August 2020 | Initial Study and Mitigated Negative Declaration

HAMILTON HIGH SCHOOL EXPANSION

Hamilton Unified School District

Final Draft

Prepared for:

Hamilton Unified School District
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MEMORANDUM

DATE	August 12, 2020
TO	Michael Cannon, EFPM/LLC and Jeremy Powell, Superintendent, Hamilton Unified School District
FROM	Greg Goodfellow, Senior Planner, PlaceWorks
SUBJECT	Hamilton High School Site Expansion Final IS/MND

The 30-day public comment period for the Hamilton High School Site Expansion Project IS/MND closed on May 20, 2020. No written comments on the IS/MND were submitted to the District during the review period. In addition, no comments from state agencies were submitted on the document.

As a result, no text revisions, including typographical corrections, insignificant modifications, amplifications or clarifications to the Public Review Draft IS/MND are required.

No “substantial revisions”, as defined in the California Environmental Quality Act (CEQA) Guidelines Section 15073.5, are required. No new, avoidable significant impacts have been identified and no mitigation measures or project revisions must be added to reduce the effect to insignificance. Accordingly, no recirculation of the IS/MND is required.

This Memorandum, together with the IS/MND dated March 2020 constitutes the Final IS/MND for the proposed project.

Table of Contents

Table of Contents

List of Figures

List of Tables

Acronyms and Abbreviations

AAQS	ambient air quality standards
AB	Assembly Bill
ACM	asbestos-containing materials
ADT	average daily traffic
amsl	above mean sea level
AQMP	air quality management plan
AST	aboveground storage tank
BAU	business as usual
bgs	below ground surface
BMP	best management practices
CAA	Clean Air Act
CAFE	corporate average fuel economy
CalARP	California Accidental Release Prevention Program
CalEMA	California Emergency Management Agency
Cal/EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
Cal/OSHA	California Occupational Safety and Health Administration
CalRecycle	California Department of Resources, Recycling, and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
cfs	cubic feet per second

Acronyms and Abbreviations

CGS	California Geologic Survey
CMP	congestion management program
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
Corps	US Army Corps of Engineers
CSO	combined sewer overflows
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
EPCRA	Emergency Planning and Community Right-to-Know Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	greenhouse gases
GWP	global warming potential
HCM	Highway Capacity Manual
HQTA	high quality transit area
HVAC	heating, ventilating, and air conditioning system
IPCC	Intergovernmental Panel on Climate Change
L_{dn}	day-night noise level
L_{eq}	equivalent continuous noise level
LBP	lead-based paint

Acronyms and Abbreviations

LCFS	low-carbon fuel standard
LOS	level of service
LST	localized significance thresholds
M_W	moment magnitude
MCL	maximum contaminant level
MEP	maximum extent practicable
mgd	million gallons per day
MMT	million metric tons
MPO	metropolitan planning organization
MT	metric ton
MWD	Metropolitan Water District of Southern California
NAHC	Native American Heritage Commission
NO_X	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
O_3	ozone
OES	California Office of Emergency Services
PM	particulate matter
POTW	publicly owned treatment works
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

Acronyms and Abbreviations

SIP	state implementation plan
SLM	sound level meter
SoCAB	South Coast Air Basin
SO_X	sulfur oxides
SQMP	stormwater quality management plan
SRA	source receptor area [or state responsibility area]
SUSMP	standard urban stormwater mitigation plan
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
TNM	transportation noise model
tpd	tons per day
TRI	toxic release inventory
TTCP	traditional tribal cultural places
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
UWMP	urban water management plan
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
WSA	water supply assessment

1. Project Description

Hamilton Unified School District ("District" or "HUSD") is proposing to expand the footprint of Hamilton High School at 620 Canal Road in Hamilton City, Glenn County, California via the acquisition of 48-acres of a property adjacent to the school. The Hamilton High School Site Expansion Project ("proposed project" or "project") would construct new playing fields, a gymnasium, classrooms and circulation areas in two phases over 10-12 years. It would accommodate an additional 250 students in that time.

This document has been prepared in accordance with the California Environmental Quality Act (CEQA; Public Resources Code [PRC], Section 21000 et seq.). CEQA was enacted in 1970 by the California Legislature to disclose to decision makers and the public, potential significant environmental effects of proposed activities and ways to avoid or reduce potential environmental effects by implementing feasible alternatives and mitigation measures. CEQA applies to government agencies at all levels in California. This includes local agencies, regional agencies, State agencies, boards, commissions, and special districts.

1.1 LEAD AGENCY

In accordance with Section 15367 of the CEQA Guidelines, the Hamilton Unified School District is the Lead Agency for the proposed project, since it will serve as "the public agency which has the principal responsibility for carrying out or approving the project."

1.2 PROJECT LOCATION

The project site includes the existing Hamilton High School, located at 620 Canal Road in Hamilton City, California, identified by Glenn County Assessor Parcel Number (APN) 032-230-002, and a 48-acre portion of a parcel directly north of the school (APN 032-230-015). The additional 48 acres would be acquired and developed as part of the project (see Figures 1-1 and 1-2). The project site is in southwest Glenn County.

The site is accessed from the south via State Route (SR) 32/Sixth Street and from the west via SR 45.

1.3 EXISTING SETTING

1.3.1 Project Site

The project site includes the existing Hamilton High School and an adjacent 48-acre property. As shown in Figure 1-3, the high school currently contains eight buildings, including 2 multipurpose buildings, a classroom & administration building, a classroom & library building, 3 portable structures and a classroom & woodshop building. A small parking area with 25 parking stalls is located between the existing buildings. A large area of turfed playing fields dominates the northeastern portion of the school. The school has a student body of approximately 280.

The property that the District would acquire as part of the project is currently dedicated to drip-irrigated agriculture uses. It contains a single agricultural water well and minimal electric service infrastructure, including a pole-mounted transformer.

