pick-up time. Due to the temporary nature of the peak construction truck trip operations, and the non-peak nature of the employee vehicle trips, significant traffic impacts during the construction phase would not occur.

- A Project option to bus new students from the JCES campus would remove most of the potential traffic impacts of the proposed Project and the related transfer of new students to the Point Dume Marine Science School campus.

1. Introduction

This study report identifies the potential traffic impacts associated with the proposed renovation of Point Dume Marine Science School (PDMSS) and the closure of Juan Cabrillo Elementary School (JCES), as part of an overall strategy to better serve the student population in Malibu. The seating capacity at JCES will be transferred to PDMSS. The current enrollment at PDMSS is 195 students and at JCES it is 185 students.

The PDMSS will add the following to serve the additional students from JCES. The Point Dume site will also undergo a few minor interior renovations in the existing buildings. The following temporary instructional and administration buildings will be added to the Point Dume site:

- One Kindergarten portable classroom
- One portable office
- One portable toilet building
- Seven portable classrooms

It is anticipated that these improvements to the PDMSS site will completed and operational by August 2019.

The Project site is located within the City of Malibu and therefore the City is the lead agency for traffic study and environmental document review. The Pacific Coast Highway (PCH)/State Route 1 roadway corridor falls under the jurisdiction of Caltrans.

Traffic impacts were analyzed for weekday AM and PM peak-hour traffic periods at the study intersections. The traffic analysis included the following traffic scenarios:

- Existing (Year 2018) Conditions
- Existing (Year 2018) plus-Project Conditions
- Future (Year 2019) "No Project" Conditions
- Future (Year 2019) plus-Project Conditions

1.1 PROJECT STUDY AREA

The Project study area includes the following study intersection locations:

1. Wildflower Road/Pacific Coast Highway *
2. Wildflower Road/Dume Drive **
3. Dume Drive/Grayfox Street **
4. Grasswood Avenue/Grayfox Street **
5. Fernhill Drive/Grayfox Street
6. Fernhill Drive/Wildfire Road
7. Zumeriz Drive/Pacific Coast Highway

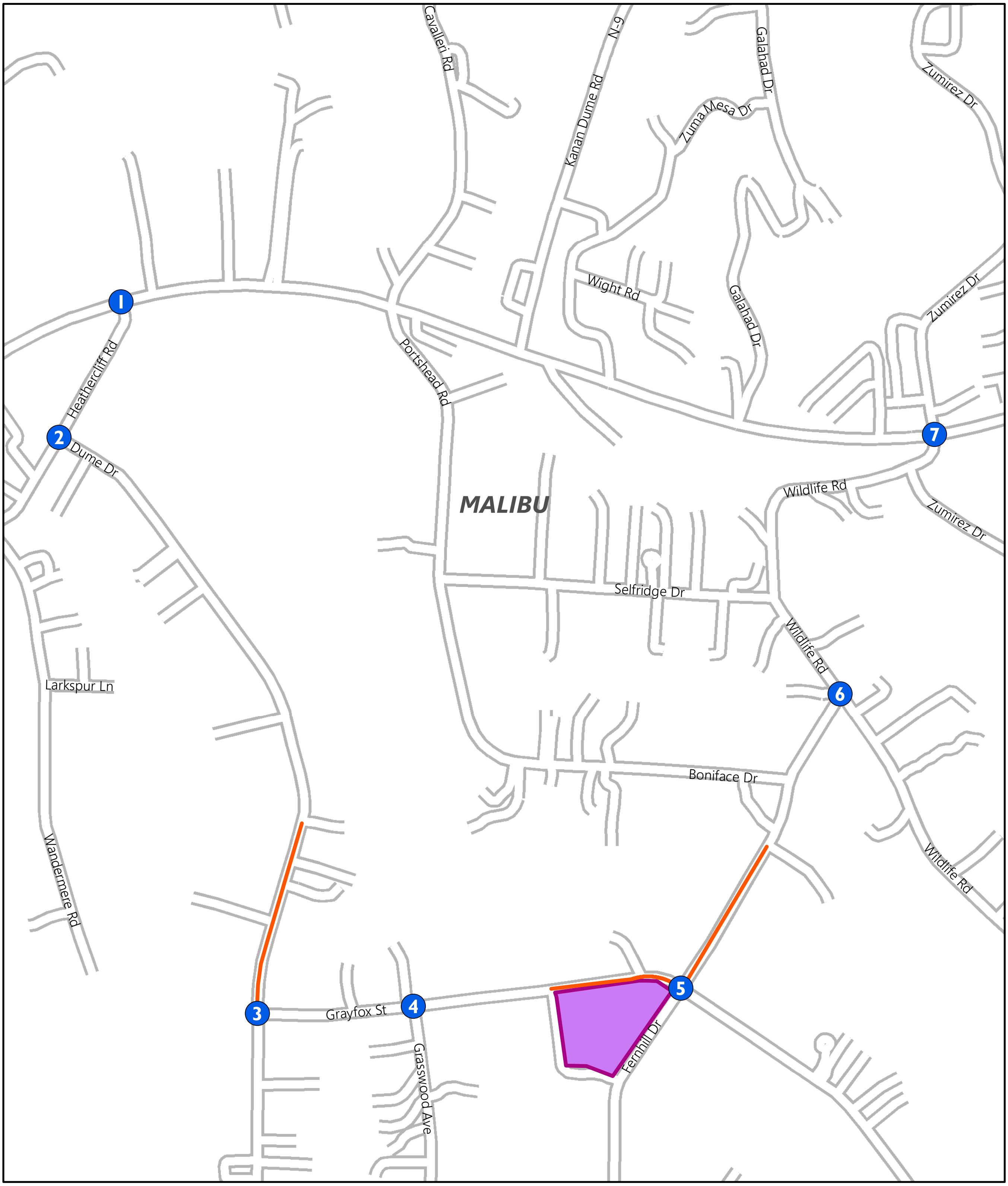
** Signalized Intersection – Caltrans Jurisdiction*
*** Unsignalized intersection.*

Figure 1 illustrates the locations of the study intersections and the Project site. Figure 2A provides the Phase 1 site construction plan, and Figure 2B provides the Phase 2 plan.

FIGURE 1

POINT DUME ELEMENTARY SCHOOL

Study Intersections



Project Intersection | Project Site | Roadway Segments

0.085 0 0.085 Miles

FIGURE 2A

POINT DUME ELEMENTARY SCHOOL

Phase 1 Project Plan

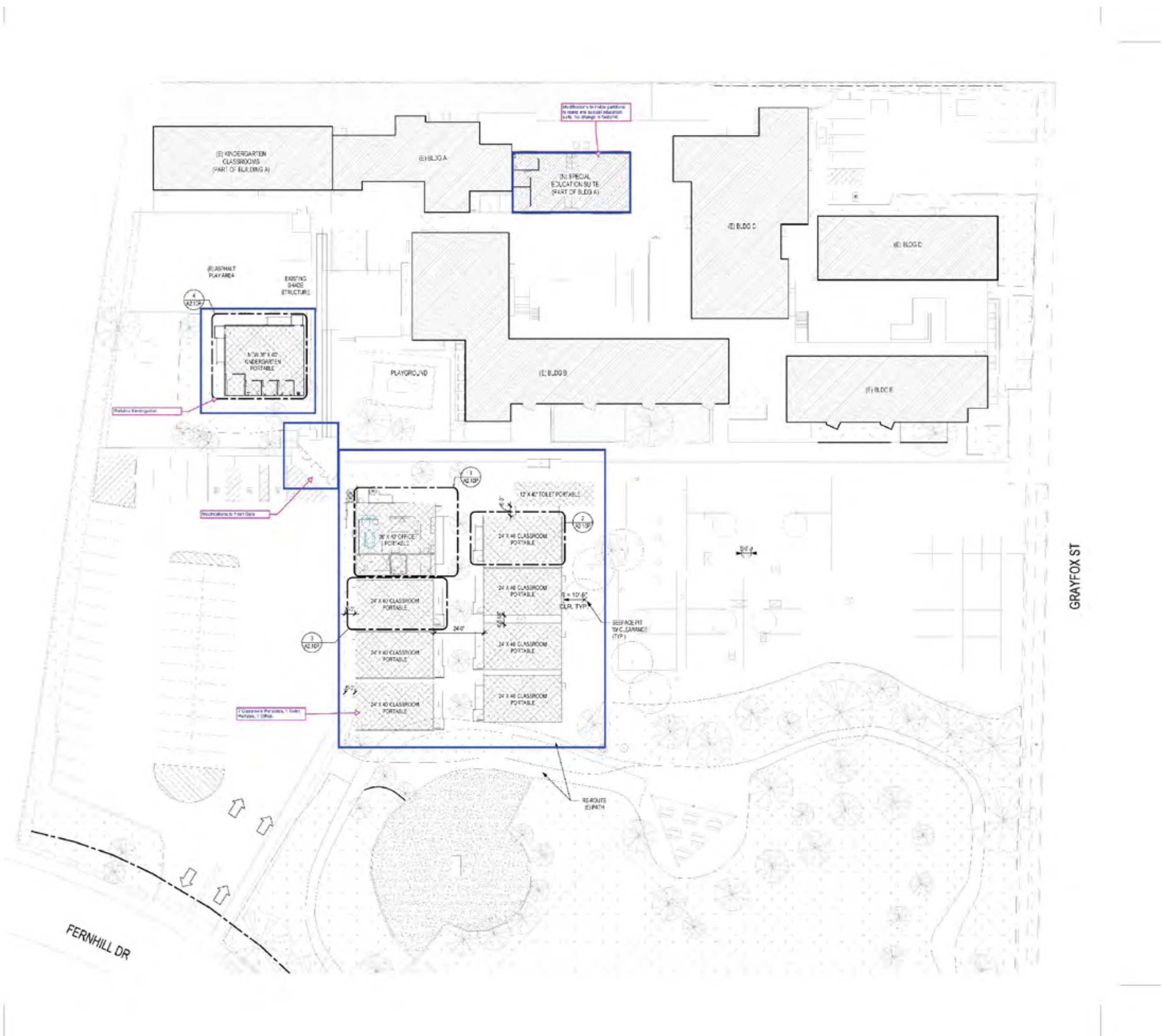


FIGURE
2B

POINT DUME ELEMENTARY SCHOOL
Phase 2 Project Plan

1.2 PROJECT ACCESS

An on-site pick-up/drop-off and parking for the PDMSS is currently provided on the west side of Fernhill Drive, to the south of Grayfox Street. An additional on-street pick-up/drop-off area is provided on the south side of Grayfox Street. Fernhill Drive provides access from the east via Pacific Coast Highway. Dume Drive and Grayfox Street provide access to the project from the west via Pacific Coast Highway.

JCES is located west of the PDMSS site. Pacific Coast Highway would provide access between the two elementary school sites.

1.3 ANALYSIS METHODOLOGY

The proposed Project site is located within the community of in the City of Malibu, and traffic impact guidelines defined by the City were used to develop this traffic study. The following text describes the methodology applied to this report.

<u>Existing (Year 2018) Data Collection</u>

Fieldwork within the Project study area was undertaken to identify the condition of major roadways, to identify traffic control and approach lane configuration at each study intersection, and to identify the locations of on-street parking.

KOA compiled new manual intersection turn movement counts that were conducted at the study intersections on May 21, 2018.

The results of the counts were used to determine existing 2018 weekday AM and PM peak-hour conditions. Traffic count summaries are provided in Appendix A of this report. Existing level of service values at each of the seven study intersections are discussed within Section 2 of this report.

<u>Project Trip Generation and Distribution</u>

Project trip generation calculations included the closure of JCES and the transfer of students and staff from that school to the PDMSS site. The methodology utilized for Project trip distribution calculations is discussed further within Section 3 of this report.

<u>Level of Service Methodology</u>

The two signalized study intersections are located on Pacific Coast Highway, which is State Route (SR) 1. Caltrans requires the analysis of signalized intersections using the Highway

Capacity Manual (HCM) methodology. The stop sign-controlled intersections were also analyzed using the HCM Methodology.

Roadway level of service is calculated as the volume of vehicles that pass through the facility divided by the capacity of that facility. A facility is "at capacity" (V/C of 1.00 or greater) whereby extreme congestion occurs. This volume/capacity ratio value is a function of hourly volumes signal phasing, and approach lane configuration on each leg of the intersection.

California State Senate Bill (SB) 743 requires that the State Office of Planning and Research (OPR) change State CEQA guidelines for traffic significance thresholds to utilize new metrics, including vehicle miles traveled (VMT), in addition to LOS values. To date, OPR has not issued final guidelines changes and thresholds; therefore, VMT was not used as the basis for assessing significance of impacts. Even with this future change, local jurisdictions as a part of local review would still be able to analyze LOS for neighborhood and other localized operations and impacts.

Level of service (LOS) values range from LOS A to LOS F. LOS A indicates excellent operating conditions with little delay to motorists, whereas LOS F represents congested conditions with excessive vehicle delay. LOS E is typically defined as the operating "capacity" of a roadway.

Table 1A defines the level-of-service criteria applied to the study intersections.

Table 1A: Level of Service Definitions

LOS	Interpretation	Signalized Intersection Volume to Capacity Ratio (CMA)	Signalized Intersection Average Delay (HCM)	Stop-Controlled Intersection Average Stop Delay (HCM)
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	0.000 - 0.600	< 10 seconds	< 10 seconds
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	0.601 - 0.700	>10 and 20 sec	>10 and 15 sec
C	Good operation. Occasionally backups may develop behind turning vehicles. Most drivers feel somewhat restricted.	0.701 - 0.800	>20 and 35 sec	>15 and 25 sec
D	Fair operation. There are no long-standing traffic queues. This level is typically associated with design practice for peak periods.	0.801 - 0.900	>35 and 55 sec	>35 and 35 sec
E	Poor operation. Some long standing vehicular queues develop on critical approaches.	0.901 - 1.000	>55 and 80 sec	>35 and 50 sec
F	Forced flow. Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movements of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	Over 1.000	>80 seconds	>50 seconds
	Source: Highway Capacity Manual, Special Report 209, Transportation Research Board, Washington D.C., and Interim Materials on Highway Capacity, NCHRP Circular 212,			

Significant Traffic Impacts

Traffic impacts are identified if the proposed access improvement sites will result in a significant change in traffic conditions at a study intersection. A significant impact is typically identified if project-related traffic will cause service levels to deteriorate beyond a threshold limit specified by the overseeing agency. Impacts can also be significant if an intersection is already operating below acceptable level of service values and project traffic will cause a further decline below a threshold.

The primary City significant traffic impact standards are provided in Table 1B. These standards are for signalized intersections and are based on increases in the volume-to-capacity ratio at LOS values of C thru F.

The City of Malibu also has an established significance impact criterion for stop-controlled intersections that states any increase in delay of five seconds or more at an unsignalized intersection operating at an unacceptable level of service (LOS E or F) is considered a significant impact.

Table 1B – Significant Traffic Impact Thresholds

Level of Service	Volume/Capacity Ratio	Project-Related Increase in V/C
C	0.71 – 0.80	Equal to or greater than 0.04
D	> 0.81 – 0.90	Equal to or greater than 0.02
E, F	> 0.91 or greater	Equal to or greater than 0.01

Where LOS values would worsen to or within LOS E or F with the proposed Project, traffic signal warrants were evaluated. The applied traffic signal warrants were based on a peak-hour period analysis defined by the California Edition of the *Manual of Uniform Traffic Control Devices* (MUTCD). The warrant analysis provides a review of potential signalization and the need for such control upgrades based on major and minor approach vehicle volumes.

2. Existing Conditions

This section describes the existing conditions within the study area, in terms of roadway facilities and operating conditions within the study area.

2.1 EXISTING ROADWAY SYSTEM

Fieldwork within the Project study area was undertaken to identify traffic control and approach lane configuration at each study intersection, and to identify the locations of on-street parking availability and the locations of transit stops. Key roadways within the study area are described below in Table 2. The discussion presented here is limited to specific roadways that traverse the study intersections and serve the Project site.

Figure 3 illustrates the existing study intersection approach lane and control configurations.

Table 2: Study Area Roadway Descriptions

Segment	From	To	# Lanes		Median Type	Parking Restrictions		General Land Use	Posted Speed Limit
			NB/EB	SB/WB		NB/EB	SB/WB		
Pacific Coast Highway	Heathercliff Road	Zumirez Drive	2	2	ST	Permitted in shoulder areas	Permitted in shoulder areas	Residential/Rural	50
Heathercliff Road	Pacific Coast Highway	Dume Drive	1	1	ST	NSAT/Permitted	NSAT/Permitted	Commercial/Residential	None
Dume Drive	Heathercliff Road	Grayfox Street	1	1	ST	Permitted	Permitted	Residential	30
Grayfox Street	Dume Drive	Fernhill Drive	1	1	ST	Permitted	NSAT	Residential/Elementary School	25
Fernhill Drive	Grayfox Street	Wildflower Road	1	1	ST	NSAT	NSAT	Residential	25
Wildlife Road	Fernhill Drive	Pacific Coast Highway	1	1	ST	Not Designated/Too Narrow to Park	Not Designated/Too Narrow to Park	Residential	25
Zumeriz Drive	Pacific Coast Highway	North of Pacific Coast Highway	1	1	ST	Not Designated/Too Narrow to Park	Permitted	Residential	None

DY - Double Yellow   NS - Not Striped
RM - Raised Median   NSAT - No Stopping Any Time
ST - Striped   CTL - Center Turn Lane

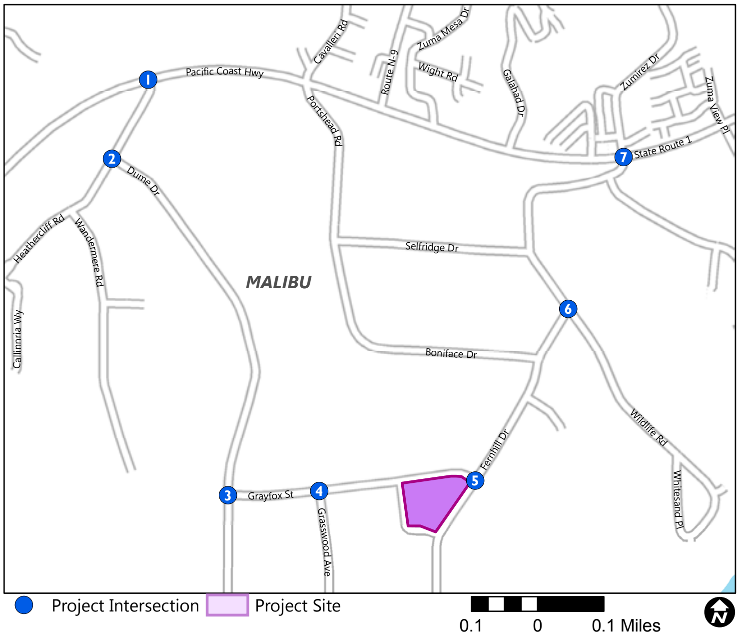
2.2 EXISTING TRAFFIC VOLUMES

KOA compiled new manual intersection turn movement counts that were conducted at the study intersections on May 21, 2018 during the timeframes of 7:00 a.m. to 9:00 a.m. and 2:00 p.m. to 4:00 p.m. The AM analysis focused on the peak morning commute time plus the peak period of school drop-off activities. The PM analysis focused on the peak period of school pick-up activities.

The results of the counts were used to determine existing 2018 weekday AM and PM peak-hour conditions.

FIGURE 3

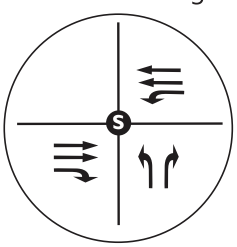
POINT DUME ELEMENTARY SCHOOL
EXISTING INTERSECTION GEOMETRY



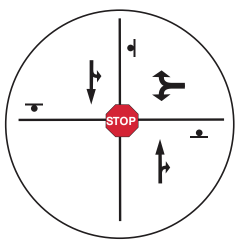
LANE CONFIGURATION

- S — Signalized Intersection
- STOP — Stop Sign Controlled Intersection
- Stop Sign
- Intersection Lane Geometry

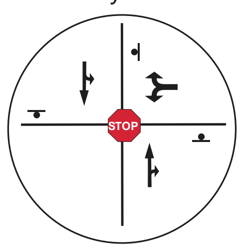
#1 Heathercliff Road & Pacific Coast Highway



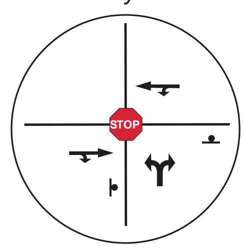
#2 Heathercliff Road & Dume Drive



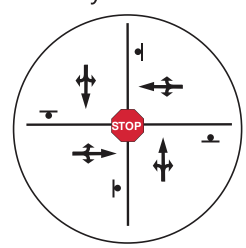
#3 Dume Drive & Grayfox St



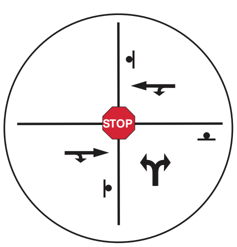
#4 Grasswood Avenue & Grayfox Street



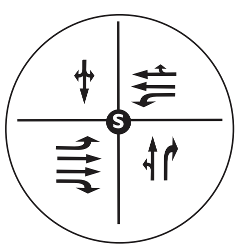
#5 Ferndale Drive & Grayfox Street



#6 Fernhill Drive & Wildlife Road



#7 Zumirez Drive & Pacific Coast Highway



2.3 EXISTING INTERSECTION LEVELS OF SERVICE

Based on the AM and PM peak period traffic counts at the study area intersections, a volume-to-capacity ratio or average vehicle delay value in seconds and corresponding level of service value were determined for each of the study area intersections. Table 3 provides the level-of-service results at each study intersection under existing conditions.

Table 3: Existing Peak-Hour Level-of-Service Summary

Study Intersections		AM Peak		PM Peak	
		Delay (sec.)	LOS	Delay (sec.)	LOS
1	Heathercliff Road/Pacific Coast Highway	9.0	A	14.6	B
2	Heathercliff Road/Dume Drive *	8.2	A	8.3	A
3	Dume Drive/Grayfox Street *	7.6	A	7.7	A
4	Grasswood Avenue/Grayfox Street *	7.5	A	7.5	A
5	Fernhill Drive/Grayfox Street *	7.9	A	8.0	A
6	Fernhill Drive/Wildlife Road *	7.7	A	7.9	A
7	Zumirez Drive/Pacific Coast Highway	18.0	B	20.0	C

**Unsignalized Intersection*

Generally, LOS values of E and F are considered poor levels of service. The analysis indicates that the study intersections currently operate at good levels of service during peak periods.

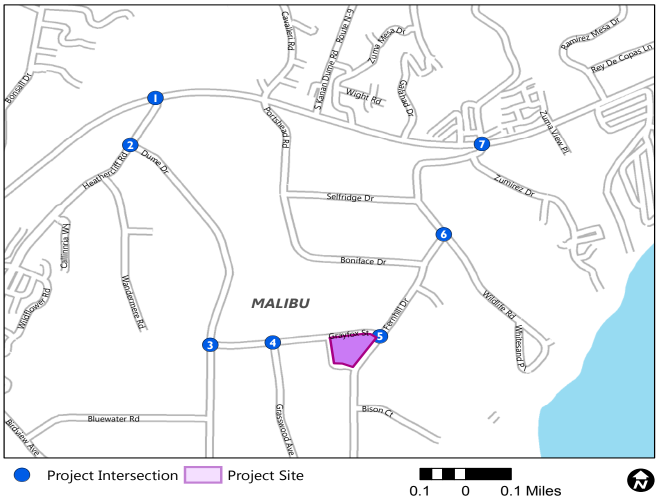
The existing peak-hour study intersection volumes for a.m. peak and p.m. peak periods are illustrated on Figure 4.

Traffic count summaries are provided in Appendix A of this report. Level-of-service worksheets for the existing conditions scenario are provided in Appendix B.

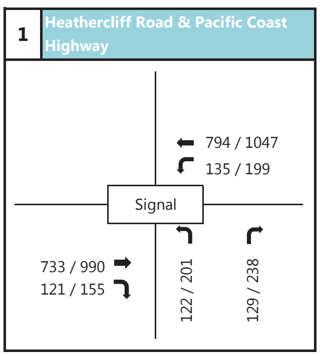
FIGURE 4

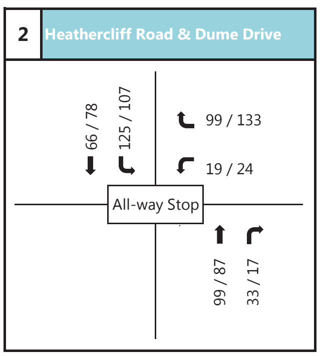
POINT DUME ELEMENTARY SCHOOL

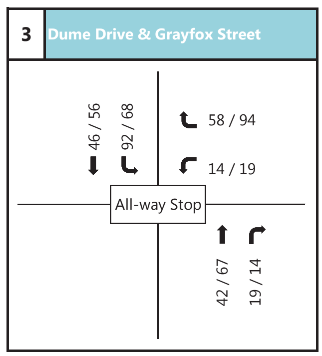
Existing - AM/PM Peak Hour Traffic Volumes

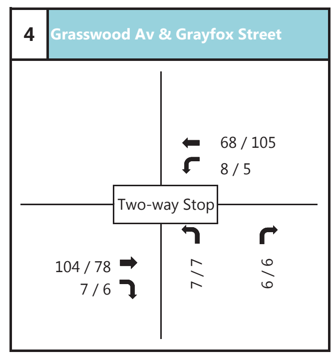


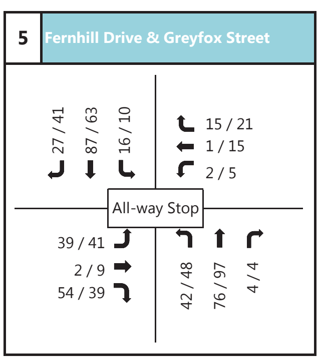
xxx AM/PM turning movement volumes

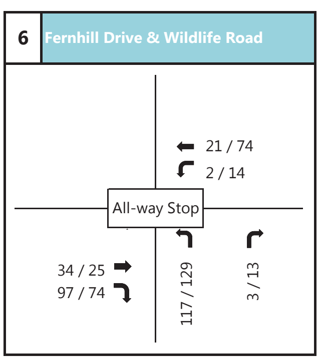


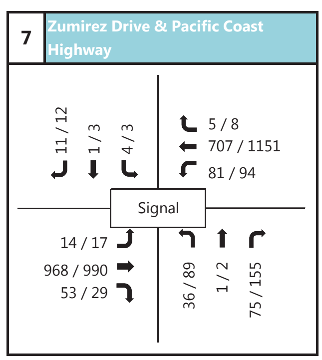












3. Project Trips

This section summarizes the proposed Project uses and the potential traffic generated by those uses. The technical assumptions including trip distribution pattern and traffic assignment are also discussed.

3.1 PROJECT TRIP GENERATION

Project trip generation calculations for the additional students that are to be transferred to the PDMSS campus from the JCES campus are based on a conservative assumption of one vehicle round trip per peak hour, per added student seat. The resulting trip generation is much higher than it would be under typical school trip generation rates, such as those published by the Institute of Transportation Engineers (ITE). Those rates, based on surveys of multiple school sites, incorporate typical urban school walking and transit trips, which reduce overall vehicle trip numbers.

The school, based on monitoring conducted for this report, has a very low number of walking trips and transit trips. With the transfer of students from another school under the proposed Project, this trend will continue. The conservative trip generation analysis, therefore, provides a conservative look at potential traffic impacts.

The trip generation calculations are provided in Table 4 below. The proposed Project would generate 740 daily vehicle trips (including inbound and outbound site trips), with 370 of these trips occurring in the a.m. peak hour and 370 occurring in the p.m. peak hour.

Table 4: Project Trip Generation

	Weekday							
	Daily	AM Peak Hour			PM Peak Hour			
Intensity	Total	Total	% In	% Out	Total	% In	% Out	
RATES								
per student trips	4	2	50%	50%	2	50%	50%	
TRIPS								
185	740	370	185	185	370	185	185	

3.2 PROJECT TRIP DISTRIBUTION

Trip distribution is the process of assigning the directions from which traffic will access a project site. Trip distribution is dependent upon the land use characteristics of the project, the local roadway network, and the general locations of other land uses to which project trips would originate or terminate.

Figure 5 illustrates the study intersection trip distribution percentages that were applied for Project traffic.

3.3 PROJECT TRIP ASSIGNMENT

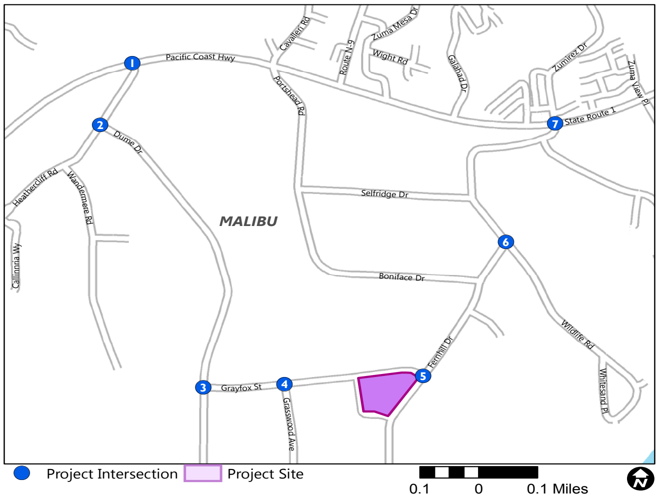
Based on the trip generation and distribution assumptions described above, Project traffic was assigned to the roadway system based on the access driveway locations and the roadways that would likely to be used to access the regional highway system.

The Project-only peak-hour trip assignment for the a.m. peak and p.m. peak periods is illustrated on Figure 6.

FIGURE 5

POINT DUME ELEMENTARY SCHOOL

PROJECT TRIP DISTRIBUTION



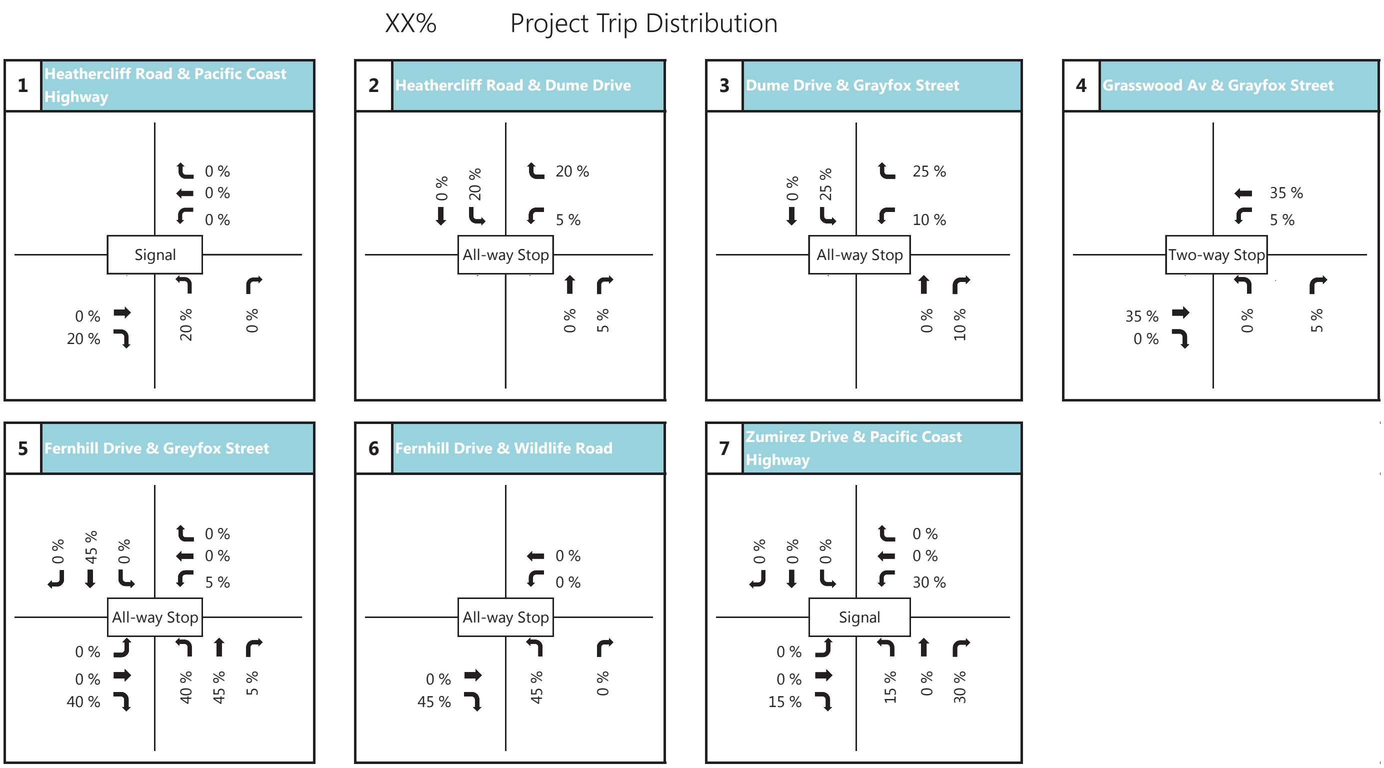
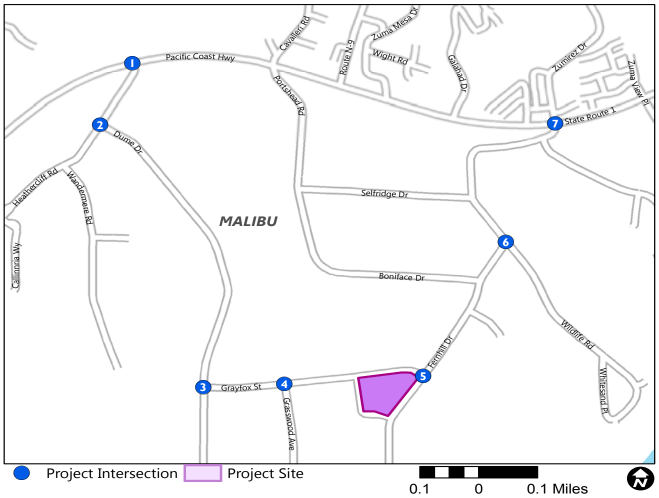


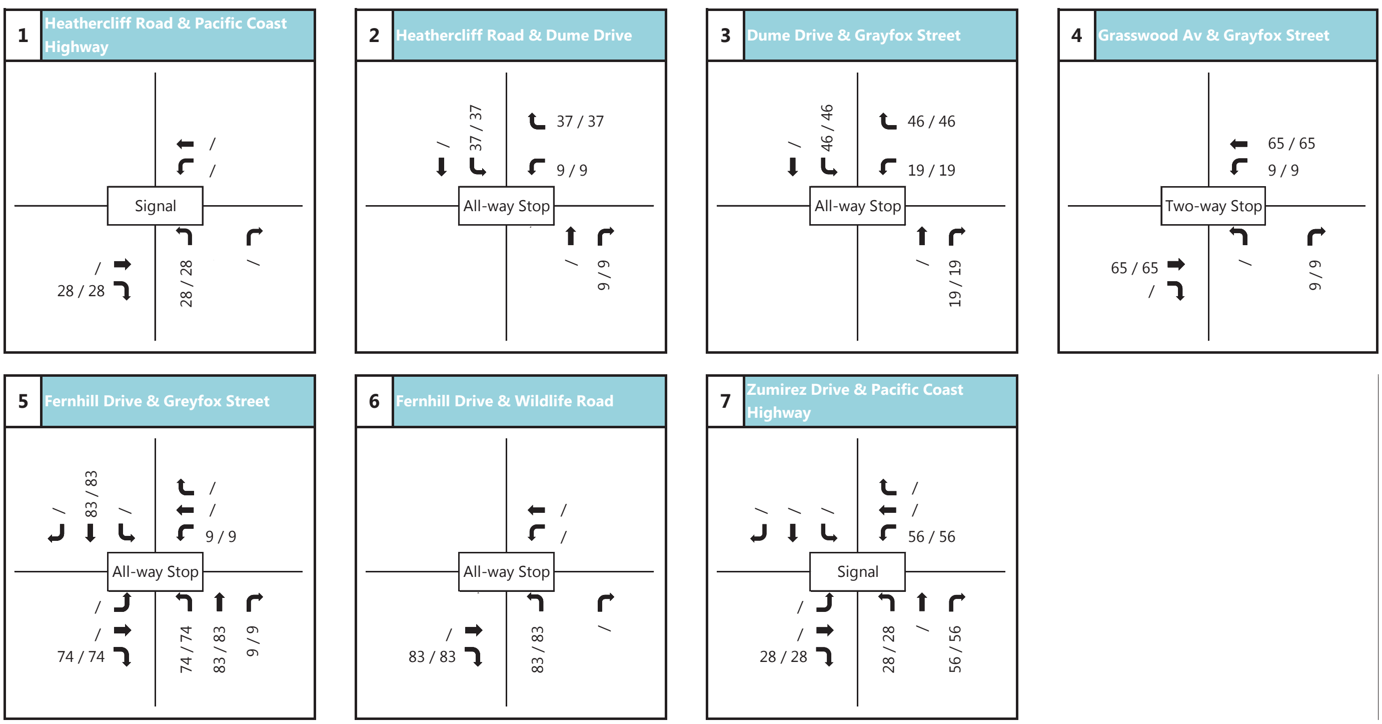
FIGURE 6

POINT DUME ELEMENTARY SCHOOL

Project Trip Assignment AM/PM Peak Hour Traffic Volumes



xxx AM/PM turning movement volumes



4. Existing plus Project Conditions

This section documents existing traffic conditions at the study intersections with the addition of Project-generated traffic. Traffic volumes for this scenario were derived by adding the Project construction period trips to the existing study area traffic volumes.

Table 5 summarizes the results of the level of service analysis for this scenario.

Table 5: Existing plus-Project Peak-Hour Level-of-Service Summary

Study Intersections		AM Peak		PM Peak	
		Delay (sec.)	LOS	Delay (sec.)	LOS
1	Heathercliff Road/Pacific Coast Highway	9.4	A	14.8	B
2	Heathercliff Road/Dume Drive *	8.6	A	8.7	A
3	Dume Drive/Grayfox Street *	8.1	A	8.3	A
4	Grasswood Avenue/Grayfox Street *	8.0	A	8.0	A
5	Fernhill Drive/Grayfox Street *	9.7	A	9.9	A
6	Fernhill Drive/Wildlife Road *	8.5	A	8.7	A
7	Zumirez Drive/Pacific Coast Highway	18.9	B	21.1	C

**Unsignalized Intersection*

The analysis indicates that all of the intersections are forecast to operate at good levels of service during the peak periods analyzed for this study scenario.

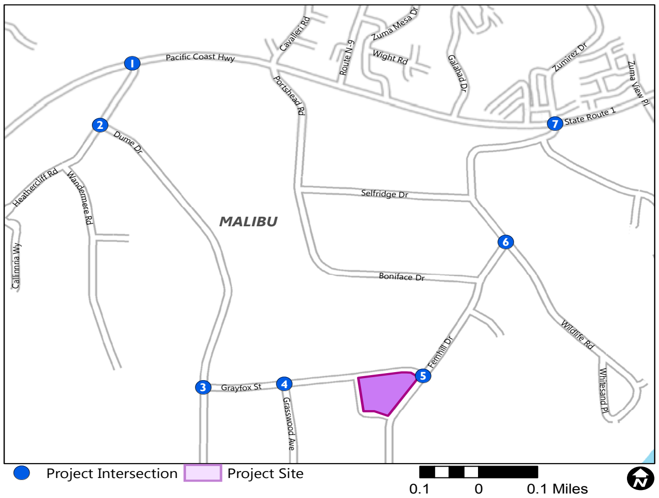
The study area peak-hour traffic volumes for this scenario are illustrated on Figure 7.

Level-of-service calculation worksheets for this scenario are provided in Appendix C.

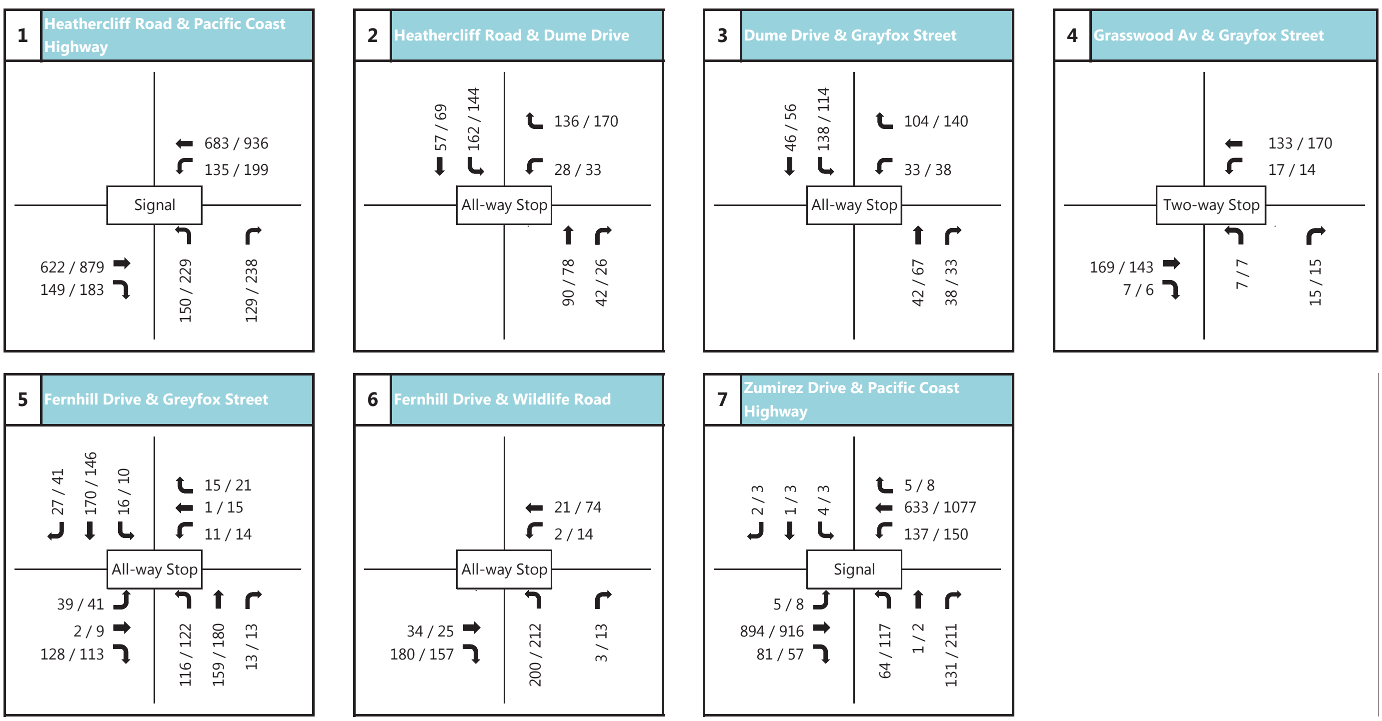
FIGURE 7

POINT DUME ELEMENTARY SCHOOL

Existing with Project - AM/PM Peak Hour Traffic Volumes



xxx AM/PM turning movement volumes



5. Future without-Project Conditions

This section provides an analysis of future traffic conditions in the study area with area/related project trips and background growth added, but without Project traffic. The proposed Project is anticipated to be completed by 2019, and that defines the future analysis year.

5.1 AMBIENT GROWTH

To acknowledge regional population and employment growth outside of the study area, an ambient/background traffic growth rate of two percent was applied to the existing traffic counts.

5.2 AREA PROJECTS

In addition to the application of the ambient traffic growth rate, traffic from related/area projects (approved and pending developments) was also included as part of the year-2019 analysis. Four related projects in the City of Malibu were identified for inclusion in the traffic impact analysis.

Table 6 provides the trip generation estimates for the related/area project zones that were identified during coordination with the City of Malibu, and the project locations are illustrated on Figure 8.

Table 6: Area Projects Trip Generation Estimate

TRIP GENERATION RATES									
Land Use	Intensity	Units	Daily	Weekday AM Total	Weekday AM IN	Weekday AM OUT	Weekday PM Total	Weekday PM IN	Weekday PM OUT
Single-Family Homes		Dwelling Units	9.44	0.74	0.19	0.56	0.99	0.62	0.37
High School (Land Use 530)		KSF	14.07	3.38	2.40	0.98	0.97	0.52	0.45
FORECAST TRIP GENERATION									
Related Project Zone No. 1									
High School (Land Use 530)	35.315	KSF	497	119	85	35	34	18	16
Total Related Project Zone No. 1			**497**	**119**	**85**	**35**	**34**	**18**	**16**
Related Project Zone No. 2									
Single-Family Homes (Land Use 210) (28811 PCH)	3	Dwelling Units	28	2	1	2	3	2	1
Single-Family Homes (Land Use 210) (6061 Galahad Road)	4	Dwelling Units	38	3	1	2	4	2	1
Total Related Project Zone No. 2			**66**	**5**	**1**	**4**	**7**	**4**	**3**
Single-Family Homes (Land Use 210) (28445 and 28401 PCH and 3700 La Paz Lane	213	Dwelling Units	2,014	158	39	118	211	133	78
Total Related Project Zone No. 3			**2,014**	**158**	**39**	**118**	**211**	**133**	**78**
TOTAL RELATED PROJECT TRIPS			**2,577**	**282**	**126**	**157**	**252**	**156**	**96**

ITE Trip Generation - 10th Edition

The area project trip assignment volumes for the a.m. and p.m. peak hours are provided on Figure 9.

FIGURE 8

POINT DUME ELEMENTARY SCHOOL

RELATED PROJECTS

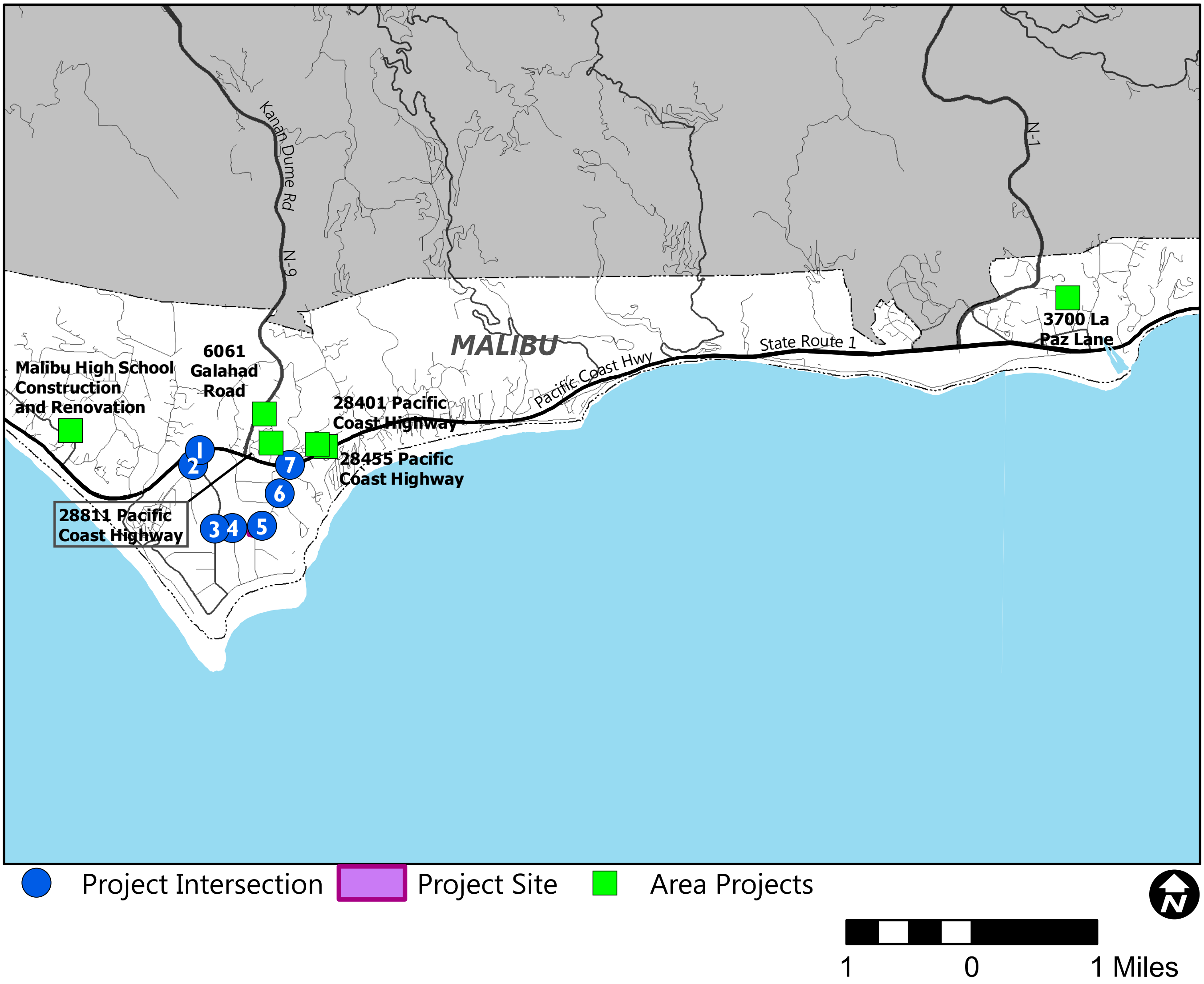
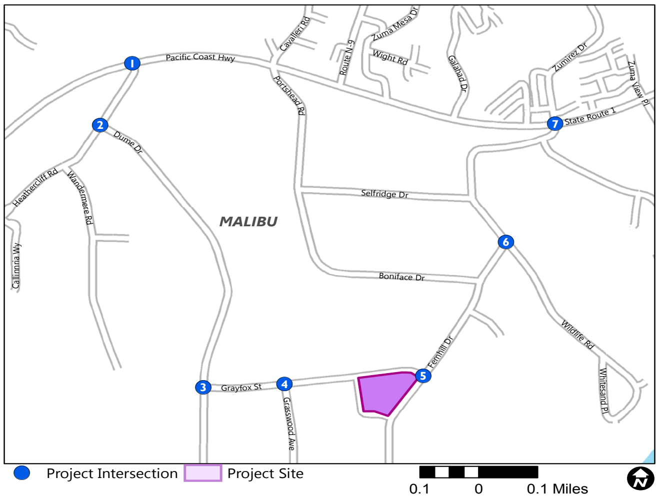
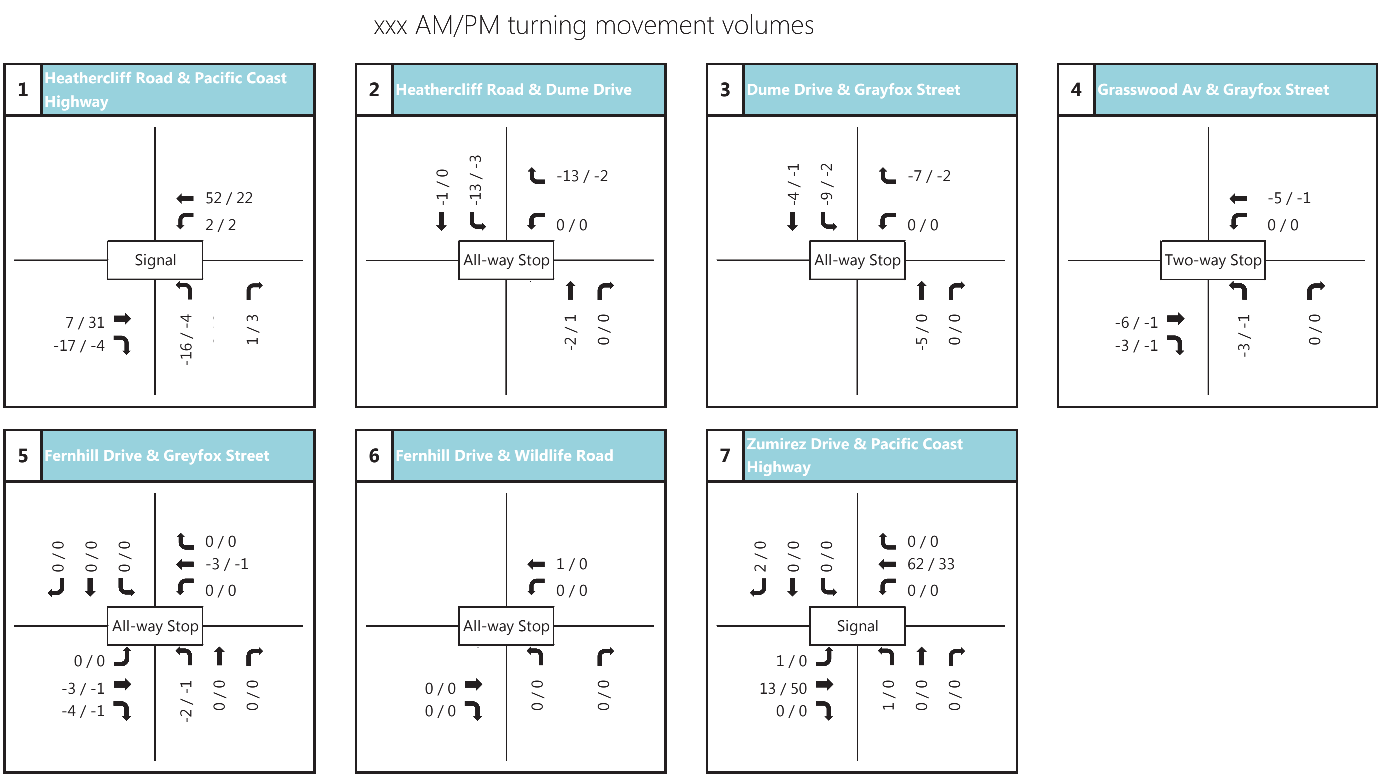


FIGURE 9

POINT DUME ELEMENTARY SCHOOL

Area Projects Trip Assignment - AM/PM Peak Hour





5.3 FUTURE WITHOUT PROJECT INTERSECTION LEVEL OF SERVICE

Table 7 summarizes the V/C and LOS values at the study intersections under this scenario.

Table 7: Future (Year 2019) without Project Level-of-Service Summary

Study Intersections		AM Peak		PM Peak	
		Delay (sec.)	LOS	Delay (sec.)	LOS
1	Heathercliff Road/Pacific Coast Highway	9.2	A	15.6	B
2	Heathercliff Road/Dume Drive *	8.3	A	8.3	A
3	Dume Drive/Grayfox Street *	7.7	A	7.7	A
4	Grasswood Avenue/Grayfox Street *	7.5	A	7.5	A
5	Fernhill Drive/Grayfox Street *	7.9	A	8.0	A
6	Fernhill Drive/Wildlife Road *	7.7	A	7.9	A
7	Zumirez Drive/Pacific Coast Highway	17.6	B	19.6	B

**Unsignalized Intersection*

As shown in Table 7, the study intersections would continue to operate at good levels of service during the weekday a.m. and p.m. peak hours.

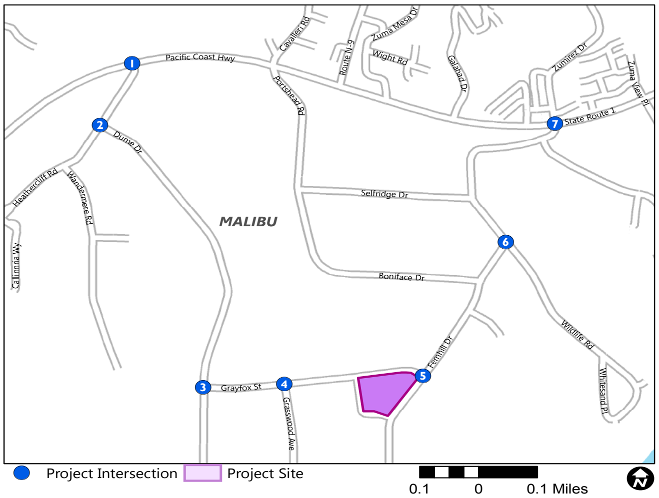
The future without-Project traffic volumes for the weekday a.m. and p.m. peak hour are illustrated on Figure 10.

Level-of-service calculation worksheets for this scenario are provided in Appendix D.

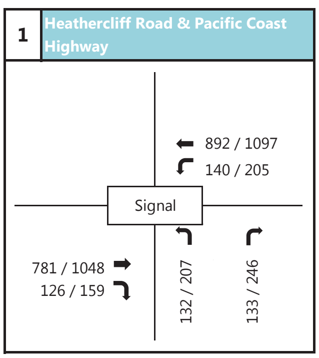
FIGURE 10

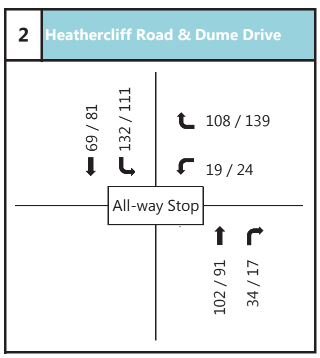
POINT DUME ELEMENTARY SCHOOL

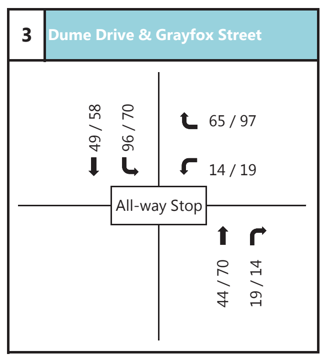
Future without Project - AM/PM Peak Hour Traffic Volumes

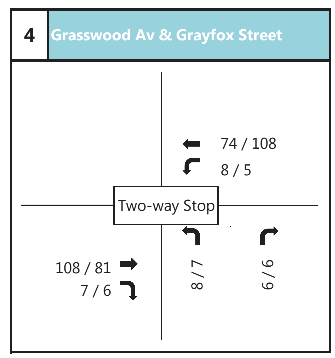


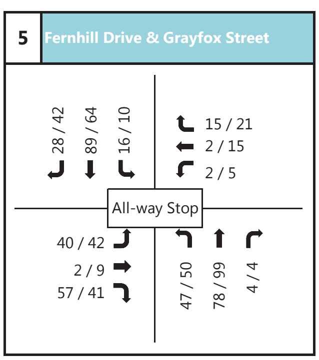
xxx AM/PM turning movement volumes

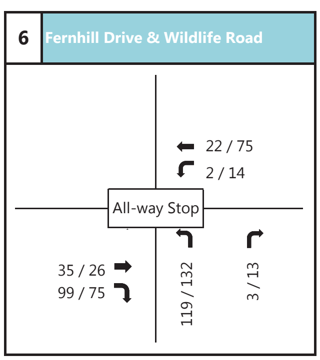


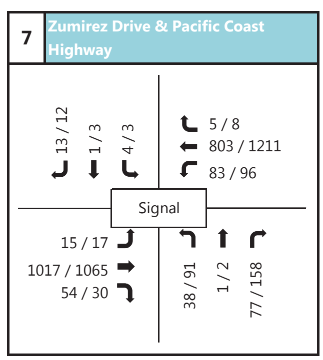












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6. Future with-Project Conditions

This section documents future traffic conditions at the study intersections with the addition of Project-generated traffic. Traffic volumes for these conditions were derived by adding Project trips to the future without-Project scenario volumes.

Table 8 summarizes the V/C and LOS values at the study intersections for future with-Project traffic conditions.

Table 8: Future with-Project Level-of-Service Summary

Study Intersections		AM Peak		PM Peak	
		Delay (sec.)	LOS	Delay (sec.)	LOS
1	Heathercliff Road/Pacific Coast Highway	9.2	A	14.0	B
2	Heathercliff Road/Dume Drive *	8.7	A	8.8	A
3	Dume Drive/Grayfox Street *	8.2	A	8.3	A
4	Grasswood Avenue/Grayfox Street *	8.0	A	8.0	A
5	Fernhill Drive/Grayfox Street *	9.8	A	10.0	A
6	Fernhill Drive/Wildlife Road *	8.6	A	8.8	A
7	Zumirez Drive/Pacific Coast Highway	18.9	B	20.3	C

**Unsignalized Intersection*

As shown in Table 8, all the study intersections would continue to operate at good levels of service during the weekday a.m. and p.m. peak hours.

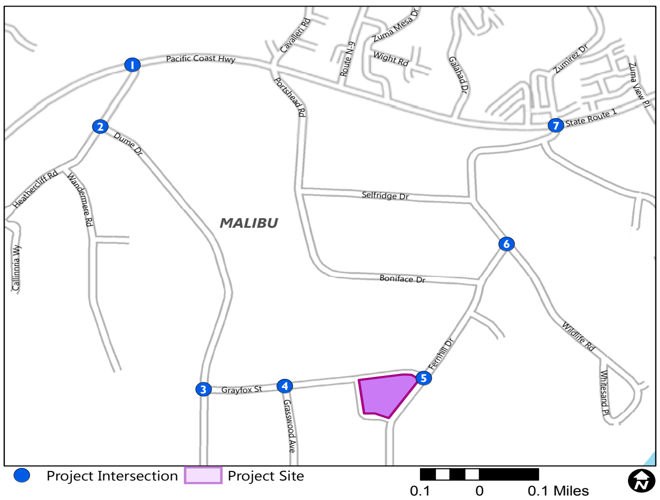
The future with-Project traffic volumes for the weekday a.m. and p.m. peak hour are illustrated on Figure 11.

The future with-Project traffic analysis worksheets are provided in Appendix E of this report.

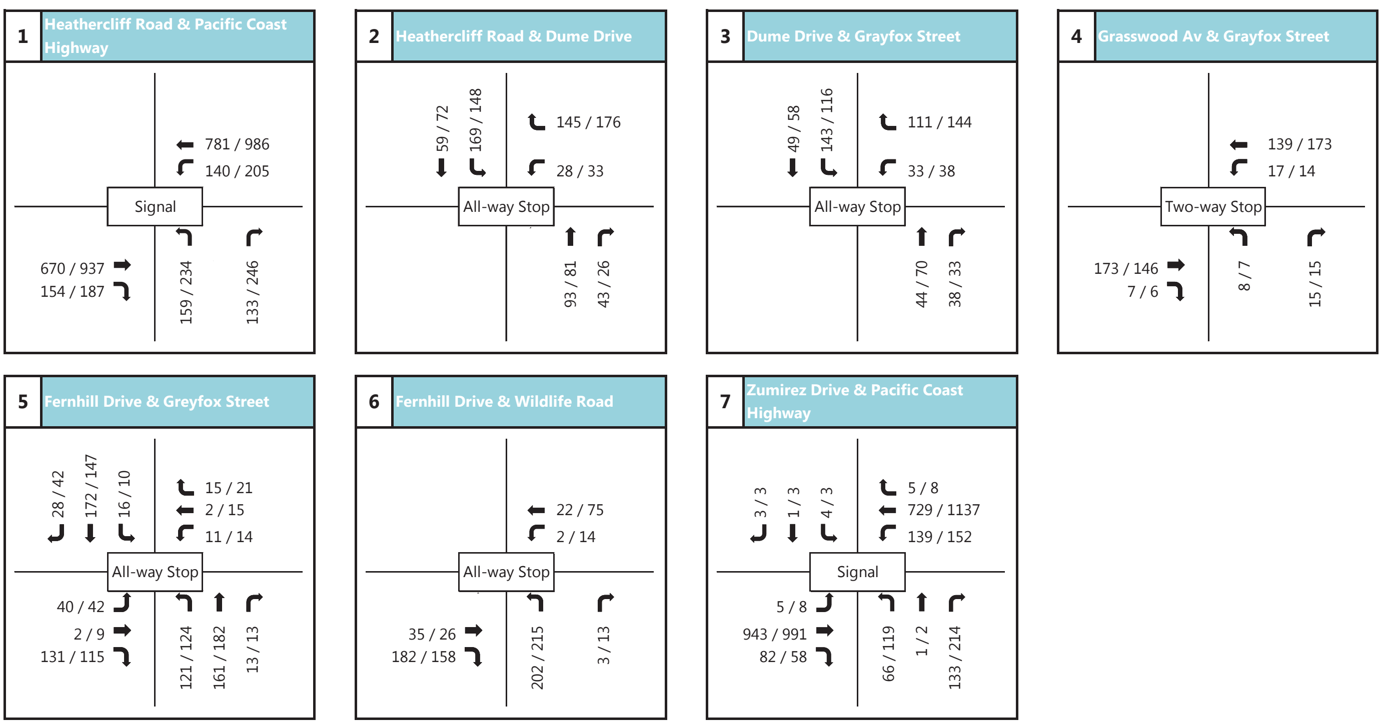
FIGURE 11

POINT DUME ELEMENTARY SCHOOL

Future with Project - AM/PM Peak Hour Traffic Volumes



xxx AM/PM turning movement volumes



7. Project Traffic Impacts

7.1 DETERMINATION OF TRAFFIC IMPACTS

Traffic impacts occur if a proposed development will result in significant changes in traffic conditions at a study location. A significant impact is typically identified if project-related traffic will cause LOS to deteriorate beyond a threshold limit specified by the reviewing agency. Impacts can also be significant if an intersection is already operating below the acceptable level of service and project traffic will cause a further decline in operations beyond the threshold.

The primary City significant traffic impact standards are provided in Table 1B. These standards are for signalized intersections and are based on increases in the volume-to-capacity ratio at LOS values of C thru F.

The City of Malibu also has an established significance impact criterion for stop-controlled intersections that states any increase in delay of five seconds or more at an unsignalized intersection operating at an unacceptable level of service (LOS E or F) is considered a significant impact.

Significant Traffic Impact Thresholds

Level of Service	Volume/Capacity Ratio	Project-Related Increase in V/C
C	0.71 – 0.80	Equal to or greater than 0.04
D	> 0.81 – 0.90	Equal to or greater than 0.02
E, F	> 0.91 or greater	Equal to or greater than 0.01

7.2 PROJECT TRAFFIC IMPACTS – EXISTING PLUS PROJECT

Table 9 provides a summary of the Project impacts under existing conditions. Traffic impacts created by the proposed Project were determined by comparing the existing scenario conditions to the existing with-Project scenario conditions.

The proposed Project would not create any significant traffic impacts at the study intersections under existing with-Project conditions, during either the weekday a.m. or p.m. peak hour. Project mitigation measures, therefore, are not recommended for existing conditions.

Table 9: Determination of Project Impacts – Existing With-Project Conditions

	Study Intersections	Peak Hour	Existing Conditions (Year 2018)		Existing plus-Project (Year 2018)		Sig Impact?
			Delay (sec.)	LOS	Delay (sec.)	LOS	
1	Heathercliff Road/Pacific Coast Highway	AM	9.0	A	9.4	A	No
		PM	14.6	B	14.8	B	No
2	Heathercliff Road/Dume Drive *	AM	8.2	A	8.6	A	No
		PM	8.3	A	8.7	A	No
3	Dume Drive/Grayfox Street *	AM	7.6	A	8.1	A	No
		PM	7.7	A	8.3	A	No
4	Grasswood Avenue/Grayfox Street *	AM	7.5	A	8.0	A	No
		PM	7.5	A	8.0	A	No
5	Fernhill Drive/Grayfox Street *	AM	7.9	A	9.7	A	No
		PM	8.0	A	9.9	A	No
6	Fernhill Drive/Wildlife Road *	AM	7.7	A	8.5	A	No
		PM	7.9	A	8.7	A	No
7	Zumirez Drive/Pacific Coast Highway	AM	18.0	B	18.9	B	No
		PM	20.0	B	21.1	C	No

**Unsignalized Intersection*

7.3 PROJECT TRAFFIC IMPACTS – FUTURE WITH PROJECT

Table 10 provides a summary of the Project impacts under future conditions. Traffic impacts created by the Project were determined by comparing the future without-Project conditions to the future with-Project conditions.

The proposed Project would not create any significant traffic impacts at the study intersections under future with-Project conditions, during either the weekday a.m. or p.m. peak hour. Project mitigation measures, therefore, are not recommended for future conditions.

Table 10: Determination of Project Impacts – Future With-Project

	Study Intersections	Peak Hour	Future Conditions (Year 2019)		Future plus-Project (Year 2019)		Sig Impact?
			Delay (sec.)	LOS	Delay (sec.)	LOS	
1	Heathercliff Road/Pacific Coast Highway	AM	9.2	A	9.2	A	No
		PM	15.6	B	14.0	B	No
2	Heathercliff Road/Dume Drive *	AM	8.3	A	8.7	A	No
		PM	8.3	A	8.8	A	No
3	Dume Drive/Grayfox Street *	AM	7.7	A	8.2	A	No
		PM	7.7	A	8.3	A	No
4	Grasswood Avenue/Grayfox Street *	AM	7.5	A	8.0	A	No
		PM	7.5	A	8.0	A	No
5	Fernhill Drive/Grayfox Street *	AM	7.9	A	9.8	A	No
		PM	8.0	A	10.0	A	No
6	Fernhill Drive/Wildlife Road *	AM	7.7	A	8.6	A	No
		PM	7.9	A	8.8	A	No
7	Zumirez Drive/Pacific Coast Highway	AM	17.6	B	18.9	B	No
		PM	19.6	B	20.3	C	No

**Unsignalized Intersection*

7.4 PROJECT ACCESS AND PICK-UP/DROP-OFF OPERATIONS

The analysis of the primary school driveway access point on Fernhill Drive (east side of the campus) was conducted for this report through monitoring of morning and afternoon activity during the spring and late summer season, when school was in session. This driveway access point provides access to the school on-site pick-up/drop-off area and the on-site parking area.

To the north of the driveway point on Fernhill Drive is a restricted parking area (prohibited parking during school-day pick-up/drop-off times) that provides space for three to four vehicles to queue adjacent to the curb before entering the site, when queues do form during peak activity and the extra vehicle storage space is necessary.

To the north of this area is a permitted on-street parking area, which provides space for approximately seven vehicles. This area is used for parking by parents who walk their children to/from the school site. To the north of this area is a Metro Bus stop and then the intersection of Grayfox Street.

A secondary access school pick-up/drop-off area is located on Grayfox Street (north side of the campus) within the on-street curb area, but that location has much less activity than the primary location on Fernhill Drive.

Monitoring Observations

Photographs were taken during monitoring of school pick-up/drop-off times within view of the school site driveway and on-street parking areas on Grayfox Street. Monitoring efforts during the morning drop-off period are discussed, followed by monitoring efforts during the afternoon pick-up period.

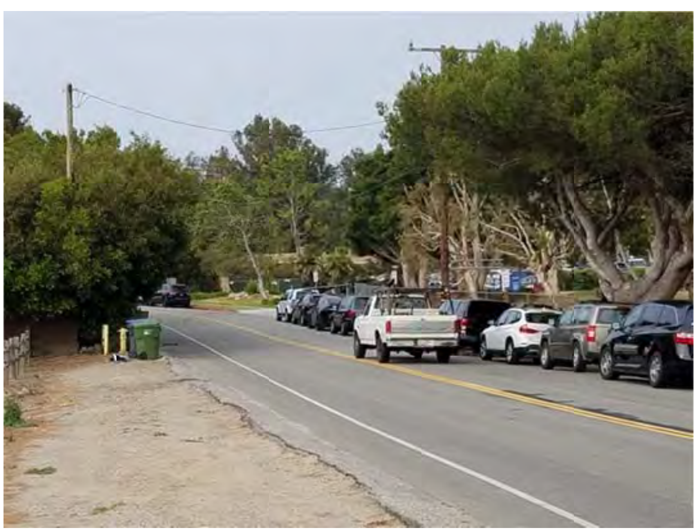
Morning Monitoring, May

Photograph No. 1 - 8:14 AM -
Normal operations on roadway

Monitoring during the Spring season began at 7:45 AM, in advance of the 8:15 AM morning tardy bell. Background/non-school traffic volumes were light.

By 8:14 AM, the on-street permitted parking was area was full and vehicles were parked within the no parking area adjacent to the driveway, which is intended only for queuing spillover, and not loading and unloading of students.

Nonetheless, queuing did not extend into the roadway travel lane, and through traffic remained free-flow. No delay of north-south thru traffic occurred.



Photograph No. 2 - 8:15 AM -
Normal operations, stopped vehicles in no parking area

Photograph No. 3 - 8:15 PM -
Vehicles existing with normal operations, stopped vehicles in no parking area

Morning Monitoring, September

Photograph No. 4 - 8:09 AM -
Increased roadway volumes from non-school peak times, but normal roadway operations.

Monitoring during the Spring season began at 7:45 AM, in advance of the 8:15 AM morning tardy bell.

By 8:09 AM, area traffic volumes noticeably increased due to school activity, the on-street permitted parking area was fully occupied, and vehicles began to park within the no parking/queuing area adjacent to the driveway.

Through 8:13 AM, when peak traffic levels subsided, normal roadway operations continued, with little or no delay to thru traffic.

Photograph No. 5 - 8:11 AM -
Increased roadway volumes, but with normal roadway operations.

Photograph No. 6 - 8:12 AM -
Increased in and out driveway volumes, but normal roadway operations.

Photograph No. 7 - 8:13 AM -
Vehicles continuing to enter driveway, but normal roadway operations remain.

Afternoon Monitoring, May

Monitoring was conducted during the afternoon and the pick-up school period, staring before the final dismissal bell and noting the peak activity of the school. The photographs in this section are a sampling of the peak period, and not the entire monitoring period.

Photograph No. 8 - 2:47 PM -
Vehicles queuing onto roadway.

During this period, monitoring began around 2:15 PM, before the final dismissal bell time of 2:45 PM.

Queuing at the school driveway occurred for less than one minute at 2:47 PM, with no noticeable queuing occurring before this time.

By 2:52 PM, school traffic volumes diminished completely, and four vehicles remained parked in the on-street parking area.

Photograph No. 9 – Later within same minute (2:47 PM) - No queuing, increased volumes on

Photograph No. 10 - 2:50 PM -
No queuing, vehicle stopped in no parking area

Photograph No. 11 - 2:51 PM -
No queuing, no stopped vehicles

Afternoon Monitoring, September

Monitoring was conducted during the afternoon period within the school Fall semester, starting before the final dismissal bell and noting the peak activity of the school. As with the other periods, the photographs in this section are a sampling of the peak period, and not the entire monitoring period.

Photograph No. 12 - 2:40 PM - Pick-up/drop-off area queuing, vehicles able to enter separate parking aisle

During this period, monitoring began around 2:15 PM, before the final dismissal bell time of 2:45 PM.

Traffic operations were light and free flowing during the initial period of monitoring. Around 2:40 PM, the vehicle queue at the on-site pick-up/drop-off area stretched almost to the roadway. Vehicles were still able to travel freely on the roadway, and were able to enter the separate parking lot entrance.

By 2:43 PM, the pick-up vehicle queue began to extend into the roadway. By 2:46 PM, vehicles parked within the on-street no parking area (intended for holding queued vehicles) forced incoming vehicles to queue within the roadway travel lanes.

From: 2:46 PM to 2:51 PM, the southbound roadway lane was blocked and a few oncoming thru traffic vehicles during that time entered the opposite direction travel lane, over the double yellow centerline, to pass the queue.

By 2:52 PM, the queue moves to the curb lane as parked vehicles there depart. Normal traffic operations resume.

Photograph No. 13 - 2:43 PM - Pick-up/drop-off area queuing to street, vehicles still able to enter separate parking aisle, and vehicles depart

Photograph No. 14 - 2:46 PM - Pick-up/drop-off area queuing to street, vehicles stopped in no parking area cause queuing in travel lane of roadway

Photograph No. 15 - 2:47 PM -
Queuing into travel lanes continues, other vehicles cross into opposite direction of travel on limited-visibility curve

Photograph No. 16 - 2:51 PM -
Queuing continues, backs up to on-street parking area.

Photograph No. 17 - 2:52 PM -
Queuing clears, vehicles move to curb area, normal roadway operations restored.

Recommendations for Site Access

As with any typical school site, a peak traffic period of approximately 15 minutes occurs, although there can be a longer but less intense 30 to 60 minute peak period depending on the size of the school and the particulars of school operations. Based on the monitoring conducted, it is clear that this school does not have a long extended peak of activity, but the peak is closed to 15 to 20 minutes.

The roadway travel lanes are generally not blocked for a long period of time. During the September afternoon monitoring period, the southbound travel lane on Fernhill Drive was blocked for a five-minute period. This occurred due to vehicles stopping to load students within a no-parking area, which is intended to be used to hold inbound vehicle queues. If the no-parking area had been free to be used as a vehicle queue area, the blockage of the southbound lane would likely not have occurred.

The increased number of students at the school site, however, would increase the vehicle queuing for the school site pick-up/drop-off area. The queuing into roadway lanes might increase, and general traffic activity will increase, to as much as twice the intensity of current operations due to the approximate doubling of the school student size with the proposed Project. A significant impact standard of a two-minute increase in the blocking of the southbound travel lane by the proposed Project has been defined for this study.

A potential alternative for Project operations is being considered by the District, which would provide for busing to the PDES school site from the JCES school site with a pick-up/drop-off area to remain at the JCES site. This is discussed more within Section 8 of this report.

If the significant impact standard is exceeded in the post-Project period, the District will implement one or more of the following measures as mitigation, if the busing option from JCES is not implemented, to reduce queuing on the adjacent roadway during peak times:

- Work with the Los Angeles County Metropolitan Transportation Authority (Metro) to relocate the Metro Line 534 bus stop on Fernhill Drive to Grayfox Street (west of the curve near the all-way stop intersection of the two roadways). This would free up additional on-street parking space on Fernhill Drive, and the on-street no parking/queuing area could be expanded.
- Reinforce for parents through written materials and other standard communications how the on-street queuing area is intended to work, and that no student loading/unloading should occur in that area.
- Consider widening the school driveway on Fernhill Drive, to provide for both wider ingress lanes and w wider egress lane, and provide an increased turning radius to allow for improved vehicle turning into and out of the site.
- Establish a staggered bell schedule for groups of grades or other potential grouping, to provide for a spacing of pick-up/drop-off activity. The staggering should be 30 minutes or more.
- Establish a secondary formal pick-up/drop-off area within the curb area of Grayfox Street.

7.5 PROJECT CONSTRUCTION PERIOD

During the Project construction period, a daily employee population would be present at the school site, and daily truck movements would be required for dirt hauling for various site grading activities and for delivery of construction materials. Various phases of the construction process would have varying intensities.

All staging of materials and construction employee vehicle parking would occur onsite. Dirt export trips would travel between the school site and Santa Paula to the north.

The maximum daily truck haul trips would be 12 trips for the first two phases of construction. Overall, the maximum total daily trips for Phase 1 would be 50 trips per day and would occur during the overlap of the grading, grading haul, and utility trenching activities during a one week period in June/July of 2019.

The max total daily trips for Phase 2, occurring after the school student seating increase was complete, would be 88 trips per day and would occur during the overlap of the rough grading, rough grading haul, fine grading, and fine grading phases during a one week period in 2020.

During the maximum period of Phase 1 construction, 30 workers would be on site and would generate commute trips to and from the site each day. During the maximum period of Phase 2, 60 workers would be on site.

The peak periods of construction truck trip activity would be for one week at a time, and would not be continuous throughout the construction phases. The inbound construction employee trips would occur during the early morning at the start of the construction shift and outbound trips would occur outside of the afternoon student pick-up time. Due to the temporary nature of the peak construction truck trip operations, and the non-peak nature of the employee vehicle trips, significant traffic impacts during the construction phase would not occur.

8. Alternate Access Option

This section evaluates a potential alternate site access option, involving busing of students from the JCES campus (to be closed as part of the overall Project). The District is considering this option as part of the Project.

The busing program under this option would operate from JCES to PDMSS, with pick-up/drop-off operations of students in personal vehicles occurring at the JCES campus. The PDMSS campus would only experience an increase in school bus trips, but not an increase in personal vehicle trips (which would be much higher than the number of buses needed to transport the students). The 185 students, for example, could be transported by four or five buses if the buses seat 40 to 45 students each.

The JCES campus would not be active, but the District would be able to provide for operations of the pick-up/drop-off area and bus operations within the otherwise-closed site.

This option would remove most of the potential traffic impacts of the proposed Project and the transfer of new students to the Point Dume Marine Science School campus.

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9. Congestion Management Program

This section provides study conformance with the regional impact analysis procedures mandated by the County of Los Angeles Congestion Management Program (CMP).

The CMP was created statewide because of Proposition 111 and was implemented locally by the Los Angeles County Metropolitan Transportation Authority (Metro). The CMP for Los Angeles County requires that the traffic impact of individual development projects of potentially regional significance be analyzed. A specific system of arterial roadways plus all freeways comprises the CMP system. Per CMP Transportation Impact Analysis (TIA) Guidelines, a traffic impact analysis is conducted where:

- At CMP arterial monitoring intersections, including freeway on-ramps or off-ramps, where the proposed Project will add 50 or more vehicle trips during either a.m. or p.m. weekday peak hours.

- At CMP mainline freeway-monitoring locations, where the Project will add 150 or more trips, in either direction, during the either the a.m. or p.m. weekday peak hours.

This project would not create significant CMP impacts, based on the Project trip generation and distribution. Mitigation measures are therefore not required.

10. Roadway Speed Survey Analysis

This report section provides an analysis of existing neighborhood vehicle traffic speeds. This analysis was conducted to examine compliance with posted speed limits within the local area. The Project is not anticipated to change area circulation patterns in a significant manner where it would affect speeds, but the effects of Project-added volumes could exacerbate the presence of speeding, if such conditions occur under existing conditions.

10.1 SPEED MEASUREMENTS FOR SURVEYED STREET SEGMENTS

Vehicle speeds data was collected for three local roadway segments, adjacent to the school site and on routes to and from the site. These measurements were conducted through use of machines capable of collecting speed data through the placement of vehicle-activated tubes. Speed measurements were made during periods of free-flowing traffic on normal weekdays with dry pavement conditions on May 21, 2018 and May 22, 2018. The following speed data was calculated:

1) Average Speed – This speed represents the arithmetic average of all speeds recorded at the location.

2) Critical Speed – This speed, also known as the 85th percentile speed, is the speed at or below which 85 percent of the traffic was observed. This value is the primary guide in establishing the speed limit as this value represents the top speed of most safe and reasonable motorists. In the absence of other factors such as a high collision rate, speed limits are usually established within a range of 5 miles per hour less than this speed.

3) Pace – This is the 10 mile per hour speed range that contains the largest number of vehicles that were observed. The pace provides a measure of the dispersion of speeds within the sample surveyed. In the absence of other factors such as a high collision rate, speed limits are usually established within the 10 miles per hour speed range in the pace.

The purpose of this speed analysis was to determine if the posted speed limits are proper based on California guidelines, and to see if neighborhood traffic calming measures might need to be considered in the vicinity of PDMSS. The speed data is provided in Appendix E of this report.

10.2. CONSIDERATIONS FOR ESTABLISHING SPEED LIMITS

Speed limits in California are governed by the California Vehicle Code (CVC.) CVC Section 627 defines the required components of an engineering and traffic survey for a street segment as considering each of the following three items:

1. Prevailing speeds as determined by traffic engineering measurements.
2. Accident records.
3. Highway, traffic, and roadside conditions not readily apparent to the driver.

The California Supplement to the Manual of Uniform Traffic Control Devices published in 2003 (Supplement) provides guidance on conducting engineering and traffic surveys. The Supplement states that the engineering and traffic survey should contain sufficient information to document that the required three items of CVC Section 627 are provided and that other conditions not readily apparent to a motorist are properly identified.

The Supplement states that prevailing speeds are determined by a speed zone survey. When qualifying an appropriate speed limit, the Supplement states that local authorities may also consider the following:

Residential density, if any of the following conditions exist on the particular portion of highway and the property contiguous thereto, other than a business district:

1. Upon one side of the highway, within ¼ mile, the contiguous property fronting thereon is occupied by 13 or more separate dwelling houses or business structures.

2. Upon both sides of the highway, collectively, within a distance of ¼ mile, the contiguous property fronting thereon is occupied by 16 or more separate dwelling houses or business structures.

3. The portion of the highway is longer than ¼ mile but has the ratio of separate dwelling houses or business structures to the length of the highway as described in either paragraph above.

4. Pedestrian and bicycle safety.

10.3 METHODOLOGY FOR ESTABLISHING SPEED LIMITS

The Supplement states that the "short method" of speed zoning is acceptable for local authorities. This "short method" of speed zoning is based on the premise that a reasonable speed limit is one that conforms to the actual behavior of the majority of motorists, and that by measuring speeds of motorists, one will be able to select a speed limit that is both reasonable and effective. Other factors that need to be considered include but are not limited to: the most recent collision record, roadway design speed, safe stopping sight distance, super elevation, shoulder conditions, profile conditions, intersection spacing and offsets, commercial driveway characteristics, and pedestrian traffic in the roadway without sidewalks.

The Supplement defines the 85th percentile or the critical speed as that speed at or below which 85 percent of the traffic is moving. Pace speed is defined as the 10 miles per hour increment of speed containing the largest number of vehicles. Speed limits set higher than the 85th percentile are not generally considered reasonable and prudent. Speed limits significantly below the 85th percentile do not ordinarily facilitate the orderly movement of traffic and require constant enforcement to maintain compliance. Speed limits established on the basis of the 85th percentile conform to the consensus of those who drive highways as to what speed is reasonable and prudent and are not dependent on the judgment of one or a few individuals.

The Supplement indicates the majority of drivers comply with the basic speed law. Speed limits set at or near the 85th percentile speed provide law enforcement officers with a limit to cite drivers who will not conform to what the majority considers reasonable and prudent. When roadside development results in traffic conflicts and unusual conditions which are not readily apparent to drivers, as indicated in collision records, speed limits somewhat below the 85th percentile may be justified. Concurrence and support of enforcement officials are necessary for the successful operation of a restricted speed zone.

The Supplement states that factors justifying a reduction below the 85th percentile speed for the posted speed limit should be documented on the speed zone survey or in the accompanying engineering report. The establishment of a speed limit below the 85th percentile speed should be done with great care as studies have shown that establishing a speed limit at less than the 85th percentile generally results in an increase in collision rates; in addition, this may make violators of a disproportionate number of the reasonable majority of drivers. The Supplement states that the most decisive evidence of conditions not apparent to the motorist surface in accident histories.

10.4 ROADWAY SEGMENT SPEED ASSESSMENT

Location No. 1 - Dume Drive north of Grayfox Street

Dume Drive is a two-lane roadway serving a residential area west of PDMSS. Parking is permitted on the east side of the roadway. Vehicles are also parked on the shoulder along the west side of the roadway. The posted speed limit on Dume Drive is 30 MPH.

Speeds measured on Monday, May 21, 2018 include an average of 29 MPH, a 10 MPH pace from 26 through 35, and a critical speed of 33 MPH. Speeds measured on Tuesday, May 22, 2018 were nearly the same.

Photograph No. 1 - Looking north on Dume Drive north of Grayfox Street.

The speed limit on Dume Drive is consistent with California Vehicle Code guidelines. Excessive speeding is not observed at this location. No changes to the roadway, roadway striping or speed limits are recommended at this location.

Location No. 2 -Fernhill Drive north of Grayfox Street

Fernhill Drive north of Grayfox Street is a two-lane roadway west of PDMSS. The posted speed limit is 25MPH. This segment of roadway has few driveways or access points.

Speeds measured on Monday, May 21, 2018 include an average of 30 MPH, a 10 MPH pace from 26 through 35, and a critical speed of 34 MPH. Speeds measured on Tuesday, May 22, 2018 were the same.

Photograph No. 2 -Looking north on Fernhill Drive north of Grayfox Street.

The speed limit on Fernhill Drive is consistent with California Vehicle Code guidelines. Excessive speeding is not observed at this location. No changes to the roadway, roadway striping or speed limits are recommended at this location.

Location No. 3 - Grayfox Street west of Fernhill Drive

Grayfox Street is a two-lane roadway that runs generally east to west north of PDMSS. Parking is allowed on the south side of the roadway. There is a posted speed limit of 25MPH when students are present.

Speeds measured on Monday, May 21, 2018 include an average of 27 MPH, a 10 MPH pace from 26 through 35, and a critical speed of 34 MPH. Speeds measured on Tuesday, May 22, 2018 were the same.

Photograph No. 3 -Looking west on Grayfox Street west of Fernhill Drive.

The critical speed on Fernhill Drive is 9 MPH higher than the posted speed limit. As this location is both within the residential neighborhood and adjacent to Point Dune Elementary School, it is recommended that traffic speed reduction measures be considered at this location.

Speed awareness measures should be considered first, such as electronic signs that provide driver feedback on measured speeds. One sign is recommended for each direction of travel within the area of this roadway segment.

Within six to twelve months of the installation of these signs, an additional speed survey should be conducted. If speeds have not been reduced to a level at or below standards, traffic calming measures should be pursued, which might include roadway striping to better define travel lanes and reduce the perceived width of lanes or curb extensions within select locations within the on-street parking areas to physically reduce the roadway width and reduce speeds.

APPENDIX A
Traffic Count Data (May 2018)

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Malibu
N/S: Heathercliff Road
E/W: Pacific Coast Highway (SR-1)
Weather: Clear

File Name : 01_MAL_Heathercliff_PCH AM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 1

Groups Printed- Total Volume

	Pacific Coast Highway Westbound			Heathercliff Road Northbound			Pacific Coast Highway Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	42	143	185	18	44	62	179	11	190	437
07:15 AM	30	170	200	26	30	56	183	17	200	456
07:30 AM	26	247	273	42	27	69	163	30	193	535
07:45 AM	32	211	243	25	37	62	221	45	266	571
Total	130	771	901	111	138	249	746	103	849	1999
08:00 AM	47	166	213	29	35	64	206	29	235	512
08:15 AM	38	122	160	27	51	78	174	25	199	437
08:30 AM	39	152	191	24	39	63	170	25	195	449
08:45 AM	52	180	232	31	40	71	161	32	193	496
Total	176	620	796	111	165	276	711	111	822	1894
Grand Total	306	1391	1697	222	303	525	1457	214	1671	3893
Apprch %	18	82		42.3	57.7		87.2	12.8		
Total %	7.9	35.7	43.6	5.7	7.8	13.5	37.4	5.5	42.9	

	Pacific Coast Highway Westbound			Heathercliff Road Northbound			Pacific Coast Highway Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	30	170	200	26	30	56	183	17	200	456
07:30 AM	26	**247**	**273**	**42**	27	**69**	163	30	193	535
07:45 AM	32	211	243	25	**37**	62	**221**	**45**	**266**	**571**
08:00 AM	**47**	166	213	29	35	64	206	29	235	512
Total Volume	135	794	929	122	129	251	773	121	894	2074
% App. Total	14.5	85.5		48.6	51.4		86.5	13.5		
PHF	.718	.804	.851	.726	.872	.909	.874	.672	.840	.908

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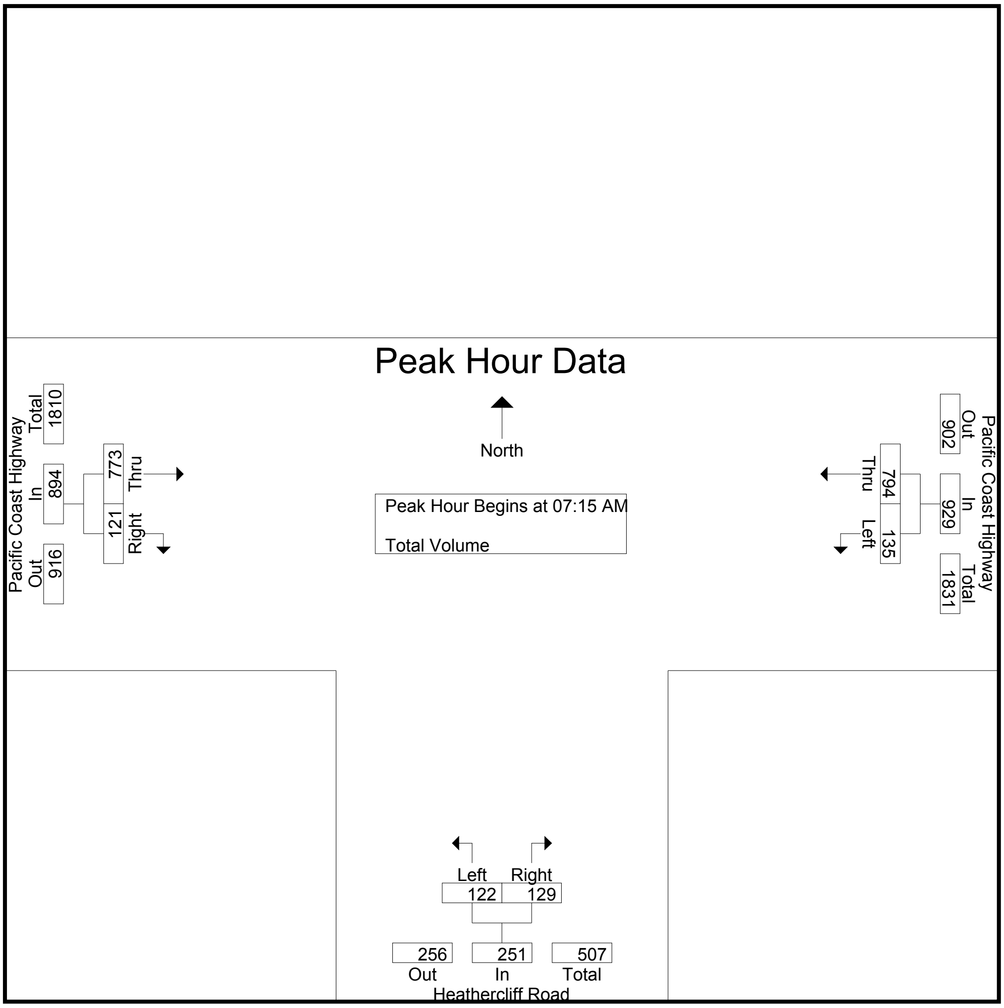
File Name : 01_MAL_Heathercliff_PCH AM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			08:00 AM			07:45 AM		
+0 mins.	30	170	200	29	35	64	**221**	**45**	**266**
+15 mins.	26	**247**	**273**	27	**51**	**78**	206	29	235
+30 mins.	32	211	243	24	39	63	174	25	199
+45 mins.	**47**	166	213	**31**	40	71	170	25	195
Total Volume	135	794	929	111	165	276	771	124	895
% App. Total	14.5	85.5		40.2	59.8		86.1	13.9	
PHF	.718	.804	.851	.895	.809	.885	.872	.689	.841

Counts Unlimited
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City of Malibu
N/S: Heathercliff Road
E/W: Pacific Coast Highway (SR-1)
Weather: Clear

File Name : 01_MAL_Heathercliff_PCH PM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 1

Groups Printed- Total Volume

	Pacific Coast Highway Westbound			Heathercliff Road Northbound			Pacific Coast Highway Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
02:00 PM	50	182	232	35	53	88	174	27	201	521
02:15 PM	42	203	245	36	42	78	180	25	205	528
02:30 PM	47	204	251	37	44	81	183	24	207	539
02:45 PM	54	258	312	45	51	96	176	25	201	609
Total	193	847	1040	153	190	343	713	101	814	2197
03:00 PM	44	237	281	57	41	98	283	64	347	726
03:15 PM	46	253	299	49	65	114	262	37	299	712
03:30 PM	60	295	355	47	72	119	251	33	284	758
03:45 PM	49	262	311	48	60	108	194	21	215	634
Total	199	1047	1246	201	238	439	990	155	1145	2830
Grand Total	392	1894	2286	354	428	782	1703	256	1959	5027
Apprch %	17.1	82.9		45.3	54.7		86.9	13.1		
Total %	7.8	37.7	45.5	7	8.5	15.6	33.9	5.1	39	

	Pacific Coast Highway Westbound			Heathercliff Road Northbound			Pacific Coast Highway Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:00 PM										
03:00 PM	44	237	281	**57**	41	98	**283**	**64**	**347**	726
03:15 PM	46	253	299	49	65	114	262	37	299	712
03:30 PM	**60**	**295**	**355**	47	**72**	**119**	251	33	284	**758**
03:45 PM	49	262	311	48	60	108	194	21	215	634
Total Volume	199	1047	1246	201	238	439	990	155	1145	2830
% App. Total	16	84		45.8	54.2		86.5	13.5		
PHF	.829	.887	.877	.882	.826	.922	.875	.605	.825	.933

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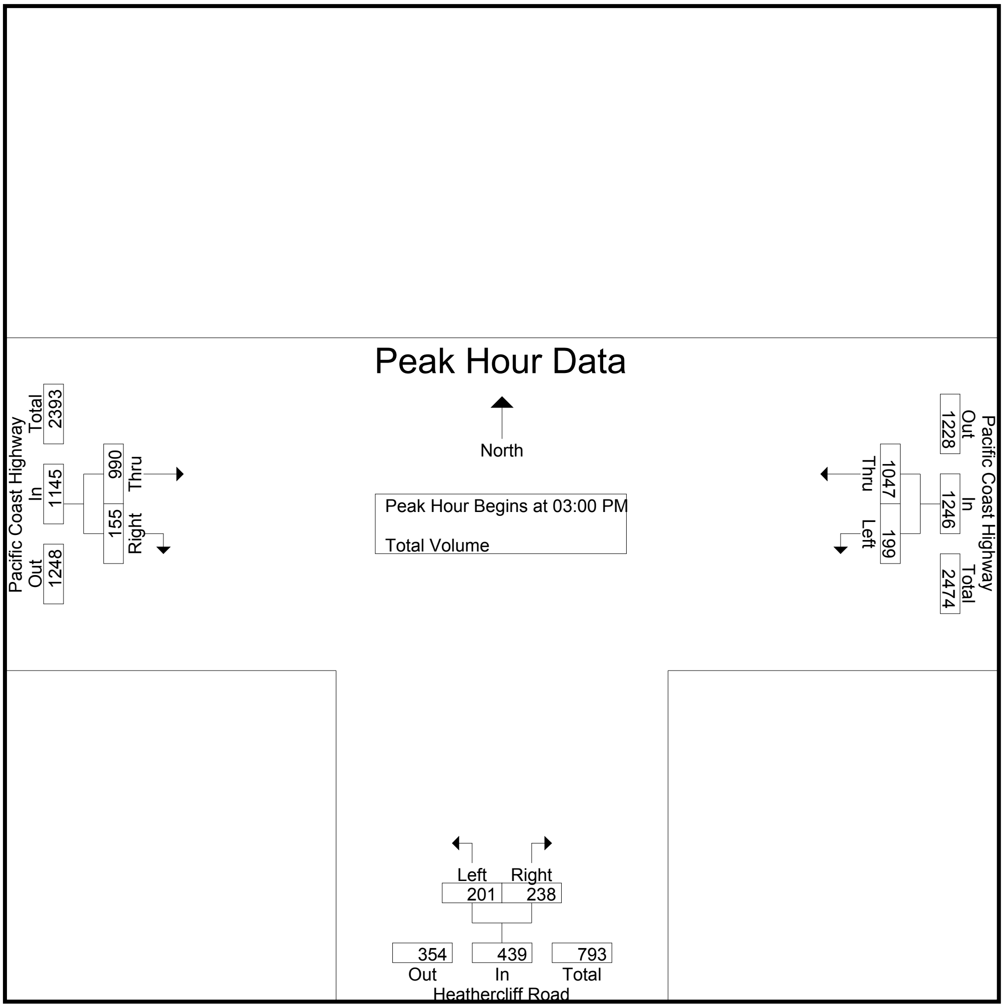
File Name : 01_MAL_Heathercliff_PCH PM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 2



Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	02:45 PM			03:00 PM			03:00 PM		
+0 mins.	54	258	312	**57**	41	98	**283**	**64**	**347**
+15 mins.	44	237	281	49	65	114	262	37	299
+30 mins.	46	253	299	47	**72**	**119**	251	33	284
+45 mins.	**60**	**295**	**355**	48	60	108	194	21	215
Total Volume	204	1043	1247	201	238	439	990	155	1145
% App. Total	16.4	83.6		45.8	54.2		86.5	13.5	
PHF	.850	.884	.878	.882	.826	.922	.875	.605	.825

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Malibu
N/S: Heathercliff Road
E/W: Dume Drive
Weather: Clear

File Name : 02_MAL_Heathercliff_Dume AM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 1

Groups Printed- Total Volume

	Heathercliff Road Southbound			Dume Drive Westbound			Heathercliff Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	17	13	30	1	17	18	23	2	25	73
07:15 AM	12	7	19	3	17	20	23	4	27	66
07:30 AM	26	10	36	3	24	27	30	2	32	95
07:45 AM	37	19	56	0	27	27	25	2	27	110
Total	92	49	141	7	85	92	101	10	111	344
08:00 AM	45	22	67	6	19	25	25	23	48	140
08:15 AM	17	15	32	10	29	39	19	6	25	96
08:30 AM	19	16	35	3	24	27	22	4	26	88
08:45 AM	28	26	54	0	21	21	22	2	24	99
Total	109	79	188	19	93	112	88	35	123	423
Grand Total	201	128	329	26	178	204	189	45	234	767
Apprch %	61.1	38.9		12.7	87.3		80.8	19.2		
Total %	26.2	16.7	42.9	3.4	23.2	26.6	24.6	5.9	30.5	

	Heathercliff Road Southbound			Dume Drive Westbound			Heathercliff Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	26	10	36	3	24	27	**30**	2	32	95
07:45 AM	37	19	56	0	27	27	25	2	27	110
08:00 AM	**45**	**22**	**67**	6	19	25	25	**23**	**48**	**140**
08:15 AM	17	15	32	**10**	**29**	**39**	19	6	25	96
Total Volume	125	66	191	19	99	118	99	33	132	441
% App. Total	65.4	34.6		16.1	83.9		75	25		
PHF	.694	.750	.713	.475	.853	.756	.825	.359	.688	.788

Counts Unlimited
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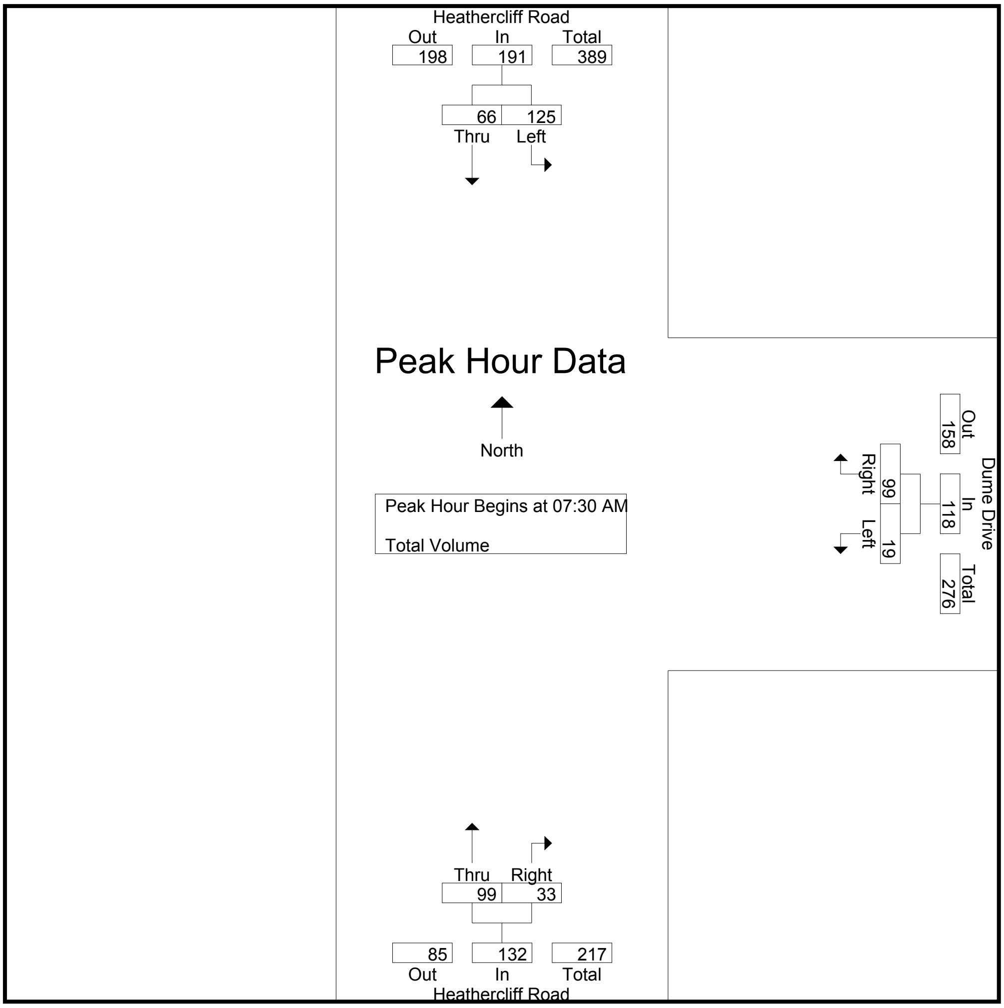
City of Malibu
N/S: Heathercliff Road
E/W: Dume Drive
Weather: Clear

File Name : 02_MAL_Heathercliff_Dume AM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:15 AM		
+0 mins.	26	10	36	3	24	27	23	4	27
+15 mins.	37	19	56	0	27	27	**30**	2	32
+30 mins.	**45**	**22**	**67**	6	19	25	25	2	27
+45 mins.	17	15	32	**10**	**29**	**39**	25	**23**	**48**
Total Volume	125	66	191	19	99	118	103	31	134
% App. Total	65.4	34.6		16.1	83.9		76.9	23.1	
PHF	.694	.750	.713	.475	.853	.756	.858	.337	.698

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Malibu
N/S: Heathercliff Road
E/W: Dume Drive
Weather: Clear

File Name : 02_MAL_Heathercliff_Dume PM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 1