1.3.2 Surrounding Conditions

The project site is in a predominantly agricultural community. Active farmland borders the site to the north. As shown in Figure 1-2, State Route 45/Canal Road and the Glenn-Colusa Canal border the site to the west, with active farmland beyond those features. The Southern Pacific Railroad and additional farmland lie east of the site. A primarily residential neighborhood that includes Hamilton Elementary/Middle School and few commercial/light industrial properties is located across West 6th Street to the south.

The District's Ella Barkley High School, a 10th through 12th grade alternative education high school, is located immediately southeast of Hamilton High School.

1.3.3 Land Use Regulation

1.3.3.1 GENERAL PLAN

The existing high school property is designated Single Family Residential in the County of Glenn General Plan. The parcel that is proposed to be acquired is designated Intensive Agriculture.

1.3.3.2 ZONING

The existing high school property is zoned R-1, Single Family Residential in the Glenn County Municipal Code. One purpose of this District is "…to provide space for community facilities needed to complement urban residential areas and for institutions which require a residential environment."[1]

The parcel that is proposed to be acquired is zoned AP-80, Agricultural Preserve Zone, Intensive Agriculture. The AP zone "…is to be applied to lands which are covered by a California Land Conservation Act (Williamson Act) contract."[2]

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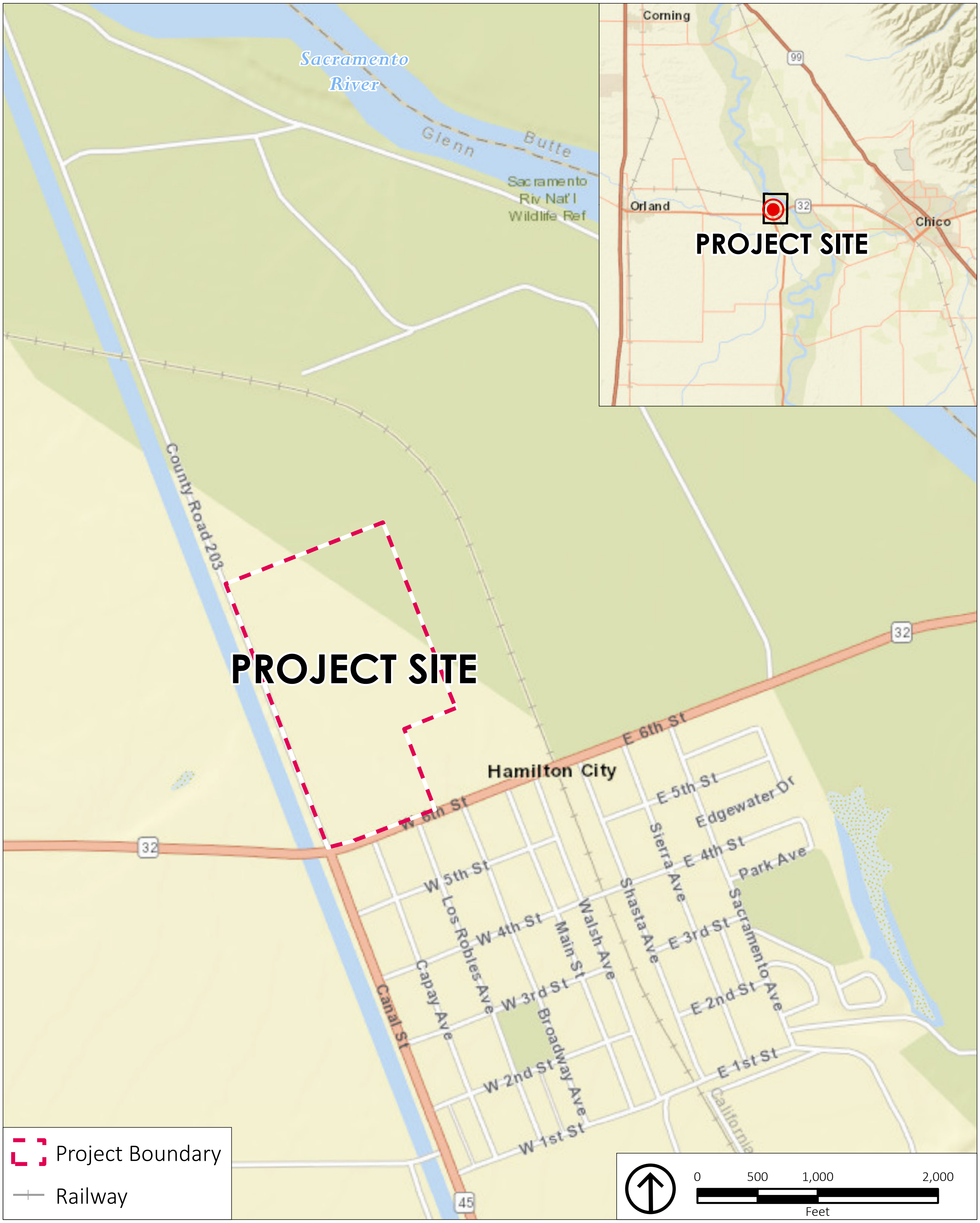
[1] Glenn County Code, Title 15, Unified Development Code, Chapter 15.370.

[2] Glenn County Code, Title 15, Unified Development Code, Chapter 15.370.



Source: ESRI, 2019; 2019; County of Glenn, 2019; PlaceWorks, 2019.

Figure 1-1
Regional and Vicinity Map

Source: ESRI, 2019; 2019; County of Glenn, 2019; PlaceWorks, 2019.

Figure 1-2
Local Setting

PROJECT DESCRIPTION

Source: Nichols, Melburg & Rossetto Architects.

Figure 1-3
Existing Site

1.4 PROJECT COMPONENTS

Following acquisition of the 48-acre portion of the neighboring parcel, the District would expand and modernize Hamilton High School in two phases. As outlined below, the project would include utilities, facilities, classroom, and site circulation improvements.

1.4.1 Phase I

The first phase of development following acquisition of the 48-acre parcel would span 2 to 5 years. During this phase, the District would develop new playing fields and a new parking area and construct a 20,000 SF Gymnasium (see Figure 1-4). Utilities infrastructure would be upgraded to accommodate the expansion as well.