Groups Printed- Total Volume

	Heathercliff Road Southbound			Dume Drive Westbound			Heathercliff Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
02:00 PM	24	21	45	4	27	31	17	1	18	94
02:15 PM	27	15	42	2	29	31	15	3	18	91
02:30 PM	21	17	38	4	14	18	18	4	22	78
02:45 PM	29	19	48	9	47	56	23	6	29	133
Total	101	72	173	19	117	136	73	14	87	396
03:00 PM	28	13	41	8	29	37	17	3	20	98
03:15 PM	25	27	52	4	24	28	26	5	31	111
03:30 PM	25	19	44	3	33	36	21	3	24	104
03:45 PM	18	23	41	2	32	34	15	4	19	94
Total	96	82	178	17	118	135	79	15	94	407
Grand Total	197	154	351	36	235	271	152	29	181	803
Apprch %	56.1	43.9		13.3	86.7		84	16		
Total %	24.5	19.2	43.7	4.5	29.3	33.7	18.9	3.6	22.5	

	Heathercliff Road Southbound			Dume Drive Westbound			Heathercliff Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:45 PM										
02:45 PM	**29**	19	48	**9**	**47**	**56**	23	**6**	29	**133**
03:00 PM	28	13	41	8	29	37	17	3	20	98
03:15 PM	25	**27**	**52**	4	24	28	**26**	5	**31**	111
03:30 PM	25	19	44	3	33	36	21	3	24	104
Total Volume	107	78	185	24	133	157	87	17	104	446
% App. Total	57.8	42.2		15.3	84.7		83.7	16.3		
PHF	.922	.722	.889	.667	.707	.701	.837	.708	.839	.838

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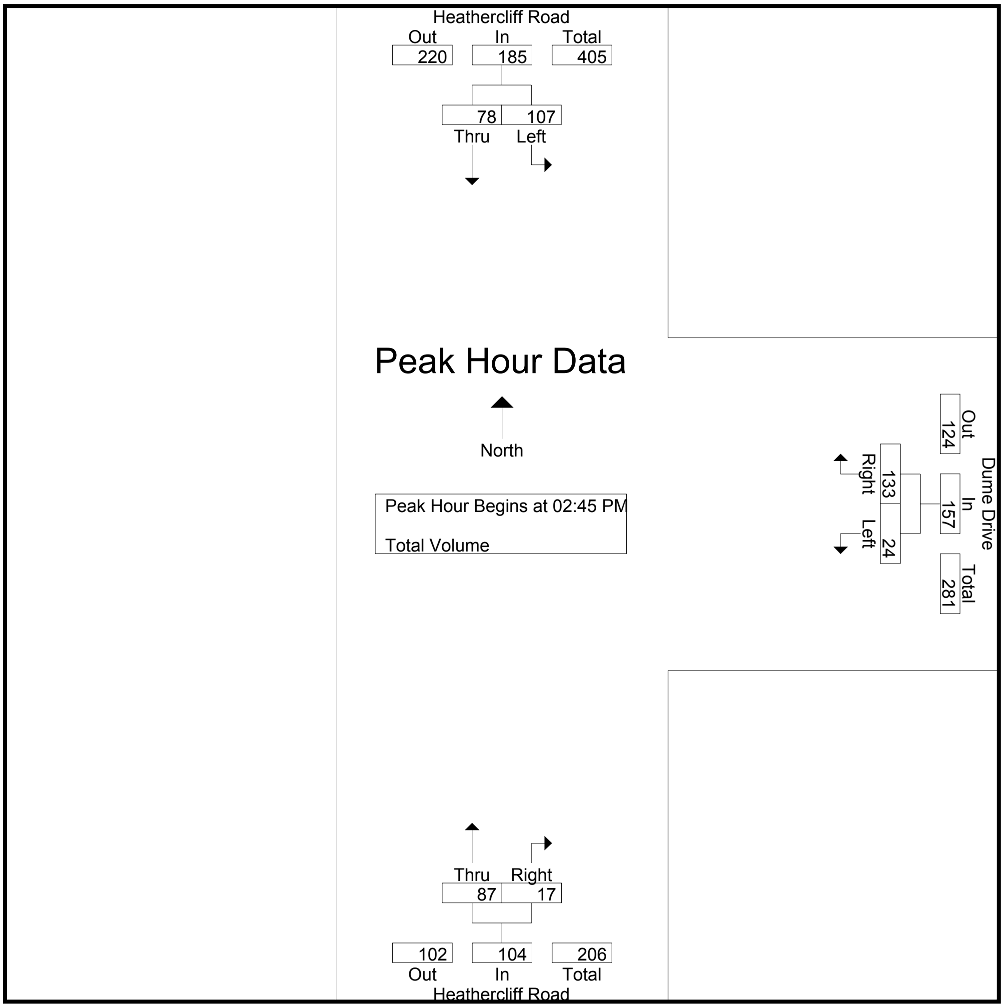
City of Malibu
N/S: Heathercliff Road
E/W: Dume Drive
Weather: Clear

File Name : 02_MAL_Heathercliff_Dume PM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 2



Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	02:45 PM			02:45 PM			02:45 PM		
+0 mins.	**29**	19	48	**9**	**47**	**56**	23	**6**	29
+15 mins.	28	13	41	8	29	37	17	3	20
+30 mins.	25	**27**	**52**	4	24	28	**26**	5	**31**
+45 mins.	25	19	44	3	33	36	21	3	24
Total Volume	107	78	185	24	133	157	87	17	104
% App. Total	57.8	42.2		15.3	84.7		83.7	16.3	
PHF	.922	.722	.889	.667	.707	.701	.837	.708	.839

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Malibu
N/S: Dume Drive
E/W: Greyfox Street
Weather: Clear

File Name : 03_MAL_Dume_Greyfox AM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 1

Groups Printed- Total Volume

	Dume Drive Southbound			Greyfox Street Westbound			Dume Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	9	11	20	2	5	7	7	1	8	35
07:15 AM	8	11	19	4	11	15	7	2	9	43
07:30 AM	14	6	20	0	9	9	11	3	14	43
07:45 AM	15	11	26	2	7	9	11	5	16	51
Total	46	39	85	8	32	40	36	11	47	172
08:00 AM	49	12	61	6	15	21	7	9	16	98
08:15 AM	21	14	35	3	23	26	12	2	14	75
08:30 AM	7	9	16	3	13	16	12	3	15	47
08:45 AM	11	10	21	2	10	12	9	1	10	43
Total	88	45	133	14	61	75	40	15	55	263
Grand Total	134	84	218	22	93	115	76	26	102	435
Apprch %	61.5	38.5		19.1	80.9		74.5	25.5		
Total %	30.8	19.3	50.1	5.1	21.4	26.4	17.5	6	23.4	

	Dume Drive Southbound			Greyfox Street Westbound			Dume Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	15	11	26	2	7	9	11	5	**16**	51
08:00 AM	**49**	12	**61**	**6**	15	21	7	**9**	16	**98**
08:15 AM	21	**14**	35	3	**23**	**26**	**12**	2	14	75
08:30 AM	7	9	16	3	13	16	12	3	15	47
Total Volume	92	46	138	14	58	72	42	19	61	271
% App. Total	66.7	33.3		19.4	80.6		68.9	31.1		
PHF	.469	.821	.566	.583	.630	.692	.875	.528	.953	.691

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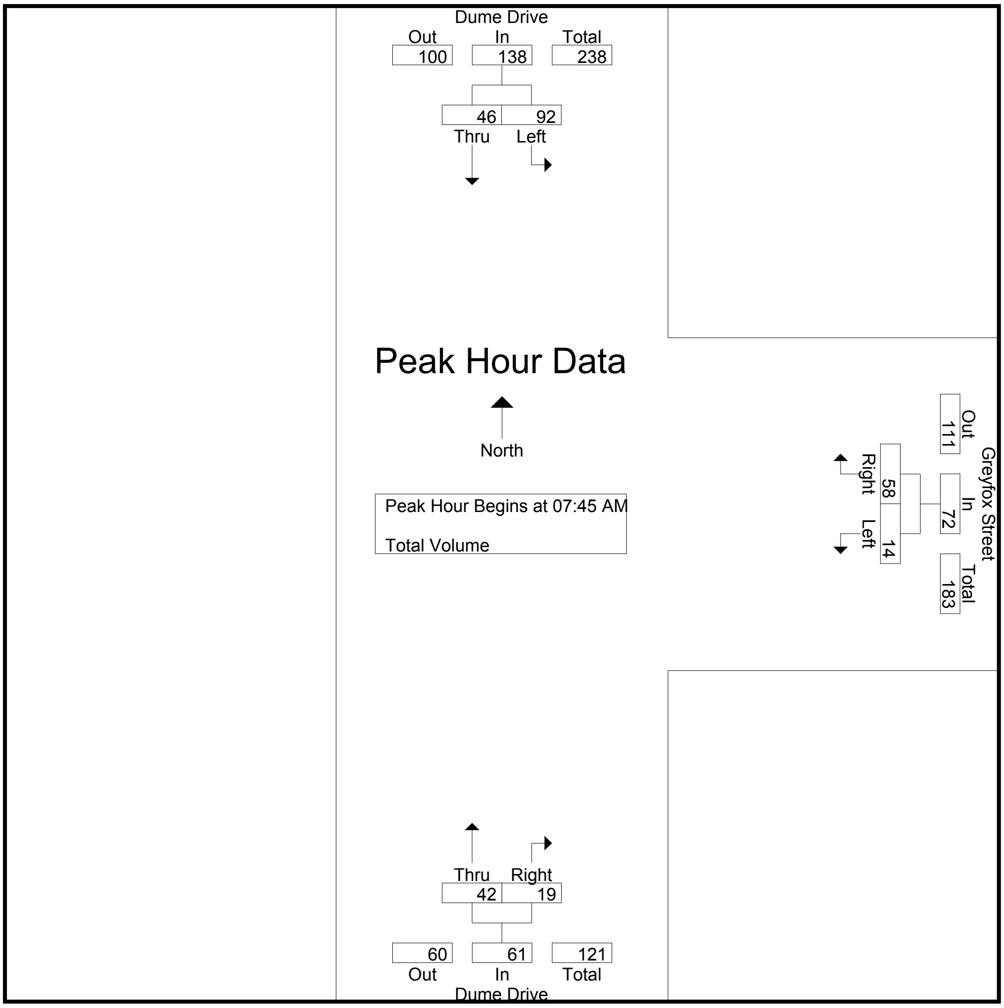
City of Malibu
N/S: Dume Drive
E/W: Greyfox Street
Weather: Clear

File Name : 03_MAL_Dume_Greyfox AM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			08:00 AM			07:45 AM		
+0 mins.	14	6	20	**6**	15	21	11	5	**16**
+15 mins.	15	11	26	3	**23**	**26**	7	**9**	16
+30 mins.	**49**	12	**61**	3	13	16	**12**	2	14
+45 mins.	21	**14**	35	2	10	12	12	3	15
Total Volume	99	43	142	14	61	75	42	19	61
% App. Total	69.7	30.3		18.7	81.3		68.9	31.1	
PHF	.505	.768	.582	.583	.663	.721	.875	.528	.953

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N/S: Dume Drive
E/W: Greyfox Street
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File Name : 03_MAL_Dume_Greyfox PM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 1

Groups Printed- Total Volume

	Dume Drive Southbound			Greyfox Street Westbound			Dume Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
02:00 PM	8	15	23	3	21	24	13	2	15	62
02:15 PM	8	15	23	6	9	15	17	5	22	60
02:30 PM	27	14	41	5	16	21	10	6	16	78
02:45 PM	17	15	32	4	31	35	23	5	28	95
Total	60	59	119	18	77	95	63	18	81	295
03:00 PM	12	14	26	6	29	35	21	2	23	84
03:15 PM	12	13	25	4	18	22	13	1	14	61
03:30 PM	14	14	28	2	20	22	15	5	20	70
03:45 PM	17	11	28	5	11	16	25	4	29	73
Total	55	52	107	17	78	95	74	12	86	288
Grand Total	115	111	226	35	155	190	137	30	167	583
Apprch %	50.9	49.1		18.4	81.6		82	18		
Total %	19.7	19	38.8	6	26.6	32.6	23.5	5.1	28.6	

	Dume Drive Southbound			Greyfox Street Westbound			Dume Drive Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:30 PM										
02:30 PM	**27**	14	**41**	5	16	21	10	**6**	16	78
02:45 PM	17	**15**	32	4	**31**	**35**	**23**	5	**28**	**95**
03:00 PM	12	14	26	**6**	29	35	21	2	23	84
03:15 PM	12	13	25	4	18	22	13	1	14	61
Total Volume	68	56	124	19	94	113	67	14	81	318
% App. Total	54.8	45.2		16.8	83.2		82.7	17.3		
PHF	.630	.933	.756	.792	.758	.807	.728	.583	.723	.837

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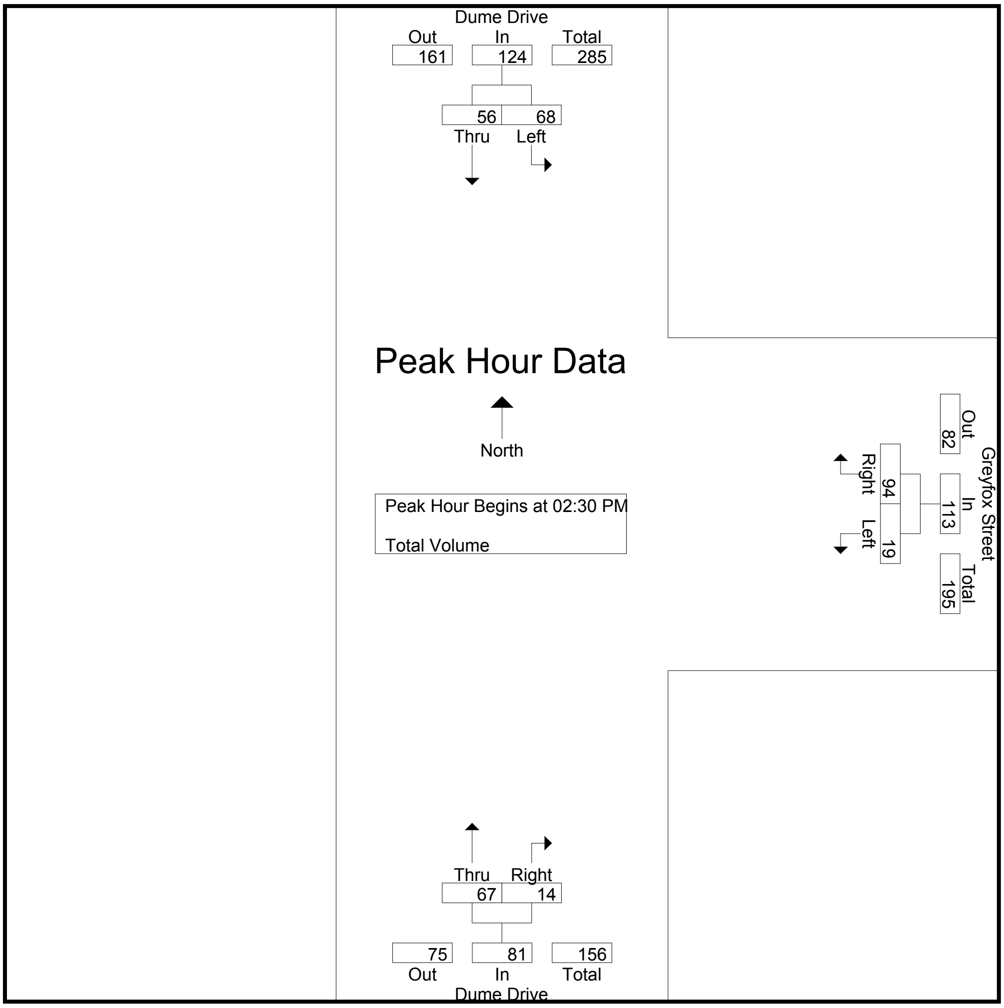
N/S: Dume Drive
E/W: Greyfox Street
Weather: Clear

File Name : 03_MAL_Dume_Greyfox PM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 2



Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	02:30 PM			02:45 PM			02:15 PM		
+0 mins.	**27**	14	**41**	4	**31**	**35**	17	5	22
+15 mins.	17	**15**	32	**6**	29	35	10	**6**	16
+30 mins.	12	14	26	4	18	22	**23**	5	**28**
+45 mins.	12	13	25	2	20	22	21	2	23
Total Volume	68	56	124	16	98	114	71	18	89
% App. Total	54.8	45.2		14	86		79.8	20.2	
PHF	.630	.933	.756	.667	.790	.814	.772	.750	.795

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E/W: Greyfox Street
Weather: Clear

File Name : 04_MAL_Grasswood_Greyfox AM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 1

Groups Printed- Total Volume

	Greyfox Street Westbound			Grasswood Avenue Northbound			Greyfox Street Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	2	8	10	0	1	1	9	0	9	20
07:15 AM	0	14	14	3	1	4	10	2	12	30
07:30 AM	1	8	9	2	1	3	11	4	15	27
07:45 AM	0	8	8	1	2	3	19	2	21	32
Total	3	38	41	6	5	11	49	8	57	109
08:00 AM	1	26	27	0	1	1	59	3	62	90
08:15 AM	3	22	25	3	2	5	19	1	20	50
08:30 AM	4	12	16	3	1	4	7	1	8	28
08:45 AM	0	7	7	3	2	5	11	2	13	25
Total	8	67	75	9	6	15	96	7	103	193
Grand Total	11	105	116	15	11	26	145	15	160	302
Apprch %	9.5	90.5		57.7	42.3		90.6	9.4		
Total %	3.6	34.8	38.4	5	3.6	8.6	48	5	53	

	Greyfox Street Westbound			Grasswood Avenue Northbound			Greyfox Street Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	8	8	1	**2**	3	19	2	21	32
08:00 AM	1	**26**	**27**	0	1	1	**59**	**3**	**62**	**90**
08:15 AM	3	22	25	**3**	2	**5**	19	1	20	50
08:30 AM	**4**	12	16	3	1	4	7	1	8	28
Total Volume	8	68	76	7	6	13	104	7	111	200
% App. Total	10.5	89.5		53.8	46.2		93.7	6.3		
PHF	.500	.654	.704	.583	.750	.650	.441	.583	.448	.556

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N/S: Grasswood Avenue
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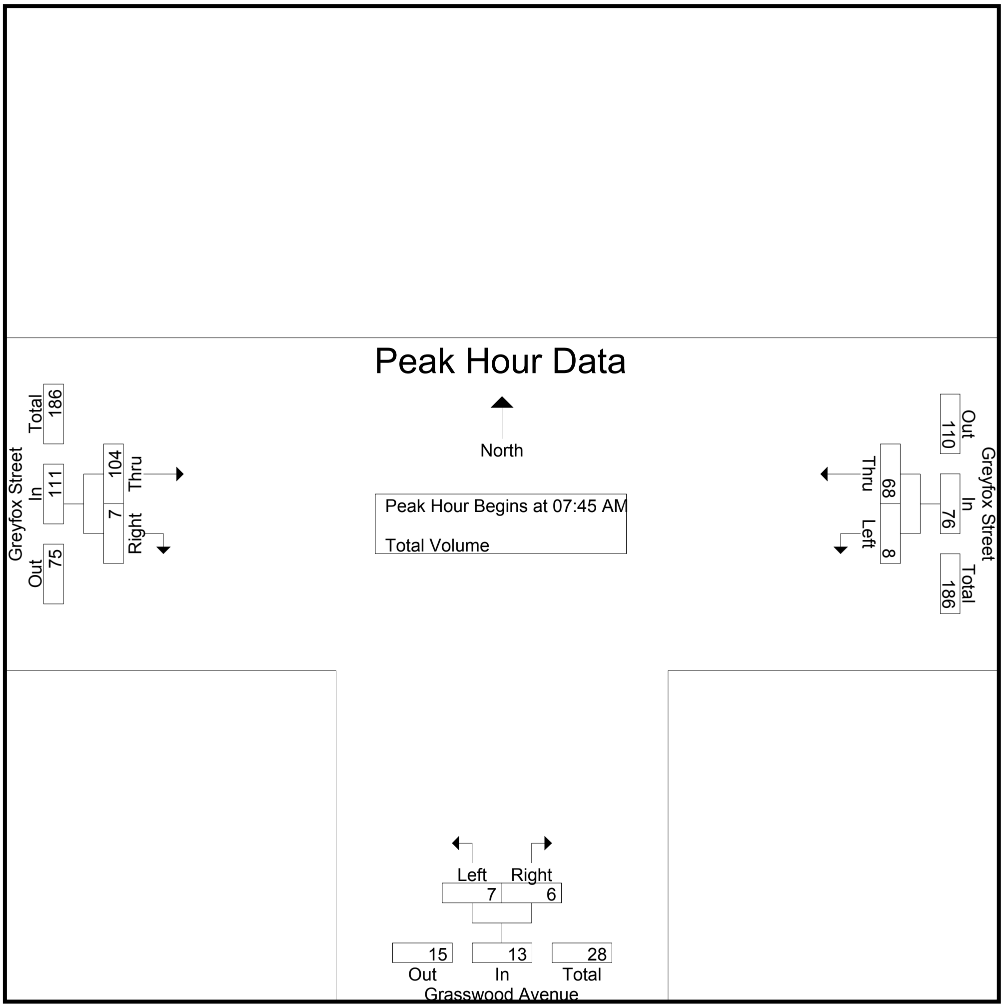
File Name : 04_MAL_Grasswood_Greyfox AM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			08:00 AM			07:30 AM		
+0 mins.	0	8	8	0	1	1	11	**4**	15
+15 mins.	1	**26**	**27**	**3**	**2**	**5**	19	2	21
+30 mins.	3	22	25	3	1	4	**59**	3	**62**
+45 mins.	**4**	12	16	3	2	5	19	1	20
Total Volume	8	68	76	9	6	15	108	10	118
% App. Total	10.5	89.5		60	40		91.5	8.5	
PHF	.500	.654	.704	.750	.750	.750	.458	.625	.476

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N/S: Grasswood Avenue
E/W: Greyfox Street
Weather: Clear

File Name : 04_MAL_Grasswood_Greyfox PM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 1

Groups Printed- Total Volume

	Greyfox Street Westbound			Grasswood Avenue Northbound			Greyfox Street Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
02:00 PM	1	15	16	5	3	8	8	2	10	34
02:15 PM	0	14	14	1	3	4	10	3	13	31
02:30 PM	1	18	19	1	0	1	30	3	33	53
02:45 PM	1	39	40	0	4	4	20	1	21	65
Total	3	86	89	7	10	17	68	9	77	183
03:00 PM	0	26	26	3	2	5	15	2	17	48
03:15 PM	3	22	25	3	0	3	13	0	13	41
03:30 PM	1	19	20	2	3	5	16	1	17	42
03:45 PM	3	16	19	1	3	4	16	4	20	43
Total	7	83	90	9	8	17	60	7	67	174
Grand Total	10	169	179	16	18	34	128	16	144	357
Apprch %	5.6	94.4		47.1	52.9		88.9	11.1		
Total %	2.8	47.3	50.1	4.5	5	9.5	35.9	4.5	40.3	

	Greyfox Street Westbound			Grasswood Avenue Northbound			Greyfox Street Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:30 PM										
02:30 PM	1	18	19	1	0	1	**30**	**3**	**33**	53
02:45 PM	1	**39**	**40**	0	**4**	4	20	1	21	**65**
03:00 PM	0	26	26	**3**	2	**5**	15	2	17	48
03:15 PM	**3**	22	25	3	0	3	13	0	13	41
Total Volume	5	105	110	7	6	13	78	6	84	207
% App. Total	4.5	95.5		53.8	46.2		92.9	7.1		
PHF	.417	.673	.688	.583	.375	.650	.650	.500	.636	.796

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N/S: Grasswood Avenue
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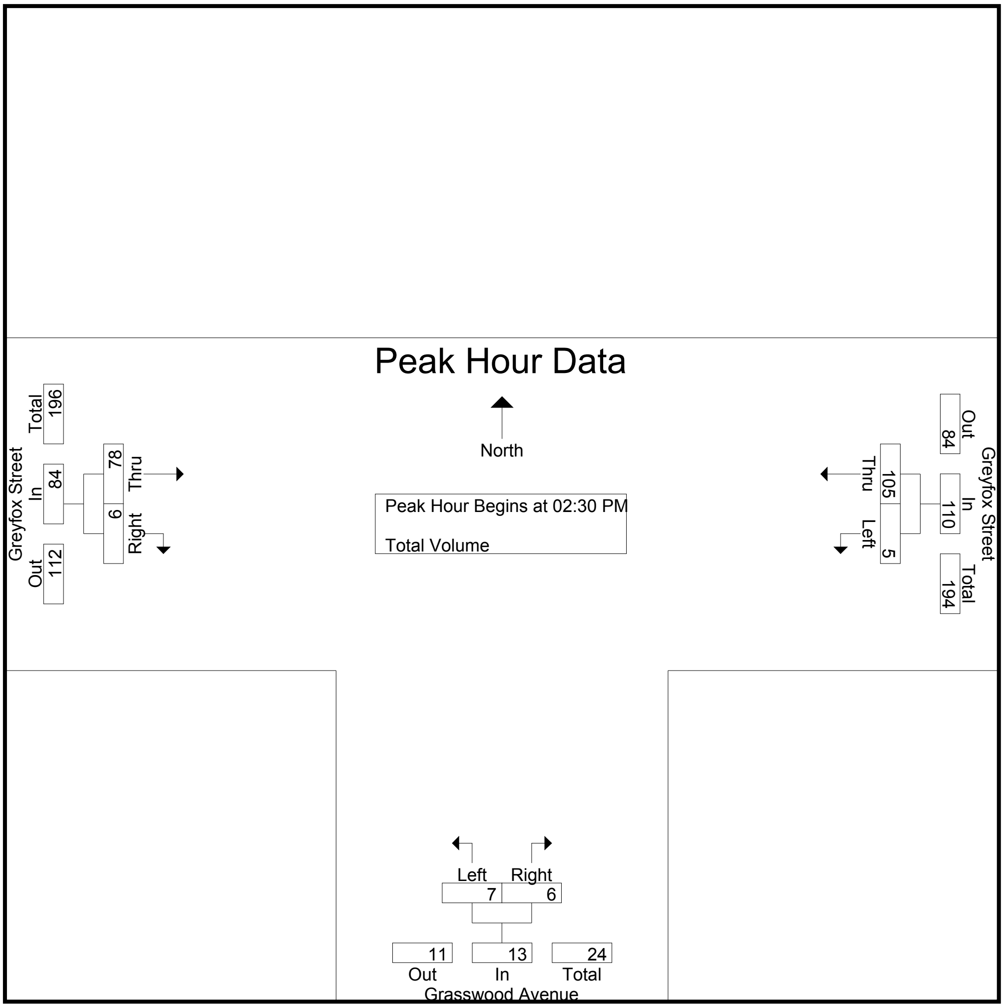
Weather: Clear

File Name : 04_MAL_Grasswood_Greyfox PM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 2



Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	02:45 PM			02:00 PM			02:15 PM		
+0 mins.	1	**39**	**40**	**5**	3	**8**	10	**3**	13
+15 mins.	0	26	26	1	3	4	**30**	3	**33**
+30 mins.	**3**	22	25	1	0	1	20	1	21
+45 mins.	1	19	20	0	**4**	4	15	2	17
Total Volume	5	106	111	7	10	17	75	9	84
% App. Total	4.5	95.5		41.2	58.8		89.3	10.7	
PHF	.417	.679	.694	.350	.625	.531	.625	.750	.636

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City of Malibu
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Weather: Clear

File Name : 05_MAL_Fernhill_Greyfox AM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 1

Groups Printed- Total Volume

	Fernhill Drive Southbound				Greyfox Street Westbound				Fernhill Drive Northbound				Greyfox Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	6	6	6	18	0	1	1	2	0	6	0	6	9	2	3	14	40
07:15 AM	2	5	9	16	0	1	2	3	6	2	0	8	4	2	2	8	35
07:30 AM	3	10	6	19	0	3	2	5	2	4	0	6	8	1	8	17	47
07:45 AM	2	15	5	22	0	3	0	3	2	5	0	7	5	2	7	14	46
Total	13	36	26	75	0	8	5	13	10	17	0	27	26	7	20	53	168
08:00 AM	4	31	6	41	0	0	4	4	10	19	0	29	19	1	28	48	122
08:15 AM	4	32	4	40	1	0	6	7	20	24	1	45	10	0	13	23	115
08:30 AM	4	7	9	20	0	0	1	1	10	21	2	33	6	1	6	13	67
08:45 AM	4	17	8	29	1	1	4	6	2	12	1	15	4	0	7	11	61
Total	16	87	27	130	2	1	15	18	42	76	4	122	39	2	54	95	365
Grand Total	29	123	53	205	2	9	20	31	52	93	4	149	65	9	74	148	533
Apprch %	14.1	60	25.9		6.5	29	64.5		34.9	62.4	2.7		43.9	6.1	50		
Total %	5.4	23.1	9.9	38.5	0.4	1.7	3.8	5.8	9.8	17.4	0.8	28	12.2	1.7	13.9	27.8	

	Fernhill Drive Southbound				Greyfox Street Westbound				Fernhill Drive Northbound				Greyfox Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**4**	31	6	**41**	0	0	4	4	10	19	0	29	**19**	**1**	**28**	**48**	**122**
08:15 AM	4	**32**	4	40	**1**	0	**6**	**7**	**20**	**24**	1	**45**	10	0	13	23	115
08:30 AM	4	7	**9**	20	0	0	1	1	10	21	**2**	33	6	1	6	13	67
08:45 AM	4	17	8	29	1	**1**	4	6	2	12	1	15	4	0	7	11	61
Total Volume	16	87	27	130	2	1	15	18	42	76	4	122	39	2	54	95	365
% App. Total	12.3	66.9	20.8		11.1	5.6	83.3		34.4	62.3	3.3		41.1	2.1	56.8		
PHF	1.00	.680	.750	.793	.500	.250	.625	.643	.525	.792	.500	.678	.513	.500	.482	.495	.748

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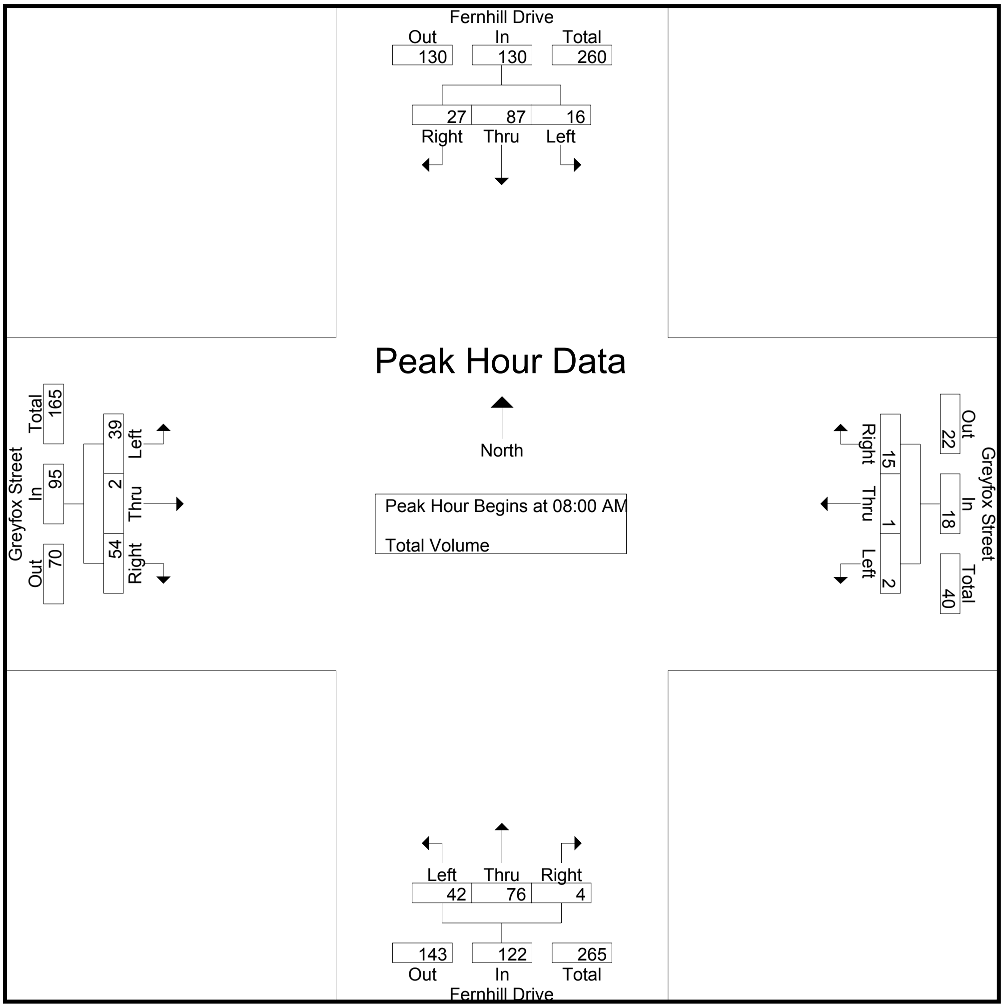
N/S: Fernhill Drive
E/W: Greyfox Street
Weather: Clear

File Name : 05_MAL_Fernhill_Greyfox AM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				08:00 AM				07:30 AM			
+0 mins.	**4**	31	6	**41**	0	**3**	2	5	10	19	0	29	8	1	8	17
+15 mins.	4	**32**	4	40	0	3	0	3	**20**	**24**	1	**45**	5	**2**	7	14
+30 mins.	4	7	**9**	20	0	0	4	4	10	21	**2**	33	**19**	1	**28**	**48**
+45 mins.	4	17	8	29	**1**	0	**6**	**7**	2	12	1	15	10	0	13	23
Total Volume	16	87	27	130	1	6	12	19	42	76	4	122	42	4	56	102
% App. Total	12.3	66.9	20.8		5.3	31.6	63.2		34.4	62.3	3.3		41.2	3.9	54.9	
PHF	1.000	.680	.750	.793	.250	.500	.500	.679	.525	.792	.500	.678	.553	.500	.500	.531

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City of Malibu
N/S: Fernhill Drive
E/W: Greyfox Street
Weather: Clear

File Name : 05_MAL_Fernhill_Greyfox PM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 1

Groups Printed- Total Volume

	Fernhill Drive Southbound				Greyfox Street Westbound				Fernhill Drive Northbound				Greyfox Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
02:00 PM	5	9	9	23	0	1	4	5	9	14	3	26	6	1	3	10	64
02:15 PM	5	16	7	28	0	3	2	5	5	13	1	19	2	1	4	7	59
02:30 PM	3	17	12	32	0	1	7	8	4	18	0	22	10	3	11	24	86
02:45 PM	0	24	11	35	0	1	7	8	21	35	1	57	11	2	15	28	128
Total	13	66	39	118	0	6	20	26	39	80	5	124	29	7	33	69	337
03:00 PM	2	13	10	25	3	9	3	15	14	24	2	40	8	2	7	17	97
03:15 PM	5	9	8	22	2	4	4	10	9	20	1	30	12	2	6	20	82
03:30 PM	2	7	8	17	2	5	7	14	8	26	0	34	7	4	4	15	80
03:45 PM	1	13	12	26	0	4	3	7	3	21	0	24	12	7	6	25	82
Total	10	42	38	90	7	22	17	46	34	91	3	128	39	15	23	77	341
Grand Total	23	108	77	208	7	28	37	72	73	171	8	252	68	22	56	146	678
Apprch %	11.1	51.9	37		9.7	38.9	51.4		29	67.9	3.2		46.6	15.1	38.4		
Total %	3.4	15.9	11.4	30.7	1	4.1	5.5	10.6	10.8	25.2	1.2	37.2	10	3.2	8.3	21.5	

	Fernhill Drive Southbound				Greyfox Street Westbound				Fernhill Drive Northbound				Greyfox Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 02:30 PM																	
02:30 PM	3	17	**12**	32	0	1	**7**	8	4	18	0	22	10	**3**	11	24	86
02:45 PM	0	**24**	11	**35**	0	1	7	8	**21**	**35**	1	**57**	11	2	**15**	**28**	**128**
03:00 PM	2	13	10	25	**3**	**9**	3	**15**	14	24	**2**	40	8	2	7	17	97
03:15 PM	**5**	9	8	22	2	4	4	10	9	20	1	30	**12**	2	6	20	82
Total Volume	10	63	41	114	5	15	21	41	48	97	4	149	41	9	39	89	393
% App. Total	8.8	55.3	36		12.2	36.6	51.2		32.2	65.1	2.7		46.1	10.1	43.8		
PHF	.500	.656	.854	.814	.417	.417	.750	.683	.571	.693	.500	.654	.854	.750	.650	.795	.768

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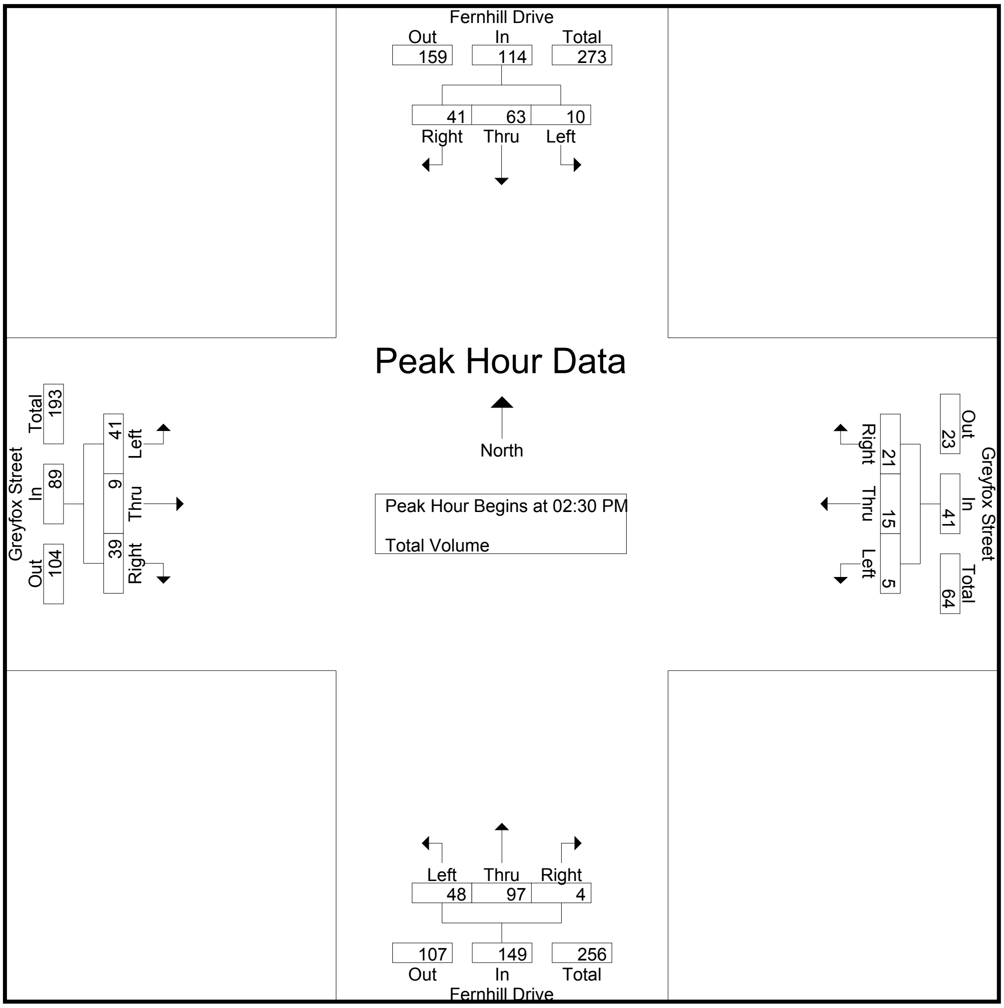
Weather: Clear

File Name : 05_MAL_Fernhill_Greyfox PM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 2



Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	02:15 PM				02:45 PM				02:45 PM				02:30 PM			
+0 mins.	**5**	16	7	28	0	1	**7**	8	**21**	**35**	1	**57**	10	**3**	11	24
+15 mins.	3	17	**12**	32	**3**	**9**	3	**15**	14	24	**2**	40	11	2	**15**	**28**
+30 mins.	0	**24**	11	**35**	2	4	4	10	9	20	1	30	8	2	7	17
+45 mins.	2	13	10	25	2	5	7	14	8	26	0	34	**12**	2	6	20
Total Volume	10	70	40	120	7	19	21	47	52	105	4	161	41	9	39	89
% App. Total	8.3	58.3	33.3		14.9	40.4	44.7		32.3	65.2	2.5		46.1	10.1	43.8	
PHF	.500	.729	.833	.857	.583	.528	.750	.783	.619	.750	.500	.706	.854	.750	.650	.795

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City of Malibu
N/S: Wildlife Road
E/W: Fernhill Drive
Weather: Clear

File Name : 06_MAL_WIldlife_Fernhill AM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 1

Groups Printed- Total Volume

	Wildlife Road Southbound			Wildlife Road Northbound			Fernhill Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	8	16	24	0	1	1	11	0	11	36
07:15 AM	3	12	15	1	0	1	6	1	7	23
07:30 AM	10	14	24	0	6	6	17	0	17	47
07:45 AM	6	23	29	0	3	3	7	1	8	40
Total	27	65	92	1	10	11	41	2	43	146
08:00 AM	6	37	43	0	4	4	39	0	39	86
08:15 AM	10	23	33	1	4	5	34	1	35	73
08:30 AM	11	16	27	1	7	8	30	0	30	65
08:45 AM	7	21	28	0	6	6	14	2	16	50
Total	34	97	131	2	21	23	117	3	120	274
Grand Total	61	162	223	3	31	34	158	5	163	420
Apprch %	27.4	72.6		8.8	91.2		96.9	3.1		
Total %	14.5	38.6	53.1	0.7	7.4	8.1	37.6	1.2	38.8	

	Wildlife Road Southbound			Wildlife Road Northbound			Fernhill Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	6	**37**	**43**	0	4	4	**39**	0	**39**	**86**
08:15 AM	10	23	33	**1**	4	5	34	1	35	73
08:30 AM	**11**	16	27	1	**7**	**8**	30	0	30	65
08:45 AM	7	21	28	0	6	6	14	**2**	16	50
Total Volume	34	97	131	2	21	23	117	3	120	274
% App. Total	26	74		8.7	91.3		97.5	2.5		
PHF	.773	.655	.762	.500	.750	.719	.750	.375	.769	.797

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City of Malibu
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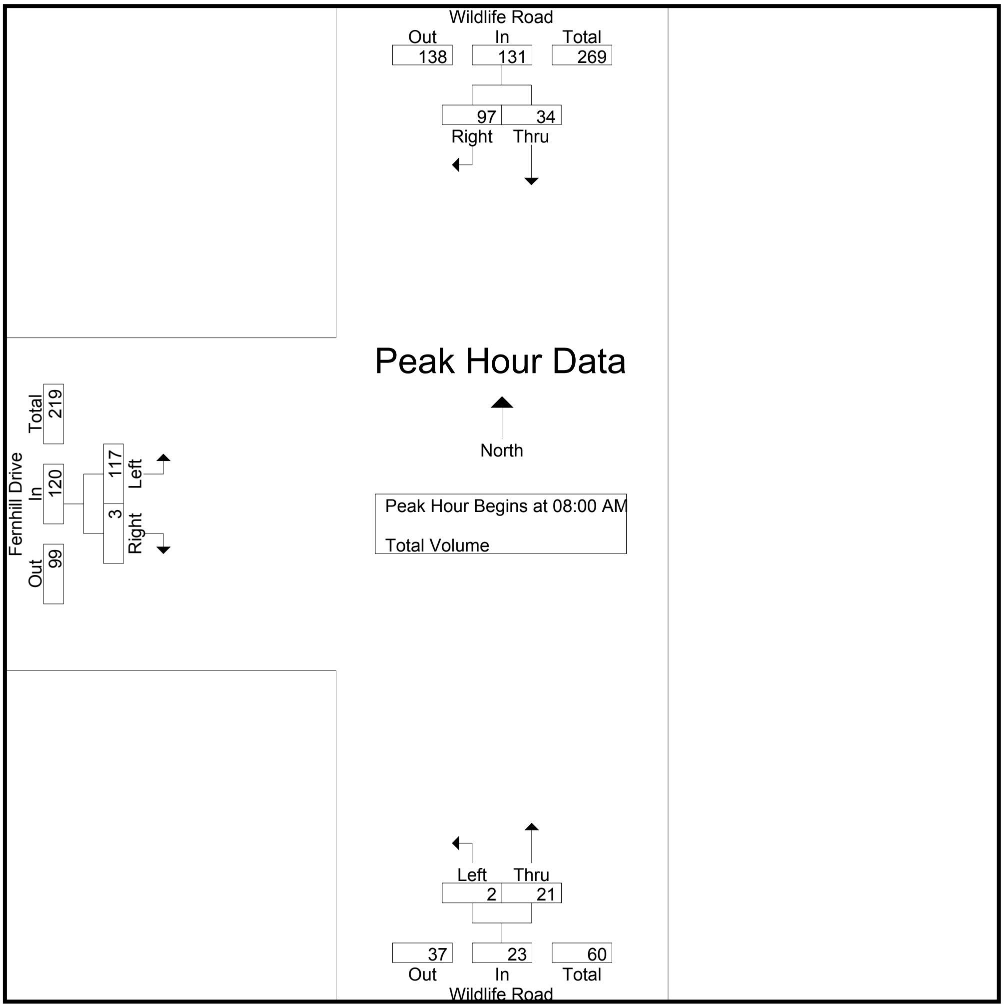
E/W: Fernhill Drive
Weather: Clear

File Name : 06_MAL_WIldlife_Fernhill AM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			08:00 AM			08:00 AM		
+0 mins.	6	23	29	0	4	4	**39**	0	**39**
+15 mins.	6	**37**	**43**	**1**	4	5	34	1	35
+30 mins.	10	23	33	1	**7**	**8**	30	0	30
+45 mins.	**11**	16	27	0	6	6	14	**2**	16
Total Volume	33	99	132	2	21	23	117	3	120
% App. Total	25	75		8.7	91.3		97.5	2.5	
PHF	.750	.669	.767	.500	.750	.719	.750	.375	.769

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City of Malibu
N/S: Wildlife Road
E/W: Fernhill Drive
Weather: Clear

File Name : 06_MAL_WIldlife_Fernhill PM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 1

Groups Printed- Total Volume

	Wildlife Road Southbound			Wildlife Road Northbound			Fernhill Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
02:00 PM	8	17	25	0	14	14	18	3	21	60
02:15 PM	5	26	31	1	10	11	16	2	18	60
02:30 PM	4	17	21	6	13	19	27	3	30	70
02:45 PM	11	22	33	2	9	11	39	3	42	86
Total	28	82	110	9	46	55	100	11	111	276
03:00 PM	4	21	25	5	28	33	33	3	36	94
03:15 PM	6	14	20	1	24	25	30	4	34	79
03:30 PM	1	12	13	1	7	8	42	2	44	65
03:45 PM	6	26	32	4	14	18	32	3	35	85
Total	17	73	90	11	73	84	137	12	149	323
Grand Total	45	155	200	20	119	139	237	23	260	599
Apprch %	22.5	77.5		14.4	85.6		91.2	8.8		
Total %	7.5	25.9	33.4	3.3	19.9	23.2	39.6	3.8	43.4	

	Wildlife Road Southbound			Wildlife Road Northbound			Fernhill Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:30 PM										
02:30 PM	4	17	21	**6**	13	19	27	3	30	70
02:45 PM	**11**	**22**	**33**	2	9	11	**39**	3	**42**	86
03:00 PM	4	21	25	5	**28**	**33**	33	3	36	**94**
03:15 PM	6	14	20	1	24	25	30	**4**	34	79
Total Volume	25	74	99	14	74	88	129	13	142	329
% App. Total	25.3	74.7		15.9	84.1		90.8	9.2		
PHF	.568	.841	.750	.583	.661	.667	.827	.813	.845	.875

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City of Malibu
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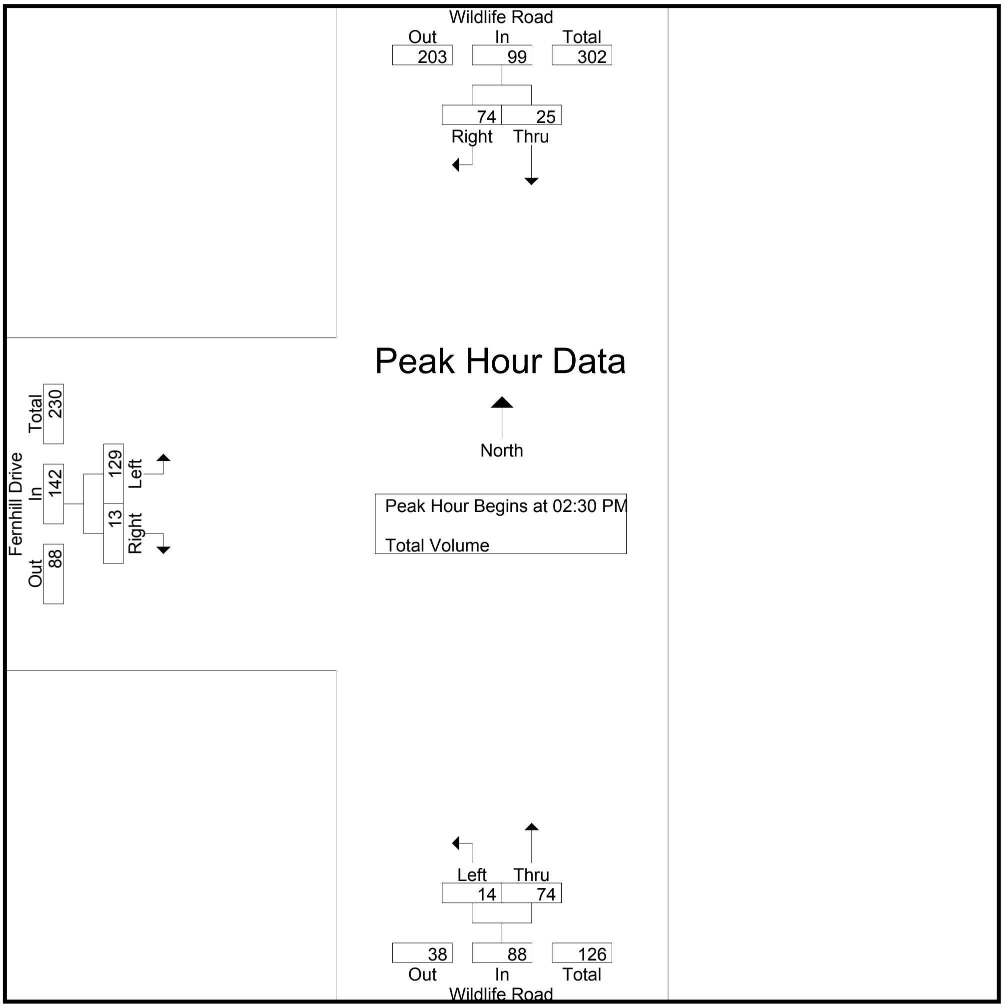
E/W: Fernhill Drive
Weather: Clear

File Name : 06_MAL_WIldlife_Fernhill PM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 2



Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	02:00 PM			02:30 PM			02:45 PM		
+0 mins.	8	17	25	**6**	13	19	39	3	42
+15 mins.	5	**26**	31	2	9	11	33	3	36
+30 mins.	4	17	21	5	**28**	**33**	30	**4**	34
+45 mins.	**11**	22	**33**	1	24	25	**42**	2	**44**
Total Volume	28	82	110	14	74	88	144	12	156
% App. Total	25.5	74.5		15.9	84.1		92.3	7.7	
PHF	.636	.788	.833	.583	.661	.667	.857	.750	.886

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City of Malibu
N/S: Zumirez Drive
E/W: Pacific Coast Highway (SR-1)
Weather: Clear

File Name : 07_MAL_Zumirez_PCH AM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 1

Groups Printed- Total Volume

	Zumirez Drive Southbound				Pacific Coast Highway Westbound				Zumirez Drive Northbound				Pacific Coast Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	2	0	0	2	19	138	0	157	5	0	13	18	1	254	8	263	440
07:15 AM	2	0	1	3	20	176	0	196	6	0	12	18	2	231	9	242	459
07:30 AM	2	0	6	8	18	208	3	229	10	0	17	27	2	207	13	222	486
07:45 AM	0	0	2	2	17	167	1	185	5	0	12	17	7	276	17	300	504
Total	6	0	9	15	74	689	4	767	26	0	54	80	12	968	47	1027	1889
08:00 AM	0	1	2	3	26	156	1	183	15	1	34	50	3	254	14	271	507
08:15 AM	1	0	0	1	19	134	0	153	8	1	27	36	2	226	6	234	424
08:30 AM	3	2	6	11	18	171	1	190	11	0	31	42	5	199	9	213	456
08:45 AM	2	0	1	3	29	176	0	205	8	0	12	20	1	220	15	236	464
Total	6	3	9	18	92	637	2	731	42	2	104	148	11	899	44	954	1851
Grand Total	12	3	18	33	166	1326	6	1498	68	2	158	228	23	1867	91	1981	3740
Apprch %	36.4	9.1	54.5		11.1	88.5	0.4		29.8	0.9	69.3		1.2	94.2	4.6		
Total %	0.3	0.1	0.5	0.9	4.4	35.5	0.2	40.1	1.8	0.1	4.2	6.1	0.6	49.9	2.4	53	

	Zumirez Drive Southbound				Pacific Coast Highway Westbound				Zumirez Drive Northbound				Pacific Coast Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**2**	0	1	3	20	176	0	196	6	0	12	18	2	231	9	242	459
07:30 AM	2	0	**6**	**8**	18	**208**	**3**	**229**	10	0	17	27	2	207	13	222	486
07:45 AM	0	0	2	2	17	167	1	185	5	0	12	17	**7**	**276**	**17**	**300**	504
08:00 AM	0	**1**	2	3	**26**	156	1	183	**15**	**1**	**34**	**50**	3	254	14	271	**507**
Total Volume	4	1	11	16	81	707	5	793	36	1	75	112	14	968	53	1035	1956
% App. Total	25	6.2	68.8		10.2	89.2	0.6		32.1	0.9	67		1.4	93.5	5.1		
PHF	.500	.250	.458	.500	.779	.850	.417	.866	.600	.250	.551	.560	.500	.877	.779	.863	.964

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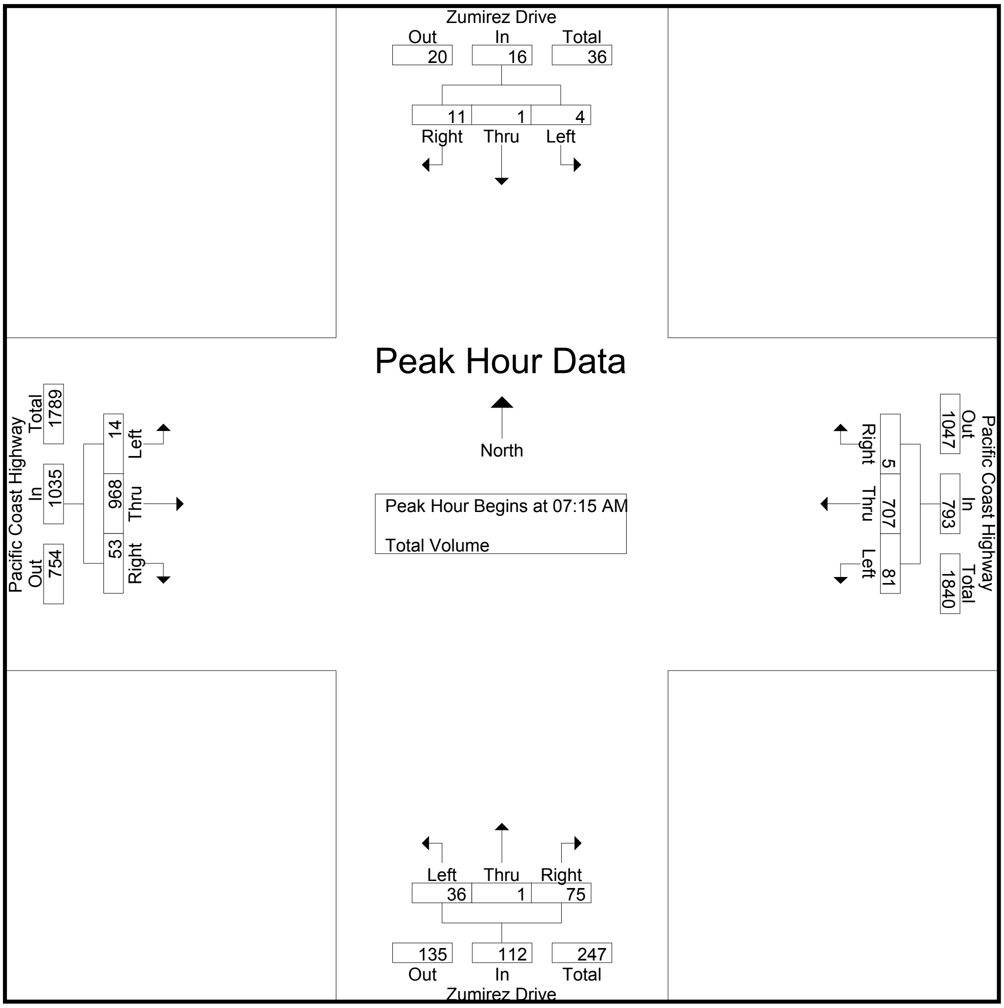
City of Malibu
N/S: Zumirez Drive
E/W: Pacific Coast Highway (SR-1)
Weather: Clear

File Name : 07_MAL_Zumirez_PCH AM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:15 AM				08:00 AM				07:15 AM			
+0 mins.	0	1	2	3	20	176	0	196	**15**	**1**	**34**	**50**	2	231	9	242
+15 mins.	1	0	0	1	18	**208**	**3**	**229**	8	1	27	36	2	207	13	222
+30 mins.	**3**	**2**	**6**	**11**	17	167	1	185	11	0	31	42	**7**	**276**	**17**	**300**
+45 mins.	2	0	1	3	**26**	156	1	183	8	0	12	20	3	254	14	271
Total Volume	6	3	9	18	81	707	5	793	42	2	104	148	14	968	53	1035
% App. Total	33.3	16.7	50		10.2	89.2	0.6		28.4	1.4	70.3		1.4	93.5	5.1	
PHF	.500	.375	.375	.409	.779	.850	.417	.866	.700	.500	.765	.740	.500	.877	.779	.863

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City of Malibu
N/S: Zumirez Drive
E/W: Pacific Coast Highway (SR-1)
Weather: Clear

File Name : 07_MAL_Zumirez_PCH PM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 1

Groups Printed- Total Volume

	Zumirez Drive Southbound				Pacific Coast Highway Westbound				Zumirez Drive Northbound				Pacific Coast Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
02:00 PM	3	0	3	6	8	197	3	208	14	0	27	41	1	190	7	198	453
02:15 PM	4	1	3	8	28	202	5	235	10	0	21	31	4	200	11	215	489
02:30 PM	0	0	4	4	28	264	1	293	14	0	28	42	3	183	5	191	530
02:45 PM	0	2	4	6	28	276	0	304	18	0	37	55	2	189	5	196	561
Total	7	3	14	24	92	939	9	1040	56	0	113	169	10	762	28	800	2033
03:00 PM	0	2	7	9	23	257	2	282	29	0	35	64	8	254	9	271	626
03:15 PM	1	0	2	3	25	258	1	284	25	0	36	61	3	270	9	282	630
03:30 PM	1	0	1	2	17	344	4	365	18	1	42	61	3	236	3	242	670
03:45 PM	1	1	2	4	29	292	1	322	17	1	42	60	3	230	8	241	627
Total	3	3	12	18	94	1151	8	1253	89	2	155	246	17	990	29	1036	2553
Grand Total	10	6	26	42	186	2090	17	2293	145	2	268	415	27	1752	57	1836	4586
Apprch %	23.8	14.3	61.9		8.1	91.1	0.7		34.9	0.5	64.6		1.5	95.4	3.1		
Total %	0.2	0.1	0.6	0.9	4.1	45.6	0.4	50	3.2	0	5.8	9	0.6	38.2	1.2	40	

	Zumirez Drive Southbound				Pacific Coast Highway Westbound				Zumirez Drive Northbound				Pacific Coast Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	**2**	**7**	**9**	23	257	2	282	**29**	0	35	**64**	**8**	254	**9**	271	626
03:15 PM	**1**	0	2	3	25	258	1	284	25	0	36	61	3	**270**	9	**282**	630
03:30 PM	1	0	1	2	17	**344**	**4**	**365**	18	**1**	**42**	61	3	236	3	242	**670**
03:45 PM	1	1	2	4	**29**	292	1	322	17	1	42	60	3	230	8	241	627
Total Volume	3	3	12	18	94	1151	8	1253	89	2	155	246	17	990	29	1036	2553
% App. Total	16.7	16.7	66.7		7.5	91.9	0.6		36.2	0.8	63		1.6	95.6	2.8		
PHF	.750	.375	.429	.500	.810	.836	.500	.858	.767	.500	.923	.961	.531	.917	.806	.918	.953

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City of Malibu
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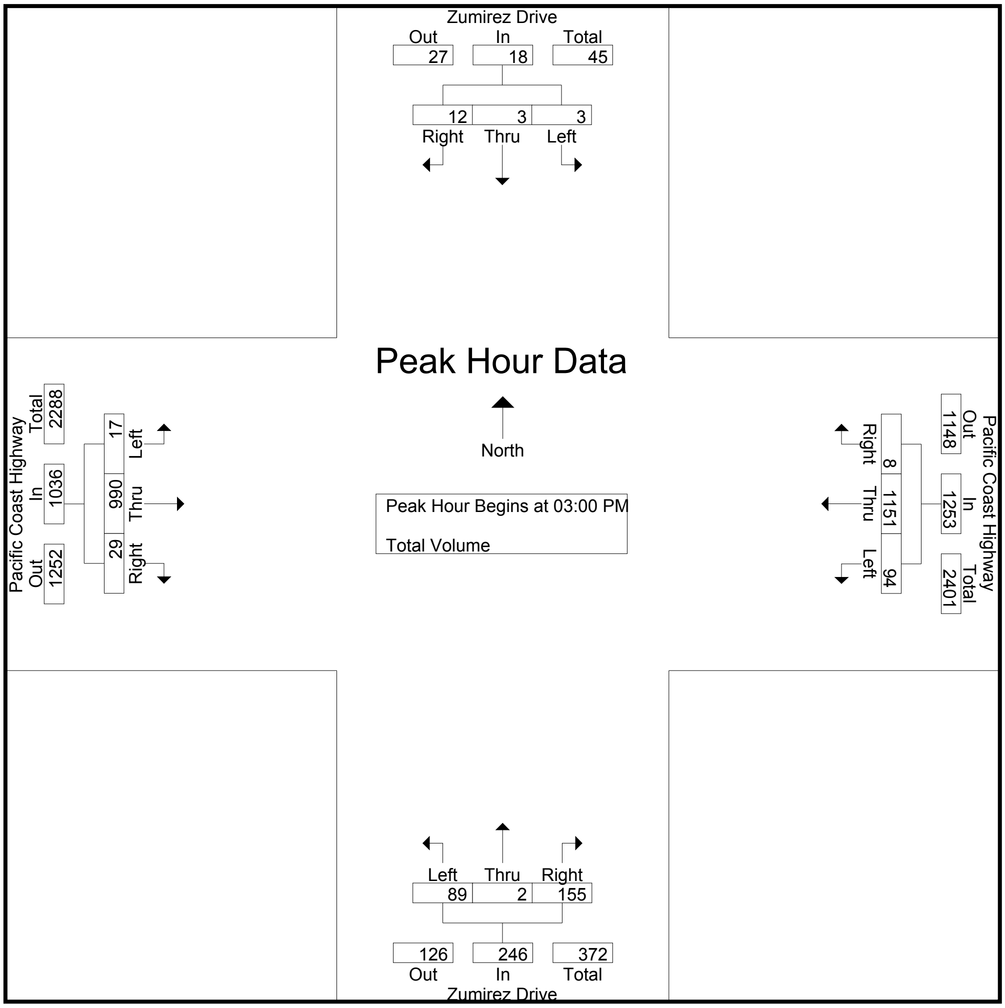
File Name : 07_MAL_Zumirez_PCH PM
Site Code : 04118424
Start Date : 5/21/2018
Page No : 2



Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	02:15 PM				03:00 PM				03:00 PM				03:00 PM			
+0 mins.	**4**	1	3	8	23	257	2	282	**29**	0	35	**64**	**8**	254	**9**	271
+15 mins.	0	0	4	4	25	258	1	284	25	0	36	61	3	**270**	9	**282**
+30 mins.	0	**2**	4	6	17	**344**	**4**	**365**	18	**1**	**42**	61	3	236	3	242
+45 mins.	0	2	**7**	**9**	**29**	292	1	322	17	1	42	60	3	230	8	241
Total Volume	4	5	18	27	94	1151	8	1253	89	2	155	246	17	990	29	1036
% App. Total	14.8	18.5	66.7		7.5	91.9	0.6		36.2	0.8	63		1.6	95.6	2.8	
PHF	.250	.625	.643	.750	.810	.836	.500	.858	.767	.500	.923	.961	.531	.917	.806	.918

APPENDIX B
Existing (Year 2018) Level-of-Service Calculation Worksheets

```
AM Existing                Thu Aug 16, 2018 11:55:20              Page 4-1
--------------------------------------------------------------------------------
                  Malibu Pt. Dume Elementary School Project
                            Existing AM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM 4-Way Stop Method (Base Volume Alternative)
********************************************************************************
Intersection #2 Wildflower Road/Dume Drive
********************************************************************************
Cycle (sec):         100               Critical Vol./Cap.(X):         0.240
Loss Time (sec):       0               Average Delay (sec/veh):         8.2
Optimal Cycle:         0               Level Of Service:                  A
********************************************************************************
Street Name:         Wildflower Road                     Dume Drive
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  0  1  0   0  1  0  0  0   0  0  0  0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:       0   99    33  125   66     0    0    0     0   19    0    99
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0   99    33  125   66     0    0    0     0   19    0    99
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:     0   99    33  125   66     0    0    0     0   19    0    99
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0   99    33  125   66     0    0    0     0   19    0    99
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:    0   99    33  125   66     0    0    0     0   19    0    99
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.00 0.75  0.25 0.65 0.35  0.00 0.00 0.00  0.00 0.16 0.00  0.84
Final Sat.:     0  625   208  522  275     0    0    0     0  133    0   693
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.16  0.16 0.24 0.24  xxxx xxxx xxxx  xxxx 0.14 xxxx  0.14
Crit Moves:       ****       ****                            ****
Delay/Veh:    0.0  8.0   8.0  8.7  8.7   0.0  0.0  0.0   0.0  7.7  0.0   7.7
Delay Adj:   1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   0.0  8.0   8.0  8.7  8.7   0.0  0.0  0.0   0.0  7.7  0.0   7.7
LOS by Move:    *    A     A    A    A     *    *    *     *    A    *     A
ApproachDel:       8.0              8.7            xxxxxx             7.7
Delay Adj:        1.00             1.00             xxxxx            1.00
ApprAdjDel:        8.0              8.7            xxxxxx             7.7
LOS by Appr:         A                A                 *               A
AllWayAvgQ:   0.2  0.2   0.2  0.3  0.3   0.3  0.0  0.0   0.0  0.1  0.1   0.1
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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AM Existing               Thu Aug 16, 2018 11:55:20              Page 5-1
--------------------------------------------------------------------------------
                   Malibu Pt. Dume Elementary School Project
                             Existing AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM 4-Way Stop Method (Base Volume Alternative)
********************************************************************************
Intersection #3 Dume Drive/Grayfox Street
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):        0.165
Loss Time (sec):       0              Average Delay (sec/veh):        7.6
Optimal Cycle:         0              Level Of Service:                 A
********************************************************************************
Street Name:                Dume Drive                      Grayfox Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  0  1  0   0  1  0  0  0   0  0  0  0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:      0   42    19    92   46     0    0    0     0   14    0    58
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   0   42    19    92   46     0    0    0     0   14    0    58
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    0   42    19    92   46     0    0    0     0   14    0    58
Reduct Vol:    0    0     0     0    0     0    0    0     0    0    0     0
Reduced Vol:   0   42    19    92   46     0    0    0     0   14    0    58
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   0   42    19    92   46     0    0    0     0   14    0    58
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.69  0.31  0.67 0.33  0.00  0.00 0.00  0.00  0.19 0.00  0.81
Final Sat.:    0  608   275   559  279     0    0    0     0  174    0   720
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.07  0.07  0.16 0.16  xxxx  xxxx xxxx  xxxx  0.08 xxxx  0.08
Crit Moves:       ****        ****                              ****
Delay/Veh:    0.0  7.3   7.3   8.0  8.0   0.0   0.0  0.0   0.0   7.2  0.0   7.2
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  7.3   7.3   8.0  8.0   0.0   0.0  0.0   0.0   7.2  0.0   7.2
LOS by Move:   *    A     A     A    A     *     *    *     *     A    *     A
ApproachDel:       7.3              8.0             xxxxxx              7.2
Delay Adj:        1.00             1.00              xxxxx             1.00
ApprAdjDel:        7.3              8.0             xxxxxx              7.2
LOS by Appr:        A                A                 *                 A
AllWayAvgQ:   0.1  0.1   0.1   0.2  0.2   0.2   0.0  0.0   0.0   0.1  0.1   0.1
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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AM Existing               Thu Aug 16, 2018 11:55:20               Page 6-1
--------------------------------------------------------------------------------
                   Malibu Pt. Dume Elementary School Project
                             Existing AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM 4-Way Stop Method (Base Volume Alternative)
********************************************************************************
Intersection #4 Grasswood Av/Grayfox Street
********************************************************************************
Cycle (sec):         100                  Critical Vol./Cap.(X):        0.123
Loss Time (sec):       0                  Average Delay (sec/veh):        7.5
Optimal Cycle:         0                  Level Of Service:                 A
********************************************************************************
Street Name:         Grassword Avenue                    Grayfox Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:      7    0     6    0    0     0    0  104     7    8   68     0
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   7    0     6    0    0     0    0  104     7    8   68     0
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    7    0     6    0    0     0    0  104     7    8   68     0
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   7    0     6    0    0     0    0  104     7    8   68     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   7    0     6    0    0     0    0  104     7    8   68     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.54 0.00  0.46 0.00 0.00  0.00 0.00 0.94  0.06 0.11 0.89  0.00
Final Sat.:   454    0   389    0    0     0    0  848    57   93  790     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 xxxx  0.02 xxxx xxxx  xxxx xxxx 0.12  0.12 0.09 0.09  xxxx
Crit Moves:  ****                                       ****      ****
Delay/Veh:    7.2  0.0   7.2  0.0  0.0   0.0  0.0  7.5   7.5  7.4  7.4   0.0
Delay Adj:   1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   7.2  0.0   7.2  0.0  0.0   0.0  0.0  7.5   7.5  7.4  7.4   0.0
LOS by Move:    A    *     A    *    *     *    *    A     A    A    A     *
ApproachDel:       7.2           xxxxxx             7.5              7.4
Delay Adj:        1.00            xxxxx            1.00             1.00
ApprAdjDel:        7.2           xxxxxx             7.5              7.4
LOS by Appr:         A                *               A                A
AllWayAvgQ:   0.0  0.0   0.0  0.0  0.0   0.0  0.1  0.1   0.1  0.1  0.1   0.1
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

Malibu Pt. Dume Elementary School Project
Existing AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #5 Ferndale Drive/Greyfox Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.154
Loss Time (sec):	0	Average Delay (sec/veh):	7.9
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Ferndale Drive						Greyfox Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module: >> Count Date: 21 May 2018 <<												
Base Vol:	42	76	4	16	87	27	39	2	54	2	1	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	42	76	4	16	87	27	39	2	54	2	1	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	42	76	4	16	87	27	39	2	54	2	1	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	42	76	4	16	87	27	39	2	54	2	1	15
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	42	76	4	16	87	27	39	2	54	2	1	15
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.34	0.63	0.03	0.12	0.67	0.21	0.41	0.02	0.57	0.11	0.06	0.83
Final Sat.:	280	506	27	104	563	175	335	17	464	93	46	695
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.15	0.15	0.15	0.15	0.12	0.12	0.12	0.02	0.02	0.02
Crit Moves:	****				****		****			****		
Delay/Veh:	8.1	8.1	8.1	7.9	7.9	7.9	7.7	7.7	7.7	7.1	7.1	7.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.1	8.1	8.1	7.9	7.9	7.9	7.7	7.7	7.7	7.1	7.1	7.1
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		8.1			7.9			7.7			7.1	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.1			7.9			7.7			7.1	
LOS by Appr:		A			A			A			A	
AllWayAvgQ:	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0

Note: Queue reported is the number of cars per lane.

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AM Existing                Thu Aug 16, 2018 11:55:20                Page 8-1
--------------------------------------------------------------------------------
                  Malibu Pt. Dume Elementary School Project
                            Existing AM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
             2000 HCM 4-Way Stop Method (Base Volume Alternative)
********************************************************************************
Intersection #6 Ferndale Drive/Wildlife Road
********************************************************************************
Cycle (sec):          100                Critical Vol./Cap.(X):         0.286
Loss Time (sec):        0                Average Delay (sec/veh):         8.5
Optimal Cycle:          0                Level Of Service:                  A
********************************************************************************
Street Name:            Ferndale Drive                   Wildlife Road
Approach:        North Bound      South Bound       East Bound        West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign         Stop Sign         Stop Sign
Rights:           Include          Include           Include           Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:         0  0  1! 0  0   0  0  0  0  0   0  0  1! 0  0   0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:     117    0     3    0    0     0  117   34    97    2   21     0
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  117    0     3    0    0     0  117   34    97    2   21     0
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   117    0     3    0    0     0  117   34    97    2   21     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  117    0     3    0    0     0  117   34    97    2   21     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  117    0     3    0    0     0  117   34    97    2   21     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.97 0.00  0.03 0.00 0.00  0.00 0.47 0.14  0.39 0.09 0.91  0.00
Final Sat.:   726    0    19    0    0     0  409  119   339   68  715     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 xxxx  0.16 xxxx xxxx  xxxx 0.29 0.29  0.29 0.03 0.03  xxxx
Crit Moves:  ****                                  ****              ****
Delay/Veh:    8.5  0.0   8.5  0.0  0.0   0.0  8.6  8.6   8.6  7.6  7.6   0.0
Delay Adj:   1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   8.5  0.0   8.5  0.0  0.0   0.0  8.6  8.6   8.6  7.6  7.6   0.0
LOS by Move:    A    *     A    *    *     *    A    A     A    A    A     *
ApproachDel:       8.5          xxxxxx              8.6              7.6
Delay Adj:         1.00          xxxxx             1.00             1.00
ApprAdjDel:        8.5          xxxxxx              8.6              7.6
LOS by Appr:         A               *                A                A
AllWayAvgQ:   0.2  0.2   0.2  0.0  0.0   0.0  0.4  0.4   0.4  0.0  0.0   0.0
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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PM Existing                Thu Aug 16, 2018 11:58:52                Page 4-1
--------------------------------------------------------------------------------
                  Malibu Pt.. Dume Elementary School Project
                             Existing PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM 4-Way Stop Method (Base Volume Alternative)
********************************************************************************
Intersection #2 Wildflower Road/Dume Drive
********************************************************************************
Cycle (sec):          100                Critical Vol./Cap.(X):         0.235
Loss Time (sec):        0                Average Delay (sec/veh):         8.3
Optimal Cycle:          0                Level Of Service:                  A
********************************************************************************
Street Name:          Wildflower Road                      Dume Drive
Approach:       North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign         Stop Sign         Stop Sign
Rights:           Include          Include           Include           Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:       0   87    17   107   78     0     0    0     0    24    0   133
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   87    17   107   78     0     0    0     0    24    0   133
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0   87    17   107   78     0     0    0     0    24    0   133
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0   87    17   107   78     0     0    0     0    24    0   133
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0   87    17   107   78     0     0    0     0    24    0   133
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.84  0.16  0.58 0.42  0.00  0.00 0.00  0.00  0.15 0.00  0.85
Final Sat.:     0  672   131   455  332     0     0    0     0   129    0   716
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.13  0.13  0.24 0.24  xxxx  xxxx xxxx  xxxx  0.19 xxxx  0.19
Crit Moves:             ****  ****                              ****
Delay/Veh:    0.0  7.9   7.9   8.8  8.8   0.0   0.0  0.0   0.0   7.9  0.0   7.9
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  7.9   7.9   8.8  8.8   0.0   0.0  0.0   0.0   7.9  0.0   7.9
LOS by Move:    *    A     A     A    A     *     *    *     *     A    *     A
ApproachDel:       7.9               8.8            xxxxxx              7.9
Delay Adj:        1.00              1.00             xxxxx             1.00
ApprAdjDel:        7.9               8.8            xxxxxx              7.9
LOS by Appr:         A                 A                 *                A
AllWayAvgQ:   0.1  0.1   0.1   0.3  0.3   0.3   0.0  0.0   0.0   0.2  0.2   0.2
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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PM Existing                Thu Aug 16, 2018 11:58:52              Page 5-1
--------------------------------------------------------------------------------
                  Malibu Pt.. Dume Elementary School Project
                             Existing PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM 4-Way Stop Method (Base Volume Alternative)
********************************************************************************
Intersection #3 Dume Drive/Grayfox Street
********************************************************************************
Cycle (sec):          100               Critical Vol./Cap.(X):         0.152
Loss Time (sec):        0               Average Delay (sec/veh):         7.7
Optimal Cycle:          0               Level Of Service:                  A
********************************************************************************
Street Name:                Dume Drive                      Grayfox Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:       0   67    14    68   56     0     0    0     0    19    0    94
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   67    14    68   56     0     0    0     0    19    0    94
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0   67    14    68   56     0     0    0     0    19    0    94
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0   67    14    68   56     0     0    0     0    19    0    94
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0   67    14    68   56     0     0    0     0    19    0    94
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.83  0.17  0.55 0.45  0.00  0.00 0.00  0.00  0.17 0.00  0.83
Final Sat.:     0  698   146   447  368     0     0    0     0   150    0   744
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.10  0.10  0.15 0.15  xxxx  xxxx xxxx  xxxx  0.13 xxxx  0.13
Crit Moves:       ****        ****                              ****
Delay/Veh:    0.0  7.6   7.6   8.1  8.1   0.0   0.0  0.0   0.0   7.4  0.0   7.4
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  7.6   7.6   8.1  8.1   0.0   0.0  0.0   0.0   7.4  0.0   7.4
LOS by Move:    *    A     A     A    A     *     *    *     *     A    *     A
ApproachDel:       7.6              8.1            xxxxxx              7.4
Delay Adj:        1.00             1.00             xxxxx             1.00
ApprAdjDel:        7.6              8.1            xxxxxx              7.4
LOS by Appr:         A                A                 *                A
AllWayAvgQ:   0.1  0.1   0.1   0.2  0.2   0.2   0.0  0.0   0.0   0.1  0.1   0.1
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                  Malibu Pt.. Dume Elementary School Project
                             Existing PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM 4-Way Stop Method (Base Volume Alternative)
********************************************************************************
Intersection #4 Grasswood Av/Grayfox Street
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):        0.123
Loss Time (sec):       0              Average Delay (sec/veh):        7.5
Optimal Cycle:         0              Level Of Service:                 A
********************************************************************************
Street Name:         Grassword Avenue                  Grayfox Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Lanes:        0  0  1! 0  0   0  0  0  0  0   0  0  0  1  0   0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:       7    0    6     0    0    0     0   78    6     5  105    0
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    7    0    6     0    0    0     0   78    6     5  105    0
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     7    0    6     0    0    0     0   78    6     5  105    0
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    7    0    6     0    0    0     0   78    6     5  105    0
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    7    0    6     0    0    0     0   78    6     5  105    0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Lanes:       0.54 0.00 0.46  0.00 0.00 0.00  0.00 0.93 0.07  0.05 0.95 0.00
Final Sat.:   452    0  388     0    0    0     0  834   64    41  851    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 xxxx 0.02  xxxx xxxx xxxx  xxxx 0.09 0.09  0.12 0.12 xxxx
Crit Moves:  ****                                       ****        ****
Delay/Veh:    7.2  0.0  7.2   0.0  0.0  0.0   0.0  7.4  7.4   7.6  7.6  0.0
Delay Adj:   1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   7.2  0.0  7.2   0.0  0.0  0.0   0.0  7.4  7.4   7.6  7.6  0.0
LOS by Move:    A    *    A     *    *    *     *    A    A     A    A    *
ApproachDel:       7.2            xxxxxx             7.4              7.6
Delay Adj:        1.00             xxxxx            1.00             1.00
ApprAdjDel:        7.2            xxxxxx             7.4              7.6
LOS by Appr:         A                 *               A                A
AllWayAvgQ:   0.0  0.0  0.0   0.0  0.0  0.0   0.1  0.1  0.1   0.1  0.1  0.1
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Malibu Pt.. Dume Elementary School Project
Existing PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #5 Ferndale Drive/Greyfox Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.185
Loss Time (sec):	0	Average Delay (sec/veh):	8.0
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Ferndale Drive						Greyfox Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module: >> Count Date: 21 May 2018 <<												
Base Vol:	48	97	4	10	63	41	41	9	39	5	15	21
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	48	97	4	10	63	41	41	9	39	5	15	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	48	97	4	10	63	41	41	9	39	5	15	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	48	97	4	10	63	41	41	9	39	5	15	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	48	97	4	10	63	41	41	9	39	5	15	21
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.32	0.65	0.03	0.09	0.55	0.36	0.46	0.10	0.44	0.12	0.37	0.51
Final Sat.:	260	525	22	74	465	303	364	80	346	97	290	406
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	0.18	0.14	0.14	0.14	0.11	0.11	0.11	0.05	0.05	0.05
Crit Moves:		****			****		****				****	
Delay/Veh:	8.3	8.3	8.3	7.8	7.8	7.8	7.8	7.8	7.8	7.5	7.5	7.5
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.3	8.3	8.3	7.8	7.8	7.8	7.8	7.8	7.8	7.5	7.5	7.5
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		8.3			7.8			7.8			7.5	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.3			7.8			7.8			7.5	
LOS by Appr:		A			A			A			A	
AllWayAvgQ:	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0

Note: Queue reported is the number of cars per lane.

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PM Existing                Thu Aug 16, 2018 11:58:52               Page 8-1
-------------------------------------------------------------------------------
                  Malibu Pt.. Dume Elementary School Project
                             Existing PM Peak Hour
-------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM 4-Way Stop Method (Base Volume Alternative)
*******************************************************************************
Intersection #6 Ferndale Drive/Wildlife Road
*******************************************************************************
Cycle (sec):          100               Critical Vol./Cap.(X):        0.169
Loss Time (sec):        0               Average Delay (sec/veh):        7.7
Optimal Cycle:          0               Level Of Service:                 A
*******************************************************************************
Street Name:            Ferndale Drive                   Wildlife Road
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  1! 0  0   0  0  0  0  0   0  0  0  1  0   0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:     129    0    13    0    0     0    0   25    74    0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  129    0    13    0    0     0    0   25    74    0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   129    0    13    0    0     0    0   25    74    0    0     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  129    0    13    0    0     0    0   25    74    0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  129    0    13    0    0     0    0   25    74    0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.91 0.00  0.09  0.00 0.00  0.00  0.00 0.25  0.75  0.00 1.00  0.00
Final Sat.:   762    0    77    0    0     0    0  235   695    0  809     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 xxxx  0.17  xxxx xxxx  xxxx  xxxx 0.11  0.11  xxxx 0.00  xxxx
Crit Moves:             ****                       ****              ****
Delay/Veh:    8.1  0.0   8.1   0.0  0.0   0.0   0.0  7.2   7.2   0.0  0.0   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   8.1  0.0   8.1   0.0  0.0   0.0   0.0  7.2   7.2   0.0  0.0   0.0
LOS by Move:    A    *     A     *    *     *     *    A     A     *    *     *
ApproachDel:       8.1            xxxxxx             7.2            xxxxxx
Delay Adj:        1.00             xxxxx            1.00             xxxxx
ApprAdjDel:        8.1            xxxxxx             7.2            xxxxxx
LOS by Appr:         A                 *               A                 *
AllWayAvgQ:   0.2  0.2   0.2   0.0  0.0   0.0   0.1  0.1   0.1   0.0  0.0   0.0
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************
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Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	733	121	135	794	122	129
Future Volume (veh/h)	733	121	135	794	122	129
Number	4	14	3	8	1	16
Initial Q, 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	1937	1788	1863	1863	1863
Adj Flow Rate, veh/h	797	132	147	863	133	140
Adj No. of Lanes	2	1	1	2	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Opposing Right Turn Influence			Yes		Yes	
Cap, veh/h	1368	636	194	2189	258	230
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.39	0.39	0.11	0.62	0.15	0.15
Ln Grp Delay, s/veh	9.6	8.0	22.3	3.8	16.6	17.9
Ln Grp LOS	A	A	C	A	B	B
Approach Vol, veh/h	929			1010	273	
Approach Delay, s/veh	9.4			6.5	17.3	
Approach LOS	A			A	B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	6		3	4				8
Case No	9.0		2.0	7.0				4.0
Phs Duration (G+Y+Rc), s	10.0		8.8	19.2				28.0
Change Period (Y+Rc), s	4.5		4.5	4.5				4.5
Max Green (Gmax), s	18.5		21.5	41.5				67.5
Max Allow Headway (MAH), s	4.0		3.7	4.7				4.8
Max Q Clear (g_c+l1), s	5.2		5.2	8.8				6.7
Green Ext Time (g_e), s	0.7		0.3	5.9				6.3
Prob of Phs Call (p_c)	0.94		0.79	1.00				1.00
Prob of Max Out (p_x)	0.00		0.00	0.01				0.00
Left-Turn Movement Data								
Assigned Mvmt	1		3	7				
Mvmt Sat Flow, veh/h	1774		1703	0				
Through Movement Data								
Assigned Mvmt	6			4				8
Mvmt Sat Flow, veh/h	0			3632				3632
Right-Turn Movement Data								
Assigned Mvmt	16			14				18
Mvmt Sat Flow, veh/h	1583			1647				0
Left Lane Group Data								
Assigned Mvmt	1	0	3	7	0	0	0	0
Lane Assignment			(Prot)					
Lanes in Grp	1	0	1	0	0	0	0	0

Grp Vol (v), veh/h	133	0	147	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1774	0	1703	0	0	0	0	0
Q Serve Time (g_s), s	2.6	0.0	3.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	2.6	0.0	3.2	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1774	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	14.7	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	258	0	194	0	0	0	0	0
V/C Ratio (X)	0.52	0.00	0.76	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	862	0	962	0	0	0	0	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	15.0	0.0	16.4	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	6.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	16.6	0.0	22.3	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	1.5	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	1.4	0.0	1.8	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.05	0.00	0.23	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	6	0	0	4	0	0	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	2	0	0	0	2
Grp Vol (v), veh/h	0	0	0	797	0	0	0	863
Grp Sat Flow (s), veh/h/ln	0	0	0	1770	0	0	0	1770
Q Serve Time (g_s), s	0.0	0.0	0.0	6.8	0.0	0.0	0.0	4.7
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	6.8	0.0	0.0	0.0	4.7
Lane Grp Cap (c), veh/h	0	0	0	1368	0	0	0	2189
V/C Ratio (X)	0.00	0.00	0.00	0.58	0.00	0.00	0.00	0.39
Avail Cap (c_a), veh/h	0	0	0	3858	0	0	0	6275
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	9.2	0.0	0.0	0.0	3.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	9.6	0.0	0.0	0.0	3.8
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.2	0.0	0.0	0.0	2.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	3.3	0.0	0.0	0.0	2.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	16	0	0	14	0	0	0	18
Lane Assignment	R			R				
Lanes in Grp	1	0	0	1	0	0	0	0
Grp Vol (v), veh/h	140	0	0	132	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1583	0	0	1647	0	0	0	0
Q Serve Time (g_s), s	3.2	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	3.2	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	230	0	0	636	0	0	0	0
V/C Ratio (X)	0.61	0.00	0.00	0.21	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	769	0	0	1795	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	15.3	0.0	0.0	7.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.6	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	17.9	0.0	0.0	8.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	1.4	0.0	0.0	0.9	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	1.5	0.0	0.0	0.9	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.05	0.00	0.00	0.03	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intersection Summary								
HCM 2010 Ctrl Delay		9.0						
HCM 2010 LOS		A						

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	968	53	81	707	5	36	1	75	4	1	11
Future Volume (veh/h)	14	968	53	81	707	5	36	1	75	4	1	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1937	1863	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	15	1052	58	88	768	5	39	1	82	4	1	12
Adj No. of Lanes	1	2	1	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	32	1445	622	115	1584	10	581	14	554	157	67	384
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.39	0.39	0.06	0.44	0.44	0.35	0.35	0.35	0.35	0.35	0.35
Ln Grp Delay, s/veh	44.3	18.8	13.5	42.2	14.5	14.4	15.4	0.0	16.2	15.1	0.0	0.0
Ln Grp LOS	D	B	B	D	B	B	B		B	B		
Approach Vol, veh/h		1125			861			122			17	
Approach Delay, s/veh		18.9			17.3			15.9			15.1	
Approach LOS		B			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Case No		7.0	2.0	3.0		8.0	2.0	4.0
Phs Duration (G+Y+Rc), s		29.0	9.1	32.0		29.0	5.8	35.3
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green (Gmax), s		24.5	18.5	63.5		24.5	8.5	73.5
Max Allow Headway (MAH), s		4.5	3.7	4.8		5.7	3.7	4.8
Max Q Clear (g_c+l1), s		4.5	5.4	19.0		2.5	2.6	12.6
Green Ext Time (g_e), s		0.4	0.1	8.5		0.0	0.0	4.7
Prob of Phs Call (p_c)		1.00	0.82	1.00		1.00	0.25	1.00
Prob of Max Out (p_x)		0.00	0.00	0.01		0.00	0.01	0.00
Left-Turn Movement Data								
Assigned Mvmt		5	3			1	7	
Mvmt Sat Flow, veh/h		1372	1774			267	1774	
Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		39		3681		191		3605
Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1099		23
Left Lane Group Data								
Assigned Mvmt	0	5	3	0	0	1	7	0
Lane Assignment		L+T	(Prot)			L+T+R	(Prot)	
Lanes in Grp	0	1	1	0	0	1	1	0

Grp Vol (v), veh/h	0	40	88	0	0	17	15	0
Grp Sat Flow (s), veh/h/ln	0	1411	1774	0	0	1556	1774	0
Q Serve Time (g_s), s	0.0	0.7	3.4	0.0	0.0	0.0	0.6	0.0
Cycle Q Clear Time (g_c), s	0.0	1.2	3.4	0.0	0.0	0.5	0.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1423	0	0	0	1336	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	1776	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	24.5	0.0	0.0	0.0	24.5	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	24.0	0.0	0.0	0.0	23.3	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.1	0.0	0.0	0.0	6.3	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.1	0.0	0.0	0.0	0.5	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.97	1.00	0.00	0.00	0.24	1.00	0.00
Lane Grp Cap (c), veh/h	0	595	115	0	0	608	32	0
V/C Ratio (X)	0.00	0.07	0.76	0.00	0.00	0.03	0.47	0.00
Avail Cap (c_a), veh/h	0	595	468	0	0	608	215	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	15.2	32.2	0.0	0.0	15.0	34.1	0.0
Incr Delay (d2), s/veh	0.0	0.2	10.0	0.0	0.0	0.1	10.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.4	42.2	0.0	0.0	15.1	44.3	0.0
1st-Term Q (Q1), veh/ln	0.0	0.5	1.7	0.0	0.0	0.2	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.3	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.5	2.0	0.0	0.0	0.2	0.4	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.18	0.00	0.00	0.06	0.03	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	1052	0	0	0	377
Grp Sat Flow (s), veh/h/ln	0	0	0	1840	0	0	0	1770
Q Serve Time (g_s), s	0.0	0.0	0.0	17.0	0.0	0.0	0.0	10.6
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	17.0	0.0	0.0	0.0	10.6
Lane Grp Cap (c), veh/h	0	0	0	1445	0	0	0	778
V/C Ratio (X)	0.00	0.00	0.00	0.73	0.00	0.00	0.00	0.48
Avail Cap (c_a), veh/h	0	0	0	3336	0	0	0	1857
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	18.1	0.0	0.0	0.0	14.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	18.8	0.0	0.0	0.0	14.5
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	8.6	0.0	0.0	0.0	5.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	8.8	0.0	0.0	0.0	5.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.35	0.00	0.00	0.00	0.54
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R				T+R
Lanes in Grp	0	1	0	1	0	0	0	1
Grp Vol (v), veh/h	0	82	0	58	0	0	0	396
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	0	0	1859
Q Serve Time (g_s), s	0.0	2.5	0.0	1.6	0.0	0.0	0.0	10.6
Cycle Q Clear Time (g_c), s	0.0	2.5	0.0	1.6	0.0	0.0	0.0	10.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.71	0.00	0.01
Lane Grp Cap (c), veh/h	0	554	0	622	0	0	0	817
V/C Ratio (X)	0.00	0.15	0.00	0.09	0.00	0.00	0.00	0.48
Avail Cap (c_a), veh/h	0	554	0	1435	0	0	0	1950
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.6	0.0	13.4	0.0	0.0	0.0	14.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.1	0.0	0.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.2	0.0	13.5	0.0	0.0	0.0	14.4
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	0.7	0.0	0.0	0.0	5.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.2	0.0	0.7	0.0	0.0	0.0	5.5
%ile Storage Ratio (RQ%)	0.00	0.16	0.00	0.12	0.00	0.00	0.00	0.57
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intersection Summary								
HCM 2010 Ctrl Delay		18.0						
HCM 2010 LOS		B						

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	990	155	199	1047	201	238
Future Volume (veh/h)	990	155	199	1047	201	238
Number	4	14	3	8	1	16
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	1937	1788	1863	1863	1863
Adj Flow Rate, veh/h	1076	168	216	1138	218	259
Adj No. of Lanes	2	1	1	2	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1486	691	268	2301	362	323
Arrive On Green	0.42	0.42	0.16	0.65	0.20	0.20
Sat Flow, veh/h	3632	1647	1703	3632	1774	1583
Grp Volume(v), veh/h	1076	168	216	1138	218	259
Grp Sat Flow(s),veh/h/ln	1770	1647	1703	1770	1774	1583
Q Serve(g_s), s	15.6	4.1	7.6	10.2	6.9	9.6
Cycle Q Clear(g_c), s	15.6	4.1	7.6	10.2	6.9	9.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1486	691	268	2301	362	323
V/C Ratio(X)	0.72	0.24	0.81	0.49	0.60	0.80
Avail Cap(c_a), veh/h	2494	1161	566	3928	532	475
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	14.9	11.6	25.1	5.6	22.3	23.4
Incr Delay (d2), s/veh	0.7	0.2	5.6	0.2	1.6	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	1.9	4.0	5.0	3.5	4.7
LnGrp Delay(d),s/veh	15.6	11.7	30.7	5.7	23.9	29.5
LnGrp LOS	B	B	C	A	C	C
Approach Vol, veh/h	1244			1354	477	
Approach Delay, s/veh	15.1			9.7	26.9	
Approach LOS	B			A	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			14.2	30.4		17.1		44.6
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s			20.5	43.5		18.5		68.5
Max Q Clear Time (g_c+I1), s			9.6	17.6		11.6		12.2
Green Ext Time (p_c), s			0.4	8.3		1.0		9.5

Intersection Summary		
HCM 2010 Ctrl Delay		14.6
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	990	29	94	1151	8	89	2	155	3	3	12
Future Volume (veh/h)	17	990	29	94	1151	8	89	2	155	3	3	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1937	1863	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	18	1076	32	102	1251	9	97	2	168	3	3	13
Adj No. of Lanes	1	2	1	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	1456	626	133	1620	12	573	11	548	110	121	376
Arrive On Green	0.02	0.40	0.40	0.08	0.45	0.45	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1774	3681	1583	1774	3602	26	1376	31	1583	153	348	1087
Grp Volume(v), veh/h	18	1076	32	102	615	645	99	0	168	19	0	0
Grp Sat Flow(s),veh/h/ln	1774	1840	1583	1774	1770	1858	1407	0	1583	1588	0	0
Q Serve(g_s), s	0.7	18.4	0.9	4.2	21.6	21.6	2.9	0.0	5.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.7	18.4	0.9	4.2	21.6	21.6	3.5	0.0	5.7	0.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.98		1.00	0.16		0.68
Lane Grp Cap(c), veh/h	37	1456	626	133	796	836	584	0	548	606	0	0
V/C Ratio(X)	0.49	0.74	0.05	0.77	0.77	0.77	0.17	0.00	0.31	0.03	0.00	0.00
Avail Cap(c_a), veh/h	205	3122	1343	445	1741	1828	584	0	548	606	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.7	19.0	13.7	33.4	17.1	17.1	16.9	0.0	17.6	15.9	0.0	0.0
Incr Delay (d2), s/veh	9.5	0.8	0.0	8.8	1.6	1.6	0.6	0.0	1.4	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	9.4	0.4	2.4	10.8	11.3	1.5	0.0	2.7	0.3	0.0	0.0
LnGrp Delay(d),s/veh	45.2	19.8	13.8	42.2	18.7	18.6	17.5	0.0	19.1	16.0	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B		B	B		
Approach Vol, veh/h		1126			1362			267			19	
Approach Delay, s/veh		20.0			20.4			18.5			16.0	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		30.0	10.0	33.7		30.0	6.0	37.6
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		25.5	18.5	62.5		25.5	8.5	72.5
Max Q Clear Time (g_c+I1), s		7.7	6.2	20.4		2.6	2.7	23.6
Green Ext Time (p_c), s		1.0	0.2	8.6		0.0	0.0	9.6

Intersection Summary	
HCM 2010 Ctrl Delay	20.0
HCM 2010 LOS	C

APPENDIX C

Existing (Year 2018) Plus Project Level-of-Service Calculation Worksheets

```
--------------------------------------------------------------------------------
                    Malibu Pt. Dume Elemtary School Project
                           AM Existing Plus Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #2 Wildflower Road/Dume Drive
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):        0.284
Loss Time (sec):       0              Average Delay (sec/veh):        8.6
Optimal Cycle:         0              Level Of Service:                 A
********************************************************************************
Street Name:        Wildflower Road                     Dume Drive
Approach:     North Bound      South Bound       East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:    0    0    0     0    0    0     0    0    0     0    0    0
Lanes:       0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:      0   99   33   125   66    0     0    0    0    19    0   99
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:   0   99   33   125   66    0     0    0    0    19    0   99
Added Vol:     0   -9    9    37   -9    0     0    0    0     9    0   37
PasserByVol:   0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:   0   90   42   162   57    0     0    0    0    28    0  136
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:    0   90   42   162   57    0     0    0    0    28    0  136
Reduct Vol:    0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:   0   90   42   162   57    0     0    0    0    28    0  136
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:   0   90   42   162   57    0     0    0    0    28    0  136
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Lanes:       0.00 0.68 0.32  0.74 0.26 0.00  0.00 0.00 0.00  0.17 0.00 0.83
Final Sat.:    0  550  257   571  201    0     0    0    0   138    0  671
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.16 0.16  0.28 0.28 xxxx  xxxx xxxx xxxx  0.20 xxxx 0.20
Crit Moves:       ****       ****                                        ****
Delay/Veh:    0.0  8.1  8.1   9.3  9.3  0.0   0.0  0.0  0.0   8.2  0.0  8.2
Delay Adj:   1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0  8.1  8.1   9.3  9.3  0.0   0.0  0.0  0.0   8.2  0.0  8.2
LOS by Move:   *    A    A     A    A    *     *    *    *     A    *    A
ApproachDel:        8.1             9.3            xxxxxx            8.2
Delay Adj:         1.00            1.00             xxxxx           1.00
ApprAdjDel:         8.1             9.3            xxxxxx            8.2
LOS by Appr:          A               A                *               A
AllWayAvgQ:   0.2  0.2  0.2   0.4  0.4  0.4   0.0  0.0  0.0   0.2  0.2  0.2
********************************************************************************
Note: Queue reported is the number of cars per lane.
```