1.4.1.1 UTILITIES IMPROVEMENTS

Phase I would begin with the required expansion and upgrade of existing gas and electric, digital, communications, stormwater, and water infrastructure on the site to support new facilities proposed in Phases I and II (see Section 1.4.2, below).

The project would include annexation of the site to the Hamilton City Community Services District (CSD) which would provide wastewater services. Water would be provided by California Water Services-Chico District, via the CSD. Storm drain connections would be provided by Glenn County Planning and Public Works Agency. Electrical and gas utilities would be provided by Pacific Gas & Electric Company (PG&E). New utility Points of Connection (POCs) along SR 45 would be used to accommodate new facilities in the newly acquired property.

1.4.1.2 NEW FACILITIES

Parking Area

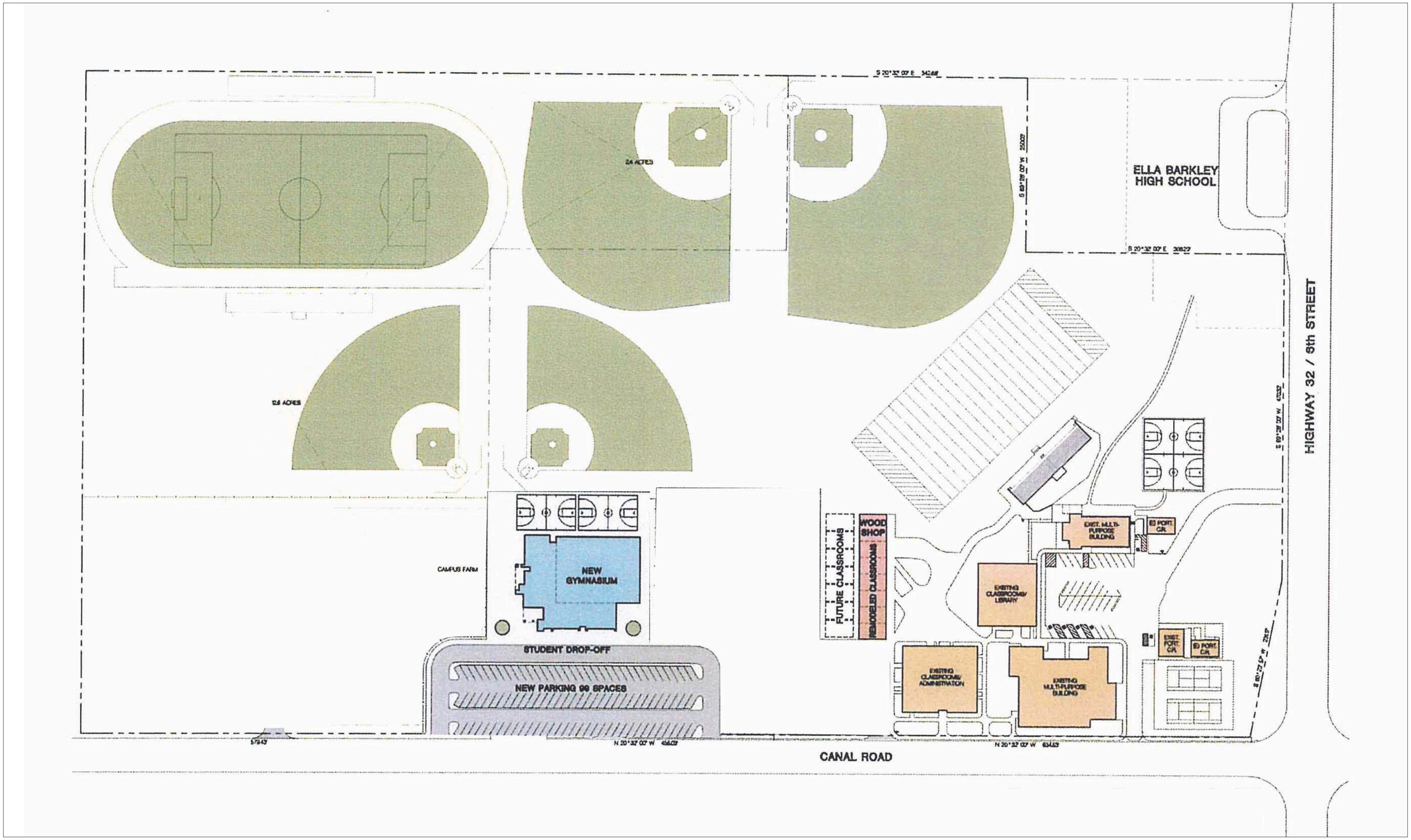
A 90-stall parking lot and student drop-off lane on the western boundary of the site, north of the existing campus, would be developed in Phase I. The lot would be accessed via Canal Road/SR 45.

Gymnasium

A 20,000 SF, approximately 45-foot tall gymnasium would be built on the western portion of the newly acquired parcel, behind the new parking lot. Most of the building would be composed of a central gym and associated dressing room. It would contain boys' and girls' locker rooms, restrooms and interior corridor/circulation space. The gymnasium would also include 20 new bicycle parking spaces.

Playing Fields

The project would include new outdoor recreational facilities on the east side of the newly acquired parcel. A combined track and soccer field would be located in the northeast corner of the parcel, 2 full-size baseball diamonds would be located south of the soccer field, and 2 junior baseball diamonds would be located toward the center of the parcel (see Figure 1-4).



Source: Nichols, Melburg & Rossetto Architects.