```
--------------------------------------------------------------------------------
                    Malibu Pt. Dume Elemtary School Project
                           AM Existing Plus Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #3 Dume Drive/Grayfox Street
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):        0.231
Loss Time (sec):       0              Average Delay (sec/veh):        8.1
Optimal Cycle:         0              Level Of Service:                 A
********************************************************************************
Street Name:              Dume Drive                     Grayfox Street
Approach:     North Bound      South Bound       East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:    0    0    0     0    0    0     0    0    0     0    0    0
Lanes:       0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:      0   42   19    92   46    0     0    0    0    14    0   58
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:   0   42   19    92   46    0     0    0    0    14    0   58
Added Vol:     0    0   19    46    0    0     0    0    0    19    0   46
PasserByVol:   0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:   0   42   38   138   46    0     0    0    0    33    0  104
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:    0   42   38   138   46    0     0    0    0    33    0  104
Reduct Vol:    0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:   0   42   38   138   46    0     0    0    0    33    0  104
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:   0   42   38   138   46    0     0    0    0    33    0  104
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Lanes:       0.00 0.52 0.48  0.75 0.25 0.00  0.00 0.00 0.00  0.24 0.00 0.76
Final Sat.:    0  446  403   597  199    0     0    0    0   204    0  643
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.09 0.09  0.23 0.23 xxxx  xxxx xxxx xxxx  0.16 xxxx 0.16
Crit Moves:            ****       ****                                   ****
Delay/Veh:    0.0  7.5  7.5   8.7  8.7  0.0   0.0  0.0  0.0   7.8  0.0  7.8
Delay Adj:   1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0  7.5  7.5   8.7  8.7  0.0   0.0  0.0  0.0   7.8  0.0  7.8
LOS by Move:   *    A    A     A    A    *     *    *    *     A    *    A
ApproachDel:        7.5             8.7            xxxxxx            7.8
Delay Adj:         1.00            1.00             xxxxx           1.00
ApprAdjDel:         7.5             8.7            xxxxxx            7.8
LOS by Appr:          A               A                *               A
AllWayAvgQ:   0.1  0.1  0.1   0.3  0.3  0.3   0.0  0.0  0.0   0.2  0.2  0.2
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

```
AM Exist Plus Proj        Wed Sep 26, 2018 13:04:32                Page 8-1
--------------------------------------------------------------------------------
                    Malibu Pt. Dume Elemtary School Project
                          AM Existing Plus Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
          2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #4 Grasswood Av/Grayfox Street
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):        0.200
Loss Time (sec):       0              Average Delay (sec/veh):        8.0
Optimal Cycle:         0              Level Of Service:                 A
********************************************************************************
Street Name:          Grassword Avenue                   Grayfox Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:    0    0    0    0    0    0    0    0    0    0    0    0
Lanes:       0  0  1! 0  0   0  0  0  0  0   0  0  0  1  0   0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:      7    0    6    0    0    0    0  104    7    8   68    0
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:   7    0    6    0    0    0    0  104    7    8   68    0
Added Vol:     0    0    9    0    0    0    0   65    0    9   65    0
PasserByVol:   0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut:   7    0   15    0    0    0    0  169    7   17  133    0
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:    7    0   15    0    0    0    0  169    7   17  133    0
Reduct Vol:    0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:   7    0   15    0    0    0    0  169    7   17  133    0
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:   7    0   15    0    0    0    0  169    7   17  133    0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:       0.32 0.00 0.68 0.00 0.00 0.00 0.00 0.96 0.04 0.11 0.89 0.00
Final Sat.:   255    0  547    0    0    0    0  843   35   98  766    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 xxxx 0.03 xxxx xxxx xxxx xxxx 0.20 0.20 0.17 0.17 xxxx
Crit Moves:            ****                          ****      ****
Delay/Veh:    7.3  0.0  7.3  0.0  0.0  0.0  0.0  8.1  8.1  8.0  8.0  0.0
Delay Adj:   1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:   7.3  0.0  7.3  0.0  0.0  0.0  0.0  8.1  8.1  8.0  8.0  0.0
LOS by Move:    A    *    A    *    *    *    *    A    A    A    A    *
ApproachDel:       7.3            xxxxxx             8.1              8.0
Delay Adj:        1.00             xxxxx            1.00             1.00
ApprAdjDel:        7.3            xxxxxx             8.1              8.0
LOS by Appr:        A                *                A                A
AllWayAvgQ:   0.0  0.0  0.0  0.0  0.0  0.0  0.2  0.2  0.2  0.2  0.2  0.2
********************************************************************************
Note: Queue reported is the number of cars per lane.

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```
AM Exist Plus Proj        Wed Sep 26, 2018 13:04:33                Page 9-1
--------------------------------------------------------------------------------
                    Malibu Pt. Dume Elemtary School Project
                          AM Existing Plus Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
          2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #5 Ferndale Drive/Greyfox Street
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):        0.385
Loss Time (sec):       0              Average Delay (sec/veh):        9.7
Optimal Cycle:         0              Level Of Service:                 A
********************************************************************************
Street Name:            Ferndale Drive                   Greyfox Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:    0    0    0    0    0    0    0    0    0    0    0    0
Lanes:       0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:     42   76    4   16   87   27   39    2   54    2    1   15
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  42   76    4   16   87   27   39    2   54    2    1   15
Added Vol:    74   83    9    0   83    0    0    0   74    9    0    0
PasserByVol:   0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut: 116  159   13   16  170   27   39    2  128   11    1   15
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:  116  159   13   16  170   27   39    2  128   11    1   15
Reduct Vol:    0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol: 116  159   13   16  170   27   39    2  128   11    1   15
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 116  159   13   16  170   27   39    2  128   11    1   15
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:       0.40 0.55 0.05 0.07 0.80 0.13 0.23 0.01 0.76 0.41 0.04 0.55
Final Sat.:   301  413   34   56  595   95  165    8  542  262   24  357
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.39 0.39 0.39 0.29 0.29 0.29 0.24 0.24 0.24 0.04 0.04 0.04
Crit Moves:       ****      ****                          ****      ****
Delay/Veh:   10.4 10.4 10.4  9.4  9.4  9.4  8.9  8.9  8.9  8.2  8.2  8.2
Delay Adj:   1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  10.4 10.4 10.4  9.4  9.4  9.4  8.9  8.9  8.9  8.2  8.2  8.2
LOS by Move:    B    B    B    A    A    A    A    A    A    A    A    A
ApproachDel:      10.4               9.4              8.9              8.2
Delay Adj:        1.00              1.00             1.00             1.00
ApprAdjDel:       10.4               9.4              8.9              8.2
LOS by Appr:        B                 A                A                A
AllWayAvgQ:   0.6  0.6  0.6  0.4  0.4  0.4  0.3  0.3  0.3  0.0  0.0  0.0
********************************************************************************
Note: Queue reported is the number of cars per lane.

  Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KOA CORP, MONTEREY PK
```

```
-------------------------------------------------------------------------------
                   Malibu Pt. Dume Elemtary School Project
                          AM Existing Plus Project
-------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #6 Ferndale Drive/Wildfire Road
********************************************************************************
Cycle (sec):         100               Critical Vol./Cap.(X):        0.266
Loss Time (sec):       0               Average Delay (sec/veh):        8.5
Optimal Cycle:         0               Level Of Service:                 A
********************************************************************************
Street Name:          Ferndale Drive                  Wildfire Road
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Lanes:        0  0  1! 0  0   0  0  0  0  0   0  0  0  1  0   0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:     117    0    3     0    0    0     0   34   97     2   21    0
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:  117    0    3     0    0    0     0   34   97     2   21    0
Added Vol:     83    0    0     0    0    0     0    0   83     0    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:  200    0    3     0    0    0     0   34  180     2   21    0
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:   200    0    3     0    0    0     0   34  180     2   21    0
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:  200    0    3     0    0    0     0   34  180     2   21    0
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:  200    0    3     0    0    0     0   34  180     2   21    0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Lanes:       0.99 0.00 0.01  0.00 0.00 0.00  0.00 0.16 0.84  0.09 0.91 0.00
Final Sat.:   752    0   11     0    0    0     0  142  749    65  682    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.27 xxxx 0.27  xxxx xxxx xxxx  xxxx 0.24 0.24  0.03 0.03 xxxx
Crit Moves:  ****                                 ****        ****
Delay/Veh:    9.1  0.0  9.1   0.0  0.0  0.0   0.0  8.1  8.1   7.7  7.7  0.0
Delay Adj:   1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   9.1  0.0  9.1   0.0  0.0  0.0   0.0  8.1  8.1   7.7  7.7  0.0
LOS by Move:    A    *    A     *    *    *     *    A    A     A    A    *
ApproachDel:        9.1           xxxxxx              8.1              7.7
Delay Adj:         1.00            xxxxx             1.00             1.00
ApprAdjDel:         9.1           xxxxxx              8.1              7.7
LOS by Appr:          A                *                A                A
AllWayAvgQ:   0.3  0.3  0.3   0.0  0.0  0.0   0.3  0.3  0.3   0.0  0.0  0.0
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	622	149	135	683	150	129
Future Volume (veh/h)	622	149	135	683	150	129
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1945	1796	1870	1870	1870
Adj Flow Rate, veh/h	676	162	147	742	163	140
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1244	577	194	2098	278	247
Arrive On Green	0.35	0.35	0.11	0.59	0.16	0.16
Sat Flow, veh/h	3647	1648	1710	3647	1781	1585
Grp Volume(v), veh/h	676	162	147	742	163	140
Grp Sat Flow(s),veh/h/ln	1777	1648	1710	1777	1781	1585
Q Serve(g_s), s	5.4	2.5	3.0	3.8	3.0	2.9
Cycle Q Clear(g_c), s	5.4	2.5	3.0	3.8	3.0	2.9
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1244	577	194	2098	278	247
V/C Ratio(X)	0.54	0.28	0.76	0.35	0.59	0.57
Avail Cap(c_a), veh/h	3956	1835	1036	6560	979	871
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	9.3	8.3	15.3	3.8	13.9	13.9
Incr Delay (d2), s/veh	0.4	0.3	5.9	0.1	2.0	2.0
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	0.5	1.1	0.2	1.2	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.6	8.6	21.2	3.9	15.9	15.9
LnGrp LOS	A	A	C	A	B	B
Approach Vol, veh/h	838			889	303	
Approach Delay, s/veh	9.4			6.7	15.9	
Approach LOS	A			A	B	

Timer - Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			8.5	16.9		10.0		25.4
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s			21.5	39.5		19.5		65.5
Max Q Clear Time (g_c+I1), s			5.0	7.4		5.0		5.8
Green Ext Time (p_c), s			0.3	5.0		0.8		5.2

Intersection Summary			
HCM 6th Ctrl Delay			9.2
HCM 6th LOS			A

Notes

Unsignalized Delay for [WBT] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	894	81	137	633	5	64	1	131	4	1	2
Future Volume (veh/h)	5	894	81	137	633	5	64	1	131	4	1	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1945	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	972	88	149	688	5	70	1	142	4	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	12	1339	574	191	1675	12	587	8	542	330	89	136
Arrive On Green	0.01	0.36	0.36	0.11	0.46	0.46	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1781	3696	1585	1781	3616	26	1425	23	1585	735	262	399
Grp Volume(v), veh/h	5	972	88	149	338	355	71	0	142	7	0	0
Grp Sat Flow(s),veh/h/ln	1781	1848	1585	1781	1777	1866	1448	0	1585	1395	0	0
Q Serve(g_s), s	0.2	16.3	2.7	5.8	9.0	9.0	0.0	0.0	4.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	16.3	2.7	5.8	9.0	9.0	2.0	0.0	4.6	2.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.99		1.00	0.57		0.29
Lane Grp Cap(c), veh/h	12	1339	574	191	823	864	595	0	542	556	0	0
V/C Ratio(X)	0.42	0.73	0.15	0.78	0.41	0.41	0.12	0.00	0.26	0.01	0.00	0.00
Avail Cap(c_a), veh/h	186	3119	1338	534	1847	1939	595	0	542	556	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.5	19.8	15.4	31.2	12.7	12.8	16.2	0.0	17.1	15.6	0.0	0.0
Incr Delay (d2), s/veh	22.4	0.8	0.1	6.7	0.3	0.3	0.4	0.0	1.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	6.0	0.9	2.6	3.0	3.1	0.8	0.0	1.6	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.9	20.5	15.5	37.8	13.1	13.1	16.6	0.0	18.2	15.6	0.0	0.0
LnGrp LOS	E	C	B	D	B	B	B	A	B	B	A	A
Approach Vol, veh/h		1065			842			213			7	
Approach Delay, s/veh		20.3			17.5			17.7			15.6	
Approach LOS		C			B			B			B	

Timer - Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		29.0	12.2	30.5		29.0	5.0	37.7
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		24.5	21.5	60.5		24.5	7.5	74.5
Max Q Clear Time (g_c+I1), s		6.6	7.8	18.3		4.0	2.2	11.0
Green Ext Time (p_c), s		0.8	0.3	7.7		0.0	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B

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--------------------------------------------------------------------------------
              Malibu Pt. Dume Elementary School Project
                      PM Existing Plus Project
--------------------------------------------------------------------------------
                  Level Of Service Computation Report
        2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #2 Wildflower Road/Dume Drive
********************************************************************************
Cycle (sec):          100               Critical Vol./Cap.(X):        0.280
Loss Time (sec):        0               Average Delay (sec/veh):        8.7
Optimal Cycle:          0               Level Of Service:                 A
********************************************************************************
Street Name:         Wildflower Road                      Dume Drive
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Lanes:        0  0  0  1  0   0  1  0  0  0   0  0  0  0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:       0   87   17   107   78    0     0    0    0    24    0  133
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0   87   17   107   78    0     0    0    0    24    0  133
Added Vol:      0   -9    9    37   -9    0     0    0    0     9    0   37
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    0   78   26   144   69    0     0    0    0    33    0  170
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0   78   26   144   69    0     0    0    0    33    0  170
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0   78   26   144   69    0     0    0    0    33    0  170
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0   78   26   144   69    0     0    0    0    33    0  170
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Lanes:       0.00 0.75 0.25  0.68 0.32 0.00  0.00 0.00 0.00  0.16 0.00 0.84
Final Sat.:     0  585  195   515  247    0     0    0    0   135    0  694
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.13 0.13  0.28 0.28 xxxx  xxxx xxxx xxxx  0.25 xxxx 0.25
Crit Moves:            ****       ****                                    ****
Delay/Veh:    0.0  8.1  8.1   9.3  9.3  0.0   0.0  0.0  0.0   8.4  0.0  8.4
Delay Adj:   1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0  8.1  8.1   9.3  9.3  0.0   0.0  0.0  0.0   8.4  0.0  8.4
LOS by Move:    *    A    A     A    A    *     *    *    *     A    *    A
ApproachDel:        8.1              9.3            xxxxxx            8.4
Delay Adj:         1.00             1.00             xxxxx           1.00
ApprAdjDel:         8.1              9.3            xxxxxx            8.4
LOS by Appr:          A                A                 *              A
AllWayAvgQ:   0.1  0.1  0.1   0.4  0.4  0.4   0.0  0.0  0.0   0.3  0.3  0.3
********************************************************************************
Note: Queue reported is the number of cars per lane.
```



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--------------------------------------------------------------------------------
              Malibu Pt. Dume Elementary School Project
                      PM Existing Plus Project
--------------------------------------------------------------------------------
                  Level Of Service Computation Report
        2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #3 Dume Drive/Grayfox Street
********************************************************************************
Cycle (sec):          100               Critical Vol./Cap.(X):        0.220
Loss Time (sec):        0               Average Delay (sec/veh):        8.3
Optimal Cycle:          0               Level Of Service:                 A
********************************************************************************
Street Name:               Dume Drive                      Grayfox Street
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Lanes:        0  0  0  1  0   0  1  0  0  0   0  0  0  0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:       0   67   14    68   56    0     0    0    0    19    0   94
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0   67   14    68   56    0     0    0    0    19    0   94
Added Vol:      0    0   19    46    0    0     0    0    0    19    0   46
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    0   67   33   114   56    0     0    0    0    38    0  140
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:     0   67   33   114   56    0     0    0    0    38    0  140
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0   67   33   114   56    0     0    0    0    38    0  140
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0   67   33   114   56    0     0    0    0    38    0  140
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Lanes:       0.00 0.67 0.33  0.67 0.33 0.00  0.00 0.00 0.00  0.21 0.00 0.79
Final Sat.:     0  545  268   519  255    0     0    0    0   181    0  666
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.12 0.12  0.22 0.22 xxxx  xxxx xxxx xxxx  0.21 xxxx 0.21
Crit Moves:       ****       ****                             ****
Delay/Veh:    0.0  7.8  7.8   8.7  8.7  0.0   0.0  0.0  0.0   8.1  0.0  8.1
Delay Adj:   1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0  7.8  7.8   8.7  8.7  0.0   0.0  0.0  0.0   8.1  0.0  8.1
LOS by Move:    *    A    A     A    A    *     *    *    *     A    *    A
ApproachDel:        7.8              8.7            xxxxxx            8.1
Delay Adj:         1.00             1.00             xxxxx           1.00
ApprAdjDel:         7.8              8.7            xxxxxx            8.1
LOS by Appr:          A                A                 *              A
AllWayAvgQ:   0.1  0.1  0.1   0.3  0.3  0.3   0.0  0.0  0.0   0.2  0.2  0.2
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

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---------------------------------------------------------------------------
                 Malibu Pt. Dume Elementary School Project
                          PM Existing Plus Project
---------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM 4-Way Stop Method (Future Volume Alternative)
***************************************************************************
Intersection #4 Grasswood Av/Grayfox Street
***************************************************************************
Cycle (sec):         100               Critical Vol./Cap.(X):        0.211
Loss Time (sec):       0               Average Delay (sec/veh):        8.0
Optimal Cycle:         0               Level Of Service:                 A
***************************************************************************
Street Name:         Grassword Avenue                  Grayfox Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:    0    0    0     0    0    0     0    0    0     0    0    0
Lanes:       0  0  1! 0  0   0  0  0  0  0   0  0  0  1  0   0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:      7    0    6     0    0    0     0   78    6     5  105    0
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:   7    0    6     0    0    0     0   78    6     5  105    0
Added Vol:     0    0    9     0    0    0     0   65    0     9   65    0
PasserByVol:   0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:   7    0   15     0    0    0     0  143    6    14  170    0
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:    7    0   15     0    0    0     0  143    6    14  170    0
Reduct Vol:    0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:   7    0   15     0    0    0     0  143    6    14  170    0
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:   7    0   15     0    0    0     0  143    6    14  170    0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Lanes:       0.32 0.00 0.68  0.00 0.00 0.00  0.00 0.96 0.04  0.08 0.92 0.00
Final Sat.:   254    0  545     0    0    0     0  835   35    66  804    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 xxxx 0.03  xxxx xxxx xxxx  xxxx 0.17 0.17  0.21 0.21 xxxx
Crit Moves:  ****                                      ****        ****
Delay/Veh:    7.3  0.0  7.3   0.0  0.0  0.0   0.0  7.9  7.9   8.2  8.2  0.0
Delay Adj:   1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   7.3  0.0  7.3   0.0  0.0  0.0   0.0  7.9  7.9   8.2  8.2  0.0
LOS by Move:    A    *    A     *    *    *     *    A    A     A    A    *
ApproachDel:       7.3            xxxxxx             7.9              8.2
Delay Adj:        1.00             xxxxx            1.00             1.00
ApprAdjDel:        7.3            xxxxxx             7.9              8.2
LOS by Appr:         A                *                A                A
AllWayAvgQ:   0.0  0.0  0.0   0.0  0.0  0.0   0.2  0.2  0.2   0.3  0.3  0.3
***************************************************************************
Note: Queue reported is the number of cars per lane.
```



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---------------------------------------------------------------------------
                 Malibu Pt. Dume Elementary School Project
                          PM Existing Plus Project
---------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM 4-Way Stop Method (Future Volume Alternative)
***************************************************************************
Intersection #5 Ferndale Drive/Greyfox Street
***************************************************************************
Cycle (sec):         100               Critical Vol./Cap.(X):        0.425
Loss Time (sec):       0               Average Delay (sec/veh):        9.9
Optimal Cycle:         0               Level Of Service:                 A
***************************************************************************
Street Name:           Ferndale Drive                  Greyfox Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:    0    0    0     0    0    0     0    0    0     0    0    0
Lanes:       0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:     48   97    4    10   63   41    41    9   39     5   15   21
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:  48   97    4    10   63   41    41    9   39     5   15   21
Added Vol:    74   83    9     0   83    0     0    0   74     9    0    0
PasserByVol:   0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut: 122  180   13    10  146   41    41    9  113    14   15   21
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:  122  180   13    10  146   41    41    9  113    14   15   21
Reduct Vol:    0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol: 122  180   13    10  146   41    41    9  113    14   15   21
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume: 122  180   13    10  146   41    41    9  113    14   15   21
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Lanes:       0.39 0.57 0.04  0.05 0.74 0.21  0.25 0.06 0.69  0.28 0.30 0.42
Final Sat.:   287  424   31    37  545  153   175   38  483   178  190  266
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.42 0.42 0.42  0.27 0.27 0.27  0.23 0.23 0.23  0.08 0.08 0.08
Crit Moves:       ****       ****            ****            ****
Delay/Veh:   10.9 10.9 10.9   9.3  9.3  9.3   9.1  9.1  9.1   8.5  8.5  8.5
Delay Adj:   1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  10.9 10.9 10.9   9.3  9.3  9.3   9.1  9.1  9.1   8.5  8.5  8.5
LOS by Move:    B    B    B     A    A    A     A    A    A     A    A    A
ApproachDel:      10.9               9.3             9.1              8.5
Delay Adj:        1.00              1.00            1.00             1.00
ApprAdjDel:       10.9               9.3             9.1              8.5
LOS by Appr:         B                 A               A                A
AllWayAvgQ:   0.7  0.7  0.7   0.3  0.3  0.3   0.3  0.3  0.3   0.1  0.1  0.1
***************************************************************************
Note: Queue reported is the number of cars per lane.
```

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--------------------------------------------------------------------------------
                   Malibu Pt. Dume Elementary School Project
                           PM Existing Plus Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #6 Ferndale Drive/Wildfire Road
********************************************************************************
Cycle (sec):          100               Critical Vol./Cap.(X):         0.299
Loss Time (sec):        0               Average Delay (sec/veh):         8.7
Optimal Cycle:          0               Level Of Service:                  A
********************************************************************************
Street Name:          Ferndale Drive                     Wildfire Road
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:            Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1! 0  0   0  0  0  0  0   0  0  0  1  0   0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:     129    0    13     0    0     0     0   25    74    14   74     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  129    0    13     0    0     0     0   25    74    14   74     0
Added Vol:     83    0     0     0    0     0     0    0    83     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  212    0    13     0    0     0     0   25   157    14   74     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   212    0    13     0    0     0     0   25   157    14   74     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  212    0    13     0    0     0     0   25   157    14   74     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  212    0    13     0    0     0     0   25   157    14   74     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.94 0.00  0.06  0.00 0.00  0.00  0.00 0.14  0.86  0.16 0.84  0.00
Final Sat.:   710    0    44     0    0     0     0  118   740   118  622     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.30 xxxx  0.30  xxxx xxxx  xxxx  xxxx 0.21  0.21  0.12 0.12  xxxx
Crit Moves:  ****                                   ****        ****
Delay/Veh:    9.5  0.0   9.5   0.0  0.0   0.0   0.0  8.0   8.0   8.2  8.2   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   9.5  0.0   9.5   0.0  0.0   0.0   0.0  8.0   8.0   8.2  8.2   0.0
LOS by Move:    A    *     A     *    *     *     *    A     A     A    A     *
ApproachDel:       9.5            xxxxxx              8.0              8.2
Delay Adj:        1.00             xxxxx             1.00             1.00
ApprAdjDel:        9.5            xxxxxx              8.0              8.2
LOS by Appr:         A                 *                A                A
AllWayAvgQ:   0.4  0.4   0.4   0.0  0.0   0.0   0.2  0.2   0.2   0.1  0.1   0.1
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	879	183	199	936	229	238
Future Volume (veh/h)	879	183	199	936	229	238
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1945	1796	1870	1870	1870
Adj Flow Rate, veh/h	955	199	216	1017	249	259
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1390	645	272	2238	376	334
Arrive On Green	0.39	0.39	0.16	0.63	0.21	0.21
Sat Flow, veh/h	3647	1648	1710	3647	1781	1585
Grp Volume(v), veh/h	955	199	216	1017	249	259
Grp Sat Flow(s),veh/h/ln	1777	1648	1710	1777	1781	1585
Q Serve(g_s), s	12.6	4.7	6.9	8.4	7.2	8.7
Cycle Q Clear(g_c), s	12.6	4.7	6.9	8.4	7.2	8.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1390	645	272	2238	376	334
V/C Ratio(X)	0.69	0.31	0.79	0.45	0.66	0.77
Avail Cap(c_a), veh/h	2674	1240	621	4247	615	547
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	14.3	11.9	22.9	5.4	20.4	21.0
Incr Delay (d2), s/veh	0.6	0.3	5.2	0.1	2.0	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	1.4	2.7	1.5	3.0	3.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.9	12.2	28.1	5.6	22.4	24.9
LnGrp LOS	B	B	C	A	C	C
Approach Vol, veh/h	1154			1233	508	
Approach Delay, s/veh	14.5			9.5	23.7	
Approach LOS	B			A	C	

Timer - Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			13.5	26.6		16.4		40.1
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s			20.5	42.5		19.5		67.5
Max Q Clear Time (g_c+I1), s			8.9	14.6		10.7		10.4
Green Ext Time (p_c), s			0.4	7.4		1.2		8.0

Intersection Summary			
HCM 6th Ctrl Delay			14.0
HCM 6th LOS			B

Notes

Unsignalized Delay for [WBT] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	916	57	150	1077	8	117	2	211	3	3	3
Future Volume (veh/h)	8	916	57	150	1077	8	117	2	211	3	3	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1945	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	996	62	163	1171	9	127	2	229	3	3	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	1348	578	206	1695	13	574	8	539	200	199	168
Arrive On Green	0.01	0.36	0.36	0.12	0.47	0.47	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1781	3696	1585	1781	3614	28	1410	25	1585	401	585	493
Grp Volume(v), veh/h	9	996	62	163	576	604	129	0	229	9	0	0
Grp Sat Flow(s),veh/h/ln	1781	1848	1585	1781	1777	1865	1435	0	1585	1480	0	0
Q Serve(g_s), s	0.4	17.6	1.9	6.7	19.1	19.1	0.0	0.0	8.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.4	17.6	1.9	6.7	19.1	19.1	4.6	0.0	8.4	4.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.98		1.00	0.33		0.33
Lane Grp Cap(c), veh/h	20	1348	578	206	833	875	583	0	539	567	0	0
V/C Ratio(X)	0.44	0.74	0.11	0.79	0.69	0.69	0.22	0.00	0.43	0.02	0.00	0.00
Avail Cap(c_a), veh/h	178	2979	1278	487	1740	1827	583	0	539	567	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	36.9	20.7	15.8	32.3	15.7	15.7	17.9	0.0	19.1	16.4	0.0	0.0
Incr Delay (d2), s/veh	14.4	0.8	0.1	6.7	1.0	1.0	0.9	0.0	2.4	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	6.6	0.6	3.0	6.4	6.8	1.7	0.0	3.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.3	21.5	15.8	39.0	16.7	16.6	18.8	0.0	21.6	16.5	0.0	0.0
LnGrp LOS	D	C	B	D	B	B	B	A	C	B	A	A
Approach Vol, veh/h		1067			1343			358			9	
Approach Delay, s/veh		21.5			19.4			20.6			16.5	
Approach LOS		C			B			C			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.0	13.2	31.9		30.0	5.4	39.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		25.5	20.5	60.5		25.5	7.5	73.5				
Max Q Clear Time (g_c+I1), s		10.4	8.7	19.6		6.7	2.4	21.1				
Green Ext Time (p_c), s		1.4	0.3	7.8		0.0	0.0	8.6				

Intersection Summary		
HCM 6th Ctrl Delay		20.3
HCM 6th LOS		C

APPENDIX D

Future (Year 2019) "No Project" Level-of-Service Calculation Worksheets

```
AM Furure (Year 2019) No PrThu Aug 16, 2018 12:15:06                Page 5-1
--------------------------------------------------------------------------------
                   Malibu Pt. Dume Elementary School Project
                       AM Future (Year 2019) No Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
*******************************************************************************
Intersection #2 Wildflower Road/Dume Drive
*******************************************************************************
Cycle (sec):          100              Critical Vol./Cap.(X):        0.253
Loss Time (sec):        0              Average Delay (sec/veh):        8.3
Optimal Cycle:          0              Level Of Service:                 A
*******************************************************************************
Street Name:          Wildflower Road                    Dume Drive
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  0  1  0   0  1  0  0  0   0  0  0  0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:       0   99    33  125   66     0    0    0     0   19    0    99
Growth Adj:  1.02 1.02  1.02 1.02 1.02  1.02 1.02 1.02  1.02 1.02 1.02  1.02
Initial Bse:    0  101    34  128   67     0    0    0     0   19    0   101
Added Vol:      0    1     0    4    2     0    0    0     0    0    0     7
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:    0  102    34  132   69     0    0    0     0   19    0   108
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:     0  102    34  132   69     0    0    0     0   19    0   108
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0  102    34  132   69     0    0    0     0   19    0   108
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:    0  102    34  132   69     0    0    0     0   19    0   108
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.00 0.75  0.25 0.65 0.35  0.00 0.00 0.00  0.00 0.15 0.00  0.85
Final Sat.:     0  620   205  519  274     0    0    0     0  125    0   695
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.16  0.16 0.25 0.25  xxxx xxxx xxxx  xxxx 0.16 xxxx  0.16
Crit Moves:       ****            ****                       ****
Delay/Veh:    0.0  8.0   8.0  8.9  8.9   0.0  0.0  0.0   0.0  7.8  0.0   7.8
Delay Adj:   1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   0.0  8.0   8.0  8.9  8.9   0.0  0.0  0.0   0.0  7.8  0.0   7.8
LOS by Move:    *    A     A    A    A     *    *    *     *    A    *     A
ApproachDel:       8.0              8.9            xxxxxx              7.8
Delay Adj:        1.00             1.00             xxxxx             1.00
ApprAdjDel:        8.0              8.9            xxxxxx              7.8
LOS by Appr:         A                A                 *                A
AllWayAvgQ:   0.2  0.2   0.2  0.3  0.3   0.3  0.0  0.0   0.0  0.2  0.2   0.2
*******************************************************************************
Note: Queue reported is the number of cars per lane.
```

```
AM Furure (Year 2019) No PrThu Aug 16, 2018 12:15:06                Page 6-1
--------------------------------------------------------------------------------
                   Malibu Pt. Dume Elementary School Project
                       AM Future (Year 2019) No Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #3 Dume Drive/Grayfox Street
********************************************************************************
Cycle (sec):          100                 Critical Vol./Cap.(X):         0.174
Loss Time (sec):        0                 Average Delay (sec/veh):         7.7
Optimal Cycle:          0                 Level Of Service:                  A
********************************************************************************
Street Name:                Dume Drive                       Grayfox Street
Approach:       North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign         Stop Sign         Stop Sign
Rights:           Include          Include           Include           Include
Min. Green:     0     0     0    0     0     0    0     0     0    0     0     0
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:       0    42    19    92    46     0    0     0     0   14     0    58
Growth Adj:  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02
Initial Bse:    0    43    19    94    47     0    0     0     0   14     0    59
Added Vol:      0     1     0     2     2     0    0     0     0    0     0     6
PasserByVol:    0     0     0     0     0     0    0     0     0    0     0     0
Initial Fut:    0    44    19    96    49     0    0     0     0   14     0    65
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    44    19    96    49     0    0     0     0   14     0    65
Reduct Vol:     0     0     0     0     0     0    0     0     0    0     0     0
Reduced Vol:    0    44    19    96    49     0    0     0     0   14     0    65
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    44    19    96    49     0    0     0     0   14     0    65
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.69  0.31  0.66 0.34  0.00  0.00 0.00  0.00  0.18 0.00  0.82
Final Sat.:     0  607   268   552  282     0    0     0     0  160     0   730
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.07  0.07  0.17 0.17  xxxx  xxxx xxxx  xxxx  0.09 xxxx  0.09
Crit Moves:       ****             ****                                      ****
Delay/Veh:    0.0  7.3   7.3   8.1  8.1   0.0   0.0  0.0   0.0   7.2  0.0   7.2
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  7.3   7.3   8.1  8.1   0.0   0.0  0.0   0.0   7.2  0.0   7.2
LOS by Move:    *    A     A     A    A     *     *    *     *     A    *     A
ApproachDel:         7.3              8.1            xxxxxx              7.2
Delay Adj:          1.00             1.00             xxxxx             1.00
ApprAdjDel:          7.3              8.1            xxxxxx              7.2
LOS by Appr:           A                A                 *                A
AllWayAvgQ:   0.1  0.1   0.1   0.2  0.2   0.2   0.0  0.0   0.0   0.1  0.1   0.1
********************************************************************************
Note: Queue reported is the number of cars per lane.

  Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KOA CORP, MONTEREY PK
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AM Furure (Year 2019) No PrThu Aug 16, 2018 12:15:06              Page 7-1
--------------------------------------------------------------------------------
                   Malibu Pt. Dume Elementary School Project
                       AM Future (Year 2019) No Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #4 Grasswood Av/Grayfox Street
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):        0.128
Loss Time (sec):       0              Average Delay (sec/veh):        7.5
Optimal Cycle:         0              Level Of Service:                 A
********************************************************************************
Street Name:         Grassword Avenue                  Grayfox Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:       7    0     6     0    0     0     0  104     7     8   68     0
Growth Adj:  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02
Initial Bse:    7    0     6     0    0     0     0  106     7     8   69     0
Added Vol:      1    0     0     0    0     0     0    2     0     0    5     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    8    0     6     0    0     0     0  108     7     8   74     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     8    0     6     0    0     0     0  108     7     8   74     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    8    0     6     0    0     0     0  108     7     8   74     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    8    0     6     0    0     0     0  108     7     8   74     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.57 0.00  0.43  0.00 0.00  0.00  0.00 0.94  0.06  0.10 0.90  0.00
Final Sat.:   475    0   357     0    0     0     0  845    56    87  795     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 xxxx  0.02  xxxx xxxx  xxxx  xxxx 0.13  0.13  0.09 0.09  xxxx
Crit Moves:  ****                                   ****                  ****
Delay/Veh:    7.2  0.0   7.2   0.0  0.0   0.0   0.0  7.5   7.5   7.5  7.5   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.2  0.0   7.2   0.0  0.0   0.0   0.0  7.5   7.5   7.5  7.5   0.0
LOS by Move:    A    *     A     *    *     *     *    A     A     A    A     *
ApproachDel:       7.2           xxxxxx              7.5              7.5
Delay Adj:        1.00            xxxxx             1.00             1.00
ApprAdjDel:        7.2           xxxxxx              7.5              7.5
LOS by Appr:         A                *                A                A
AllWayAvgQ:   0.0  0.0   0.0   0.0  0.0   0.0   0.1  0.1   0.1   0.1  0.1   0.1
********************************************************************************
Note: Queue reported is the number of cars per lane.

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AM Furure (Year 2019) No PrThu Aug 16, 2018 12:15:06                Page 8-1
--------------------------------------------------------------------------------
                   Malibu Pt. Dume Elementary School Project
                       AM Future (Year 2019) No Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #5 Ferndale Drive/Greyfox Street
********************************************************************************
Cycle (sec):          100              Critical Vol./Cap.(X):         0.159
Loss Time (sec):        0              Average Delay (sec/veh):         7.9
Optimal Cycle:          0              Level Of Service:                  A
********************************************************************************
Street Name:           Ferndale Drive                    Greyfox Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:            Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:      42   76     4   16   87    27   39    2    54    2    1    15
Growth Adj:  1.02 1.02  1.02 1.02 1.02  1.02 1.02 1.02  1.02 1.02 1.02  1.02
Initial Bse:   43   78     4   16   89    28   40    2    55    2    1    15
Added Vol:      4    0     0    0    0     0    0    0     2    0    1     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   47   78     4   16   89    28   40    2    57    2    2    15
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    47   78     4   16   89    28   40    2    57    2    2    15
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   47   78     4   16   89    28   40    2    57    2    2    15
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   47   78     4   16   89    28   40    2    57    2    2    15
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.36 0.61  0.03 0.12 0.67  0.21 0.40 0.02  0.58 0.11 0.10  0.79
Final Sat.:   295  488    26  103  560   174  327   17   469   87   86   649
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.16  0.16 0.16 0.16  0.16 0.12 0.12  0.12 0.02 0.02  0.02
Crit Moves:       ****             ****        ****                  ****
Delay/Veh:    8.1  8.1   8.1  7.9  7.9   7.9  7.8  7.8   7.8  7.2  7.2   7.2
Delay Adj:   1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   8.1  8.1   8.1  7.9  7.9   7.9  7.8  7.8   7.8  7.2  7.2   7.2
LOS by Move:    A    A     A    A    A     A    A    A     A    A    A     A
ApproachDel:       8.1              7.9              7.8              7.2
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        8.1              7.9              7.8              7.2
LOS by Appr:         A                A                A                A
AllWayAvgQ:   0.2  0.2   0.2  0.2  0.2   0.2  0.1  0.1   0.1  0.0  0.0   0.0
********************************************************************************
Note: Queue reported is the number of cars per lane.

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AM Furure (Year 2019) No PrThu Aug 16, 2018 12:15:06              Page 9-1
--------------------------------------------------------------------------------
                   Malibu Pt. Dume Elementary School Project
                       AM Future (Year 2019) No Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #6 Ferndale Drive/Wildlife Road
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):        0.292
Loss Time (sec):       0              Average Delay (sec/veh):        8.6
Optimal Cycle:         0              Level Of Service:                 A
********************************************************************************
Street Name:          Ferndale Drive                  Wildlife Road
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  1! 0  0   0  0  0  0  0   0  0  1! 0  0   0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:     117    0     3    0    0     0  117   34    97    2   21     0
Growth Adj:  1.02 1.02  1.02 1.02 1.02  1.02 1.02 1.02  1.02 1.02 1.02  1.02
Initial Bse:  119    0     3    0    0     0  119   35    99    2   21     0
Added Vol:      0    0     0    0    0     0    0    0     0    0    1     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  119    0     3    0    0     0  119   35    99    2   22     0
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   119    0     3    0    0     0  119   35    99    2   22     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  119    0     3    0    0     0  119   35    99    2   22     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  119    0     3    0    0     0  119   35    99    2   22     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.97 0.00  0.03 0.00 0.00  0.00 0.47 0.14  0.39 0.08 0.92  0.00
Final Sat.:   722    0    19    0    0     0  408  119   339   65  716     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 xxxx  0.17 xxxx xxxx  xxxx 0.29 0.29  0.29 0.03 0.03  xxxx
Crit Moves:             ****                      ****        ****
Delay/Veh:    8.5  0.0   8.5  0.0  0.0   0.0  8.7  8.7   8.7  7.6  7.6   0.0
Delay Adj:   1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   8.5  0.0   8.5  0.0  0.0   0.0  8.7  8.7   8.7  7.6  7.6   0.0
LOS by Move:    A    *     A    *    *     *    A    A     A    A    A     *
ApproachDel:       8.5           xxxxxx             8.7              7.6
Delay Adj:        1.00            xxxxx            1.00             1.00
ApprAdjDel:        8.5           xxxxxx             8.7              7.6
LOS by Appr:         A                *               A                A
AllWayAvgQ:   0.2  0.2   0.2  0.0  0.0   0.0  0.4  0.4   0.4  0.0  0.0   0.0
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

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PM Future (Year 2019) No PrThu Aug 16, 2018 12:15:45                Page 4-1
-------------------------------------------------------------------------------
                  Malibu Pt. Dume Elementary School Project
                      PM Future (Year 2019) No Project
-------------------------------------------------------------------------------
                     Level Of Service Computation Report
            1997 HCM Planning Method (Future Volume Alternative)
*******************************************************************************
Intersection #1 Heathercliff Road/PCH
*******************************************************************************
Cycle (sec):        100                Critical Vol./Cap.(X):        0.594
Loss Time (sec):     16                Average Delay (sec/veh):       23.9
Optimal Cycle:       40                Level Of Service:                UC
*******************************************************************************
Street Name:        Heatherfcliff Road             Pacific Coast Highway
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0  4.0  4.0   4.0
Lanes:        1  0  0  0  1   0  0  0  0  0   0  0  2  0  1   1  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:     201    0   238    0    0     0    0  990   155   199 1047     0
Growth Adj:  1.02 1.02  1.02 1.02 1.02  1.02 1.02 1.02  1.02  1.02 1.02  1.02
Initial Bse:  205    0   243    0    0     0    0 1010   158   203 1068     0
Added Vol:      2    0     3    0    0     0    0   38     1     2   29     0
PasserByVol:    0    0     0    0    0     0    0    0     0     0    0     0
Initial Fut:  207    0   246    0    0     0    0 1048   159   205 1097     0
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
Reduct Vol:     0    0     0    0    0     0    0    0     0     0    0     0
Reduced Vol:  207    0   246    0    0     0    0 1048   159   205 1097     0
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
Turn Adj:    0.85 1.00  0.85 1.00 1.00  0.85 1.00 1.00  0.85  0.95 1.00  0.85
FinalVolume:  244    0   289    0    0     0    0 1048   187   216 1097     0
LT-Thru Adj:     1.000          1.000           1.000           1.000
Volume/Lane:  244    0   289    0    0     0    0  524   187   216  548     0
Crit Volume:  244  289   289    0    0     0    0  524   187   216  548     0
------------|---------------||---------------||---------------||---------------|
SignalOpMod:|--------- NORTH==SOUTH ---------||---------- EAST==WEST ----------|
             Phase 1    Phase 2    Phase 3    Phase 1    Phase 2    Phase 3
Movement:      NTL        STL        XXX        EWL        ETL        EWT
Crit Volume:    289         0       xxxxx        0         216        524
Loss Time:        4         4        xxx         4          0           4
Area Type:    < < < < < < < < < < < < < < < Other  > > > > > > > > > > > > > > > >
PHF Factor:   < < < < < < < < < < < < < < < 1.00 > > > > > > > > > > > > > > > > >
Green Time:     10.8        4.0        0.0        4.0        5.1       16.3
------------|---------------||---------------||---------------||---------------|
Delay Module: L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
Green/Cycle: 0.17 0.17  0.17 0.00 0.00  0.00 0.00 0.31  0.31  0.13 0.43  0.43
Volume/Cap:  0.68 0.00  0.90 0.00 0.00  0.00 0.00 0.95  0.32  0.90 0.70  0.00
Delay/Veh:   21.6  0.0  46.2  0.0  0.0   0.0  0.0 29.6  11.1  51.2 10.7   0.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  21.6  0.0  46.2  0.0  0.0   0.0  0.0 29.6  11.1  51.2 10.7   0.0
DesignQueue:    4    0     5    0    0     0    0    9     3     4    7     0
*******************************************************************************
```

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PM Future (Year 2019) No PrThu Aug 16, 2018 12:15:45             Page 5-1
--------------------------------------------------------------------------------
                   Malibu Pt. Dume Elementary School Project
                       PM Future (Year 2019) No Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #2 Wildflower Road/Dume Drive
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):        0.245
Loss Time (sec):       0              Average Delay (sec/veh):        8.3
Optimal Cycle:         0              Level Of Service:                 A
********************************************************************************
Street Name:         Wildflower Road                      Dume Drive
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0    0    0    0    0    0    0    0    0    0
Lanes:        0  0  0  1  0   0  1  0  0  0   0  0  0  0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:       0   87    17   107   78     0     0    0     0    24    0   133
Growth Adj:  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02
Initial Bse:    0   89    17   109   80     0     0    0     0    24    0   136
Added Vol:      0    2     0     2    1     0     0    0     0     0    0     3
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   91    17   111   81     0     0    0     0    24    0   139
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0   91    17   111   81     0     0    0     0    24    0   139
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0   91    17   111   81     0     0    0     0    24    0   139
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0   91    17   111   81     0     0    0     0    24    0   139
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.84  0.16  0.58 0.42  0.00  0.00 0.00  0.00  0.15 0.00  0.85
Final Sat.:     0  669   128   453  329     0     0    0     0   126    0   714
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.14  0.14  0.25 0.25  xxxx  xxxx xxxx  xxxx  0.19 xxxx  0.19
Crit Moves:             ****       ****                         ****
Delay/Veh:    0.0  8.0   8.0   8.9  8.9   0.0   0.0  0.0   0.0   8.0  0.0   8.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  8.0   8.0   8.9  8.9   0.0   0.0  0.0   0.0   8.0  0.0   8.0
LOS by Move:    *    A     A     A    A     *     *    *     *     A    *     A
ApproachDel:       8.0              8.9           xxxxxx              8.0
Delay Adj:        1.00             1.00            xxxxx             1.00
ApprAdjDel:        8.0              8.9           xxxxxx              8.0
LOS by Appr:         A                A                *                A
AllWayAvgQ:   0.1  0.1   0.1   0.3  0.3   0.3   0.0  0.0   0.0   0.2  0.2   0.2
********************************************************************************
Note: Queue reported is the number of cars per lane.

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PM Future (Year 2019) No PrThu Aug 16, 2018 12:15:45              Page 6-1
--------------------------------------------------------------------------------
                   Malibu Pt. Dume Elementary School Project
                       PM Future (Year 2019) No Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
*******************************************************************************
Intersection #3 Dume Drive/Grayfox Street
*******************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):        0.158
Loss Time (sec):       0              Average Delay (sec/veh):        7.7
Optimal Cycle:         0              Level Of Service:                 A
*******************************************************************************
Street Name:              Dume Drive                     Grayfox Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  0  1  0   0  1  0  0  0   0  0  0  0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:       0   67    14   68   56     0    0    0     0   19    0    94
Growth Adj:  1.02 1.02  1.02 1.02 1.02  1.02 1.02 1.02  1.02 1.02 1.02  1.02
Initial Bse:    0   68    14   69   57     0    0    0     0   19    0    96
Added Vol:      0    2     0    1    1     0    0    0     0    0    0     1
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:    0   70    14   70   58     0    0    0     0   19    0    97
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:     0   70    14   70   58     0    0    0     0   19    0    97
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0   70    14   70   58     0    0    0     0   19    0    97
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:    0   70    14   70   58     0    0    0     0   19    0    97
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.00 0.83  0.17 0.55 0.45  0.00 0.00 0.00  0.00 0.17 0.00  0.83
Final Sat.:     0  699   142  445  367     0    0    0     0  148    0   741
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.10  0.10 0.16 0.16  xxxx xxxx xxxx  xxxx 0.13 xxxx  0.13
Crit Moves:       ****            ****                        ****
Delay/Veh:    0.0  7.6   7.6  8.1  8.1   0.0  0.0  0.0   0.0  7.4  0.0   7.4
Delay Adj:   1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   0.0  7.6   7.6  8.1  8.1   0.0  0.0  0.0   0.0  7.4  0.0   7.4
LOS by Move:    *    A     A    A    A     *    *    *     *    A    *     A
ApproachDel:       7.6              8.1            xxxxxx             7.4
Delay Adj:        1.00             1.00             xxxxx            1.00
ApprAdjDel:        7.6              8.1            xxxxxx             7.4
LOS by Appr:         A                A                 *               A
AllWayAvgQ:   0.1  0.1   0.1  0.2  0.2   0.2  0.0  0.0   0.0  0.1  0.1   0.1
*******************************************************************************
Note: Queue reported is the number of cars per lane.

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PM Future (Year 2019) No PrThu Aug 16, 2018 12:15:45                 Page 7-1
--------------------------------------------------------------------------------
                   Malibu Pt. Dume Elementary School Project
                       PM Future (Year 2019) No Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #4 Grasswood Av/Grayfox Street
********************************************************************************
Cycle (sec):          100                Critical Vol./Cap.(X):         0.127
Loss Time (sec):        0                Average Delay (sec/veh):         7.5
Optimal Cycle:          0                Level Of Service:                  A
********************************************************************************
Street Name:          Grassword Avenue                  Grayfox Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:            Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  1! 0  0   0  0  0  0  0   0  0  0  1  0   0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:       7    0     6    0    0     0    0   78     6    5  105     0
Growth Adj:  1.02 1.02  1.02 1.02 1.02  1.02 1.02 1.02  1.02 1.02 1.02  1.02
Initial Bse:    7    0     6    0    0     0    0   80     6    5  107     0
Added Vol:      0    0     0    0    0     0    0    1     0    0    1     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:    7    0     6    0    0     0    0   81     6    5  108     0
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:     7    0     6    0    0     0    0   81     6    5  108     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    7    0     6    0    0     0    0   81     6    5  108     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:    7    0     6    0    0     0    0   81     6    5  108     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.54 0.00  0.46 0.00 0.00  0.00 0.00 0.93  0.07 0.05 0.95  0.00
Final Sat.:   450    0   386    0    0     0    0  833    63   40  851     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 xxxx  0.02 xxxx xxxx  xxxx xxxx 0.10  0.10 0.13 0.13  xxxx
Crit Moves:  ****                                 ****             ****
Delay/Veh:    7.2  0.0   7.2  0.0  0.0   0.0  0.0  7.4   7.4  7.6  7.6   0.0
Delay Adj:   1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   7.2  0.0   7.2  0.0  0.0   0.0  0.0  7.4   7.4  7.6  7.6   0.0
LOS by Move:    A    *     A    *    *     *    *    A     A    A    A     *
ApproachDel:       7.2           xxxxxx              7.4              7.6
Delay Adj:         1.00           xxxxx              1.00             1.00
ApprAdjDel:        7.2           xxxxxx              7.4              7.6
LOS by Appr:         A                *                A                A
AllWayAvgQ:   0.0  0.0   0.0  0.0  0.0   0.0  0.1  0.1   0.1  0.1  0.1   0.1
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

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PM Future (Year 2019) No PrThu Aug 16, 2018 12:15:45              Page 8-1
--------------------------------------------------------------------------------
                   Malibu Pt. Dume Elementary School Project
                       PM Future (Year 2019) No Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #5 Ferndale Drive/Greyfox Street
********************************************************************************
Cycle (sec):         100               Critical Vol./Cap.(X):        0.191
Loss Time (sec):       0               Average Delay (sec/veh):        8.0
Optimal Cycle:         0               Level Of Service:                 A
********************************************************************************
Street Name:          Ferndale Drive                     Greyfox Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:    0     0     0    0     0     0    0     0     0    0     0     0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:      48    97     4    10    63    41    41     9    39     5    15    21
Growth Adj:  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02
Initial Bse:   49    99     4    10    64    42    42     9    40     5    15    21
Added Vol:      1     0     0     0     0     0     0     0     1     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   50    99     4    10    64    42    42     9    41     5    15    21
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    50    99     4    10    64    42    42     9    41     5    15    21
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   50    99     4    10    64    42    42     9    41     5    15    21
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   50    99     4    10    64    42    42     9    41     5    15    21
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.32 0.65  0.03  0.09 0.55  0.36  0.46 0.10  0.44  0.12 0.37  0.51
Final Sat.:   262  519    21    74  464   302   358   79   349    96  289   404
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.19  0.19  0.14 0.14  0.14  0.12 0.12  0.12  0.05 0.05  0.05
Crit Moves:  ****                  ****              ****              ****
Delay/Veh:    8.3  8.3   8.3   7.8  7.8   7.8   7.9  7.9   7.9   7.5  7.5   7.5
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   8.3  8.3   8.3   7.8  7.8   7.8   7.9  7.9   7.9   7.5  7.5   7.5
LOS by Move:    A    A     A     A    A     A     A    A     A     A    A     A
ApproachDel:       8.3              7.8               7.9               7.5
Delay Adj:        1.00             1.00              1.00              1.00
ApprAdjDel:        8.3              7.8               7.9               7.5
LOS by Appr:         A                A                 A                 A
AllWayAvgQ:   0.2  0.2   0.2   0.1  0.1   0.1   0.1  0.1   0.1   0.0  0.0   0.0
********************************************************************************
Note: Queue reported is the number of cars per lane.

  Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KOA CORP, MONTEREY PK
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PM Future (Year 2019) No PrThu Aug 16, 2018 12:15:45                Page 9-1
-------------------------------------------------------------------------------
                  Malibu Pt. Dume Elementary School Project
                      PM Future (Year 2019) No Project
-------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
*******************************************************************************
Intersection #6 Ferndale Drive/Wildlife Road
*******************************************************************************
Cycle (sec):          100               Critical Vol./Cap.(X):         0.173
Loss Time (sec):        0               Average Delay (sec/veh):         7.7
Optimal Cycle:          0               Level Of Service:                  A
*******************************************************************************
Street Name:            Ferndale Drive                   Wildlife Road
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:            Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  1! 0  0   0  0  0  0  0   0  0  0  1  0   0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:     129    0    13    0    0     0    0   25    74    0    0     0
Growth Adj:  1.02 1.02  1.02 1.02 1.02  1.02 1.02 1.02  1.02 1.02 1.02  1.02
Initial Bse:  132    0    13    0    0     0    0   26    75    0    0     0
Added Vol:      0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  132    0    13    0    0     0    0   26    75    0    0     0
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   132    0    13    0    0     0    0   26    75    0    0     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  132    0    13    0    0     0    0   26    75    0    0     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  132    0    13    0    0     0    0   26    75    0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.91 0.00  0.09 0.00 0.00  0.00 0.00 0.25  0.75 0.00 1.00  0.00
Final Sat.:   762    0    77    0    0     0    0  234   692    0  807     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 xxxx  0.17 xxxx xxxx  xxxx xxxx 0.11  0.11 xxxx 0.00  xxxx
Crit Moves:  ****                                 ****                ****
Delay/Veh:    8.1  0.0   8.1  0.0  0.0   0.0  0.0  7.2   7.2  0.0  0.0   0.0
Delay Adj:   1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   8.1  0.0   8.1  0.0  0.0   0.0  0.0  7.2   7.2  0.0  0.0   0.0
LOS by Move:    A    *     A    *    *     *    *    A     A    *    *     *
ApproachDel:       8.1           xxxxxx              7.2           xxxxxx
Delay Adj:        1.00            xxxxx             1.00            xxxxx
ApprAdjDel:        8.1           xxxxxx              7.2           xxxxxx
LOS by Appr:         A                *                A                *
AllWayAvgQ:   0.2  0.2   0.2  0.0  0.0   0.0  0.1  0.1   0.1  0.0  0.0   0.0
*******************************************************************************
Note: Queue reported is the number of cars per lane.
```

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	781	126	140	892	132	133
Future Volume (veh/h)	781	126	140	892	132	133
Number	4	14	3	8	1	16
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	1937	1788	1863	1863	1863
Adj Flow Rate, veh/h	849	137	152	970	143	145
Adj No. of Lanes	2	1	1	2	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1412	657	200	2224	262	234
Arrive On Green	0.40	0.40	0.12	0.63	0.15	0.15
Sat Flow, veh/h	3632	1647	1703	3632	1774	1583
Grp Volume(v), veh/h	849	137	152	970	143	145
Grp Sat Flow(s),veh/h/ln	1770	1647	1703	1770	1774	1583
Q Serve(g_s), s	7.6	2.2	3.5	5.6	3.0	3.5
Cycle Q Clear(g_c), s	7.6	2.2	3.5	5.6	3.0	3.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1412	657	200	2224	262	234
V/C Ratio(X)	0.60	0.21	0.76	0.44	0.55	0.62
Avail Cap(c_a), veh/h	3741	1740	868	5941	816	728
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	9.6	7.9	17.2	3.8	15.9	16.1
Incr Delay (d2), s/veh	0.4	0.2	5.8	0.1	1.8	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	1.0	1.9	2.7	1.6	1.7
LnGrp Delay(d),s/veh	10.0	8.1	23.0	4.0	17.6	18.7
LnGrp LOS	A	A	C	A	B	B
Approach Vol, veh/h	986			1122	288	
Approach Delay, s/veh	9.7			6.5	18.2	
Approach LOS	A			A	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			9.2	20.5		10.4		29.8
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s			20.5	42.5		18.5		67.5
Max Q Clear Time (g_c+I1), s			5.5	9.6		5.5		7.6
Green Ext Time (p_c), s			0.3	6.4		0.7		7.4

Intersection Summary	
HCM 2010 Ctrl Delay	9.2
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	1017	54	83	803	5	38	1	77	4	1	13
Future Volume (veh/h)	15	1017	54	83	803	5	38	1	77	4	1	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1937	1863	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	16	1105	59	90	873	5	41	1	84	4	1	14
Adj No. of Lanes	1	2	1	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	34	1510	650	118	1651	9	557	12	526	137	62	383
Arrive On Green	0.02	0.41	0.41	0.07	0.46	0.46	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1774	3681	1583	1774	3608	21	1373	37	1583	225	186	1152
Grp Volume(v), veh/h	16	1105	59	90	428	450	42	0	84	19	0	0
Grp Sat Flow(s),veh/h/ln	1774	1840	1583	1774	1770	1859	1410	0	1583	1564	0	0
Q Serve(g_s), s	0.6	17.9	1.6	3.5	12.2	12.2	0.8	0.0	2.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	17.9	1.6	3.5	12.2	12.2	1.3	0.0	2.6	0.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.98		1.00	0.21		0.74
Lane Grp Cap(c), veh/h	34	1510	650	118	810	851	569	0	526	581	0	0
V/C Ratio(X)	0.47	0.73	0.09	0.76	0.53	0.53	0.07	0.00	0.16	0.03	0.00	0.00
Avail Cap(c_a), veh/h	213	3358	1444	464	1865	1959	569	0	526	581	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	34.3	17.6	12.8	32.5	13.7	13.7	16.2	0.0	16.6	15.9	0.0	0.0
Incr Delay (d2), s/veh	9.9	0.7	0.1	9.8	0.5	0.5	0.3	0.0	0.6	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	9.2	0.7	2.0	6.1	6.4	0.6	0.0	1.2	0.3	0.0	0.0
LnGrp Delay(d),s/veh	44.2	18.3	12.8	42.2	14.3	14.2	16.4	0.0	17.3	16.0	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B		B	B		
Approach Vol, veh/h		1180			968			126			19	
Approach Delay, s/veh		18.3			16.8			17.0			16.0	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		28.0	9.2	33.5		28.0	5.8	36.9
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		23.5	18.5	64.5		23.5	8.5	74.5
Max Q Clear Time (g_c+I1), s		4.6	5.5	19.9		2.6	2.6	14.2
Green Ext Time (p_c), s		0.4	0.1	9.1		0.0	0.0	5.5

Intersection Summary			
HCM 2010 Ctrl Delay			17.6
HCM 2010 LOS			B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1048	159	205	1097	207	246
Future Volume (veh/h)	1048	159	205	1097	207	246
Number	4	14	3	8	1	16
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	1937	1788	1863	1863	1863
Adj Flow Rate, veh/h	1139	173	223	1192	225	267
Adj No. of Lanes	2	1	1	2	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1527	711	272	2333	364	325
Arrive On Green	0.43	0.43	0.16	0.66	0.21	0.21
Sat Flow, veh/h	3632	1647	1703	3632	1774	1583
Grp Volume(v), veh/h	1139	173	223	1192	225	267
Grp Sat Flow(s),veh/h/ln	1770	1647	1703	1770	1774	1583
Q Serve(g_s), s	17.9	4.4	8.4	11.5	7.7	10.7
Cycle Q Clear(g_c), s	17.9	4.4	8.4	11.5	7.7	10.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1527	711	272	2333	364	325
V/C Ratio(X)	0.75	0.24	0.82	0.51	0.62	0.82
Avail Cap(c_a), veh/h	2373	1104	500	3653	495	441
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	15.8	12.0	26.9	5.8	24.0	25.2
Incr Delay (d2), s/veh	0.7	0.2	6.0	0.2	1.7	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	2.1	4.4	5.5	3.9	5.5
LnGrp Delay(d),s/veh	16.6	12.2	33.0	6.0	25.7	34.0
LnGrp LOS	B	B	C	A	C	C
Approach Vol, veh/h	1312			1415	492	
Approach Delay, s/veh	16.0			10.2	30.2	
Approach LOS	B			B	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			15.1	33.1		18.1		48.2
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s			19.5	44.5		18.5		68.5
Max Q Clear Time (g_c+I1), s			10.4	19.9		12.7		13.5
Green Ext Time (p_c), s			0.4	8.7		0.9		10.2

Intersection Summary	
HCM 2010 Ctrl Delay	15.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	1065	30	96	1211	8	91	2	158	3	3	12
Future Volume (veh/h)	17	1065	30	96	1211	8	91	2	158	3	3	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1937	1863	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	18	1158	33	104	1316	9	99	2	172	3	3	13
Adj No. of Lanes	1	2	1	1	2	0	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	1544	664	136	1712	12	542	10	515	104	114	353
Arrive On Green	0.02	0.42	0.42	0.08	0.48	0.48	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1774	3681	1583	1774	3603	25	1377	31	1583	151	351	1087
Grp Volume(v), veh/h	18	1158	33	104	646	679	101	0	172	19	0	0
Grp Sat Flow(s),veh/h/ln	1774	1840	1583	1774	1770	1858	1408	0	1583	1589	0	0
Q Serve(g_s), s	0.8	20.1	0.9	4.3	22.8	22.8	3.2	0.0	6.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.8	20.1	0.9	4.3	22.8	22.8	3.8	0.0	6.2	0.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.98		1.00	0.16		0.68
Lane Grp Cap(c), veh/h	37	1544	664	136	841	883	552	0	515	572	0	0
V/C Ratio(X)	0.49	0.75	0.05	0.77	0.77	0.77	0.18	0.00	0.33	0.03	0.00	0.00
Avail Cap(c_a), veh/h	176	3100	1334	435	1749	1836	552	0	515	572	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	36.5	18.5	13.0	34.2	16.4	16.4	18.4	0.0	19.3	17.4	0.0	0.0
Incr Delay (d2), s/veh	9.6	0.7	0.0	8.7	1.5	1.4	0.7	0.0	1.7	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	10.3	0.4	2.4	11.3	11.9	1.6	0.0	3.0	0.3	0.0	0.0
LnGrp Delay(d),s/veh	46.1	19.3	13.0	42.9	17.9	17.8	19.1	0.0	21.0	17.5	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B		C	B		
Approach Vol, veh/h		1209			1429			273			19	
Approach Delay, s/veh		19.5			19.7			20.3			17.5	
Approach LOS		B			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		29.0	10.3	36.1		29.0	6.1	40.3
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		24.5	18.5	63.5		24.5	7.5	74.5
Max Q Clear Time (g_c+I1), s		8.2	6.3	22.1		2.6	2.8	24.8
Green Ext Time (p_c), s		1.0	0.2	9.5		0.0	0.0	10.5

Intersection Summary			
HCM 2010 Ctrl Delay			19.6
HCM 2010 LOS			B

APPENDIX E

Future (Year 2019) "With Project" Level-of-Service Calculation Worksheets

```
--------------------------------------------------------------------------------
                Malibu Pt. Dume Elementary School Project
                   AM Future (Year 2019) With Project
--------------------------------------------------------------------------------
                   Level Of Service Computation Report
         2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #2 Wildflower Road/Dume Drive
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         0.297
Loss Time (sec):       0              Average Delay (sec/veh):         8.7
Optimal Cycle:         0              Level Of Service:                  A
********************************************************************************
Street Name:          Wildflower Road                     Dume Drive
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:       0   99    33   125   66     0     0    0     0    19    0    99
Growth Adj:  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02
Initial Bse:    0  101    34   128   67     0     0    0     0    19    0   101
Added Vol:      0   -8     9    41   -8     0     0    0     0     9    0    44
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   93    43   169   59     0     0    0     0    28    0   145
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0   93    43   169   59     0     0    0     0    28    0   145
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0   93    43   169   59     0     0    0     0    28    0   145
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0   93    43   169   59     0     0    0     0    28    0   145
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.69  0.31  0.74 0.26  0.00  0.00 0.00  0.00  0.16 0.00  0.84
Final Sat.:     0  547   251   567  199     0     0    0     0   132    0   672
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.17  0.17  0.30 0.30  xxxx  xxxx xxxx  xxxx  0.22 xxxx  0.22
Crit Moves:       ****             ****                                     ****
Delay/Veh:    0.0  8.2   8.2   9.4  9.4   0.0   0.0  0.0   0.0   8.3  0.0   8.3
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  8.2   8.2   9.4  9.4   0.0   0.0  0.0   0.0   8.3  0.0   8.3
LOS by Move:    *    A     A     A    A     *     *    *     *     A    *     A
ApproachDel:         8.2              9.4            xxxxxx             8.3
Delay Adj:          1.00             1.00             xxxxx            1.00
ApprAdjDel:          8.2              9.4            xxxxxx             8.3
LOS by Appr:           A                A                 *               A
AllWayAvgQ:   0.2  0.2   0.2   0.4  0.4   0.4   0.0  0.0   0.0   0.2  0.2   0.2
********************************************************************************
Note: Queue reported is the number of cars per lane.
```



```
--------------------------------------------------------------------------------
                Malibu Pt. Dume Elementary School Project
                   AM Future (Year 2019) With Project
--------------------------------------------------------------------------------
                   Level Of Service Computation Report
         2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #3 Dume Drive/Grayfox Street
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         0.242
Loss Time (sec):       0              Average Delay (sec/veh):         8.2
Optimal Cycle:         0              Level Of Service:                  A
********************************************************************************
Street Name:             Dume Drive                        Grayfox Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:       0   42    19    92   46     0     0    0     0    14    0    58
Growth Adj:  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02
Initial Bse:    0   43    19    94   47     0     0    0     0    14    0    59
Added Vol:      0    1    19    49    2     0     0    0     0    19    0    52
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   44    38   143   49     0     0    0     0    33    0   111
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0   44    38   143   49     0     0    0     0    33    0   111
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0   44    38   143   49     0     0    0     0    33    0   111
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0   44    38   143   49     0     0    0     0    33    0   111
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.53  0.47  0.74 0.26  0.00  0.00 0.00  0.00  0.23 0.00  0.77
Final Sat.:     0  449   393   590  202     0     0    0     0   194    0   648
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.10  0.10  0.24 0.24  xxxx  xxxx xxxx  xxxx  0.17 xxxx  0.17
Crit Moves:       ****             ****                        ****
Delay/Veh:    0.0  7.5   7.5   8.8  8.8   0.0   0.0  0.0   0.0   7.9  0.0   7.9
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  7.5   7.5   8.8  8.8   0.0   0.0  0.0   0.0   7.9  0.0   7.9
LOS by Move:    *    A     A     A    A     *     *    *     *     A    *     A
ApproachDel:         7.5              8.8            xxxxxx             7.9
Delay Adj:          1.00             1.00             xxxxx            1.00
ApprAdjDel:          7.5              8.8            xxxxxx             7.9
LOS by Appr:           A                A                 *               A
AllWayAvgQ:   0.1  0.1   0.1   0.3  0.3   0.3   0.0  0.0   0.0   0.2  0.2   0.2
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

```
--------------------------------------------------------------------------------
                  Malibu Pt. Dume Elementary School Project
                     AM Future (Year 2019) With Project
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
          2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #4 Grasswood Av/Grayfox Street
********************************************************************************
Cycle (sec):         100               Critical Vol./Cap.(X):         0.206
Loss Time (sec):       0               Average Delay (sec/veh):         8.0
Optimal Cycle:         0               Level Of Service:                  A
********************************************************************************
Street Name:         Grassword Avenue                  Grayfox Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:    0    0    0     0    0    0     0    0    0     0    0    0
Lanes:        0  0  1! 0  0   0  0  0  0  0   0  0  0  1  0   0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:      7    0    6     0    0    0     0  104    7     8   68    0
Growth Adj:  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02
Initial Bse:   7    0    6     0    0    0     0  106    7     8   69    0
Added Vol:     1    0    9     0    0    0     0   67    0     9   70    0
PasserByVol:   0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:   8    0   15     0    0    0     0  173    7    17  139    0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    8    0   15     0    0    0     0  173    7    17  139    0
Reduct Vol:    0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:   8    0   15     0    0    0     0  173    7    17  139    0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   8    0   15     0    0    0     0  173    7    17  139    0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.35 0.00  0.65  0.00 0.00  0.00  0.00 0.96  0.04  0.11 0.89  0.00
Final Sat.:   277    0   515     0    0    0     0  841    35    94  766    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 xxxx  0.03  xxxx xxxx  xxxx  xxxx 0.21  0.21  0.18 0.18  xxxx
Crit Moves:  ****                                   ****        ****
Delay/Veh:    7.4  0.0   7.4   0.0  0.0   0.0   0.0  8.1   8.1   8.0  8.0   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.4  0.0   7.4   0.0  0.0   0.0   0.0  8.1   8.1   8.0  8.0   0.0
LOS by Move:   A    *    A     *    *    *     *    A    A     A    A    *
ApproachDel:       7.4            xxxxxx             8.1              8.0
Delay Adj:        1.00             xxxxx            1.00             1.00
ApprAdjDel:        7.4            xxxxxx             8.1              8.0
LOS by Appr:        A                *                A                A
AllWayAvgQ:   0.0  0.0   0.0   0.0  0.0   0.0   0.3  0.3   0.3   0.2  0.2   0.2
********************************************************************************
Note: Queue reported is the number of cars per lane.
```



```
--------------------------------------------------------------------------------
                  Malibu Pt. Dume Elementary School Project
                     AM Future (Year 2019) With Project
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
          2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #5 Ferndale Drive/Greyfox Street
********************************************************************************
Cycle (sec):         100               Critical Vol./Cap.(X):         0.395
Loss Time (sec):       0               Average Delay (sec/veh):         9.8
Optimal Cycle:         0               Level Of Service:                  A
********************************************************************************
Street Name:             Ferndale Drive                   Greyfox Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:    0    0    0     0    0    0     0    0    0     0    0    0
Lanes:        0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:     42   76    4    16   87   27    39    2   54     2    1   15
Growth Adj:  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02
Initial Bse:  43   78    4    16   89   28    40    2   55     2    1   15
Added Vol:    78   83    9     0   83    0     0    0   76     9    1    0
PasserByVol:   0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut: 121  161   13    16  172   28    40    2  131    11    2   15
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:  121  161   13    16  172   28    40    2  131    11    2   15
Reduct Vol:    0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol: 121  161   13    16  172   28    40    2  131    11    2   15
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume: 121  161   13    16  172   28    40    2  131    11    2   15
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.41 0.55  0.04  0.07 0.80  0.13  0.23 0.01  0.76  0.39 0.07  0.54
Final Sat.:   306  406    33    56  591    95   164    8   539   248   45   344
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.40 0.40  0.40  0.29 0.29  0.29  0.24 0.24  0.24  0.04 0.04  0.04
Crit Moves:       ****                   ****        ****              ****
Delay/Veh:   10.6 10.6  10.6   9.5  9.5   9.5   9.0  9.0   9.0   8.3  8.3   8.3
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  10.6 10.6  10.6   9.5  9.5   9.5   9.0  9.0   9.0   8.3  8.3   8.3
LOS by Move:   B    B    B     A    A    A     A    A    A     A    A    A
ApproachDel:      10.6               9.5              9.0              8.3
Delay Adj:        1.00              1.00             1.00             1.00
ApprAdjDel:       10.6               9.5              9.0              8.3
LOS by Appr:        B                 A                A                A
AllWayAvgQ:   0.6  0.6   0.6   0.4  0.4   0.4   0.3  0.3   0.3   0.0  0.0   0.0
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

```
--------------------------------------------------------------------------------
                  Malibu Pt. Dume Elementary School Project
                     AM Future (Year 2019) With Project
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
          2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #6 Ferndale Drive/Wildfire Road
********************************************************************************
Cycle (sec):         100               Critical Vol./Cap.(X):        0.270
Loss Time (sec):       0               Average Delay (sec/veh):        8.6
Optimal Cycle:         0               Level Of Service:                 A
********************************************************************************
Street Name:          Ferndale Drive                    Wildfire Road
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  0  1  0    0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:     117    0     3     0    0     0     0   34    97     2   21     0
Growth Adj:  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02
Initial Bse:  119    0     3     0    0     0     0   35    99     2   21     0
Added Vol:     83    0     0     0    0     0     0    0    83     0    1     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  202    0     3     0    0     0     0   35   182     2   22     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   202    0     3     0    0     0     0   35   182     2   22     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  202    0     3     0    0     0     0   35   182     2   22     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  202    0     3     0    0     0     0   35   182     2   22     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.98 0.01  0.01  0.00 0.00  0.00  0.00 0.16  0.84  0.08 0.92  0.00
Final Sat.:   750    0    11     0    0     0     0  142   745    62  682     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.27 0.00  0.27  xxxx xxxx  xxxx  xxxx 0.24  0.24  0.03 0.03  xxxx
Crit Moves:  ****                                   ****              ****
Delay/Veh:    9.2  9.2   9.2   0.0  0.0   0.0   0.0  8.1   8.1   7.8  7.8   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   9.2  9.2   9.2   0.0  0.0   0.0   0.0  8.1   8.1   7.8  7.8   0.0
LOS by Move:    A    A     A     *    *     *     *    A     A     A    A     *
ApproachDel:       9.2            xxxxxx              8.1              7.8
Delay Adj:        1.00             xxxxx             1.00             1.00
ApprAdjDel:        9.2            xxxxxx              8.1              7.8
LOS by Appr:         A                 *                A                A
AllWayAvgQ:   0.3  0.3   0.3   0.0  0.0   0.0   0.3  0.3   0.3   0.0  0.0   0.0
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	670	154	140	781	159	133
Future Volume (veh/h)	670	154	140	781	159	133
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1945	1796	1870	1870	1870
Adj Flow Rate, veh/h	728	167	152	849	173	145
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1289	598	201	2132	286	254
Arrive On Green	0.36	0.36	0.12	0.60	0.16	0.16
Sat Flow, veh/h	3647	1648	1710	3647	1781	1585
Grp Volume(v), veh/h	728	167	152	849	173	145
Grp Sat Flow(s),veh/h/ln	1777	1648	1710	1777	1781	1585
Q Serve(g_s), s	6.2	2.7	3.2	4.7	3.4	3.2
Cycle Q Clear(g_c), s	6.2	2.7	3.2	4.7	3.4	3.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1289	598	201	2132	286	254
V/C Ratio(X)	0.56	0.28	0.76	0.40	0.61	0.57
Avail Cap(c_a), veh/h	3833	1778	934	6199	925	823
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	9.6	8.5	16.1	3.9	14.7	14.6
Incr Delay (d2), s/veh	0.4	0.3	5.8	0.1	2.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.6	1.2	0.2	1.3	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.0	8.7	21.8	4.1	16.7	16.6
LnGrp LOS	A	A	C	A	B	B
Approach Vol, veh/h	895			1001	318	
Approach Delay, s/veh	9.7			6.8	16.7	
Approach LOS	A			A	B	

Timer - Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			8.9	18.1		10.5		27.0
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s			20.5	40.5		19.5		65.5
Max Q Clear Time (g_c+I1), s			5.2	8.2		5.4		6.7
Green Ext Time (p_c), s			0.3	5.5		0.9		6.2

Intersection Summary	
HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A

Notes

Unsignalized Delay for [WBT] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	943	82	139	729	5	66	1	133	4	1	3
Future Volume (veh/h)	5	943	82	139	729	5	66	1	133	4	1	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1945	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	1025	89	151	792	5	72	1	145	4	1	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	12	1396	599	193	1735	11	570	7	525	288	83	179
Arrive On Green	0.01	0.38	0.38	0.11	0.48	0.48	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1781	3696	1585	1781	3620	23	1427	22	1585	647	251	539
Grp Volume(v), veh/h	5	1025	89	151	389	408	73	0	145	8	0	0
Grp Sat Flow(s),veh/h/ln	1781	1848	1585	1781	1777	1866	1449	0	1585	1438	0	0
Q Serve(g_s), s	0.2	17.7	2.7	6.1	10.8	10.8	0.0	0.0	5.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	17.7	2.7	6.1	10.8	10.8	2.1	0.0	5.0	2.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.99		1.00	0.50		0.37
Lane Grp Cap(c), veh/h	12	1396	599	193	852	894	577	0	525	550	0	0
V/C Ratio(X)	0.43	0.73	0.15	0.78	0.46	0.46	0.13	0.00	0.28	0.01	0.00	0.00
Avail Cap(c_a), veh/h	157	3075	1319	494	1815	1906	577	0	525	550	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	36.6	19.8	15.2	32.1	12.8	12.8	17.2	0.0	18.2	16.6	0.0	0.0
Incr Delay (d2), s/veh	22.5	0.8	0.1	6.8	0.4	0.4	0.5	0.0	1.3	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	6.5	0.9	2.8	3.5	3.7	0.9	0.0	1.8	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.1	20.6	15.3	38.9	13.2	13.2	17.7	0.0	19.5	16.6	0.0	0.0
LnGrp LOS	E	C	B	D	B	B	B	A	B	B	A	A
Approach Vol, veh/h		1119			948			218			8	
Approach Delay, s/veh		20.3			17.3			18.9			16.6	
Approach LOS		C			B			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.0	12.5	32.4		29.0	5.0	39.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		24.5	20.5	61.5		24.5	6.5	75.5				
Max Q Clear Time (g_c+I1), s		7.0	8.1	19.7		4.1	2.2	12.8				
Green Ext Time (p_c), s		0.8	0.3	8.3		0.0	0.0	4.9				
Intersection Summary												
HCM 6th Ctrl Delay			18.9									
HCM 6th LOS			B									

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--------------------------------------------------------------------------------
                  Malibu Pt. Dume Elementary School Project
                     PM Future (Year 2019) With Project
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #2 Wildflower Road/Dume Drive
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         0.290
Loss Time (sec):       0              Average Delay (sec/veh):         8.8
Optimal Cycle:         0              Level Of Service:                  A
********************************************************************************
Street Name:         Wildflower Road                     Dume Drive
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       0  0  0  1  0   0  1  0  0  0   0  0  0  0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:      0   87    17   107   78     0    0    0     0   24    0   133
Growth Adj:  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02
Initial Bse:   0   89    17   109   80     0    0    0     0   24    0   136
Added Vol:     0   -8     9    39   -8     0    0    0     0    9    0    40
PasserByVol:   0    0     0     0    0     0    0    0     0    0    0     0
Initial Fut:   0   81    26   148   72     0    0    0     0   33    0   176
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    0   81    26   148   72     0    0    0     0   33    0   176
Reduct Vol:    0    0     0     0    0     0    0    0     0    0    0     0
Reduced Vol:   0   81    26   148   72     0    0    0     0   33    0   176
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   0   81    26   148   72     0    0    0     0   33    0   176
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.75  0.25  0.67 0.33  0.00  0.00 0.00  0.00  0.16 0.00  0.84
Final Sat.:    0  583   190   511  247     0    0    0     0  132    0   691
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.14  0.14  0.29 0.29  xxxx  xxxx xxxx  xxxx  0.25 xxxx  0.25
Crit Moves:             ****  ****                             ****
Delay/Veh:    0.0  8.1   8.1   9.4  9.4   0.0   0.0  0.0   0.0   8.5  0.0   8.5
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  8.1   8.1   9.4  9.4   0.0   0.0  0.0   0.0   8.5  0.0   8.5
LOS by Move:   *    A     A     A    A     *     *    *     *     A    *     A
ApproachDel:       8.1              9.4            xxxxxx            8.5
Delay Adj:        1.00             1.00             xxxxx           1.00
ApprAdjDel:        8.1              9.4            xxxxxx            8.5
LOS by Appr:         A                A                *               A
AllWayAvgQ:   0.1  0.1   0.1   0.4  0.4   0.4   0.0  0.0   0.0   0.3  0.3   0.3
********************************************************************************
Note: Queue reported is the number of cars per lane.
```



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--------------------------------------------------------------------------------
                  Malibu Pt. Dume Elementary School Project
                     PM Future (Year 2019) With Project
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #3 Dume Drive/Grayfox Street
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         0.226
Loss Time (sec):       0              Average Delay (sec/veh):         8.3
Optimal Cycle:         0              Level Of Service:                  A
********************************************************************************
Street Name:               Dume Drive                      Grayfox Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       0  0  0  1  0   0  1  0  0  0   0  0  0  0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:      0   67    14    68   56     0    0    0     0   19    0    94
Growth Adj:  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02
Initial Bse:   0   68    14    69   57     0    0    0     0   19    0    96
Added Vol:     0    2    19    47    1     0    0    0     0   19    0    48
PasserByVol:   0    0     0     0    0     0    0    0     0    0    0     0
Initial Fut:   0   70    33   116   58     0    0    0     0   38    0   144
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    0   70    33   116   58     0    0    0     0   38    0   144
Reduct Vol:    0    0     0     0    0     0    0    0     0    0    0     0
Reduced Vol:   0   70    33   116   58     0    0    0     0   38    0   144
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   0   70    33   116   58     0    0    0     0   38    0   144
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.68  0.32  0.67 0.33  0.00  0.00 0.00  0.00  0.21 0.00  0.79
Final Sat.:    0  548   259   514  257     0    0    0     0  178    0   666
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.13  0.13  0.23 0.23  xxxx  xxxx xxxx  xxxx  0.22 xxxx  0.22
Crit Moves:       ****             ****                        ****
Delay/Veh:    0.0  7.9   7.9   8.8  8.8   0.0   0.0  0.0   0.0   8.1  0.0   8.1
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  7.9   7.9   8.8  8.8   0.0   0.0  0.0   0.0   8.1  0.0   8.1
LOS by Move:   *    A     A     A    A     *     *    *     *     A    *     A
ApproachDel:       7.9              8.8            xxxxxx            8.1
Delay Adj:        1.00             1.00             xxxxx           1.00
ApprAdjDel:        7.9              8.8            xxxxxx            8.1
LOS by Appr:         A                A                *               A
AllWayAvgQ:   0.1  0.1   0.1   0.3  0.3   0.3   0.0  0.0   0.0   0.2  0.2   0.2
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

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--------------------------------------------------------------------------------
                 Malibu Pt. Dume Elementary School Project
                    PM Future (Year 2019) With Project
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #4 Grasswood Av/Grayfox Street
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         0.215
Loss Time (sec):       0              Average Delay (sec/veh):         8.0
Optimal Cycle:         0              Level Of Service:                  A
********************************************************************************
Street Name:          Grassword Avenue                  Grayfox Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:    0     0     0    0     0     0    0     0     0    0     0     0
Lanes:       0  0  1! 0  0   0  0  0  0  0   0  0  0  1  0   0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:      7    0     6    0    0     0    0   78     6    5  105     0
Growth Adj:  1.02 1.02  1.02 1.02 1.02  1.02 1.02 1.02  1.02 1.02 1.02  1.02
Initial Bse:   7    0     6    0    0     0    0   80     6    5  107     0
Added Vol:     0    0     9    0    0     0    0   66     0    9   66     0
PasserByVol:   0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   7    0    15    0    0     0    0  146     6   14  173     0
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    7    0    15    0    0     0    0  146     6   14  173     0
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   7    0    15    0    0     0    0  146     6   14  173     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   7    0    15    0    0     0    0  146     6   14  173     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.32 0.00  0.68 0.00 0.00  0.00 0.00 0.96  0.04 0.08 0.92  0.00
Final Sat.:   255    0   540    0    0     0    0  834    35   66  804     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 xxxx  0.03 xxxx xxxx  xxxx xxxx 0.17  0.17 0.22 0.22  xxxx
Crit Moves:  ****                                ****            ****
Delay/Veh:    7.3  0.0   7.3  0.0  0.0   0.0  0.0  7.9   7.9  8.2  8.2   0.0
Delay Adj:   1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   7.3  0.0   7.3  0.0  0.0   0.0  0.0  7.9   7.9  8.2  8.2   0.0
LOS by Move:    A    *     A    *    *     *    *    A     A    A    A     *
ApproachDel:        7.3            xxxxxx              7.9              8.2
Delay Adj:         1.00             xxxxx             1.00             1.00
ApprAdjDel:         7.3            xxxxxx              7.9              8.2
LOS by Appr:          A                 *                A                A
AllWayAvgQ:   0.0  0.0   0.0  0.0  0.0   0.0  0.2  0.2   0.2  0.3  0.3   0.3
********************************************************************************
Note: Queue reported is the number of cars per lane.
```



```
--------------------------------------------------------------------------------
                 Malibu Pt. Dume Elementary School Project
                    PM Future (Year 2019) With Project
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #5 Ferndale Drive/Greyfox Street
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         0.431
Loss Time (sec):       0              Average Delay (sec/veh):        10.0
Optimal Cycle:         0              Level Of Service:                  A
********************************************************************************
Street Name:            Ferndale Drive                  Greyfox Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:    0     0     0    0     0     0    0     0     0    0     0     0
Lanes:       0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:     48   97     4   10   63    41   41    9    39    5   15    21
Growth Adj:  1.02 1.02  1.02 1.02 1.02  1.02 1.02 1.02  1.02 1.02 1.02  1.02
Initial Bse:  49   99     4   10   64    42   42    9    40    5   15    21
Added Vol:    75   83     9    0   83     0    0    0    75    9    0     0
PasserByVol:   0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut: 124  182    13   10  147    42   42    9   115   14   15    21
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:  124  182    13   10  147    42   42    9   115   14   15    21
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol: 124  182    13   10  147    42   42    9   115   14   15    21
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume: 124  182    13   10  147    42   42    9   115   14   15    21
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.39 0.57  0.04 0.05 0.74  0.21 0.25 0.06  0.69 0.28 0.30  0.42
Final Sat.:   287  422    30   38  542   154  175   38   480  175  190   266
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.43 0.43  0.43 0.27 0.27  0.27 0.24 0.24  0.24 0.08 0.08  0.08
Crit Moves:       ****            ****       ****                  ****
Delay/Veh:   11.1 11.1  11.1  9.3  9.3   9.3  9.1  9.1   9.1  8.5  8.5   8.5
Delay Adj:   1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  11.1 11.1  11.1  9.3  9.3   9.3  9.1  9.1   9.1  8.5  8.5   8.5
LOS by Move:    B    B     B    A    A     A    A    A     A    A    A     A
ApproachDel:       11.1               9.3              9.1              8.5
Delay Adj:         1.00              1.00             1.00             1.00
ApprAdjDel:        11.1               9.3              9.1              8.5
LOS by Appr:          B                 A                A                A
AllWayAvgQ:   0.7  0.7   0.7  0.3  0.3   0.3  0.3  0.3   0.3  0.1  0.1   0.1
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

```
--------------------------------------------------------------------------------
                  Malibu Pt. Dume Elementary School Project
                     PM Future (Year 2019) With Project
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #6 Ferndale Drive/Wildfire Road
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap.(X):        0.303
Loss Time (sec):      0               Average Delay (sec/veh):        8.8
Optimal Cycle:        0               Level Of Service:                 A
********************************************************************************
Street Name:          Ferndale Drive                  Wildfire Road
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       0  0  1! 0  0   0  0  0  0  0   0  0  0  1  0   0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 May 2018 <<
Base Vol:     129    0    13     0    0     0     0   25    74    14   74     0
Growth Adj:  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02  1.02 1.02  1.02
Initial Bse:  132    0    13     0    0     0     0   26    75    14   75     0
Added Vol:     83    0     0     0    0     0     0    0    83     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  215    0    13     0    0     0     0   26   158    14   75     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   215    0    13     0    0     0     0   26   158    14   75     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  215    0    13     0    0     0     0   26   158    14   75     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  215    0    13     0    0     0     0   26   158    14   75     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.94 0.00  0.06  0.00 0.00  0.00  0.00 0.14  0.86  0.16 0.84  0.00
Final Sat.:   707    0    44     0    0     0     0  119   737   117  620     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.30 xxxx  0.30  xxxx xxxx  xxxx  xxxx 0.22  0.22  0.12 0.12  xxxx
Crit Moves:  ****                                     ****        ****
Delay/Veh:    9.5  0.0   9.5   0.0  0.0   0.0   0.0  8.1   8.1   8.3  8.3   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   9.5  0.0   9.5   0.0  0.0   0.0   0.0  8.1   8.1   8.3  8.3   0.0
LOS by Move:    A    *     A     *    *     *     *    A     A     A    A     *
ApproachDel:       9.5           xxxxxx              8.1              8.3
Delay Adj:        1.00            xxxxx             1.00             1.00
ApprAdjDel:        9.5           xxxxxx              8.1              8.3
LOS by Appr:         A                *                A                A
AllWayAvgQ:   0.4  0.4   0.4   0.0  0.0   0.0   0.2  0.2   0.2   0.1  0.1   0.1
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	937	187	205	986	234	246
Future Volume (veh/h)	937	187	205	986	234	246
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1945	1796	1870	1870	1870
Adj Flow Rate, veh/h	1018	203	223	1072	254	267
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1436	666	276	2273	378	336
Arrive On Green	0.40	0.40	0.16	0.64	0.21	0.21
Sat Flow, veh/h	3647	1648	1710	3647	1781	1585
Grp Volume(v), veh/h	1018	203	223	1072	254	267
Grp Sat Flow(s),veh/h/ln	1777	1648	1710	1777	1781	1585
Q Serve(g_s), s	14.5	5.1	7.6	9.4	8.0	9.7
Cycle Q Clear(g_c), s	14.5	5.1	7.6	9.4	8.0	9.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1436	666	276	2273	378	336
V/C Ratio(X)	0.71	0.30	0.81	0.47	0.67	0.79
Avail Cap(c_a), veh/h	2548	1182	550	3954	573	510
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	15.1	12.3	24.5	5.6	22.0	22.7
Incr Delay (d2), s/veh	0.7	0.3	5.5	0.2	2.1	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	1.5	3.1	1.8	3.4	3.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.8	12.5	30.1	5.8	24.1	27.6
LnGrp LOS	B	B	C	A	C	C
Approach Vol, veh/h	1221			1295	521	
Approach Delay, s/veh	15.2			10.0	25.9	
Approach LOS	B			A	C	

Timer - Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			14.3	29.0		17.4		43.3
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s			19.5	43.5		19.5		67.5
Max Q Clear Time (g_c+I1), s			9.6	16.5		11.7		11.4
Green Ext Time (p_c), s			0.4	8.0		1.2		8.6

Intersection Summary			
HCM 6th Ctrl Delay			14.8
HCM 6th LOS			B

Notes

Unsignalized Delay for [WBT] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	991	58	152	1137	8	119	2	214	3	3	3
Future Volume (veh/h)	8	991	58	152	1137	8	119	2	214	3	3	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1945	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	1077	63	165	1236	9	129	2	233	3	3	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	1424	611	206	1770	13	530	8	524	181	180	150
Arrive On Green	0.01	0.39	0.39	0.12	0.49	0.49	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1781	3696	1585	1781	3616	26	1333	23	1585	366	543	455
Grp Volume(v), veh/h	9	1077	63	165	607	638	131	0	233	9	0	0
Grp Sat Flow(s),veh/h/ln	1781	1848	1585	1781	1777	1866	1356	0	1585	1364	0	0
Q Serve(g_s), s	0.4	20.3	2.0	7.2	21.2	21.2	0.0	0.0	9.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.4	20.3	2.0	7.2	21.2	21.2	6.7	0.0	9.2	6.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.98		1.00	0.33		0.33
Lane Grp Cap(c), veh/h	20	1424	611	206	870	913	537	0	524	511	0	0
V/C Ratio(X)	0.45	0.76	0.10	0.80	0.70	0.70	0.24	0.00	0.44	0.02	0.00	0.00
Avail Cap(c_a), veh/h	167	2790	1197	433	1607	1688	537	0	524	511	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	39.4	21.4	15.8	34.5	15.9	15.9	20.2	0.0	21.0	18.1	0.0	0.0
Incr Delay (d2), s/veh	14.7	0.8	0.1	7.0	1.0	1.0	1.1	0.0	2.7	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	7.7	0.7	3.3	7.2	7.6	2.0	0.0	0.4	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.0	22.2	15.8	41.6	16.9	16.8	21.3	0.0	23.8	18.2	0.0	0.0
LnGrp LOS	D	C	B	D	B	B	C	A	C	B	A	A
Approach Vol, veh/h		1149			1410			364			9	
Approach Delay, s/veh		22.1			19.8			22.9			18.2	
Approach LOS		C			B			C			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		31.0	13.8	35.4		31.0	5.4	43.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		26.5	19.5	60.5		26.5	7.5	72.5				
Max Q Clear Time (g_c+I1), s		11.2	9.2	22.3		8.7	2.4	23.2				
Green Ext Time (p_c), s		1.4	0.3	8.6		0.0	0.0	9.4				

Intersection Summary		
HCM 6th Ctrl Delay		21.1
HCM 6th LOS		C

APPENDIX F
Speed Survey Data (May 2018)

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: 951-268-6268
email: counts@countsunlimited.com

City of Malibu
Dume Drive
N/ Grayfox Street
48 Hour Directional Speed Survey

MAL003
Site Code: 041-18424

Northbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/21/18	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	1	0	1	0	0	1	0	0	0	0	0	3
05:00	0	2	1	1	2	0	0	0	0	0	0	0	0	0	6
06:00	0	0	2	11	10	3	0	0	0	0	0	0	0	0	26
07:00	4	2	12	24	21	8	0	0	0	0	0	0	0	0	71
08:00	2	2	16	53	31	1	0	0	0	0	0	0	0	0	105
09:00	5	4	19	38	16	3	1	0	0	0	0	0	0	0	86
10:00	3	2	22	31	22	3	0	0	0	0	0	0	0	0	83
11:00	4	8	15	37	25	5	0	0	0	0	0	0	0	0	94
12 PM	3	7	24	34	20	2	0	0	0	0	0	0	0	0	90
13:00	2	5	14	44	18	7	0	0	0	0	0	0	0	0	90
14:00	8	4	28	57	39	5	1	0	0	0	0	0	0	0	142
15:00	2	2	17	67	58	7	0	0	0	0	0	0	0	0	153
16:00	3	4	17	59	39	5	1	0	0	0	0	0	0	0	128
17:00	1	3	9	37	28	9	0	0	0	0	0	0	0	0	87
18:00	1	2	14	35	15	3	0	0	0	0	0	0	0	0	70
19:00	0	4	8	26	11	0	2	0	0	0	0	0	0	0	51
20:00	0	1	8	22	10	3	0	0	0	0	0	0	0	0	44
21:00	0	0	4	3	2	1	0	0	1	0	0	0	0	0	11
22:00	0	0	4	4	3	3	0	0	0	0	0	0	0	0	14
23:00	1	0	1	1	1	4	3	0	0	0	0	0	0	0	11
Total	40	52	235	585	371	74	8	0	2	0	0	0	0	0	1367

Daily	15th Percentile :	22 MPH
	50th Percentile :	28 MPH
	85th Percentile :	33 MPH
	95th Percentile :	36 MPH
Statistics	Mean Speed(Average) :	28 MPH
	10 MPH Pace Speed :	26-35 MPH
	Number in Pace :	956
	Percent in Pace :	69.9%
	Number of Vehicles > 55 MPH :	0
	Percent of Vehicles > 55 MPH :	0.0%

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: 951-268-6268
email: counts@countsunlimited.com

City of Malibu
Dume Drive
N/ Grayfox Street
48 Hour Directional Speed Survey

MAL003
Site Code: 041-18424

Northbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/22/18	1	0	0	1	2	0	0	0	0	0	0	0	0	0	4
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	3	3	0	0	0	0	0	0	0	0	0	7
06:00	0	1	1	16	6	3	0	0	0	0	0	0	0	0	27
07:00	4	6	15	29	12	7	0	0	0	0	0	0	0	0	73
08:00	5	7	16	55	20	1	0	0	0	0	0	0	0	0	104
09:00	1	4	14	50	28	4	1	0	0	0	0	0	0	0	102
10:00	5	8	17	36	17	4	0	0	0	0	0	0	0	0	87
11:00	2	2	26	33	18	2	1	0	0	0	0	0	0	0	84
12 PM	3	1	24	37	19	2	0	0	0	0	0	0	0	0	86
13:00	5	3	13	36	18	5	0	0	0	0	0	0	0	0	80
14:00	5	8	22	52	24	4	0	0	0	0	0	0	0	0	115
15:00	3	2	25	71	23	5	0	0	1	0	0	0	0	0	130
16:00	3	4	29	66	27	8	0	0	0	0	0	0	0	0	137
17:00	4	5	21	42	27	5	0	0	0	0	0	0	0	0	104
18:00	1	4	20	34	11	4	1	0	0	0	0	0	0	0	75
19:00	3	3	13	29	16	2	0	0	0	0	0	0	0	0	66
20:00	1	5	13	18	11	1	0	0	0	0	0	0	0	0	49
21:00	0	0	5	9	6	0	0	0	0	0	0	0	0	0	20
22:00	0	1	3	2	8	2	0	0	0	0	0	0	0	0	16
23:00	0	0	2	1	0	3	0	0	0	0	0	0	0	0	6
Total	46	66	279	620	296	63	3	0	1	0	0	0	0	0	1374

Daily	15th Percentile :	21 MPH
	50th Percentile :	27 MPH
	85th Percentile :	32 MPH
	95th Percentile :	34 MPH
Statistics	Mean Speed(Average) :	27 MPH
	10 MPH Pace Speed :	26-35 MPH
	Number in Pace :	916
	Percent in Pace :	66.7%
	Number of Vehicles > 55 MPH :	0
	Percent of Vehicles > 55 MPH :	0.0%

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: 951-268-6268
email: counts@countsunlimited.com

City of Malibu
Dume Drive
N/ Grayfox Street
48 Hour Directional Speed Survey

MAL003
Site Code: 041-18424

Southbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/21/18	0	0	0	1	2	1	0	0	0	0	0	0	0	0	4
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	1	0	1	1	0	0	0	0	0	0	0	0	3
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
05:00	0	0	1	2	2	0	0	0	0	0	0	0	0	0	5
06:00	0	0	5	23	15	4	0	0	0	0	0	0	0	0	47
07:00	2	3	9	41	23	5	1	0	0	0	0	0	0	0	84
08:00	2	3	20	57	37	13	1	0	0	0	0	0	0	0	133
09:00	4	7	16	35	20	6	0	0	0	0	0	0	0	0	88
10:00	1	2	10	33	28	10	0	0	0	0	0	0	0	0	84
11:00	3	4	14	45	40	10	1	1	0	0	0	0	0	0	118
12 PM	3	1	10	41	27	8	1	0	0	0	0	0	0	0	91
13:00	0	1	19	39	27	11	2	0	0	0	0	0	0	0	99
14:00	2	1	11	54	40	11	1	0	0	0	0	0	0	0	120
15:00	1	1	13	40	44	7	0	0	0	0	0	0	0	0	106
16:00	3	0	6	42	31	5	2	0	0	0	0	0	0	0	89
17:00	1	1	7	38	20	14	1	0	0	0	0	0	0	0	82
18:00	1	2	10	23	19	5	1	0	0	0	0	0	0	0	61
19:00	0	0	4	17	12	2	0	1	0	0	0	0	0	0	36
20:00	0	0	4	16	11	2	0	0	0	0	0	0	0	0	33
21:00	0	1	1	5	6	4	0	0	0	0	0	0	0	0	17
22:00	0	0	3	5	4	3	0	0	0	0	0	0	0	0	15
23:00	0	2	0	0	4	2	1	0	0	0	0	0	0	0	9
Total	23	29	164	557	414	124	12	2	0	0	0	0	0	0	1325

Daily	15th Percentile :	24 MPH
	50th Percentile :	29 MPH
	85th Percentile :	34 MPH
	95th Percentile :	37 MPH
Statistics	Mean Speed(Average) :	29 MPH
	10 MPH Pace Speed :	26-35 MPH
	Number in Pace :	971
	Percent in Pace :	73.3%
	Number of Vehicles > 55 MPH :	0
	Percent of Vehicles > 55 MPH :	0.0%

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City of Malibu
Dume Drive
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48 Hour Directional Speed Survey

MAL003
Site Code: 041-18424

Southbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/22/18	0	0	1	2	2	0	0	0	0	0	0	0	0	0	5
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
03:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	1	1	5	1	0	0	0	0	0	0	0	0	9
06:00	1	0	6	19	16	5	0	0	0	0	0	0	0	0	47
07:00	1	1	20	53	20	6	0	0	0	0	0	0	0	0	101
08:00	4	3	12	62	36	5	1	0	0	0	0	0	0	0	123
09:00	2	4	15	40	27	7	0	0	0	0	0	0	0	0	95
10:00	8	6	26	32	21	1	0	0	0	0	0	0	0	0	94
11:00	5	1	7	42	15	4	0	0	0	0	0	0	0	0	74
12 PM	0	2	14	34	14	6	0	0	0	0	0	0	0	0	70
13:00	3	1	13	41	15	4	4	1	0	0	0	0	0	0	82
14:00	5	3	14	52	44	9	1	0	0	0	0	0	0	0	128
15:00	4	3	25	45	39	4	0	0	0	0	0	0	0	0	120
16:00	0	3	12	44	29	6	2	0	0	0	0	0	0	0	96
17:00	3	0	12	43	31	6	2	0	0	0	0	0	0	0	97
18:00	0	5	7	34	26	4	1	2	0	0	0	0	0	0	79
19:00	0	2	6	20	24	0	1	0	0	0	0	0	0	0	53
20:00	1	1	6	8	7	2	0	0	0	0	0	0	0	0	25
21:00	0	2	3	7	5	2	1	0	0	0	0	0	0	0	20
22:00	0	0	3	3	5	0	3	0	0	0	0	0	0	0	14
23:00	0	1	4	1	2	1	0	0	0	0	0	0	0	0	9
Total	37	39	208	584	383	74	16	3	0	0	0	0	0	0	1344

Daily	15th Percentile :	23 MPH
	50th Percentile :	28 MPH
	85th Percentile :	33 MPH
	95th Percentile :	36 MPH
Statistics	Mean Speed(Average) :	29 MPH
	10 MPH Pace Speed :	26-35 MPH
	Number in Pace :	967
	Percent in Pace :	71.9%
	Number of Vehicles > 55 MPH :	0
	Percent of Vehicles > 55 MPH :	0.0%

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City of Malibu
Dume Drive
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48 Hour Directional Speed Survey

MAL003
Site Code: 041-18424

Northbound, Southbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/21/18	1	0	0	1	2	2	0	0	0	0	0	0	0	0	6
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	1	0	1	1	0	0	0	0	0	0	0	0	3
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	1	1	1	0	0	1	0	0	0	0	0	4
05:00	0	2	2	3	4	0	0	0	0	0	0	0	0	0	11
06:00	0	0	7	34	25	7	0	0	0	0	0	0	0	0	73
07:00	6	5	21	65	44	13	1	0	0	0	0	0	0	0	155
08:00	4	5	36	110	68	14	1	0	0	0	0	0	0	0	238
09:00	9	11	35	73	36	9	1	0	0	0	0	0	0	0	174
10:00	4	4	32	64	50	13	0	0	0	0	0	0	0	0	167
11:00	7	12	29	82	65	15	1	1	0	0	0	0	0	0	212
12 PM	6	8	34	75	47	10	1	0	0	0	0	0	0	0	181
13:00	2	6	33	83	45	18	2	0	0	0	0	0	0	0	189
14:00	10	5	39	111	79	16	2	0	0	0	0	0	0	0	262
15:00	3	3	30	107	102	14	0	0	0	0	0	0	0	0	259
16:00	6	4	23	101	70	10	3	0	0	0	0	0	0	0	217
17:00	2	4	16	75	48	23	1	0	0	0	0	0	0	0	169
18:00	2	4	24	58	34	8	1	0	0	0	0	0	0	0	131
19:00	0	4	12	43	23	2	2	1	0	0	0	0	0	0	87
20:00	0	1	12	38	21	5	0	0	0	0	0	0	0	0	77
21:00	0	1	5	8	8	5	0	0	1	0	0	0	0	0	28
22:00	0	0	7	9	7	6	0	0	0	0	0	0	0	0	29
23:00	1	2	1	1	5	6	4	0	0	0	0	0	0	0	20
Total	63	81	399	1142	785	198	20	2	2	0	0	0	0	0	2692

Daily	15th Percentile :	23 MPH
	50th Percentile :	28 MPH
	85th Percentile :	33 MPH
	95th Percentile :	37 MPH
Statistics	Mean Speed(Average) :	29 MPH
	10 MPH Pace Speed :	26-35 MPH
	Number in Pace :	1927
	Percent in Pace :	71.6%
	Number of Vehicles > 55 MPH :	0
	Percent of Vehicles > 55 MPH :	0.0%

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City of Malibu
Dume Drive
N/ Grayfox Street
48 Hour Directional Speed Survey

MAL003
Site Code: 041-18424

Northbound, Southbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/22/18	1	0	1	3	4	0	0	0	0	0	0	0	0	0	9
01:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
03:00	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	2	1	4	8	1	0	0	0	0	0	0	0	0	16
06:00	1	1	7	35	22	8	0	0	0	0	0	0	0	0	74
07:00	5	7	35	82	32	13	0	0	0	0	0	0	0	0	174
08:00	9	10	28	117	56	6	1	0	0	0	0	0	0	0	227
09:00	3	8	29	90	55	11	1	0	0	0	0	0	0	0	197
10:00	13	14	43	68	38	5	0	0	0	0	0	0	0	0	181
11:00	7	3	33	75	33	6	1	0	0	0	0	0	0	0	158
12 PM	3	3	38	71	33	8	0	0	0	0	0	0	0	0	156
13:00	8	4	26	77	33	9	4	1	0	0	0	0	0	0	162
14:00	10	11	36	104	68	13	1	0	0	0	0	0	0	0	243
15:00	7	5	50	116	62	9	0	0	1	0	0	0	0	0	250
16:00	3	7	41	110	56	14	2	0	0	0	0	0	0	0	233
17:00	7	5	33	85	58	11	2	0	0	0	0	0	0	0	201
18:00	1	9	27	68	37	8	2	2	0	0	0	0	0	0	154
19:00	3	5	19	49	40	2	1	0	0	0	0	0	0	0	119
20:00	2	6	19	26	18	3	0	0	0	0	0	0	0	0	74
21:00	0	2	8	16	11	2	1	0	0	0	0	0	0	0	40
22:00	0	1	6	5	13	2	3	0	0	0	0	0	0	0	30
23:00	0	1	6	2	2	4	0	0	0	0	0	0	0	0	15
Total	83	105	487	1204	679	137	19	3	1	0	0	0	0	0	2718

Daily	15th Percentile :	22 MPH
	50th Percentile :	27 MPH
	85th Percentile :	33 MPH
	95th Percentile :	35 MPH
Statistics	Mean Speed(Average) :	28 MPH
	10 MPH Pace Speed :	26-35 MPH
	Number in Pace :	1883
	Percent in Pace :	69.3%
	Number of Vehicles > 55 MPH :	0
	Percent of Vehicles > 55 MPH :	0.0%

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City of Malibu
Fernhill Drive
N/ Grayfox Street
48 Hour Directional Speed Survey

MAL001
Site Code: 041-18424

Northbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/21/18	0	0	0	2	0	1	0	0	0	0	0	0	0	0	3
01:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
05:00	0	0	1	6	1	1	0	0	0	0	0	0	0	0	9
06:00	0	0	1	14	10	7	0	0	0	0	0	0	0	0	32
07:00	2	0	3	17	19	5	1	0	0	0	0	0	0	0	47
08:00	6	0	8	55	49	12	2	0	0	0	0	0	0	0	132
09:00	0	1	13	34	23	9	1	0	0	0	0	0	0	0	81
10:00	0	2	16	28	27	6	1	2	0	0	0	0	0	0	82
11:00	4	7	17	29	39	9	1	0	0	0	0	0	0	0	106
12 PM	1	3	19	33	35	3	0	0	0	0	0	0	0	0	94
13:00	2	1	17	46	27	6	2	0	0	0	0	0	0	0	101
14:00	3	2	10	54	41	13	1	0	0	0	0	0	0	0	124
15:00	2	2	15	55	59	8	1	0	0	0	0	0	0	0	142
16:00	1	0	8	48	35	12	2	0	0	0	0	0	0	0	106
17:00	1	1	9	35	29	8	0	0	0	0	0	0	0	0	83
18:00	0	2	11	15	21	3	1	0	0	0	0	0	0	0	53
19:00	0	2	2	12	13	6	0	0	0	0	0	0	0	0	35
20:00	0	0	9	12	9	2	0	0	0	0	0	0	0	0	32
21:00	2	1	3	6	4	1	0	0	0	0	0	0	0	0	17
22:00	0	0	0	2	3	0	0	0	0	0	0	0	0	0	5
23:00	0	0	0	1	2	2	2	0	0	0	0	0	0	0	7
Total	24	24	163	504	451	114	15	2	0	0	0	0	0	0	1297

Daily	15th Percentile :	24 MPH
	50th Percentile :	29 MPH
	85th Percentile :	34 MPH
	95th Percentile :	37 MPH
Statistics	Mean Speed(Average) :	30 MPH
	10 MPH Pace Speed :	26-35 MPH
	Number in Pace :	955
	Percent in Pace :	73.6%
	Number of Vehicles > 55 MPH :	0
	Percent of Vehicles > 55 MPH :	0.0%

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City of Malibu
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48 Hour Directional Speed Survey

MAL001
Site Code: 041-18424

Northbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/22/18	0	0	0	0	1	2	0	0	0	0	0	0	0	0	3
01:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	5	3	1	0	0	0	0	0	0	0	0	9
06:00	1	0	4	12	13	2	0	2	0	0	0	0	0	0	34
07:00	0	1	3	17	20	10	0	0	0	0	0	0	0	0	51
08:00	7	1	10	68	31	1	0	0	0	0	0	0	0	0	118
09:00	0	4	10	32	25	4	1	0	0	0	0	0	0	0	76
10:00	1	0	6	26	36	5	1	0	0	0	0	0	0	0	75
11:00	10	4	19	29	22	10	2	0	0	0	0	1	0	0	97
12 PM	6	1	13	30	24	7	1	0	0	0	0	0	0	0	82
13:00	1	2	13	43	27	2	0	0	0	0	0	0	0	0	88
14:00	3	0	16	52	33	11	0	0	0	0	0	0	0	0	115
15:00	3	2	15	74	59	15	2	0	0	0	0	0	0	0	170
16:00	6	1	10	45	43	10	1	0	0	0	0	0	0	0	116
17:00	6	1	6	45	35	7	0	0	0	1	0	0	0	0	101
18:00	1	3	6	23	16	3	0	0	0	0	0	0	0	0	52
19:00	0	0	10	26	20	5	0	0	0	0	0	0	0	0	61
20:00	0	0	10	13	17	1	1	0	0	0	0	0	0	0	42
21:00	0	0	1	9	6	1	0	0	0	0	0	0	0	0	17
22:00	0	0	1	0	2	1	0	0	0	0	0	0	0	0	4
23:00	0	0	1	0	3	0	0	0	1	0	0	0	0	0	5
Total	45	20	154	550	437	98	9	2	1	1	0	1	0	0	1318

Daily	15th Percentile :	24 MPH
	50th Percentile :	28 MPH
	85th Percentile :	34 MPH
	95th Percentile :	37 MPH
Statistics	Mean Speed(Average) :	29 MPH
	10 MPH Pace Speed :	26-35 MPH
	Number in Pace :	987
	Percent in Pace :	74.9%
	Number of Vehicles > 55 MPH :	2
	Percent of Vehicles > 55 MPH :	0.2%

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City of Malibu
Fernhill Drive
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48 Hour Directional Speed Survey

MAL001
Site Code: 041-18424

Southbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/21/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	1	2	0	1	0	0	0	0	0	0	0	4
02:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2
05:00	0	0	2	1	3	2	0	0	0	0	0	0	0	0	8
06:00	0	0	6	14	18	3	1	0	0	0	0	0	0	0	42
07:00	1	2	12	28	29	6	0	0	0	0	0	0	0	0	78
08:00	3	2	13	58	38	12	1	0	0	0	0	0	0	0	127
09:00	2	1	10	33	38	8	0	0	0	0	0	0	0	0	92
10:00	1	2	11	28	28	6	1	0	0	0	0	0	0	0	77
11:00	5	2	5	30	25	12	3	0	0	0	0	0	0	0	82
12 PM	0	1	9	37	31	7	2	0	0	0	0	0	0	0	87
13:00	3	2	10	30	23	12	2	1	0	0	0	0	0	0	83
14:00	2	1	18	44	40	12	4	0	0	0	0	0	0	0	121
15:00	1	1	9	20	47	13	3	0	0	0	0	0	0	0	94
16:00	3	1	7	23	38	13	2	1	0	0	0	0	0	0	88
17:00	0	0	9	31	28	16	0	1	0	0	0	0	0	0	85
18:00	4	2	9	17	26	16	0	0	0	0	0	0	0	0	74
19:00	1	1	4	13	16	8	1	1	0	0	0	0	0	0	45
20:00	0	0	1	6	11	5	2	0	0	0	0	0	0	0	25
21:00	0	1	3	5	10	4	1	2	0	0	0	0	0	0	26
22:00	0	0	1	4	2	1	1	0	0	0	0	0	0	0	9
23:00	0	0	1	3	4	1	0	0	0	0	0	0	0	0	9
Total	27	19	140	427	457	157	25	6	1	0	0	0	0	0	1259