ADDITIONAL PROPERTY ACQUISITION
EXISTING BUILDINGS TO BE REMODELED/RELOCATED
NEW CONSTRUCTION
EXISTING BUILDINGS TO REMAIN

Figure 1-4
Phase I Conceptual Site Plan

1.4.2 Phase II

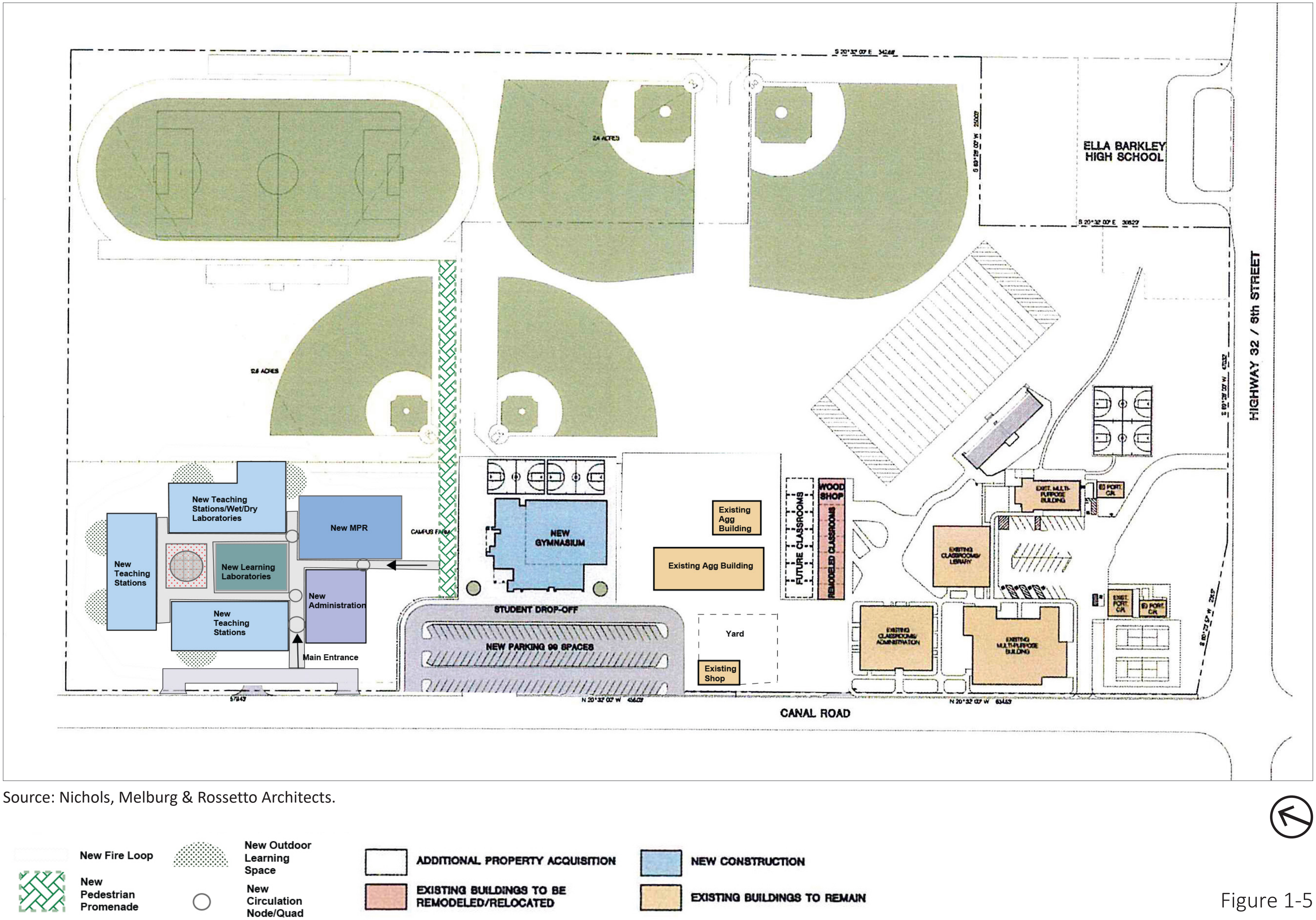
Within ten to twelve years of site acquisition, the District would construct additional improvements at Hamilton High School to accommodate approximately 250 additional students. This would result in a future capacity of approximately 500 students. Phase II components would total 68,500 SF of new facilities and 75,000 SF of new circulation and parking areas. The new facilities would be built in three to seven building clusters surrounding a central outdoor gathering area. All proposed Phase II buildings would be single-story structures.

These type and size of the proposed facilities are summarized in Table 1-1, below. A conceptual site plan of Phase II is illustrated in Figure 1-5.

Table 1-1 Proposed Phase II Facilities

Facility Name/Type	Components/Characteristics	Square Feet (SF)
Buildings and Facilities		
Teaching Stations	Twenty (20) stations with six (6) wet/dry laboratories	31,000
Multipurpose Building	Performance, assembly and food service space	9,500
Learning Laboratories	Individual library and learning spaces	7,000
Administration Building	Administrative Offices & Conference Spaces	8,000
Restrooms	Restrooms	7,000
Storage	New storage areas	6,000
TOTAL		**68,500**
Outdoor and Circulation		
Parking and Circulation	100 new parking stalls and circulation areas	75,000
TOTAL		**75,000**

Source: Hamilton Unified School District, 2019



Source: Nichols, Melburg & Rossetto Architects.

Figure 1-5
Phase II Conceptual Site Plan

1.4.3 Access and Circulation

1.4.3.1 VEHICULAR

As shown in Figure 1-5, primary vehicular access to the future main entrance of the school would from Canal Road/SR 45 to drop-off loop on the northwest corner of the site. Access to the proposed parking areas would be further south on Canal Road/SR 45. The project would also include secondary vehicular and emergency access through the existing campus to proposed facilities from the existing vehicular access point on Highway 32/6th Street (see Figure 1-3).

1.4.3.2 PEDESTRIAN

Pedestrians would access the school via proposed Glenn County and Caltrans standard-compliant sidewalks along Canal Road/SR 45. Additional pedestrian access to site would be provided from the southern area of the school through the existing Hamilton High School site.

1.4.3.3 BICYCLE

The proposed project would include bicycle lanes along the western perimeter of the site. As noted in Section 1.4.1.2, 20 new bicycle parking spaces would be provided as part of the Phase I gymnasium.