Daily	15th Percentile :	25 MPH
	50th Percentile :	30 MPH
	85th Percentile :	35 MPH
	95th Percentile :	39 MPH
Statistics	Mean Speed(Average) :	30 MPH
	10 MPH Pace Speed :	26-35 MPH
	Number in Pace :	884
	Percent in Pace :	70.2%
	Number of Vehicles > 55 MPH :	0
	Percent of Vehicles > 55 MPH :	0.0%

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PO Box 1178
Corona, CA 92878
Phone: 951-268-6268
email: counts@countsunlimited.com

City of Malibu
Fernhill Drive
N/ Grayfox Street
48 Hour Directional Speed Survey

MAL001
Site Code: 041-18424

Southbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/22/18	0	0	0	0	2	1	0	0	0	0	0	0	0	0	3
01:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	4	2	2	2	0	0	0	0	0	0	0	0	10
06:00	1	0	3	13	9	6	0	0	0	0	0	0	0	0	32
07:00	1	2	8	37	25	5	2	0	0	0	0	0	0	0	80
08:00	6	2	22	36	39	17	2	0	0	0	0	0	0	0	124
09:00	0	0	9	30	39	14	0	0	0	0	0	0	0	0	92
10:00	2	4	11	23	27	14	1	0	0	0	0	0	0	0	82
11:00	3	5	7	32	31	10	1	0	0	0	0	0	0	0	89
12 PM	2	0	6	33	31	13	1	0	0	0	0	0	0	0	86
13:00	2	2	8	22	35	5	2	0	0	0	0	0	0	0	76
14:00	2	0	10	54	43	15	3	0	0	0	0	0	0	0	127
15:00	2	0	3	37	51	22	3	1	0	0	0	0	0	0	119
16:00	2	0	8	32	48	22	1	0	0	0	0	0	0	0	113
17:00	1	0	6	20	34	15	3	0	0	0	0	0	0	0	79
18:00	0	0	6	25	28	8	2	0	0	0	0	0	0	0	69
19:00	0	0	0	21	25	11	2	0	0	0	0	0	0	0	59
20:00	0	0	2	8	11	7	1	0	0	0	0	0	0	0	29
21:00	0	0	4	8	10	6	1	0	0	0	0	0	0	0	29
22:00	0	0	0	4	5	3	0	0	0	0	0	0	0	0	12
23:00	0	0	0	1	1	2	0	2	0	0	0	0	0	0	6
Total	24	15	117	438	497	198	25	4	0	0	0	0	0	0	1318

Daily	15th Percentile :	25 MPH
	50th Percentile :	30 MPH
	85th Percentile :	35 MPH
	95th Percentile :	39 MPH
Statistics	Mean Speed(Average) :	31 MPH
	10 MPH Pace Speed :	26-35 MPH
	Number in Pace :	935
	Percent in Pace :	70.9%
	Number of Vehicles > 55 MPH :	0
	Percent of Vehicles > 55 MPH :	0.0%

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48 Hour Directional Speed Survey

MAL001
Site Code: 041-18424

Northbound, Southbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/21/18	0	0	0	2	0	1	0	0	0	0	0	0	0	0	3
01:00	0	0	1	1	3	0	1	0	0	0	0	0	0	0	6
02:00	0	0	0	1	3	0	0	0	0	0	0	0	0	0	4
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	1	0	0	0	1	0	0	0	1	0	0	0	0	0	3
05:00	0	0	3	7	4	3	0	0	0	0	0	0	0	0	17
06:00	0	0	7	28	28	10	1	0	0	0	0	0	0	0	74
07:00	3	2	15	45	48	11	1	0	0	0	0	0	0	0	125
08:00	9	2	21	113	87	24	3	0	0	0	0	0	0	0	259
09:00	2	2	23	67	61	17	1	0	0	0	0	0	0	0	173
10:00	1	4	27	56	55	12	2	2	0	0	0	0	0	0	159
11:00	9	9	22	59	64	21	4	0	0	0	0	0	0	0	188
12 PM	1	4	28	70	66	10	2	0	0	0	0	0	0	0	181
13:00	5	3	27	76	50	18	4	1	0	0	0	0	0	0	184
14:00	5	3	28	98	81	25	5	0	0	0	0	0	0	0	245
15:00	3	3	24	75	106	21	4	0	0	0	0	0	0	0	236
16:00	4	1	15	71	73	25	4	1	0	0	0	0	0	0	194
17:00	1	1	18	66	57	24	0	1	0	0	0	0	0	0	168
18:00	4	4	20	32	47	19	1	0	0	0	0	0	0	0	127
19:00	1	3	6	25	29	14	1	1	0	0	0	0	0	0	80
20:00	0	0	10	18	20	7	2	0	0	0	0	0	0	0	57
21:00	2	2	6	11	14	5	1	2	0	0	0	0	0	0	43
22:00	0	0	1	6	5	1	1	0	0	0	0	0	0	0	14
23:00	0	0	1	4	6	3	2	0	0	0	0	0	0	0	16
Total	51	43	303	931	908	271	40	8	1	0	0	0	0	0	2556

Daily	15th Percentile :	24 MPH
	50th Percentile :	29 MPH
	85th Percentile :	34 MPH
	95th Percentile :	38 MPH
Statistics	Mean Speed(Average) :	30 MPH
	10 MPH Pace Speed :	26-35 MPH
	Number in Pace :	1839
	Percent in Pace :	71.9%
	Number of Vehicles > 55 MPH :	0
	Percent of Vehicles > 55 MPH :	0.0%

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Northbound, Southbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/22/18	0	0	0	0	3	3	0	0	0	0	0	0	0	0	6
01:00	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	4	7	5	3	0	0	0	0	0	0	0	0	19
06:00	2	0	7	25	22	8	0	2	0	0	0	0	0	0	66
07:00	1	3	11	54	45	15	2	0	0	0	0	0	0	0	131
08:00	13	3	32	104	70	18	2	0	0	0	0	0	0	0	242
09:00	0	4	19	62	64	18	1	0	0	0	0	0	0	0	168
10:00	3	4	17	49	63	19	2	0	0	0	0	0	0	0	157
11:00	13	9	26	61	53	20	3	0	0	0	0	1	0	0	186
12 PM	8	1	19	63	55	20	2	0	0	0	0	0	0	0	168
13:00	3	4	21	65	62	7	2	0	0	0	0	0	0	0	164
14:00	5	0	26	106	76	26	3	0	0	0	0	0	0	0	242
15:00	5	2	18	111	110	37	5	1	0	0	0	0	0	0	289
16:00	8	1	18	77	91	32	2	0	0	0	0	0	0	0	229
17:00	7	1	12	65	69	22	3	0	0	1	0	0	0	0	180
18:00	1	3	12	48	44	11	2	0	0	0	0	0	0	0	121
19:00	0	0	10	47	45	16	2	0	0	0	0	0	0	0	120
20:00	0	0	12	21	28	8	2	0	0	0	0	0	0	0	71
21:00	0	0	5	17	16	7	1	0	0	0	0	0	0	0	46
22:00	0	0	1	4	7	4	0	0	0	0	0	0	0	0	16
23:00	0	0	1	1	4	2	0	2	1	0	0	0	0	0	11
Total	69	35	271	988	934	296	34	6	1	1	0	1	0	0	2636

Daily	15th Percentile :	25 MPH
	50th Percentile :	29 MPH
	85th Percentile :	34 MPH
	95th Percentile :	38 MPH
Statistics	Mean Speed(Average) :	30 MPH
	10 MPH Pace Speed :	26-35 MPH
	Number in Pace :	1922
	Percent in Pace :	72.9%
	Number of Vehicles > 55 MPH :	2
	Percent of Vehicles > 55 MPH :	0.1%

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48 Hour Directional Speed Survey

MAL002
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Eastbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/21/18	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	0	2	1	1	0	0	0	0	0	0	0	4
06:00	2	1	2	8	13	2	0	0	0	0	0	0	0	0	28
07:00	1	4	12	16	11	5	1	0	0	0	0	0	0	0	50
08:00	10	15	35	23	15	4	2	0	0	0	0	0	0	0	104
09:00	2	0	9	12	18	6	2	0	0	0	0	0	0	0	49
10:00	0	3	8	18	14	7	1	0	0	0	0	0	0	0	51
11:00	0	1	11	19	30	14	1	1	1	0	0	0	0	0	78
12 PM	5	3	11	13	10	11	0	0	0	0	0	0	0	0	53
13:00	4	4	14	20	19	6	2	0	0	0	0	0	0	0	69
14:00	16	11	20	16	15	9	0	0	0	0	0	0	0	0	87
15:00	19	6	18	28	11	2	0	0	0	0	0	0	0	0	84
16:00	3	5	9	17	16	4	2	0	0	0	0	0	0	0	56
17:00	8	4	13	14	13	7	2	0	0	0	0	0	0	0	61
18:00	0	1	4	4	6	0	1	0	0	0	0	0	0	0	16
19:00	0	1	0	2	3	1	0	0	1	0	0	0	0	0	8
20:00	2	0	5	5	6	0	0	0	0	0	0	0	0	0	18
21:00	2	2	0	1	2	3	0	0	0	0	0	0	0	0	10
22:00	0	1	0	2	0	3	2	0	0	0	0	0	0	0	8
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	74	62	171	218	208	85	17	1	2	0	0	0	0	0	838

Daily	15th Percentile :	19 MPH
	50th Percentile :	27 MPH
	85th Percentile :	34 MPH
	95th Percentile :	38 MPH
Statistics	Mean Speed(Average) :	27 MPH
	10 MPH Pace Speed :	26-35 MPH
	Number in Pace :	426
	Percent in Pace :	50.8%
	Number of Vehicles > 55 MPH :	0
	Percent of Vehicles > 55 MPH :	0.0%

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Eastbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/22/18	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	0	2	1	1	0	0	0	0	0	0	0	5
06:00	0	2	3	8	12	4	3	1	0	0	0	0	0	0	33
07:00	1	1	11	18	14	7	3	0	0	0	0	0	0	0	55
08:00	6	19	30	30	11	2	2	0	0	0	0	0	0	0	100
09:00	2	3	9	16	16	6	3	0	0	0	0	0	0	0	55
10:00	1	5	6	12	15	7	0	0	0	0	0	0	0	0	46
11:00	3	4	14	15	13	2	0	0	0	0	0	0	0	0	51
12 PM	6	2	6	21	8	1	0	0	0	0	0	0	0	0	44
13:00	2	6	6	12	12	8	2	0	0	0	0	0	0	0	48
14:00	31	8	17	13	4	7	2	0	0	0	0	0	0	0	82
15:00	17	19	17	26	19	6	0	0	0	0	0	0	0	0	104
16:00	3	2	12	16	15	11	1	0	0	0	0	0	0	0	60
17:00	5	6	5	16	13	8	3	0	0	0	0	0	0	0	56
18:00	1	0	2	8	4	7	3	0	0	0	0	0	0	0	25
19:00	1	3	1	3	12	5	1	0	0	0	0	0	0	0	26
20:00	2	0	1	6	6	3	1	0	0	0	0	0	0	0	19
21:00	0	1	2	1	6	0	0	0	0	0	0	0	0	0	10
22:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
23:00	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2
Total	81	82	143	221	185	87	25	1	0	0	0	0	0	0	825

Daily	15th Percentile :	17 MPH
	50th Percentile :	27 MPH
	85th Percentile :	34 MPH
	95th Percentile :	39 MPH
Statistics	Mean Speed(Average) :	27 MPH
	10 MPH Pace Speed :	26-35 MPH
	Number in Pace :	406
	Percent in Pace :	49.2%
	Number of Vehicles > 55 MPH :	0
	Percent of Vehicles > 55 MPH :	0.0%

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48 Hour Directional Speed Survey

MAL002
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Westbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/21/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	0	2	1	0	0	0	0	0	0	0	0	4
06:00	4	0	0	2	1	1	0	0	0	0	0	0	0	0	8
07:00	2	5	7	11	12	7	2	0	0	0	0	0	0	0	46
08:00	12	3	12	28	20	9	0	0	0	0	0	0	0	0	84
09:00	0	5	6	13	12	5	1	0	0	0	0	0	0	0	42
10:00	1	2	6	13	12	2	1	0	0	0	0	0	0	0	37
11:00	1	3	10	23	17	6	3	0	0	0	0	0	0	0	63
12 PM	2	2	17	13	13	4	0	0	0	0	0	0	0	0	51
13:00	1	5	7	20	16	5	0	0	0	0	0	0	0	0	54
14:00	8	12	31	21	15	5	0	0	0	0	0	0	0	0	92
15:00	7	12	23	32	21	3	2	0	0	0	0	0	0	0	100
16:00	0	3	18	24	19	7	1	0	0	0	0	0	0	0	72
17:00	1	3	6	13	21	6	1	1	0	0	0	0	0	0	52
18:00	0	1	5	16	13	3	1	0	0	0	0	0	0	0	39
19:00	2	2	5	10	6	5	0	0	0	0	0	0	0	0	30
20:00	0	0	4	10	9	1	1	0	0	0	0	0	0	0	25
21:00	0	1	1	6	3	1	0	0	0	0	0	0	0	0	12
22:00	0	0	0	2	1	2	0	0	0	0	0	0	0	0	5
23:00	0	1	0	1	1	0	0	0	0	0	0	0	0	0	3
Total	41	61	158	258	214	74	13	1	0	0	0	0	0	0	820

Daily	15th Percentile :	20 MPH
	50th Percentile :	27 MPH
	85th Percentile :	34 MPH
	95th Percentile :	38 MPH
Statistics	Mean Speed(Average) :	28 MPH
	10 MPH Pace Speed :	26-35 MPH
	Number in Pace :	472
	Percent in Pace :	57.6%
	Number of Vehicles > 55 MPH :	0
	Percent of Vehicles > 55 MPH :	0.0%

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Westbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/22/18	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	1	0	1	0	0	0	0	0	0	0	0	0	3
06:00	1	0	0	2	3	0	0	0	0	0	0	0	0	0	6
07:00	4	3	7	12	15	3	0	0	0	0	0	0	0	0	44
08:00	5	6	11	37	17	4	1	0	0	0	0	0	0	0	81
09:00	0	4	12	22	11	2	0	0	1	0	0	0	0	0	52
10:00	3	3	6	14	8	5	0	0	0	0	0	0	0	0	39
11:00	6	5	10	13	13	7	0	0	0	0	0	0	0	0	54
12 PM	2	6	9	16	10	5	0	1	0	0	0	0	0	0	49
13:00	3	3	7	11	20	5	0	0	0	0	0	0	0	0	49
14:00	14	8	25	17	13	8	0	0	0	0	0	0	0	0	85
15:00	16	9	14	27	14	9	1	0	0	0	0	0	0	0	90
16:00	1	4	14	20	20	8	1	0	0	0	0	0	0	0	68
17:00	0	3	10	18	25	7	1	0	0	0	0	0	0	0	64
18:00	0	1	3	10	17	7	3	1	0	0	0	0	0	0	42
19:00	2	1	7	15	19	8	1	0	0	0	0	0	0	0	53
20:00	0	0	3	7	7	3	2	0	0	0	0	0	0	0	22
21:00	0	0	4	3	7	3	0	0	0	0	0	0	0	0	17
22:00	0	0	2	0	5	2	1	0	0	0	0	0	0	0	10
23:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
Total	57	57	146	245	227	86	11	2	1	0	0	0	0	0	832

Daily	15th Percentile :	20 MPH
	50th Percentile :	28 MPH
	85th Percentile :	34 MPH
	95th Percentile :	38 MPH
Statistics	Mean Speed(Average) :	28 MPH
	10 MPH Pace Speed :	26-35 MPH
	Number in Pace :	472
	Percent in Pace :	56.7%
	Number of Vehicles > 55 MPH :	0
	Percent of Vehicles > 55 MPH :	0.0%

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Eastbound, Westbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/21/18	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
05:00	0	1	0	0	4	2	1	0	0	0	0	0	0	0	8
06:00	6	1	2	10	14	3	0	0	0	0	0	0	0	0	36
07:00	3	9	19	27	23	12	3	0	0	0	0	0	0	0	96
08:00	22	18	47	51	35	13	2	0	0	0	0	0	0	0	188
09:00	2	5	15	25	30	11	3	0	0	0	0	0	0	0	91
10:00	1	5	14	31	26	9	2	0	0	0	0	0	0	0	88
11:00	1	4	21	42	47	20	4	1	1	0	0	0	0	0	141
12 PM	7	5	28	26	23	15	0	0	0	0	0	0	0	0	104
13:00	5	9	21	40	35	11	2	0	0	0	0	0	0	0	123
14:00	24	23	51	37	30	14	0	0	0	0	0	0	0	0	179
15:00	26	18	41	60	32	5	2	0	0	0	0	0	0	0	184
16:00	3	8	27	41	35	11	3	0	0	0	0	0	0	0	128
17:00	9	7	19	27	34	13	3	1	0	0	0	0	0	0	113
18:00	0	2	9	20	19	3	2	0	0	0	0	0	0	0	55
19:00	2	3	5	12	9	6	0	0	1	0	0	0	0	0	38
20:00	2	0	9	15	15	1	1	0	0	0	0	0	0	0	43
21:00	2	3	1	7	5	4	0	0	0	0	0	0	0	0	22
22:00	0	1	0	4	1	5	2	0	0	0	0	0	0	0	13
23:00	0	1	0	1	1	0	0	0	0	0	0	0	0	0	3
Total	115	123	329	476	422	159	30	2	2	0	0	0	0	0	1658

Daily	15th Percentile :	20 MPH
	50th Percentile :	27 MPH
	85th Percentile :	34 MPH
	95th Percentile :	38 MPH
Statistics	Mean Speed(Average) :	27 MPH
	10 MPH Pace Speed :	26-35 MPH
	Number in Pace :	898
	Percent in Pace :	54.2%
	Number of Vehicles > 55 MPH :	0
	Percent of Vehicles > 55 MPH :	0.0%

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: 951-268-6268
email: counts@countsunlimited.com

City of Malibu
Grayfox Street
W/ Fernhill Drive
48 Hour Directional Speed Survey

MAL002
Site Code: 041-18424

Eastbound, Westbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/22/18	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	2	1	0	3	1	1	0	0	0	0	0	0	0	8
06:00	1	2	3	10	15	4	3	1	0	0	0	0	0	0	39
07:00	5	4	18	30	29	10	3	0	0	0	0	0	0	0	99
08:00	11	25	41	67	28	6	3	0	0	0	0	0	0	0	181
09:00	2	7	21	38	27	8	3	0	1	0	0	0	0	0	107
10:00	4	8	12	26	23	12	0	0	0	0	0	0	0	0	85
11:00	9	9	24	28	26	9	0	0	0	0	0	0	0	0	105
12 PM	8	8	15	37	18	6	0	1	0	0	0	0	0	0	93
13:00	5	9	13	23	32	13	2	0	0	0	0	0	0	0	97
14:00	45	16	42	30	17	15	2	0	0	0	0	0	0	0	167
15:00	33	28	31	53	33	15	1	0	0	0	0	0	0	0	194
16:00	4	6	26	36	35	19	2	0	0	0	0	0	0	0	128
17:00	5	9	15	34	38	15	4	0	0	0	0	0	0	0	120
18:00	1	1	5	18	21	14	6	1	0	0	0	0	0	0	67
19:00	3	4	8	18	31	13	2	0	0	0	0	0	0	0	79
20:00	2	0	4	13	13	6	3	0	0	0	0	0	0	0	41
21:00	0	1	6	4	13	3	0	0	0	0	0	0	0	0	27
22:00	0	0	2	0	6	3	1	0	0	0	0	0	0	0	12
23:00	0	0	2	1	0	1	0	0	0	0	0	0	0	0	4
Total	138	139	289	466	412	173	36	3	1	0	0	0	0	0	1657

Daily	15th Percentile :	18 MPH
	50th Percentile :	27 MPH
	85th Percentile :	34 MPH
	95th Percentile :	38 MPH
Statistics	Mean Speed(Average) :	27 MPH
	10 MPH Pace Speed :	26-35 MPH
	Number in Pace :	878
	Percent in Pace :	53.0%
	Number of Vehicles > 55 MPH :	0
	Percent of Vehicles > 55 MPH :	0.0%

November 2018 | Final
Mitigated Negative Declaration

ERRATA TO MALIBU SCHOOLS ALIGNMENT PROJECT

Santa Monica-Malibu Unified School District

Prepared for:

Santa Monica-Malibu Unified School District
Contact: Carey Upton,
Chief Operations Officer
1651 16th Street
Santa Monica, California 90404
310.450.8338

Prepared by:

PlaceWorks
Contact: Julian F. Capata, Senior Associate
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Table of Contents

Table of Contents

1. Responses Received During Public Review Period

The Santa Monica Malibu School District (SMMUSD or District), prepared a Mitigated Negative Declaration for the SMMUSD Malibu Schools Alignment Project. Pursuant to Section 15072 and 15073 of the California Environmental Quality (CEQA) Guidelines, the MND and Notice of Intent to adopt the MND were circulated for a 20-day public review period that began on September 28, 2018 and ended on October 18, 2018. During that period seven comment letters were received in response the MND. Pursuant to Section 15074(b) of the CEQA Guidelines, the lead agency is required to consider the proposed MND along with any comments received during the public review period. While written responses to comments submitted on MNDs are not required, we have nonetheless provided responses to each comment for the record. Based on the whole record, the District finds that the comments received do not raise any new potentially significant impacts, do not identify any increase to the severity of any of the impacts disclosed in the MND, and do not require substantial revision of the MND. No new mitigation measures are needed as a result of the comments. Therefore, pursuant to Section 15073.5 of the CEQA Guidelines, recirculation of the MND is not required. An EIR is not required since all potentially significant environmental impacts that may result from the project are mitigated to less than significant. Distribution of the MND and Notice of Intent for review and comment included the following agencies and organizations:

- California Air Resources Board
- Caltrans Planning - District 7
- California Department of Education
- California Fish & Wildlife
- California General Services Department – Division of State Architecture
- Native American Heritage Commission
- California Office of Historic Preservation
- General Services Department – Office of Public Schools Construction.
- Los Angeles Regional Water Quality Control Board
- Department of Toxic Substances Control
- South Coast Air Quality Management District
- Department of Parks & Recreation
- Santa Monica Mtns Conservancy
- California Coastal Commission
- Southern California Association of Governments
- City of Malibu - Department of Planning & Community Development
- County of Los Angeles Fire Department
- Los Angeles County Waterworks District 29

1. Response Received During Public Review Period

- Los Angeles County Sheriff's Department
- City of Malibu Public Works
- Los Angeles County of Education
- Metropolitan Transportation Authority of Los Angeles County
- Los Angeles County Department of Regional Planning
- Sanitation Districts of Los Angeles County
- Los Angeles County Department of Public Works

The Notice of Intent to Adopt a Mitigated Negative Declaration was filed with the County of Los Angeles Clerk on September 18, and copies of the NOI were distributed to residences within 500 feet of the Point Dume Campus. day. The NOI (along with the MND in some cases) was mailed to 25 interested parties for receipt on September 18, 2018. Additionally, the MND and the NOI were posted on the SMMUSD website throughout the duration of the public review period and hard copies were made available for public review at the Point Dume campus, and at the SMMUSD offices.

As described in detail below, the information provided in the comments do not constitute a fair argument that the mitigated project would potentially cause a significant environmental impact. The responses to comments demonstrate that the mitigated project would not potentially create a significant environmental impact or be cumulatively considerable. The responses merely provide further data and analysis that clarifies, amplifies, elaborates, or makes minor modifications to the MND.

In addition to considering comment letters received during the public review period, the lead agency is required to adopt a Mitigation Monitoring Program (MMP), pursuant to Sections 15074(d) and 15097 of the CEQA Guidelines. The MMP is a program for reporting on or monitoring the changes which it has either required in the project or made a condition of approval to mitigate or avoid significant environmental effects. Accordingly, the MMP for the Malibu Schools Alignment Project MND should be included for consideration by the lead agency.

Table 1 (List of Agencies and Persons Submitting Comments), below, provides a list of agencies and/or persons that submitted comments on the MND during the public review period. Comment letters and specific comments are given letters for reference purposes. Revisions to the text of the MND in response to comments are identified by <u>underline</u> for added text and deleted text is shown in ~~strikeout~~.

Number Reference	Commenting Person/Agency	Date of Comment
Agencies & Organizations		
COMA	City of Malibu	October 18, 2018
LASD	County of Los Angeles Sheriff's Department	October 22, 2018
JOAT	John Atwill	October 11, 2018
STRO	Stephanie Rocco	October 12, 2018
KEFL	Kerry Flynn	October 17, 2018
MAPU	Mary Purucker	October 17, 2018
SAKA	Sam Hall Kaplan	October 18, 2018

1. Response Received During Public Review Period

City of Malibu 1 of 3

City of Malibu

23825 Stuart Ranch Road · Malibu, California · 90265-4861
Phone (310) 456-2489 · Fax (310) 456-7650 · www.malibucity.org

October 18, 2018

Carey Upton, Chief Operations Officer
Santa Monica-Malibu Unified School District
2828 Fourth Street
Santa Monica, CA 90265

Sent via email: cupton@smmusd.org

RE: CITY OF MALIBU COMMENTS ON THE DRAFT MITIGATED NEGATIVE DECLARATION FOR THE MALIBU SCHOOLS ALIGNMENT PROJECT

Thank you for the opportunity to comment on the recently published Draft Mitigated Negative Declaration for the Malibu Schools Alignment Project, which analyzed phased improvements proposed at Point Dume Marine Science (Point Dume) located 6955 Fernhill Drive in the City of Malibu. The phased improvements will facilitate combining the populations of Juan Cabrillo Elementary School and Point Dume on the current Point Dume site. The first phase of the project proposes the placement of ten portable classrooms/buildings and the second phase proposes the construction of a new, two-story, 15,000 square foot classroom building and a 2,500 square foot administrative office building. COMA-1

The City acknowledges the Santa Monica-Malibu Unified School District's (SMMUSD) role in preparing and adopting the Mitigated Negative Declaration (MND). The City intends to rely on the adopted MND to process the coastal development permits required for each phase of the project. Accordingly, the City has the following comments to ensure the adequate assessment and mitigation of potential impacts anticipated by the project:

3.4 BIOLOGICAL RESOURCES

1. Section 3.4(a) (Page 50): The MND concluded that "less than significant impacts" were anticipated for species identified as a candidate, sensitive, or special status species by direct or indirect habitat modification. However, no explanation was provided to specify what impacts, if any, justified the "less than significant impact" determination. COMA-2

2. Monarch Butterfly Overwintering Habitat (Page 51): Sycamores are not known to provide overwintering roosts for monarchs. Moreover, eucalyptus groves must be of a specific size and configuration to provide the suitable microhabitat for monarchs. The photos do not suggest this condition exists. COMA-3

3. Mitigation Measure BIO-1 (Page 51): California Department of Fish and Wildlife (CDFW) requires a 300-foot buffer for common species and 500 feet for special-status species and raptors. Consultation may occur with CDFW to reduce a setback for a specific nest if one is discovered. However, the buffer cannot be reduced without concurrence from CDFW. COMA-4

4. Section 3.4(e) (Page 52): The Malibu Local Coastal Program (LCP) is a CEQA approved document and the project must comply with its standards. Accordingly, CEQA does not require additional COMA-5

1

1. Response Received During Public Review Period

City of Malibu 2 of 3

mitigation measures for potential impacts that are reduced by compliance with applicable development standards of the LCP; the requirement to follow CEQA approved development standards is not mitigation. The MND should state that impacts to native protected trees would be "less than significant" through compliance with the requirements in LIP Chapter 5. Mitigation Measure BIO-2 should reference LIP Chapter 5 and how impacts will be reduced by compliance with the standards. Also, pursuant to LIP Chapter 5, the MND should include a discussion that addresses project alternatives that could avoid impacts to the trees. COMA-5

3.16 TRANSPORTATION / TRAFFIC

1. The traffic study is required to evaluate and discuss the impact analysis for "future with project." Typically future is considered to be in the year 2030 at a growth rate of 1.5%. COMA-6
2. In order to accurately assess potential parking and traffic impacts, a parking demand and traffic study needs to evaluate the demand for parking and expected traffic impacts based on the school's expected capacity of 450 students and the anticipated staff at the Point Dume site. COMA-7
3. The study needs to evaluate parking and traffic impacts associated with increased vehicle trips during parent/teacher conferences and other special events occurring before, during, or after school. COMA-8
4. The traffic study is required to evaluate and discuss the potential impacts to on-street pick-up/drop-off areas expected with the implementation of Phase 1 of the project. COMA-9
5. Section 3.16 of the MND appears to have a typo in the date of the traffic impact report (should be 9/27/18 and not 9/17/18). COMA-10
6. Intersection Operations, Future Year (2019) - Table 15 (Page 99): The existing Level of Service (LOS) at the intersection of Zumirez Drive and Pacific Coast Highway (PCH) is LOS C, but the future LOS expected after the project's implementation is expected to improve to LOS B. Since no improvements are proposed for that intersection to improve the LOS, the expected PM peak hour LOS at Zumirez/PCH for "future with project conditions" needs to be at least at the level of service of "existing plus project conditions." COMA-11
7. The MND needs to discuss the probability of vehicle trips being rerouted northbound on Fernhill Drive during drop off/pick-up times or if measures will be implemented to allow drop-off and pick-up via southbound Fernhill Drive only. COMA-12
8. The MND anticipates the school population to double with the commencement of Phase 1 of the project. Accordingly, traffic mitigation measures need to be implemented with Phase 1 rather than after impacts have exceeded the threshold of significance. The applicant needs to work with a traffic consultant to identify additional mitigation measures to be implemented with Phase 1 of the project, including the possibility of reconfiguring the "visitor lot" accessed from Fernhill Drive in order to lengthen the queuing lane for drop-off and pick-up, the placement of directional signs, driveway realignment, etc. COMA-13

2

1. Response Received During Public Review Period

City of Malibu 3 of 3

3.18 UTILITIES AND SERVICE SYSTEMS

1. In order to determine potential impacts from the proposed project to the existing onsite wastewater treatment system (OWTS), a report from a City Registered OWTS designer must be submitted to Environmental Health Administrator (EH) for review to determine if the existing system can accommodate the additional loading from the increase in population and addition of plumbing drainage fixture units. COMA-14

2. The location of the OWTS must be shown on the site plan to determine if proper setbacks from buildings to all components of the OWTS are maintained.

3. Conformance with any waste discharge requirements from the Los Angeles Regional Water Quality Control Board must be demonstrated.

PROJECT PHASING

1. Once details for the implementation of Phase 2 have been confirmed, i.e., building location, size, etc., a subsequent environmental review needs to be conducted. That CEQA analysis should address the transition from Phase 1 to Phase 2 of the project, including the assessment of potential air quality impacts for the school children as sensitive receptors and the potential parking and traffic impacts anticipated during the implementation of Phase 2. COMA-15

Should you have any questions or comments, please contact Raneika Brooks at (310) 456-2489, extension 276 or at rbrooks@malibucity.org. COMA-16

Sincerely,

BBC Digitally signed by Bonnie
Date: 2018.10.18 16:52:03 -07'00'

Bonnie Blue, AICP
Planning Director

cc: Reva Feldman, City Manager

3

1. Response Received During Public Review Period

Response to Comments from the City of Malibu, dated October 18, 2018.

CoMA-1 This comment contains introductory language and provides a summary of the Proposed Project. The City of Malibu acknowledges that the SMMUSD is the lead agency responsible for preparation of the MND and the City would utilize the analysis provided in the MND to process the related coastal development permits.

CoMA-2 The comment indicates that the MND's conclusion of less than significant impacts for sensitive species in Section 3.4(a) (page 50) should be revised to No Impact due to the lack of sensitive or special status species on the Project site and surrounding study area. In response to this comment, the text of the Environmental Checklist, Section 3.4(a), Page 33 has been revised as follows:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			~~X~~	X

Additionally, the text Section 3.4(a) page 50 of the MND has been revised as follows:

~~Less Than Significant~~No Impact.

No sensitive species were observed onsite during a reconnaissance of the Project site on August 14, 2018. The study area for the Biological Inventory included all of the development areas (including installation of portable buildings) for Phase I and II of the Project, plus a 100-foot buffer zone surrounding all of those areas (see Figure 10, *Biological Inventory Study Area*). No native or naturally occurring vegetation communities were observed in the study area; and the study area is generally unsuitable for sensitive plant and animal species due to its urban setting. No ~~I~~impacts would occur~~be less than significant~~, and no mitigation is needed.

CoMA-3 The comment indicates that the Proposed Project site does not have suitable habitat for monarch butterfly overwintering. The district concurs with this conclusion. In response to this comment, the following text in Section 3.4(d), page 51 of the MND has been revised as follows:

Monarch Butterfly Overwintering Habitat

The City of Malibu recently joined the National Wildlife Federation's "Mayor's Monarch Pledge" demonstrating the City's commitment to restoring monarch butterfly (*Danaus plexippus*) habitat in its community. Monarchs do not roost in sycamores, and ~~T~~the ~~western sycamores located throughout the biological study area and the~~ eucalyptus stand in the southern portion of the study area ~~potentially provide~~does not provide overwintering roosting

1. Response Received During Public Review Period

habitat for monarch. ~~The Project is not anticipated to impact~~ No impacts would occur, and no mitigation is needed~~the eucalyptus stand or the majority of the western sycamores~~.

CoMA-4 The comment states that Mitigation Measure BIO-1 should require surveys consistent with California Fish and Wildlife standards of 300 feet for common species and 500 feet for special status species and raptors. In response to this comment, mitigation measure BIO-1 has been revised as follows:

BIO-1 Prior to the commencement of any proposed actions (e.g., site clearing, demolition, grading) during the breeding/nesting season (February 15 through September 1), a qualified monitoring biologist contracted by the Project applicant shall conduct a preconstruction survey(s) to identify any active nests in and adjacent to the Proposed Project site no more than three days prior to initiation of the action. If the biologist does not find any active nests that would be potentially impacted, the proposed action may proceed. However, if the biologist finds an active nest within or directly adjacent to the action area (within ~~100~~ 300 feet for common species or 500 feet for special status species or raptors) and determines that the nest may be impacted, the biologist shall delineate an appropriate buffer zone around the nest using temporary plastic fencing or other suitable materials, such as barricade tape and traffic cones. The buffer zone shall be determined by the biologist in consultation with applicable resource agencies and in consideration of species sensitivity and existing nest site conditions, and in coordination with the construction contractor. The qualified biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to ensure that no inadvertent impacts on these nests occur. Only specified activities (if any) approved by the qualified biologist in coordination with the construction contractor shall take place within the buffer zone until the nest is vacated. Activities that may be prohibited within the buffer zone by the biologist may include but not be limited to grading and tree clearing. Once the nest is no longer active and upon final determination by the biologist, the proposed action may proceed within the buffer zone.

The monitoring biologist shall prepare a survey report/memorandum summarizing his/her findings and recommendations of the preconstruction survey. Any active nests observed during the survey shall be mapped on a current aerial photograph, including documentation of GPS coordinates, and included in the survey report/memorandum. The completed survey report/memorandum shall be submitted to the District Chief Operations Officer or his/her designee prior to construction-related activities that have the potential to disturb any active nests during the nesting season.

CoMA-5 The comment states that the Proposed Project would be subject to the City of Malibu's Local Coastal Program, including the City of Malibu's Local Implementation Program Chapter 5 with regards to protecting native trees. The City of Malibu provides protection for trees around the city by way of its LCP Section 5.2 (Native Trees) through Section 5.5 (Mitigation Standards) of the

1. Response Received During Public Review Period

LIP. Protected trees include native trees with one trunk measuring 6 inches or more in diameter, or a combination of any two trunks measuring a total of 8 inches or more in diameter measured at 4.5 feet above natural grade. Among the factors considered in the removal of protected trees are the following: their size, age, and species; visual and aesthetic characteristics; cultural or historic characteristics; ecological and location characteristics. Protected trees require a permit for removal. The ordinance also protects trees during construction activities. This ordinance applies to areas of the Proposed Project site where there are currently protected trees. The Proposed Project would be subject to specific tree protection requirements during construction and mitigation of affected trees identified as protected in accordance with the City's LCP and mitigation measure BIO-2.

The MND was prepared in accordance with CEQA Guidelines, Section 15071, and included the following required content:

- Brief description of the project, location, and proponent's
- name (CCR §15071[a,b])
- Proposed finding that the project will have no significant
- effect (CCR §15071[c])
- Initial study documenting reasons supporting the finding
- (CCR §15071[d])
- Mitigation measures to avoid potentially significant effects
- (CCR §15071[e])

CEQA does not require that an MND provide an alternatives analysis; however, the District is in the process of obtaining a Coastal Development Permit for Phase I of the Proposed Project and a separate CDP will be required for Phase II. The CDP will require the District to address project alternatives that could avoid impacts to protected trees that may be impacted by the Proposed Project. The District will provide the required alternative analysis as part of the CDP process.

CoMA-6 The comment requests that the MND provide an evaluation of future with project at General Plan Build-out, which is considered to be the year 2030 and have a growth rate of 1.5 percent. A supplemental General Plan-year (2030) analysis was conducted for the project, as a supplement to the MND traffic study document. The growth included in the traffic study to increase year-2018 volumes to year-2019 volumes (in addition to trips included from cumulative/planned area projects, was two percent. For the subsequent years to the year 2030, an annual growth rate of 1.5 percent was applied, which is typical for traffic studies in Malibu.

For the 11 years of growth between 2019 and 2030, the rate of 1.5 percent was compounded annually, resulting in an overall factor of 1.178 or an increase of 17.8 percent. This added growth rate defined the baseline General Plan year volumes, added to the year-2019 baseline volumes. This analysis does not indicate that any new significant project impact would occur. The MND conclusions therefore do not change, with the analysis of this additional scenario. In response to this comment, the following revision has been made to Section 3.16(a), page 99 of the MND:

Intersection Operation, Future (2030) With-Project Conditions

Intersection operation in future (2030) with-project conditions was estimated by adding project-generated traffic to forecast future without-project conditions. All study area intersections are forecast to operate at acceptable LOS in future with-project conditions, as shown below in Table 16.

Table 16 Intersection Operation, Future Year (2030) With-Project Conditions

Intersection	Peak Hour	Future (2030)		Future (2030) Plus Project		Significant Impact?
		Delay (sec.)	LOS	Delay (sec.)	LOS	
Heathercliff Road/Pacific Coast Highway	AM	10.6	B	10.6	B	No
	PM	22.9	C	22.9	C	No
Heathercliff Road/Dume Drive	AM	8.7	A	9.2	A	No
	PM	8.8	A	9.3	A	No
Dume Drive/Grayfox Street	AM	7.9	A	8.5	A	No
	PM	8.0	A	8.6	A	No
Grasswood Avenue/Grayfox Street	AM	7.6	A	8.2	A	No
	PM	7.6	A	8.2	A	No
Fernhill Drive/Grayfox Street	AM	8.2	A	10.3	B	No
	PM	8.3	A	10.6	B	No
Fernhill Drive/Wildlife Road	AM	7.9	A	8.9	A	No
	PM	8.2	A	9.1	A	No
Zumirez Drive/Pacific Coast Highway	AM	17.5	B	19.2	B	No
	PM	20.7	C	23.4	C	No

Significance Threshold: City of Malibu significance thresholds for signalized intersections are shown below.
- LOS C: Project-related V/C increase equal to or greater than 0.04
- LOS D: Project-related V/C increase equal to or greater than 0.02
- LOS E/F: Project-related V/C increase equal to or greater than 0.01

The City also considers any increase in delay of five seconds or more at an unsignalized intersection operating at an unacceptable level of service (LOS E or F) a significant impact.
Source: KOA 2018

CoMA-7 The comment requests that the District evaluate potential parking and traffic impacts for the maximum design plan of 450 students and staff at Point Dume Elementary. As stated on page 15 of the MND, the existing (2017-18) student population at Juan Cabrillo is 185 students, the existing student population at Point Dume is 195. The District anticipates that the combined Juan Cabrillo and Point Dume campus would result in 380 students for the 2019-20 school year. As originally construction in 1967, Point Dume has a historical capacity of 600 students. Both Juan Cabrillo and Point Dume have experienced a steady decrease in enrollment over the past several years. Since a peak of 520 students during the 1996-1997 school year, Juan Cabrillo's enrollment has steadily decreased to the current enrollment of 185 students. Similarly, Point Dume's peak enrollment occurred during the 2003-2004 school year, with 325 students. Juan Cabrillo has not had an enrollment above 250 students since the 2002-2003 school year, while Point Dume has not had over 250 students since the 2003-2004 school year.

1. Response Received During Public Review Period

Based upon studies prepared by SMMUSD by DecisionInsite, the overall enrollment of the Proposed Project attendance area is anticipated to decline over the next eight years. With implementation of the Proposed Project, the enrollment at Point Dume would be 380 students. Enrollment levels are expected to decrease over the coming decade, with a projected enrollment at the combined Point Dume of 338 students in 2022, and 322 students in 2026 (DecisionInsite 2017). The reasons for this decrease in enrollment include an overall decline in kindergarten enrollment, and elementary aged school children in the west Malibu area.

The design capacity of 450 students identified in the MND represents the maximum number of students that would be permitted to attend Point Dume under current California Department of Education and District standards and guidelines. However, it is the District's intention to create a learning environment that can meet the needs of the existing and projected student population. As stated on page 15 of the MND, the District is designing the Point Dume campus to include shared collaboration areas, new resource tools, technology, and display. Classrooms and Labs, specialized learning and innovation spaces are all required to transition from a traditional teacher led front of the classroom model to a decentralized multi-zoned instructional model that provides a variety of spaces to enrich a collaborative culture for project-based work. The standard 960-square foot classroom cannot meet the needs of progressive project-based learning model, so the District is moving to a 1,200 square foot classroom. While the Project is necessary to accommodate the increase in students transferring over from Juan Cabrillo, implementation of both Phase I and Phase II would result in improved education opportunities for west Malibu students by providing larger classroom spaces that accommodate diverse learning styles and allow for variable uses. The Project's square footage is intended to provide for a high-quality twenty-first century learning environment for the western Malibu students.

Therefore, based upon the history of declining enrollments for the past 15 years at the Point Dume campus, and the District's demographic projections that show that a further decrease is anticipated in the next decade, as well as the District's stated intent for the design of the Proposed Project, the District as the Lead Agency determined that the Project's actual enrollment was the appropriate demand to determine the Project's potential impacts. Therefore, no further analysis is required in the MND.

CoMA-8 The comment requests that the MND evaluate parking and traffic impacts associated with increased vehicle trips during parent teacher conferences, and other events. The Point Dume campus currently hosts a limited number of special events that occur in evening hours, including Back to School Night and~~,~~ Open House.~~,~~ ~~and recitals/performances. Events such as recitals and performances take place in the evening hours in the school's auditorium, which has a maximum capacity of approximately 100~~Evening events take place in the school's auditorium, which has a capacity of 150 people. Parking for these events are accommodated within the existing visitor and staff parking lot, as the teachers have left for the day, in addition to street parking. ~~Under the Proposed Project, ~~.~~these types of events would still be limited to a maximum capacity of approximately 100 guests due to the size of the auditorium, as such, traffic and parking conditions would remain the same as existing conditions.~~ All other events are held during the school day, outside of peak-hour traffic periods. These events are sized to the capacity of the auditorium and parking for these events are accommodated by on-campus parking. With the Proposed Project, the number of mid-day events would increase to accommodate the additional student population, however, the maximum event size would remain at the existing level.

Back to School Night and Open House each occur once a year in the early fall and spring respectively. Under existing conditions, the District coordinates with the City of Malibu and the Los Angeles Count Sheriff's Department to relax parking restrictions in the vicinity of the Point Dume campus. The District will continue to implement this coordination under the Proposed Project. As these events are coordinated with the City and Sheriff's Department, and only occur ~~once~~ twice a year, ~~potential impacts would be similar to existing conditions and no further analysis is required.~~although the size of these events under the Proposed Project would double, their increased size would not create a significant impact for these temporary events.

CoMA-9 The comment requests that potential impacts to on-street pick-up/drop-off areas expected with implementation of Phase I be addressed. As described on page 100 of the MND, on-site pick-up/drop-off and parking for the Point Dume campus is currently provided on the school campus, ~~on the~~ to the west side of Fernhill Drive~~, to the south of Grayfox Street~~. No on-street pick-up/drop-off areas exist in the vicinity of the school. The lane along Fernhill Drive is utilized as a queue lane for parents waiting to access the pick-up/drop-off area within the school's parking lot, despite its designation as a no parking zone during these times. There is no formal pick-up/drop-off area, either on-street or off-street, along Grayfox Street. ~~An additional on-street pick-up/drop-off area is provided on the south side of Grayfox Street. Currently the pick-up/drop-off area on Grayfox Street sees minimal activity.~~

The MND identified that the Proposed Project has the potential to increase vehicle queuing above the 2-minute increase established as the significance threshold during the morning and afternoon peaks. In order to reduce this potential impact, the District identified mitigation measure Traffic-1, which included the potential that the District would "Establish as secondary formal pick-up/drop-off area within the curb area of Grayfox Street." The establishment of a formal pick-up/drop-off on Grayfox Street is only one of five potential options to the District to mitigate~~ion~~ potential queuing impacts. Prior to implementing any of the five options (individually or in combination), the District would evaluate the efficiency of each option for reducing the impact, as well as any direct or indirect affect of the mitigation. Further, the District is committed to working closely with the City of Malibu to ensure that any potential mitigation meets the needs of the Point Dume community and ensures the safety of the Point Dume students and residents. In the event the Proposed Project resulted in a two-minute increase in the blocking of the southbound travel lane during the drop-off and pick-up peaks, the District would evaluate the options identified in mitigation Traffic-1 and coordinate with the City prior to implementing the identified mitigation.

CoMA-10 The comment identified that the MND mistakenly dates the KOA Traffic Impact Report for the Malibu Schools Alignment Project, Malibu, California, as September 17, 2018, rather than

1. Response Received During Public Review Period

September 27, 2018. In response to this comment, the following revision has been made to Section 3.16, page 90 of the MND:

3.16 TRANSPORTATION/TRAFFIC

The analysis in this Section is based partly on the Traffic Impact Report for the Malibu Schools Alignment Project, Malibu, California, by KOA dated September ~~17~~27, 2018. A complete copy of this report is included as Appendix F to this Mitigated Negative Declaration.

CoMA-11 The comment states that the MND reports in Table 15 (Intersection Operations, Future Year [2019]) that the existing Level of Service (LOS) at the intersection of Zumirez Drive and Pacific Coast Highway (PCH) is LOS C, but the future LOS expected after the project's implementation is expected to improve to LOS B. Since no improvements are proposed for that intersection to improve the LOS, the expected PM peak hour LOS at Zumirez/PCH for "future with project conditions" needs to be at least at the level of service of "existing plus project conditions." In response to this comment, the average vehicle delay and LOS differences from the traffic report impact tables were reviewed for the existing and future conditions. Small changes in volumes can cause the critical movements that determine delay to change and create changes in output than can be negative or positive. In response to this comment **Table 15 (Intersection Operations, Future Year [2019])** Section 3.16(a), page 99 of the MND is below:

Table 15 Intersection Operation, Future Year (2019) With-Project Conditions

Intersection	Peak Hour	Future (2019)		Future (2019) Plus Project		Significant Impact?
		Delay (sec.)	LOS	Delay (sec.)	LOS	
Heathercliff Road/Pacific Coast Highway	AM	~~9.2~~9.4	A	~~9.2~~9.4	A	No
	PM	15.6	B	~~14.0~~15.6	B	No
Heathercliff Road/Dume Drive	AM	8.3	A	8.7	A	No
	PM	8.3	A	8.8	A	No
Dume Drive/Grayfox Street	AM	7.7	A	8.2	A	No
	PM	7.7	A	8.3	A	No
Grasswood Avenue/Grayfox Street	AM	7.5	A	8.0	A	No
	PM	7.5	A	8.0	A	No
Fernhill Drive/Grayfox Street	AM	7.9	A	9.8	A	No
	PM	8.0	A	10.0	A	No
Fernhill Drive/Wildlife Road	AM	7.7	A	8.6	A	No
	PM	7.9	A	8.8	A	No
Zumirez Drive/Pacific Coast Highway	AM	~~17.6~~18.0	B	18.9	B	No
	PM	~~19.6~~21.1	B	~~20.3~~21.1	C	No

Significance Threshold: City of Malibu significance thresholds for signalized intersections are shown below.
- LOS C: Project-related V/C increase equal to or greater than 0.04
- LOS D: Project-related V/C increase equal to or greater than 0.02
- LOS E/F: Project-related V/C increase equal to or greater than 0.01

The City also considers any increase in delay of five seconds or more at an unsignalized intersection operating at an unacceptable level of service (LOS E or F) a significant impact.
Source: KOA 2018

The revised table fixes the drop in delay across scenarios, using the highest outcome from adjacent scenarios to provide a realistic outcome. This does not change the study conclusions on significant impacts, no further analysis is required.

CoMA-12 The comment states that the MND should evaluate the probability of vehicle trips rerouting northbound on Fernhill Drive during pick-up/drop-off times, which would increase the use of left-turn movement from Fernhill Drive to enter the school on-site pick-up/drop-off area. Based on monitoring conducted at the site during a.m. and p.m. peak school periods on for separate occasions, there is no existing issue with northbound left-turn movements into the site. The occasional use of this movement, likely by residents from the south of the school site, does not create traffic backups of any sizeable duration. Although the use of this access route may increase in the future with the proposed project, a large proportion of inbound vehicles will not use this route due to the much longer route needed for travel to reach the school (up to an additional 1.2 miles to circle around the larger area residential block). The potential increased use of this turn movement is not considered significant, and the analysis conclusions do not change.

CoMA-13 The comment states that the District must implement traffic mitigation measures prior to operation of Phase I rather than determine if the threshold of significance is exceeded. Additionally, the comment recommends that the District consider reconfiguring the visitor lot in order to lengthen the on-site queuing lane. The District is committed to mitigating any queuing related impact, and as such established a threshold to determine if the Proposed Project would cause a significant impact and identified a range of mitigation measures to implement if an impact were to occur.

As reported in the MND, observations of the morning drop-off peak period and the afternoon pick-up peak period were conducted in May 2018 and September 2018. Based on the monitoring conducted, the peak activity is limited to 15 to 20 minutes. During this peak, the roadway travel lanes are generally not blocked for any long period of time. For three of the four observation periods, queuing did not extend into travel lanes. On one occasion (afternoon, September 2018), queuing extended into the southbound travel lane on Fernhill, forcing some southbound through vehicles to cross into the northbound lane. The queue began at 2:46 PM and normal traffic operations resumed at 2:52 PM.

CEQA requires that the Lead Agency provide mitigation for potentially significant impacts. The District has determined that an increase in queuing time would be a significant impact. However, based on the field observations, it is not feasible to determine if an increase in queuing time would occur with implementation of the Proposed Project. As such, the District has properly committed to evaluating the effects of the Proposed Project and determining if the significance threshold has been exceeded. The District has further committed to mitigation if required. CEQA allows mitigation to be implemented upon further study if the following has been meet; the District must, (1) commit to mitigation; (2) adopt specific performance standards that the mitigation will achieve; and (3) provide a list of possible mitigation actions that will be considered, analyzed, and potentially incorporated into the mitigation measure. The MND has met these requirements, and any potential queuing impacts will be mitigated to a less than significant level.

1. Response Received During Public Review Period

As to the comment regarding reconfiguration of the visitor's lot in order to lengthen the queuing to the on-site lane Mitigation Measure Traffic-1 has been revised as follows:

Mitigation Measure

Traffic-1: Should Project implementation result in a two-minute increase in the blocking of the southbound travel lanes during the drop-off and pick-up peaks, the District shall implement one or a combination of the following measures:

- The District shall provide busing from the existing Juan Cabrillo campus to Point Dume for the transferred Elementary Students.
- The District shall coordinate with the City of Malibu Public Works Department to widen the school driveway on Fernhill Drive, to provide for both wider ingress lanes and wider egress lane and provide an increased turning radius to allow for improved vehicle turning into and out of the site.
- The District will work with the Los Angeles County Metropolitan Transportation Authority (Metro) to relocate the Metro Line 534 bus stop on Fernhill Drive to Grayfox Street (west of the curve near the all-way stop intersection of the two roadways). This would free up additional on-street parking space on Fernhill Drive, and the on-street no parking/queuing area could be expanded.
- Establish a staggered bell schedule for groups of grades or other potential grouping, to provide for a spacing of pick-up/drop-off activity. The staggering should be 30 minutes or more.
- Establish a secondary formal pick-up/drop-off area within the curb area of Grayfox Street.
- <u>Reconfigure the visitors parking lot to lengthen the on-site queuing lane for pick-up/drop-off.</u>

CoMA-14 The comment provides information regarding the CDP's requirements for the Point Dume campus existing wastewater treatment system (OWTS), including a report from a City Registered OWTS designer, a site plan with the location of the OWTS and conformance with the LARWQCB discharge requirements. The District will provide the City the requested report and site plan with the OWTS location. The District will comply with all waste discharge requirements set forth by the LARWQCB. As stated in Section 3.18(b) on page 110 of the MND, Wastewater generation at Point Dume due to project development is estimated at 100 percent of the increase in indoor water demands, that is, approximately 140 gpd. The septic system at Point Dume has capacity for 600 students, and thus has sufficient capacity for the projected enrollment at Point Dume of 380 after students from Cabrillo are combined onto the Point Dume campus. Impacts would be less than significant

CoMA-15 The comment states that subsequent environmental review would be required when the site plan(s) for Phase II have been finalized. Specifically, the comment states that the subsequent CEQA analysis address the transition from Phase 1 to Phase 2 of the Proposed Project as it relates to potential air quality, parking and traffic impacts. This MND addresses the whole of the project, including any potential impacts that could occur from the construction and operation of Phase II of the Proposed Project, consistent with CEQA Guidelines Section 15378(a)(c).

The term "project" refers to the whole of an action and to the underlying physical activity being approved, not to each government approval (State CEQA Guidelines Section 15378(c)). Thus, even if the Lead Agency needs to grant more than one approval for a project, such as the Proposed Project, only one CEQA document should be prepared. Similarly, if more than one government agency must grant an approval, only one CEQA document should be prepared. This approach ensures that the City of Malibu as the responsible agency in its role of granting the CDP for both Phase I and Phase II can rely on the lead agency's CEQA document. CEQA case law has established that for a phased development project, even if details about future phases are not known, future phases must be included in the project description if they are a reasonably foreseeable consequence of the initial phase and will significantly change the initial project or its impacts. (*Laurel Heights Improvement Association v Regents of University of California (1988) 47 Cal. 3d 376*).

Accordingly, this MND evaluated impacts from the entirety of the Proposed Project. Specifically, the MND provided an evaluation of the potential impacts from construction of Phase II during operation of Phase I, including the potential for construction activities to adversely impact the students and residents in the vicinity of the Point Dume campus. While specific construction details are not known at the time this MND was prepared, the estimates utilized in the MND relied upon the "worst case" construction and design scenario so as to accurately assess potential impacts to the environment.

With regards to air quality regard impacts, as shown in Table 1 (Maximum Daily Regional Construction Emissions) in Section 3.2(b) on pages 45/46 of the MND, peak daily construction activities would not exceed SCAQMD thresholds for any criteria pollutant. Further, and as shown in Table 3 (Localized Construction Emissions) on in Section 3.2(d) on pages 47/48 of the MND, peak daily construction emissions would not exceed the SCAQMD thresholds for localized emissions. The localized thresholds were designated to protect sensitive receptors most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work or exercise.

Similarly, the MND evaluated potential traffic impacts that would occur during construction activities. The District would be required to prepare a Traffic Control Plan to ensure that public safety and emergency access are maintained during the construction phase. Implementation of the TCP would ensure that students and local residents are not adversely affected by project construction.

1. Response Received During Public Review Period

Upon completion of the final design and siting of the Phase II Building, the District would review the proposed project in accordance with CEQA Guidelines Section 15162. Under Section 15162, no subsequent review is required unless the lead agency determines that the following would occur:

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

(b) If changes to a project or its circumstances occur or new information becomes available after adoption of a negative declaration, the lead agency shall prepare a subsequent EIR if required under subdivision (a). Otherwise the lead agency shall determine whether to prepare a subsequent negative declaration, an addendum, or no further documentation.

The District in its capacity as Lead Agency will inform the City of Malibu as the Responsible Agency in the unlikely occurrence of any of the circumstances set forth in Section 15162 are met.

CoMA-16 This comment contains contact information and no further response is required.

1. Response Received During Public Review Period

Los Angeles Sheriff Department – 1 of 2

SH-AD-32A (8/17)

COUNTY OF LOS ANGELES

SHERIFF'S DEPARTMENT

"A Tradition of Service Since 1850"

DATE: October 22, 2018
FILE NO:

OFFICE CORRESPONDENCE

FROM: JOSHUA W. THAI, CAPTAIN
MALIBU/LOST HILLS STATION

TO: TRACEY JUE, DIRECTOR
FACILITIES PLANNING BUREAU

SUBJECT: REVIEW COMMENTS ON THE NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION FOR THE MALIBU SCHOOLS ALIGNMENT PROJECT

LASD-1

The Malibu/Lost Hills Sheriff's Station Traffic Division (Station) reviewed the Draft Mitigated Negative Declaration (MND), dated September 2018, completed by the Santa Monica-Malibu Unified School District (District), for the proposed Malibu Schools Alignment Project. The proposed project involves physical improvements at Point Dume Marine Science School (Point Dume) and would be developed in two phases. Phase I includes installation of ten portable units on the Point Dume campus (eight classrooms, one administrative portable unit, and one restroom). These portable units are to be retained for two years until a permanent classroom building is constructed. Phase II includes construction of two permanent buildings: a 15,000 square foot two-story classroom building with 8 classrooms and a new 2,500 square foot administrative office building. The intent of the proposed project is to combine students from two elementary schools (Point Dume and Cabrillo) onto one campus (Point Dume) and to relocate middle school students from Malibu Middle & High School to the Cabrillo campus, which would henceforth operate as a middle school. No physical improvements would be made either to the Malibu Middle & High School or the Cabrillo campuses. The proposed project is located within the service area of the Station.

In September 2018, the Station responded to an inquiry and questionnaire for the proposed project. MND Section 3.14, Public Services, page 89, acknowledged the Station's questionnaire response and concluded that with the Station's current resources and the city of Malibu's employment of one Public Safety Specialist directly, the proposed project's operation is not expected to have a substantial impact on demands for the Station's law enforcement services. Also, in the MND Transportation/Traffic analysis section, Project Traffic Impacts, pages 90-100, no significant direct or cumulative traffic impacts were identified. The Project Access and Impacts

1. Response Received During Public Review Period

Los Angeles Sheriff Department – 2 of 2

DECLARATION FOR THE MALIBU SCHOOLS ALIGNMENT PROJECT **-2-** **October 22, 2018**

of Pick-ups and Drop-offs were also analyzed. Pages 101-102 of MND states that in the event the proposed project implementation resulted in a two-minute increase in the blocking of the southbound travel lanes during the drop-off and pick-up peaks, the District shall implement one or a combination of the Traffic-1 Mitigation Measures as outlined on page 101.

The Station generally concurs with the conclusion and has no further comment to submit at this time. Thank you for including the Station in the environmental review process for the proposed project. Should you have any questions regarding this matter, please feel free to contact Lieutenant James Royal at the Malibu/Lost Hills Station Detective Bureau at (818) 878-5515 (JRoyal@lasd.org).

LASD-1

JWT:JR:rt

1. Response Received During Public Review Period

Response to Comments from the Los Angeles Sheriff's Department, dated October 22, 2018.

LASD-1 This comment contains introductory language and provides a summary of the Proposed Project. The comment also identifies the LASD responded to an inquiry and questionnaire to assist in preparation of the MND. The comment provides a summary of the MND's traffic analysis and recommended mitigation. Nor further response is required.

1. Response Received During Public Review Period

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1. Response Received During Public Review Period

John Atwell – 1 of 2

Julian Capata

~~**From:** Upton, Carey <cupton@smmusd.org>~~
~~**Sent:** Thursday, October 11, 2018 5:54 PM~~
~~**To:** Stan Barankiewicz; Julian Capata~~
~~**Cc:** Massetti, Steve~~
~~**Subject:** FW: Improvement Project Point Dume Campus~~

~~Julian and Stan,~~

~~First email received today on Point Dume MND.~~

~~Warmly,~~

~~Carey Upton~~
~~Chief Operations Officer~~
~~Santa Monica-Malibu Unified School District~~
~~310-450-8338 x79383 w~~
~~424-581-5426 m~~
~~cupton@smmusd.org~~

From: Irene Ahn [mailto:IAhn@growmore.com] **On Behalf Of** John Atwill
Sent: Thursday, October 11, 2018 3:29 PM
To: Upton, Carey <cupton@smmusd.org>
Subject: Improvement Project Point Dume Campus

Carey Upton
Chief Operations Officer
Santa Monica – Malibu Unified School District

By way of this email your office is notified that I and other residents on Grey Fox are strongly objecting to construction of a two story 15,000 sq. ft. classroom along Greyfox Ave.

A more suitable location for the two permanent buildings described would be the central part of the campus adjacent to the existing parking lot. JOAT-1

I attended the public notice meeting October 9, 2018 at Point Dume Marine Science School and was offended that the presentation tried to convince attendees that the SMMUSD Point Dume campus project was in compliance with CEQA Aesthetics guidelines.

The proposed construction of two story 15,000 sq. ft. building along Greyfox would have:

1) Substantial adverse effects on the scenic vista of the residences along Greyfox and cars driving along Greyfox that are now used to open field views of the grassland park and trees of the inner campus.
2) The construction of a 15,000 sq. ft. two story building along Greyfox would substantially degrade residential property values along Greyfox Ave. and Fernhill Drive, and would not fit in with the visual character and quality of the surrounding area. JOAT-2

In closing, if you move the proposed two story building to the interior of the campus adjacent to the parking lot I will support your project, otherwise expect strong opposition. JOAT-3

1

1. Response Received During Public Review Period

John Atwell – 2 of 2

JOHN & TATIANA ATWILL
29043 Greyfox Ave.

JOAT-3

2

Response to Comments from the John Atwill, dated October 11, 2018.

JOAT-1 The comment states objection to the construction of the Phase II Building adjacent to Grayfox Street and recommends that the Phase II Building be built in a more central location adjacent to the existing parking lot. The District will evaluate the additional locations for the Phase II Building as part of the City of Malibu's LCP process; however, the District is constrained by site topography and the location of existing structures, including the existing on-site wastewater treatment system located in the central part of the existing blacktop of the campus. The District is committed to including the Point Dume community in the final design and siting of the Phase II Building and will incorporate local input to the extent practical and feasible.

JOAT-2 The commenter attended the public meeting for the Proposed Project and does not agree with the MND's finding of less than significant relating to visual quality and visual character of the surrounding neighborhood. The commenter also states that implementation of the Phase II Building would substantially degrade property values.

The MND provided an evaluation of the Phase II Buildings potential impact on visual quality and character. As stated in Section 3.1(a), the Proposed Project site itself is not designated as a scenic resource, nor is the site in the vicinity of any City of Malibu or State of California designated scenic vista. Scenic resources in the City of Malibu are associated with the dramatic topography and natural landscape features of the area which includes steep coastal bluffs, hills, rugged slopes, ridgelines, and dense native vegetation. The Proposed Project site is located within a highly developed residential community, with no variation in topography or natural landscape features in the immediate vicinity.

The Phase II Building would be required to comply with all of the City of Malibu design guidelines as set forth in Chapter 6 of the City's LUP, including LUP Policy 6.6, which requires that the final site design avoid impacts to visual resources, and LUP Policy 6.12 which ensures that all new structures are sited and designed to minimize visual impacts by ensuring visual compatibility with the character of the surrounding areas. Implementation of design features such as landscaping and the use of colors and materials that are compatible with the surrounding landscape would ensure that the new Phase II Building conform with the existing design features of the Point Dume campus to minimize visual impact to the surrounding area.

Residences on Grayfox across from the Point Dume campus currently have views of the existing school building, the asphalt play yard, the visitors parking lot along Fernhill Drive and limited views of Cameron Park. As proposed, the Phase II Building would primarily be constructed within the existing blacktop of the Point Dume campus, with a small portion encroaching on the existing playfield, adjacent the walking path. Overall, while the Proposed Project would alter the aesthetic characteristics of the immediate Project area, including those on-campus, it would not block short- or long-range views of valued visual resources. Furthermore, as the Phase II Building would comply with the City of Malibu's minimum setbacks, building heights and structure size for non-residential development in the Institutional Zone. Direct views that would be impacted would

1. Response Received During Public Review Period

obstruct the mid-range views of the existing blacktop play area and the visitor parking lot, and would not result in a significant visual impact. Upon completion, the Phase II Building would reinforce the visual character of the Point Dume campus as an elementary school campus by providing a modern classroom.

JOAT-3 These comments restates the commenters opposition to Phase II of the Proposed Project, no further response is required.

1. Response Received During Public Review Period

Stephanie Rocco – 1 of 2

Julian Capata

~~**From:** Upton, Carey <cupton@smmusd.org>~~
~~**Sent:** Monday, October 15, 2018 8:28 AM~~
~~**To:** Julian Capata; Stan Barankiewicz; Massetti, Steve; Klaus, Kevin~~
~~**Cc:** Staib, Kathy~~
~~**Subject:** FW: Malibu School Alignment Project - Pt. Dume~~

~~2nd email on the MND~~

~~Carey Upton~~
~~Chief Operations Officer~~
~~Santa Monica-Malibu Unified School District~~
~~310-450-8338 x79383 w~~
~~424-581-5426 m~~
~~cupton@smmusd.org~~

From: malibusteph@aol.com [mailto:malibusteph@aol.com]
Sent: Friday, October 12, 2018 12:22 PM
To: Upton, Carey <cupton@smmusd.org>
Subject: Malibu School Alignment Project - Pt. Dume

Carey Upton, CEO
Santa Monica/Malibu School District

This is in response to the meeting held on October 9th at Point Dume Elementary School regarding the Malibu School Alignment Project, proposed Mitigated Negative Declaration STRO-1

I live on Grayfox across from Pt. Dume Elementary, I am very concerned about the plans for future school and placement of not only the Phase I but more importantly - Phase II

You have not engaged nor taken under consideration the residence's of this neighborhood, especially the immediate homes that will be affected, the design and placement of the future school should reflect the surrounding area the quaint rural nature, the character and style of the neighborhood. This is a small quiet neighborhood with STRO-2

very expensive homes we are also concerned that this school-park is used and available for the community. There is no forethought in these plans other than hurriedly ramming this proposed California Environmental Quality and Mitigated Negative Declaration Impact in order to appease the current demands of merging these two elementary schools. Your study states little to no impact on the environment, scenic vista and resources which is not true - the unique and coveted rural surroundings will be impacted, trees, septic conditions, noise, traffic assumptions, damage to current Cameron park. There are too many open ended questions that are not being answered. STRO-3

Phase I - Placement of temporary classroom Units, the cutting down of trees, which you stated were diseased which are "not" they are thriving beautiful trees, the integrity of Cameron Park STRO-4

Phase II - Concern on Permanent structure of a 15,000 sq ft. two story building 28 feet high along Grayfox Street, also concern is within this are brand new administrative office

I believe this is about the children needing new class rooms and not administrative "new offices" STRO-5

There needs to be serious consideration with community input that will affect the design and permanence of future school building - the lack of logic and forethought is absent.

This review and attention needs more deliberation with long term affect of the Point Dume neighborhood, with the placement of temporary affecting the ability to build a permanent structure STRO-6

1

1. Response Received During Public Review Period

Stephanie Rocco – 2 of 2

the emphasis needs to be "well thought out to where this future permanent building is going to go" I suggest moving the temporary portables to a different location and putting the permanent structure on the side of the parking lot so the set back will be better placed within this neighborhood. STRO-6

I have a real objection and problem with a 15,000 square foot - two story 28 feet high commercial building being recklessly and absurdly proposed on Grayfox Street, a exceedingly distracting commercial school building where there are multi-million dollar homes! There is also the concern of the funding of this project and proposed costs involved, the SMMUSD still does not have the funds for the High School nor the proposed moving of the Middle School, this can of worms which seemingly continues to get bigger and is now affecting and disrupting the Pt Dume Neighborhood. I will also make sure our voices are heard with the Malibu City Planning Department. STRO-7

Your attention to this matter is imperative.
Thanking you,

Stephanie Rocco
29055 Grayfox Street
Malibu, Ca 90265

2

Response to Comments from the Stephanie Rocco, dated October 12, 2018.

STRO-1 The comment states objection to the construction of the Phase II Building adjacent to Grayfox Street. The District will evaluate the additional locations for the Phase II Building as part of the City of Malibu's LCP process; however, the District is constrained by site topography and the location of existing structures, including the existing on-site wastewater treatment system located in the central part of the existing blacktop of the campus.

STRO-2 The comment states that the District has not engaged the community. Refer to Response JOAT-1, the District is committed to including the Point Dume community in the final design and siting of the Phase II Building and will incorporate local input to the extent practical and feasible.

STRO-3 The comment states that the Point Dume community is a quite residential neighborhood and the District did not evaluate potential impacts with regards to scenic vistas, traffic, the septic system and impacts to Cameron Park. The MND evaluated potential impacts for all CEQA related environmental issues, including the resources identified by the comment. Refer to Response to Comment JOAT-2 regarding scenic vistas, and Response to Comment CoMA-6 through Comment CoMA-13 regarding traffic impacts. Comments regarding septic systems, noise and impacts to recreational resources are non-specific in nature; however, impacts relating to each of these issues were addressed in the MND. Impacts, with the implementation of mitigation measures were found to be less than significant. No further response is required.

STRO-4 The comment states that the District should avoid cutting down trees as part of Phase I, and also disagrees with the MND's conclusion that the trees are diseased. The removal of the eight trees identified as part of Phase I is required in order to construct the portable classrooms. The District would be required to protect all native trees to the extent practicable, and would be required to provide mitigation for the removal or damage of any native trees, as required by mitigation measure BIO-2. The removal of non-native trees does not result in a significant impact on the environment, nor does the health of the identified tree. No further comment is required.

STRO-5 The comment states that the administrative building proposed under Phase II is not required. As this is not a direct comment on the content or adequacy of the MND, and does not raise a specific environmental issue, no response is required. However, it should be noted, that the proposed administrative building would be constructed in part to allow the site staff to control entry onto the campus by placing the administrative offices at the "front" of the campus, adjacent visitors parking.

STRO-6 The comment restates that the District should engage the community regarding the final design of the Point Dume campus. Refer to Response to Comment JOAT-1. The District is committed to including the Point Dume community in the final design and siting of the Phase II Building. As this is not a direct comment on the content or adequacy of the MND, and does not raise a specific environmental issue, no response is required.

STRO-7 The comment restates the commenters objection to the Proposed Project and indicates that the Project is not appropriate for the Point Dume Community. The comment also questions the

1. Response Received During Public Review Period

funding source of the Project. As this is not a direct comment on the content or adequacy of the MND, and does not raise a specific environmental issue, no response is required.

1. Response Received During Public Review Period

Kerry Flynn – 1

Julian Capata

~~**From:** Upton, Carey <cupton@smmusd.org>~~
~~**Sent:** Thursday, October 18, 2018 6:21 PM~~
~~**To:** Julian Capata; Stan Barankiewicz; Massetti, Steve; Staib, Kathy; Klaus, Kevin~~
~~**Subject:** FW: Realignment of schools~~

~~Another comment on Point Dume. As it came to me during the comment period, it should be considered a comment.~~

~~Warmly~~

~~Carey Upton~~
~~Chief Operations Officer~~
~~Santa Monica-Malibu Unified School District~~
~~310-399-5865 x79383~~
~~cupton@smmusd.org~~

-----Original Message-----
From: Kerry Flynn [mailto:dandkflynn@me.com]
Sent: Wednesday, October 17, 2018 5:56 PM
To: Upton, Carey <cupton@smmusd.org>
Subject: Realignment of schools

To Whom It May Concern:

As a resident of Pt. Dume, I was thrilled to hear about the changes of school sites. This benefits the students as well as the schools. I never felt it was a great idea to have the middle school on the same campus as the high schoolers. There are are many changes an individual has during middle school and undue influence from older peers is not necessary. With Juan Cabrillo becoming a middle school and the elementary students leaving for another school makes sense. KEFL-1

Many residents will complain about the traffic situation. We have traffic throughout the city in the mornings. School starts and ends at a certain time. Traffic may be heavy during those times. This is nothng that cannot be handled.

This is a positive situation for the students and the schools. There will always be pros and cons to any situation.

Sincerely,

Kerry Flynn

1

1. Response Received During Public Review Period

Response to Comments from the Kerry Flynn, dated October 17, 2018.

KEFL-1 The comment states general support for the Proposed Project. As this is not a direct comment on the content or adequacy of the MND, and does not raise a specific environmental issue, no response is required.

1. Response Received During Public Review Period

Mary Purucker – 1

Julian Capata

~~**From:** Upton, Carey <cupton@smmusd.org>~~
~~**Sent:** Wednesday, October 17, 2018 10:28 PM~~
~~**To:** Julian Capata; Stan Barankiewicz~~
~~**Cc:** Massetti, Steve; Klaus, Kevin; Staib, Kathy~~
~~**Subject:** FW: Combining Pt. Dume and Cabrillo~~

~~Hello ya'll,~~

~~I'm not sure this is an MND comment, but it has come to me during the comment period.~~

~~Warmly,~~

~~Carey Upton~~
~~Chief Operations Officer~~
~~Santa Monica-Malibu Unified School District~~
~~310-399-5865 x79383~~
~~cupton@smmusd.org~~

From: Mary Purucker [mailto:mipurucker@gmail.com]
Sent: Wednesday, October 17, 2018 5:59 PM
To: Upton, Carey <cupton@smmusd.org>
Subject: Combining Pt. Dume and Cabrillo

My concern, as former librarian at Cabrillo and paid consultant who helped manage Pt. Dume's "new" library when it was reopened some time ago, is what are district plans for combining Cabrillo and Pt. Dume libraries? I hope you have a good plan. It is quite a task. MAPU-1
Thanks,
Mary Purucker
mipurucker@gmail.com

--
Mary Purucker

1

1. Response Received During Public Review Period

Response to Comments from the Mary Purucker, dated October 17, 2018.

MAPU-1 The comment expresses concern for the District's plans to combine the existing Point Dume and Juan Cabrillo Libraries. As this is not a direct comment on the content or adequacy of the MND, and does not raise a specific environmental issue, no response is required.

1. Response Received During Public Review Period

Sam Kaplan -1 of 2

PT. DUME SCHOOL PLANS QUESTIONED

A seemingly sincere Santa Monica Malibu Unified School District and a cadre of its consultants descended on Pt. Dume several day ago for a public meeting to review a draft environmental impact report for its proposed ambitious realignment of Malibu schools.

SAKA-1

A sparse audience of about 20 Point residents and parents heard that though the report raised some hackles, it was nevertheless needed to expedite the project that will combine the Pt. Dume and Cabrillo elementary schools on the Pt. Dume campus; in the first phase in temporary prefabs and a second stage in a new classroom building

As I comment on public radio 99.1, KBUU, and select websites, the audience had to be wary, given the Santa Monica dominated district board's long history of short changing Malibu schools. And this despite the real estate rich seacoast city's disproportionately subsidizing the district's budget to the tune of millions annually.

SAKA-2

In summarizing the dense 700 page plus report of mostly boilerplate bureaucratic blather, the district contingent sought to minimize concerns. In particular, these included the traffic impact on local streets and the siting of a two story, 28 foot high, bulky classroom building fronting Grayfox street.

SAKA-3

There also was an impassioned call immodestly by me wearing my proud Pt. Dume parent hat for the flexible design of a community school with a progressive curriculum, to serve adults and seniors as well as students, and lend the Point a prominent public presence.

1. Response Received During Public Review Period

Sam Kaplan -2 of 2

The consultants tried to assure the gathering that the traffic generated by the school doubling its capacity to nearly 400 students can be managed by tweaking commuter patterns. Good luck to that. SAKA-4

As for the indicated siting of the permanent classrooms, district spoke persons said that was just a so-called place holder to expedite the approval process in the project's first phase, and that the eventual design process in the project's second phase would include broad public input. And good luck to that, too. SAKA-5

It also should be noted that designating a place holder is a violation of state planning laws, but the district stumbles on.

To be sure, there is little question that in principle that the Malibu school alignment project is needed, as is the pending passage of Measure M to fund it. Malibu schools are a half century old and outdated.

Certainly it will enhance the city's image and desirability, and while most importantly serving its children and democracy's paragon of pubic education. And as a bonus it can be expected to boost real estate prices. SAKA-6

It also should prompt the inevitable, and I feel imperative, school district divorce allowing Malibu to establish an independent district, hopefully without paying an exorbitant and unjust ransom.

Response to Comments from the Sam Hall Kaplan, dated October 18, 2018.

SAKA-1 The comment provides a summary of the Public Meeting held for the Proposed Project on October 9, 2018 at the Point Dume campus. As this is not a direct comment on the content or adequacy of the MND, and does not raise a specific environmental issue, no response is required.

SAKA-2 The comment summarizes the content of the MND and describes the concerns of the residents in attendance of the meeting regarding traffic and the Phase II Building. As this is not a direct comment on the content or adequacy of the MND, and does not raise a specific environmental issue, no response is required

SAKA-3 The commenter accurately describes the verbal comments her provided at the October 9 meeting. As this is not a direct comment on the content or adequacy of the MND, and does not raise a specific environmental issue, no response is required

SAKA-4 The comment states that the Proposed Project would double the capacity of Point Dume to nearly 400 students and that the MND recommended "tweaking" commuting patterns to reduce impacts. The District provided a thorough analysis of the Proposed Project's potential traffic impacts in the MND, and with mitigation no significant impacts would occur. Refer to Response to Comment CoMA-6 through Comment CoMA-13 regarding traffic impacts.

SAKA-5 The comment states that the Phase II Building is a place-holder to expedite the project's first phase and that this is a violation of state planning laws. It is not clear which planning laws the commenter believes are being violated by the District; however, as stated in Response to Comment CoMA-15, the MND addresses the whole of the project, including any potential impacts that could occur from the construction and operation of Phase II of the Proposed Project, consistent with CEQ Guidelines Section 15378(a)(c). Accordingly, this MND evaluated impacts from the entirety of the Proposed Project. While the district will seek community input on the final design and siting of the Proposed Phase II Building, the evaluation provided in the MND represents the District's independent analysis of the entirety of the Project.

SAKA-6 The commenter states the Proposed Project is required due to the age and physical condition of Malibu schools, that improved schools would enhance real estate values and allow the City of Malibu to establish and independent school District. As this is not a direct comment on the content or adequacy of the MND, and does not raise a specific environmental issue, no response is required.

1. Response Received During Public Review Period

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2. Minor Revisions to the Draft Initial Study

2.1 INTRODUCTION

This section contains revisions to the MND based upon (1) additional or revised information required to prepare a response to a specific comment; (2) applicable updated information that was not available at the time of MND publication; and/or (3) typographical errors. The revisions do not alter any impact significance conclusions as disclosed in the MND. Changes made to the MND are identified here in ~~strikeout~~ text to indicate deletions and in <u>underlined</u> text to signify additions.

2.2 MND REVISIONS

The following text has been revised in response to comments received on the MND.

Environmental Checklist, Section 3.4(a), Page 33 is revised in response to Comment CoMA-2.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			~~X~~	<u>X</u>

Environmental Checklist, Section 3.7(a)(b), Page 34 is revised in due to a typographical error.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			<u>X</u>	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			<u>X</u>	

2. Minor Revisions to the Draft Initial Study

Environmental Checklist, Section 3.10(c), Page 35 is revised in due to a typographical error.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

Environmental Checklist, Section 3.16(a-f), Page 37 is revised in due to a typographical error.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC. Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?		X	~~X~~	
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?			X	
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?		X		
e) Result in inadequate emergency access?			X	
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?			X	

2. Minor Revisions to the Draft Initial Study

Environmental Checklist, Section 3.16(a-f), Page 37 is revised in due to a typographical error.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRIBAL CULTURAL RESOURCES. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or			X	
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		X		

Environmental Checklist, Section 3.16(a-f), Page 37 is revised in due to a typographical error.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to 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?		X		
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.)			X	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X		

2. Minor Revisions to the Draft Initial Study

Section 3.4(a) page 50 is revised in response to Comment CoMA-2.

~~Less Than Significant~~No Impact.

No sensitive species were observed onsite during a reconnaissance of the Project site on August 14, 2018. The study area for the Biological Inventory included all of the development areas (including installation of portable buildings) for Phase I and II of the Project, plus a 100-foot buffer zone surrounding all of those areas (see Figure 10, *Biological Inventory Study Area*). No native or naturally occurring vegetation communities were observed in the study area; and the study area is generally unsuitable for sensitive plant and animal species due to its urban setting. No ~~I~~impacts would occur~~be less than significant~~, and no mitigation is needed.

Section 3.4(d), page 51 is revised in response to Comment CoMA-3.

Monarch Butterfly Overwintering Habitat

The City of Malibu recently joined the National Wildlife Federation's "Mayor's Monarch Pledge" demonstrating the City's commitment to restoring monarch butterfly (*Danaus plexippus*) habitat in its community. ~~The~~Monarchs do not roost in sycamores, and the ~~western sycamores located throughout the biological study area and the~~ eucalyptus stand in the southern portion of the study area ~~potentially~~does not provide overwintering roosting habitat for monarch. ~~The Project is not anticipated to impact the eucalyptus stand or the majority of the western sycamores.~~ No impact would occur, and no mitigation is needed.

Section 3.4(d), page 51, Mitigation Measure BIO-1 is revised in response to Comment CoMA-4.

BIO-1 Prior to the commencement of any proposed actions (e.g., site clearing, demolition, grading) during the breeding/nesting season (February 15 through September 1), a qualified monitoring biologist contracted by the Project applicant shall conduct a preconstruction survey(s) to identify any active nests in and adjacent to the Proposed Project site no more than three days prior to initiation of the action. If the biologist does not find any active nests that would be potentially impacted, the proposed action may proceed. However, if the biologist finds an active nest within or directly adjacent to the action area (within ~~100~~ 300 feet for common species or 500 feet for special status species or raptors) and determines that the nest may be impacted, the biologist shall delineate an appropriate buffer zone around the nest using temporary plastic fencing or other suitable materials, such as barricade tape and traffic cones. The buffer zone shall be determined by the biologist in consultation with applicable resource agencies and in consideration of species sensitivity and existing nest site conditions, and in coordination with the construction contractor. The qualified biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to ensure that no inadvertent impacts on these nests occur. Only specified activities (if any) approved by the qualified biologist in coordination with the construction contractor shall take place within the buffer zone until the nest is vacated. Activities that may be prohibited within the buffer zone by the biologist may include but not be limited to grading and tree clearing. Once the nest is no longer active and upon final determination by the biologist, the proposed action may proceed within the buffer zone.

The monitoring biologist shall prepare a survey report/memorandum summarizing his/her findings and recommendations of the preconstruction survey. Any active nests observed during the survey shall be mapped on a current aerial photograph, including documentation of GPS coordinates, and included in the survey report/memorandum. The completed survey report/memorandum shall be submitted to the District Chief Operations Officer or his/her designee prior to construction-related activities that have the potential to disturb any active nests during the nesting season.

Section 3.16(a), page 99 is revised in response to Comment CoMA-6.

Intersection Operation, Future (2030) With-Project Conditions

Intersection operation in future (2030) with-project conditions was estimated by adding project-generated traffic to forecast future without-project conditions. All study area intersections are forecast to operate at acceptable LOS in future with-project conditions, as shown below in Table 16.

Table 16 Intersection Operation, Future Year (2030) With-Project Conditions

Intersection	Peak Hour	Future (2030)		Future (2030) Plus Project		Significant Impact?
		Delay (sec.)	LOS	Delay (sec.)	LOS	
Heathercliff Road/Pacific Coast Highway	AM	10.6	B	10.6	B	No
	PM	22.9	C	22.9	C	No
Heathercliff Road/Dume Drive	AM	8.7	A	9.2	A	No
	PM	8.8	A	9.3	A	No
Dume Drive/Grayfox Street	AM	7.9	A	8.5	A	No
	PM	8.0	A	8.6	A	No
Grasswood Avenue/Grayfox Street	AM	7.6	A	8.2	A	No
	PM	7.6	A	8.2	A	No
Fernhill Drive/Grayfox Street	AM	8.2	A	10.3	B	No
	PM	8.3	A	10.6	B	No
Fernhill Drive/Wildlife Road	AM	7.9	A	8.9	A	No
	PM	8.2	A	9.1	A	No
Zumirez Drive/Pacific Coast Highway	AM	17.5	B	19.2	B	No
	PM	20.7	C	23.4	C	No

Significance Threshold: City of Malibu significance thresholds for signalized intersections are shown below.
- LOS C: Project-related V/C increase equal to or greater than 0.04
- LOS D: Project-related V/C increase equal to or greater than 0.02
- LOS E/F: Project-related V/C increase equal to or greater than 0.01

The City also considers any increase in delay of five seconds or more at an unsignalized intersection operating at an unacceptable level of service (LOS E or F) a significant impact.
Source: KOA 2018

2. Minor Revisions to the Draft Initial Study

Section 3.16, page 90is revised due to a typographical error.

3.16 TRANSPORTATION/TRAFFIC

The analysis in this Section is based partly on the Traffic Impact Report for the Malibu Schools Alignment Project, Malibu, California, by KOA dated September ~~17~~27, 2018. A complete copy of this report is included as Appendix F to this Mitigated Negative Declaration.

Table 15 (Intersection Operations, Future Year [2019]) Section 3.16(a), page 99 is revised in response to Comment CoMA-11.

Table 15 Intersection Operation, Future Year (2019) With-Project Conditions

Intersection	Peak Hour	Future (2019)		Future (2019) Plus Project		Significant Impact?
		Delay (sec.)	LOS	Delay (sec.)	LOS	
Heathercliff Road/Pacific Coast Highway	AM	~~9.2~~9.4	A	~~9.2~~9.4	A	No
	PM	15.6	B	~~14.0~~15.6	B	No
Heathercliff Road/Dume Drive	AM	8.3	A	8.7	A	No
	PM	8.3	A	8.8	A	No
Dume Drive/Grayfox Street	AM	7.7	A	8.2	A	No
	PM	7.7	A	8.3	A	No
Grasswood Avenue/Grayfox Street	AM	7.5	A	8.0	A	No
	PM	7.5	A	8.0	A	No
Fernhill Drive/Grayfox Street	AM	7.9	A	9.8	A	No
	PM	8.0	A	10.0	A	No
Fernhill Drive/Wildlife Road	AM	7.7	A	8.6	A	No
	PM	7.9	A	8.8	A	No
Zumirez Drive/Pacific Coast Highway	AM	~~17.6~~18.0	B	18.9	B	No
	PM	~~19.6~~21.1	B	~~20.3~~21.1	C	No

Significance Threshold: City of Malibu significance thresholds for signalized intersections are shown below.
- LOS C: Project-related V/C increase equal to or greater than 0.04
- LOS D: Project-related V/C increase equal to or greater than 0.02
- LOS E/F: Project-related V/C increase equal to or greater than 0.01

The City also considers any increase in delay of five seconds or more at an unsignalized intersection operating at an unacceptable level of service (LOS E or F) a significant impact.
Source: KOA 2018

Section 3.16(a), page 101, Mitigation Measure Traffic-1 is revised in response to Comment CoMA-11.

Mitigation Measure

Traffic-1: Should Project implementation result in a two-minute increase in the blocking of the southbound travel lanes during the drop-off and pick-up peaks, the District shall implement one or a combination of the following measures:

- The District shall provide busing from the existing Juan Cabrillo campus to Point Dume for the transferred Elementary Students.
- The District shall coordinate with the City of Malibu Public Works Department to widen the school driveway on Fernhill Drive, to provide for both wider ingress lanes and wider egress lane and provide an increased turning radius to allow for improved vehicle turning into and out of the site.
- The District will work with the Los Angeles County Metropolitan Transportation Authority (Metro) to relocate the Metro Line 534 bus stop on Fernhill Drive to Grayfox Street (west of the curve near the all-way stop intersection of the two roadways). This would free up additional on-street parking space on Fernhill Drive, and the on-street no parking/queuing area could be expanded.
- Establish a staggered bell schedule for groups of grades or other potential grouping, to provide for a spacing of pick-up/drop-off activity. The staggering should be 30 minutes or more.
- Establish a secondary formal pick-up/drop-off area within the curb area of Grayfox Street.
- Reconfigure the visitors parking lot to lengthen the on-site queuing lane for pick-up/drop-off.

Section 7, page 163, List of Preparers is revised due to an oversight.

7. List of Preparers

SANTA MONICA-MALIBU UNIFIED SCHOOL DISTRICT

Carey Upton, Chief Operations Officer

PLACEWORKS

Julian Capata, Senior Associate

Michael Milroy, Associate

Nicole Vermilion, Associate Principal, Air Quality and Noise Analyses

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2. Minor Revisions to the Draft Initial Study

Alexis Whitaker, Project Scientist

Josh Carman, Manager, Noise and Vibration Analyses

Cary Nakama, Graphic Artist

KOA CORPORATION

Brian Marchetti, Senior Transportation Planner.

DSK ARCHITECTS

Jeffery Fuller, Principal

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November 2018 | Mitigation Monitoring Program

MALIBU SCHOOLS ALIGNMENT PROJECT

for Santa Monica-Malibu Unified School District

Prepared for:

Santa Monica-Malibu Unified School District
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PLACEWORKS

Table of Contents

List of Tables

Table of Contents

1. Introduction

1.1 PURPOSE OF MITIGATION MONITORING PROGRAM

This Mitigation Monitoring Program has been developed to provide a vehicle by which to monitor mitigation measures and conditions of approval outlined in the Draft Mitigated Negative Declaration (MND. The Mitigation Monitoring Program has been prepared in conformance with Section 21081.6 of the Public Resources Code and City of Malibu Monitoring Requirements. Section 21081.6 states:

> (a) When making findings required by paragraph (1) of subdivision (a) of Section 21081 or when adopting a mitigated negative declaration pursuant to paragraph (2) of subdivision (c) of Section 21080, the following requirements shall apply:
>
> (1) The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation. For those changes which have been required or incorporated into the project at the request of a responsible agency or a public agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the lead or responsible agency, prepare and submit a proposed reporting or monitoring program.
>
> (2) The lead agency shall specify the location and custodian of the documents or other material which constitute the record of proceedings upon which its decision is based.

1.2 MND SUMMARY

1.2.1 Project Location

All proposed physical improvements would be built at Point Dume Marine Science School (Point Dume) at 6955 Fernhill Drive in the City of Malibu in western Los Angeles County. The campus is approximately 0.5 miles south of Pacific Coast Highway, at the intersection of Fernhill Drive and Grayfox Street. The Proposed Project would also involve combining elementary school students from Juan Cabrillo Elementary School (Cabrillo) at 30237 Morning View Drive in the City of Malibu onto the Point Dume campus; and transferring middle school students from Malibu Middle and High School, at 30215 Morning View Drive in the City of Malibu, to the Cabrillo campus. No physical improvements would be made either the Malibu Middle and High School or the Cabrillo campuses.

1.2.2 Existing Conditions

The Proposed Project site is the existing Point Dume campus, which consists of a single 6.25-acre parcel and is currently developed with classroom buildings, administration building, a multi-purpose field, three outdoor basketball courts and play courts, staff parking lot (along Grayfox Street), and a visitor parking lot and student drop-off/pick-up zone (along Fernhill Drive).

1.2.3 Proposed Project

Improvements at Point Dume would be developed in two phases:

Phase 1 would consist of installation of 10 portables buildings (8 classrooms, one administration building, and one restroom building) on the Point Dume campus for two years, 2019-2020 and 2020-2021. One portable classroom building would be installed in the kindergarten area in the southwest part of the campus, while the remaining nine buildings portables would be installed in the central part of the campus on the south part of the existing hardcourt area. The portables buildings would accommodate the increase in student population for two years while until a permanent classroom building is being constructed.

Phase 2 would consist construction of two permanent buildings: a two-story classroom building with eight classrooms and approximately 15,000 square feet of building area, to be built in the north-central part of the campus on the north end of the hardcourt area, and development of a new 2,500 square foot administrative office located on the site of the former portables for the elementary school portion. The remaining area of the Portable Village, approximately 15,000 square feet, would be converted back to permeable surfaces. Project Phase 2 construction would be scheduled for 14 months between summer 2020 and summer 2021.

The Proposed Project would also include combining two elementary schools and transferring middle school students from Malibu Middle and High School to one of the elementary schools (see *Project Location* above).

1.3 ENVIRONMENTAL IMPACTS

1.3.1 Impacts Considered Less Than Significant

The following impacts were identified as less than significant, or no impact, in the MND:

- Aesthetics
- Agricultural Resources
- Air Quality
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use
- Mineral Resources

- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Service Systems

1.3.2 Potentially Significant Adverse Impacts That Can Be Mitigated, Avoided, or Substantially Lessened

The following impacts were identified as potentially significant without mitigation; and as less than significant after implementation of mitigation, in the MND:

- Biological Resources
- Cultural Resources
- Noise

1.3.3 Unavoidable Significant Adverse Impacts

No significant and unavoidable impacts were identified.

1. Introduction

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2. Mitigation Monitoring Requirements

The District is the designated lead agency for the Mitigation Monitoring Program (MMP). The District is responsible for implementation of the MMP, with the District Facility Improvement Projects Department (FIPD) as lead in coordination. The MMP will be used by District staff responsible for ensuring compliance with mitigation measures associated with the proposed Specific Plan. Monitoring will consist of review of appropriate documentation, such as plans or reports prepared by the party responsible for implementation or by field observation of the mitigation measure during implementation.

Table 3-1 (Mitigation Monitoring Program) identifies the mitigation measures by resource area. The table also provides the specific mitigation monitoring requirements, including implementation documentation, monitoring activity, timing and responsible monitoring party.

2. Mitigation Monitoring Requirements

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Table 3-1 Mitigation Monitoring Requirements

		Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
3.4 BIOLOGICAL RESOURCES						
BIO-1	BIO-1	Prior to the commencement of any proposed actions (e.g., site clearing, demolition, grading) during the breeding/nesting season (February 15 through September 1), a qualified monitoring biologist contracted by the Project applicant shall conduct a preconstruction survey(s) to identify any active nests in and adjacent to the Proposed Project site no more than three days prior to initiation of the action. If the biologist does not find any active nests that would be potentially impacted, the proposed action may proceed. However, if the biologist finds an active nest within or directly adjacent to the action area (within 100 300 feet for common species or 500 feet for special status species or raptors) and determines that the nest may be impacted, the biologist shall delineate an appropriate buffer zone around the nest using temporary plastic fencing or other suitable materials, such as barricade tape and traffic cones. The buffer zone shall be determined by the biologist in consultation with applicable resource agencies and in consideration of species sensitivity and existing nest site conditions, and in coordination with the construction contractor. The qualified biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to ensure that no inadvertent impacts on these nests occur. Only specified activities (if any) approved by the qualified biologist in coordination with the construction contractor shall take place within the buffer zone until the nest is vacated. Activities that may be prohibited within the buffer zone by the biologist may include but not be limited to grading and tree clearing. Once the nest is no longer active and upon final determination by the biologist, the proposed action may proceed within the buffer zone.	qualified monitoring biologist and District Facility Improvement Projects Department	Prior to the commencement of any proposed actions (e.g., site clearing, demolition, grading) during the breeding/nesting season (February 15 through September 1),	District Facility Improvement Projects Department	

2. Mitigation Monitoring Requirements

Table 3-1 Mitigation Monitoring Requirements

	Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
	The monitoring biologist shall prepare a survey report/memorandum summarizing his/her findings and recommendations of the preconstruction survey. Any active nests observed during the survey shall be mapped on a current aerial photograph, including documentation of GPS coordinates, and included in the survey report/memorandum. The completed survey report/memorandum shall be submitted to the District Chief Operations Officer or his/her designee prior to construction-related activities that have the potential to disturb any active nests during the nesting season.				
BIO-2	Before site clearance for the proposed installation of portable buildings, a qualified biologist or certified arborist would assess the one sycamore tree that would be impacted by installation of the portable buildings and determine whether relocation of the tree on-site would likely be successful; or, alternatively, if removal would be required. If the tree were relocated a qualified biologist or certified arborist would monitor the tree annually for not less than 10 years; and prepare and submit annual monitoring reports for review by the City. Should the tree be lost or suffer worsened health or vigor as a result of the proposed development, the District would replace the tree as set forth in the following paragraph. If replacement is required, for each tree removed, the District shall plant no less than 10 western sycamore seedlings, less than one year old, on suitable habitat. The habitat may be onsite; or may be offsite if the biologist or arborist certifies that there is insufficient habitat area onsite for planting 10 western sycamore trees. A qualified	qualified biologist or certified arborist and District Facility Improvement Projects Department	Before site clearance for the proposed installation of portable buildings	District Facility Improvement Projects Department	

Table 3-1 Mitigation Monitoring Requirements

		Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
		biologist or certified arborist shall monitor the trees for a period of not less than ten years. An annual monitoring report shall be submitted for the review and approval of the City for each of the ten years. The monitoring report shall identify the size and health of each replacement tree, comparing this information with the criteria provided in the native tree replacement planting program for determining that replacement trees are healthy and growing normally. Mid-course corrections shall be implemented if necessary. If performance standards are not met by the end of ten years, the monitoring period shall be extended until the standards are met. If planting of replacement trees as provided herein is determined by the biologist or arborist to be impracticable both onsite and offsite, the District shall pay an in-lieu mitigation fee to the Native Tree Impact Mitigation Fund administered by the Santa Monica Mountains Conservancy. The fee shall be based on the type, size and age of the tree(s) removed.				
3.5 CULTURAL RESOURCES						
CUL-1	CUL-1	Prior to ground disturbance by Project site clearance and grading, the District shall retain a qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, to be on-call during all Project ground disturbance activities. • If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery., shall evaluate the significance of the find, and shall have the authority to modify the no-work	District Facility Improvement Projects Department and qualified professional archaeologist	Prior to and during ground disturbances by Project site clearance and grading	District Facility Improvement Projects Department	

2. Mitigation Monitoring Requirements

Table 3-1 Mitigation Monitoring Requirements

Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find: • If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately and no agency notifications are required. • If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify the CEQA lead agency, and applicable landowner. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be eligible for inclusion in the NRHP or CRHR. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not eligible for the NRHP or CRHR; or 2) that the treatment measures have been completed to their satisfaction. • If the find includes human remains, or remains that are potentially human, he or she shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Los Angeles County Coroner (as per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will				

2. Mitigation Monitoring Requirements

Table 3-1 Mitigation Monitoring Requirements

Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the Project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the District does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the District must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate information center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work in the affected area may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction. For excavation within previously disturbed native soil, there is still a potential for ground-disturbing activities to expose previously unrecorded cultural resources. If subsurface deposits believed to be cultural or human in origin are discovered during construction activities within previously disturbed soil, all work must halt within a 100-foot radius of the find and a qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be contacted to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, and all preceding notifications shall apply, depending on the find.				

2. Mitigation Monitoring Requirements

Table 3-1 Mitigation Monitoring Requirements

Mitigation Measure		Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
CUL-2	Prior to ground disturbance, the District shall retain a County-certified paleontologist to periodically monitor grading activities greater than six feet in depth and salvage and catalogue paleontological resources as necessary. The paleontologist shall be present at the pre-grade conference, shall establish procedures for paleontologist resource surveillance, and shall establish, in cooperation with the District, procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the artifacts as appropriate. If the paleontological resources are found to be significant, the paleontological monitor shall determine appropriate actions, in cooperation with the District, for exploration and/or salvage. The paleontologist shall prepare excavated material to the point of identification. After the completion of ground disturbance and monitoring the paleontologist shall prepare a monitoring report which shall include the period of monitoring, an analysis of any artifacts found, and the present repository of the artifacts, for submission to the District Chief Operations Officer or his/her designee. The District shall offer excavated finds for curatorial purposes to the Natural History Museum of Los Angeles County, or its designee, on a first refusal basis.	District Facility Improvement Projects Department and County-certified paleontologist	Prior to and during ground disturbances		
3.12 NOISE					
NOISE-1	As required by the City of Malibu Municipal Code, construction activities shall not take place weekdays between the hours of 7:00 PM and 7:00 AM, before 8:00 AM or after 5:00 PM on Saturday, or at any time on Sundays or holidays. In addition, the District construction contractor shall observe the following best management practices:	District construction contractor	At least 90 days prior to the start of construction activities; and during construction	District Facility Improvement Projects Department	

Table 3-1 Mitigation Monitoring Requirements

Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
• At least 90 days prior to the start of construction activities, all offsite residences within 300 feet of the project site will be notified of the planned construction activities. The notification will include a brief description of the project, the activities that would occur, the hours when construction would occur, and the construction period's overall duration. The notification should include the telephone numbers of the City's and contractor's authorized representatives that are assigned to respond in the event of a noise or vibration complaint. • The contractor will prepare a Construction Noise Control Plan. The details of the Construction Noise Control Plan, including those details listed herein, will be included as part of the construction specifications. • At least 10 days prior to the start of construction activities, a sign will be posted at the entrance(s) to the job site, clearly visible to the public, which includes permitted construction days and hours, as well as the telephone numbers of the City's and contractor's authorized representatives that are assigned to respond in the event of a noise or vibration complaint. If the authorized contractor's representative receives a complaint, he/she will investigate, take appropriate corrective action, and report the action to the City. • During the entire active construction period, equipment and trucks used for project construction will utilize the best available noise control techniques (e.g., improved mufflers, equipment re-design, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds), wherever feasible.				

2. Mitigation Monitoring Requirements

Table 3-1 Mitigation Monitoring Requirements

Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
• During the entire active construction period, stationary noise sources will be located as far from sensitive receptors as possible, and they will be muffled and enclosed within temporary sheds, or insulation barriers or other measures will be incorporated to the extent feasible. • During the entire active construction period, noisy operations will be combined so that they occur in the same time period as the total noise level produced would not be significantly greater than the level produced if the operations were performed separately (and the noise would be of shorter duration). • Select haul routes that avoid the greatest amount of sensitive use areas. • Signs will be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. All other equipment will be turned off if not in use for more than 5 minutes. • During the entire active construction period and to the extent feasible, the use of noise producing signals, including horns, whistles, alarms, and bells will be for safety warning purposes only. The construction manager will use smart back-up alarms, which automatically adjust the alarm level based on the background noise level, or switch off back-up alarms and replace with human spotters in compliance with all safety requirements and laws. • During construction, temporary sound attenuating walls will be employed, as necessary, to reduce construction noise levels at the nearest residential property.				

2. Mitigation Monitoring Requirements

Table 3-1 Mitigation Monitoring Requirements

	Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
3.16 Transportation/Traffic					
Traffic-1	Should Project implementation result in a two-minute increase in the blocking of the southbound travel lanes during the drop-off and pick-up peaks, the District shall implement one or a combination of the following measures: • The District shall provide busing from the existing Juan Cabrillo campus to Point Dume for the transferred Elementary Students. • The District shall coordinate with the City of Malibu Public Works Department to widen the school driveway on Fernhill Drive, to provide for both wider ingress lanes and wider egress lane and provide an increased turning radius to allow for improved vehicle turning into and out of the site. • The District will work with the Los Angeles County Metropolitan Transportation Authority (Metro) to relocate the Metro Line 534 bus stop on Fernhill Drive to Grayfox Street (west of the curve near the all-way stop intersection of the two roadways). This would free up additional on-street parking space on Fernhill Drive, and the on-street no parking/queuing area could be expanded. • Establish a staggered bell schedule for groups of grades or other potential grouping, to provide for a spacing of pick-up/drop-off activity. The staggering should be 30 minutes or more. • Establish a secondary formal pick-up/drop-off area within the curb area of Grayfox Street. • Reconfigure the visitors parking lot to lengthen the on-site queuing lane for pick-up/drop-off.	District Facility Improvement Projects Department and City of Malibu Public Works	One year after operation of the Proposed Project commences	District Facility Improvement Projects Department	

2. Mitigation Monitoring Requirements

Table 3-1 Mitigation Monitoring Requirements

	Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
Traffic-2	At least one month before opening of Phase I of the Proposed Project, the District shall work with the City to install radar speed signs on both sides of Grayfox Street near the west end of the campus (so that drivers passing the signs would not be reducing speed for the curve, and the four-way stop sign, to the east. Within six to twelve months of the installation of these signs, the District shall request the City of Malibu Public Works Department to have an additional speed survey conducted. If speeds have not been reduced to a level at or below standards set forth in California Vehicle Code Section 627 and in the California 2014 Manual of Uniform Traffic Control Devices (MUTCD) Revision 3, the District shall request the City of Malibu Public Works Department to install traffic calming measures that either narrow the perceived width of travel lanes (such as roadway striping); or that narrow the physical width of the roadway (such as curb extensions).	District Facility Improvement Projects Department and City of Malibu Public Works	One month prior to operation of the Proposed Project commences	District Facility Improvement Projects Department	

3. Report Preparation

3.1 LIST OF PREPARERS

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5. Report Preparation

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