1.4.4 Lighting

The proposed project would include LED-based lighting systems in all interior and exterior spaces. This would include indirect and direct luminaires for classrooms, flat-panel low-glare luminaires for workshops and labs. Interior lighting would have energy efficient motion sensors and daylight-responsive lighting controls. Low-level wall-mounted exterior lighting would be located near door entrances and beneath metal roof eaves of new Phase II classroom buildings. All wall-mounted and pedestal exterior luminaires would conform to current backlight, uplight and glare (BUG) ratings in order to reduce glare, light trespass, and skyglow. All project lighting plans would comply with code requirements for egress pathway lighting.

The proposed track/soccer field and existing Football Stadium would both be lit with exterior LED lighting.

1.4.5 Programming

The proposed high school would operate seven days a week for 365 days a year. Classroom & instructional time would be limited to existing Hamilton High School hours of 7:00 AM to 4:30 PM, with operation after those times for academic, sporting and other events, and for public use as permitted by the District.

1.5 CONSTRUCTION

As explained above, construction of the project would occur in 2 phases, with Phase I completed 2 to 5 years following proposed acquisition of the neighboring property and Phase II completed 10 to 12 years following acquisition.

All construction would occur during times allowed by the County of Glenn (7:00 AM to 7:00 PM). A construction worksite traffic control plan would be prepared and implemented by the District. The plan would identify haul routes, hours of construction, protective devices, warning signs, and access. The active construction and staging areas would be located on the project site.

The project would include approximately 30,000 SF of hardscape/paving and 20 acres (87,120 SF) of level landscaping.

1.6 REQUIRED APPROVALS

The proposed project would require approval and IS/MND certification by the Hamilton Unified School District Board of Trustees.

In addition, because the proposed project would be part of an existing school and proposes to extend existing school district property, the California Division of State Architects (DSA) is responsible for plan review and construction oversight for structural safety of school facilities pursuant to the Field Act contained in the California Education Code Sections 17280, et. seq. for K-12 schools. Upon completion of plan review and approval by the DSA, the DSA would be responsible for construction oversight, which may include scheduled site visits by field staff to report on the construction and performance of the project and to verify compliance with the California Building Code.

The project may also require an encroachment permit from Glenn County for potential work within the public right-of-way, and approvals from the Central Valley Regional Water Quality Control Board and Hamilton City Community Services District for permits related to water and utilities.

1. Project Description

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2. Environmental Checklist

2.1 BACKGROUND

1. **Project Title:** Hamilton High School Site Expansion

2. **Lead Agency Name and Address:**

   Hamilton Unified School District
   P.O. Box 488
   Hamilton City, California 95951

3. **Contact Person and Phone Number:**

   Michael Cannon
   EFPM/LLC
   (916) 825-0000

4. **Project Location:** 620 Canal Road in Hamilton City, Glenn County, California and portion of neighboring parcel to the north.

5. **Project Sponsor's Name and Address:**

   Hamilton Unified School District
   P.O. Box 488
   Hamilton City, California 95951

6. **General Plan Designation:** Single Family Residential and Intensive Agriculture.

7. **Zoning:** R-1, Single Family Residential and AP-80, Agricultural Preserve Zone, Intensive Agriculture.

8. **Description of Project:** Hamilton Unified School District ("District" or "HUSD") would expand Hamilton High School and construct new facilities following the acquisition of approximately 48-acres of agricultural property.

9. **Surrounding Land Uses and Setting:** The project site is in a rural/agricultural community, primarily surrounded by drip-irrigated agricultural uses and single-family residential development.

10. **Other Public Agencies Whose Approval Is Required:** California Division of State Architects (DSA), Glenn County, Central Valley Regional Water Quality Control Board, Hamilton City Community Services District.

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

2.3 DETERMINATION

On the basis of this initial evaluation:

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

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

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

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

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier 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.

Signature	_Date_
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.

2. Environmental Checklist

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.

3. Environmental Analysis

3.1 INTRODUCTION

This section describes the existing environmental conditions in the project area and environmental impacts that could occur with development of the proposed project pursuant to the Appendix G, Environmental Checklist, of the 2019 CEQA Guidelines.

In each of the following environmental checklist categories, pursuant to CEQA Guidelines Section 15370 required "Mitigation Measures" are identified to lessen or avoid a potentially significant impact. Measures which are required by the City as normal requirements for a project are identified as "Standard Project Conditions." All impacts were found to have no impact or to be either less than significant or less than significant with mitigation.

3.2 ENVIRONMENTAL ANALYSIS AND FINDINGS

I. AESTHETICS

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

Discussion

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

Less Than Significant Impact. A scenic vista can be defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. There are no locally or State-designated scenic vistas on or adjacent to the project site. The surrounding topography is generally flat, and the site is surrounded by agricultural and rural residential uses. The project site itself is composed of an existing high school and active farmland. It is surrounded by visually similar active farmland. As such it is not a notably visible landscape or element of a scenic vista within rural Glenn County.

The proposed project would expand the physical footprint of an existing high school with improvements similar to current school facilities. Moreover, as shown in Figure 1-5, all the proposed buildings and circulation improvements associated with the project are located along the western boundary of the site, along State Route 45. This layout is consistent with the existing school layout, which also borders SR 45. As explained in Chapter 3, Project Description, the tallest building would be the 45-foot gymnasium built in Phase I, with all remaining structures limited to a single story. Recreational fields and turfed areas would assume most of the project site, maintaining the low-profile of current conditions.

Given these proposed project components and lack of vistas or scenic viewpoints in the area, it is concluded that there would be a *less than significant* impact to scenic vistas.

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

Less Than Significant Impact. Scenic resources are defined as those landscape patterns and features that are visually or aesthetically pleasing and contribute to the definition of a distinct community or region. Scenic areas, open spaces, rural landscapes, vistas, country roads, and other factors interact to produce a net visual benefit upon individuals or communities. Those visual resources that uniquely contribute to that public benefit are scenic resources under CEQA. The proposed project would not remove scenic resources such as buildings (historic or otherwise), rock outcroppings, or trees. There are no officially designated State Scenic Highways near the project site.[3] The nearest Eligible State Scenic Highway is State Route 70, approximately 24 miles east of the project site.[4] There are no designated historic structures or landmarks on or near the project site. As a result of these conditions, combined with the fact that the proposed project would be restricted to the expansion of an existing high school currently located on a portion of the site, it can be concluded that there would be a *less-than-significant* impact related to scenic resources.

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

Less Than Significant Impact. The proposed project would be in a nonurbanized area. As noted in Chapter 3, Project Description, the project site is in a predominantly agricultural community, with active farmland to the north, west and east and a small residential community with an elementary school to the south.

The project would transform a portion of a single parcel from active farmland to high school uses. This would change the character of the majority of the site to viewers on State Route 45 to the west and State Route 32/West 6th Street to the south. However, this change in character would not represent a degradation of character. The proposed layout, scale and building heights of the expanded school would be consistent with both existing Hamilton High School on the project site, Ella Barkley High School located immediately southeast of the site, and residential Hamilton City with Hamilton Elementary/Middle School to the south. As noted under Criterion a, above, proposed buildings and circulation improvements associated with the project would be located along the western boundary of the site along State Route 45, consistent with the existing school layout. Recreational fields and turfed areas would assume the remaining majority of the site, maintaining the existing low-profile of current conditions.

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3 California Department of Transportation, State Scenic Highway web page, "List of eligible and officially designated State Scenic Highways (XLSX)", https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed August 1, 2019.

4 ArcGIS website, California Scenic Highway mapping tool, https://www.arcgis.com/home/item.html?id=f0259b1ad0fe4093a5604c9b838a486a. Accessed August 1, 2019.

3. Environmental Analysis

The proposed project would not degrade the quality of public views or character of the site. The expanded high school would be consistent with what is currently a rural residential high school in a farming community, immediately surrounded by additional farmland, other public schools and a local neighborhood. The impact would be *less than significant*.

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

Less Than Significant Impact. The project would introduce new light sources to the portion of the site that is currently unlit active farmland. However, the character of land uses surrounding the project site and light-reducing technologies integrated into the project would reduce the potential of those light sources to adversely impact day or nighttime views.

Non-sports field related exterior lighting would be limited to safety and comfort levels only, with cut-off fixtures and hoods that limit direct light to areas within the site. As noted in Chapter 3, Project Description, the proposed soccer field and existing football field would be fitted with nighttime lighting systems, specifically 40-inch MUSCO 12 Lamp LED *Total Light Control System*.[5] Per the proposed school program, sports games and events would occur year-round until 10:00 PM.

Areas to the north, west and east of the project site are restricted to active farmland. These areas do have permanent dwellings or habitants prone to daytime or evening view disruptions. State Route 32/West 6th Street and the residential area to the south of the site is approximately 1,120 feet from the northern boundary of existing Hamilton High School, 1,450 feet from the proposed soccer field and about 610 feet from the existing football field. State Route 45 to the west would border the news school buildings and would be about 1,150 feet from the proposed lighting systems.

These distances would significantly reduce the potential for proposed lighting to disrupt views. Moreover, the design of proposed lighting system would be customized to direct uniform light directly onto fields. This would eliminate light and glare spillover and preserve darkness directly surrounding fields. This, combined with the distance of recreational facilities to sensitive viewsheds, would reduce nighttime view impacts associated with sports field lighting.

Finally, the exteriors of all school buildings would be surfaced with non-reflective paints or materials. All wall-mounted and pedestal exterior luminaires would conform to backlight, uplight and glare (BUG) ratings as outlined in IESNA TM-15-11, in order to reduce glare, light trespass, and skyglow.

As a result of these conditions, the propose project would have a *less-than-significant* impact with respect to light and glare.

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[5] MUSCO Lighting, Total Light Control webpage, http://www.musco.com/project-showcase/tlcled/, accessed August 3, 2019.

II. AGRICULTURE AND FORESTRY RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant	No Impact
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?	☐	☐	☑	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☑	☐
c) Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code Section 12220(g)),timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☑
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☑
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☑	☐

Discussion

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

Less than Significant Impact. As noted in Chapter 3, Project Description, and illustrated in Figure 1-2, Hamilton Unified School District would acquire a single, 48-acre parcel (APN 032-230-015) adjacent to the existing high school as part of Phase I of the proposed project. This parcel is currently used for irrigated (drip) agricultural production. Per Phase II of the proposed project, the District would expand the footprint of Hamilton High School into that parcel over the following 10 to 12 years. Therefore, the project would convert the current agricultural use of the property to that of a public high school.

3. Environmental Analysis

Per the California Resources Agency Farmland Mapping and Monitoring Program, the parcel to be acquired is categorized as Prime Farmland.[6] As such, the project would ultimately result in the conversion of 48-acres of Prime Farmland.

According to Section 6.3 of the 1993 Glenn County General Plan, "Conversion of agricultural or grazing lands should occur only after careful consideration and deliberation, recognizing, however, that in order to realistically provide for the necessary diversity and growth required in the local economy, some lands presently committed to agriculture may be may consumed by other development activities."[7] Consistent with this statement, the following discussion is an assessment of existing Prime Farmland in Glenn County against the acreage proposed for conversion, combined with the local significance of the resulting public educational resource.

As shown in Table 3.1, below, Glenn County contained about 151,000 acres of Prime Farmland as of 2016.

Table 3-1 Prime Farmland in Glenn County

Farmland Category	Acreage
Land Conservation (Williamson) Act	63,518
Farmland Security Zone	
Urban	14,112
Non-Urban	73,541
TOTAL	**151,171**

Source: California Department of Conservation, The California Land Conservation Act of 1965 2016 Status Report, December 2016

Given the total acreage, the 48 acres of Prime Farmland that would be converted as part of the project represents about 0.03 percent of available prime farmland resources in Glenn County.

The proposed project would improve a vital educational resource in Hamilton City, in the form of Hamilton Unified School District's only high school. As documented in a February 2019 demographic study commissioned by the District,[8] enrollment across the entire District is projected to increase over 15 percent in the next six (6) years, from 713 to 823 students in the 2024/25 school year. The rate of increase at Hamilton High School is projected at 12 percent in the same time period, with enrollment growing from 298 to 335 students. According to the study, enrollment projections are driven largely by 250 housing units[9] planned within District boundaries. A yield rate of 0.68 students per unit[10] was used to calculate future students in the District.

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[6] California Department of Conservation, California Important Farmland Finder webpage, https://maps.conservation.ca.gov/DLRP/CIFF/, accessed August 3, 2019.

[7] Glenn County, 1993 Glenn County General Plan, page 6.5.

[8] SchoolWorks, Inc., Hamilton Unified School District Demographic Study 2018/19, February 2019.

[9] SchoolWorks, Inc., Hamilton Unified School District Demographic Study 2018/19, February 2019.

[10] Lower than the State of California yield rate of 0.70.

Classroom space at Hamilton High School is currently limited to three buildings that also accommodate other uses. Proposed new classrooms would improve the educational experience and accommodate future students. Proposed circulation and parking improvements have been designed to improve student safety and emergency access. The school is currently without a dedicated gymnasium, and sports fields overlap and are in states of disrepair. New facilities and classrooms proposed as part of the project would improve the quality of learning, diversity of facilities, student safety and physical conditions of the City's only high school.

Given the availability of existing Prime Farmland and the importance of an appropriately sized educational facility to the local quality of life of a small community and economy, the proposed project is consistent with Section 6.3 of the County General Plan. Although the project would result in the conversion of 48 acres of Prime Farmland to public school use, the benefits of the project to Hamilton City would outweigh the potential adverse effects on local agricultural production. The project would result in a *less-than-significant* impact as related to farmland conversion.

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

Less Than Significant Impact. As explained in Chapter 3, Project Description, the agricultural parcel to be acquired and converted to a public school is zoned AP-80, Agricultural Preserve Zone, Intensive Agriculture. The AP zone applies to lands "…covered by a California Land Conservation Act (Williamson Act) contract."[11] As such, the proposed school expansion project would be inconsistent with existing zoning and result in the loss of lands under Williamson Act contract.

The Williamson Act was designed to protect farmers from the economic pressures of encroaching development. Per the Act, a landowner may enter into a 10-year contract with the city or county restricting the property to agricultural uses; in exchange the landowner is taxed on the agricultural value of the land, rather than the fair market value. One additional year is automatically added every year unless one of the parties gives notice the contract will not be renewed.

Williamson Act contracts may be cancelled at any time. Per California Government Code Section 51282 (b), contracts may be cancelled if:[12]

1. That cancellation is in the public interest. This requires the finding that (1) other public concerns substantially outweigh the objectives of the Williamson Act and (2) there is no proximate noncontracted land that is available and suitable for the proposed use, or development of the contracted land would provide more contiguous patters of urban development.

2. That cancellation is not likely to result in the removal of adjacent lands from agricultural use;

[11] Glenn County Code, Title 15, Unified Development Code, Chapter 15.370.

[12] California Legislative Information website, California Government Code, https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=GOV&division=1.&title=5.&part=1.&chapter=7.&article=5, accessed August 8, 2019.

3. That cancellation is for an alternative use which is consistent with the applicable provisions of the city or county general plan.

An assessment of these conditions shows that the contract cancellation for the acreage in question would not conflict with Williamson Act policy, and such, existing zoning.

Public Interest

As noted under Criterion a, above, Hamilton High School is facing enrollment projections equal to a 12 percent increase. The proposed expansion is necessary to ensure the quality of the only public high school in Hamilton City. For the reasons established under Criterion a, this concern outweighs the need for 48 acres of Williamson Act-contracted land in a County with, as shown in Table 3.1, 63,518 acres under Williamson Contract. The phased expansion and improvement of the city's only public high school is core to public interest. The project would be a school expansion over 10-12 years and would not result in a new land use to Hamilton City and, as such, would not increase economic or development pressure on existing local farmland.

Moreover, a high school campus cannot be fragmented by rights-of-way or infrastructure. There is no more proximate noncontracted land that is more suitable or that would provide a more contiguous pattern of development as the parcel in question. As shown in Figure 1-2 the property onto which the school would expand is immediately adjacent to the existing high school, to the north and east. The result would be a fully contained high school that is not intersected by the bordering Glenn-Colusa Irrigation District Main Canal to the west, West 6th Street to the south, or the Southern Pacific Railroad tracks further east. Any location of the project beyond these infrastructure boundaries would result in an unsafe, inefficient school campus. The cancellation of the Williamson Act contract in question represents the most ideal location and would not result in a discontinuous or checkered pattern of development.

Removal of Adjacent Lands

The Williamson Act cancellation associated with the proposed project would not result in the removal of adjacent lands from agricultural use. The expansion of Hamilton High School would not introduce new land uses to the community that could influence the local economy or place new development pressure on adjacent land. It is characterized by an extended time horizon that limits its influence beyond the project site to 10-12 years. Moreover, as noted above, the footprint of the project site is restricted by existing infrastructure that physically separates it from surrounding property on three sides. Given the requirement that a high school campus be contiguous and contained, future expansion of the school beyond the boundaries of the proposed project is limited.

Consistency with General Plan

The Glenn County General Plan prioritizes the preservation of agricultural land through such policies as the AP-80, Agricultural Preserve Zone. As noted under Criteria a, however, it also recognizes that some local diversity and growth require the conversion of agriculture lands to other activities. In addition, the General Plan recognizes that the County must coordinate development with public service providers such as the school district, and that "the availability of adequate public services is critical to the County's economic development."[13] An improved, expanded Hamilton High School is consistent with the goal of coordinating public services toward the public interest, per the County General Plan.

Given the interest of the proposed project to the public, the fact that it would not influence Williamson Act cancellations on adjacent properties and its consistency with provisions of the general plan, the impact of the project would be *less than significant*.

Criterion c. Would the project conflict with existing zoning for, or cause rezoning of, forestland (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 would not conflict with existing zoning for, or cause rezoning of, forestland, timberland, or timberland zoned Timberland Production. The project site consists of a developed school campus and active farmland. There is no timberland, forestland or timberland-related zoning. There would be *no impact*.

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

No Impact. There would be no loss of forest land or conversion of forest land to non-forest use. The project site consists of a developed school campus and active farmland. There is no timberland, forestland or timberland-related zoning. There would be *no impact*.

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

Less Than Significant Impact. The proposed project would not 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 land. While the project site is surrounded by farmland, the proposed project would be limited to physical changes to the existing school footprint and the additional agricultural land discussed under thresholds a through d, above. There would be a *less-than-significant* impact.

[13] Glenn County, 1993 Glenn County General Plan, page 5-130.

3. Environmental Analysis

III. AIR QUALITY

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant	No Impact
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?	☐	☐	☑	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☑	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☑	☐
d) Result in other emissions (such as those leading to odors)adversely affecting a substantial number of people?	☐	☐	☑	☐

This section analyzes the types and quantities of air pollutant emissions that would be generated by construction and operation of the proposed project. 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 is included in Appendix A, Air Quality and Greenhouse Gas Emissions, of this IS/MND.

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 whether the AAQS have been achieved. The project site is in the Northern Sacramento Valley Air Basin (NSVAB or Air Basin) and is within the jurisdiction of the Glenn County Air Pollution Control District (GCAPCD), which is designated nonattainment for PM_{10} under the California AAQS. Air quality in this area is determined by such natural factors as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions. Federal, State, and local air districts have adopted laws and regulations intended to control and improve air quality. Air pollutants of concern are criteria air pollutants and toxic air contaminants (TACs).

The following analyses have been prepared in accordance with Shasta County Air Quality Management District's (Shasta County AQMD) CEQA "Protocol for Review" and "Environmental Review Guidelines" as the GCAPCD has not yet developed CEQA guidelines and significance thresholds of their own. Emission modeling used the latest version of the California Estimator Emissions Model (CalEEMod).

The Shasta County AQMD has identified regional thresholds of significance for criteria pollutant emissions and criteria air pollutant precursors, including VOC, NO_x, and PM_{10}. Development projects below the regional significance thresholds are not expected to generate sufficient criteria pollutant emissions to violate any air quality standard or contribute substantially to an existing or projected air quality violation. Where available, the significance criteria established by the Shasta County AQMD may be relied upon to make the following determinations

Discussion

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

Less Than Significant Impact. Along with other Air Pollution Control Districts and Air Quality Management Districts in the northern Sacramento Valley, GCAPCD is a part of the Northern Sacramento Valley Planning Area (NSVPA). The adopted NSVPA 2018 Air Quality Attainment Plan (AQAP) is the latest air quality planning document for Glenn County. Regional growth projections are derived from reports from the California Department of Finance, Demographic Research Unit. The NSVPA 2018 Air Quality Attainment Plan forecasts emissions for ROGs and NO_X for the entire NSVPA region through 2025. Typically, only large, regionally significant projects have the potential to affect the regional growth projections. In addition, the consistency analysis is generally only required in connection with the adoption of General Plans, specific plans, and significant projects.

The proposed project is anticipated to involve the acquisition of the lot adjacent to the existing school. Furthermore, site preparation, grading, and utility trenching activities are anticipated to occur on the 48-acre project site. The proposed project would also involve construction of new school buildings, architectural coating, paving of asphalt and concrete surfaces, and landscaping onsite. In addition, the AQAP also forecasts population growth through 2025. While the proposed project has a buildout year of 2032, it would be consistent with the AQAP as an increase in student capacity for a school would not directly contribute to population growth in an area. Rather, the increase in capacity would be in response to population growth in the area and would address the projected growth in the local population. Therefore, the project would not have the potential to substantially affect NSVPA population growth projections. Furthermore, as the existing campus facilities would be upgraded to include new facilities to serve the increase in student capacity, the project is not considered a project of statewide, regional, or areawide significance that would require intergovernmental review under Section 15206 of the CEQA Guidelines. Additionally, as demonstrated below in Section 4.3, Criterion B, the regional emissions that would be generated by operation of the proposed project would be less than the Shasta County AQMD emissions thresholds and would not be considered by GCAPCD to be a substantial source of air pollutant emissions that would have the potential to affect the attainment designations in the NSVAB. Therefore, the proposed project would not affect the regional emissions inventory or conflict with strategies in the AQAP. Impacts would be *less than significant*.

3. Environmental Analysis

Criterion b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less than Significant Impact with Mitigation. This section analyzes potential impacts related to air quality that could occur from a combination of the proposed project with other past, present, and reasonably foreseeable projects within the NSVAB. The project site is within NSVAB, under the jurisdiction of the GCAPCD, which is currently designated a nonattainment area for California PM_{10} AAQS. Any project that produces a significant project-level regional air quality impact in an area that is in nonattainment adds to the cumulative impact. As the GCAPCD has not yet developed significance thresholds for criteria pollutant emissions and criteria air pollutant precursors, thresholds developed by Shasta County AQMD were used instead. The Shasta County AQMD has identified thresholds of significance for criteria pollutant emissions and criteria air pollutant precursors, including ROG, NO_x, and PM_{10}.

Due to the extent of the area potentially impacted from cumulative project emissions (the NSVAB), a project is cumulatively significant when project-related emissions exceed the Shasta County AQMD emissions thresholds. Development projects below the significance thresholds are not expected to generate sufficient criteria pollutant emissions to violate any air quality standard or contribute substantially to an existing or projected air quality violation. The following describes changes in regional impacts from short-term construction activities and long-term operation of the proposed project.

Construction Impacts

The proposed project would result in the expansion of Hamilton High School that would take approximately 27 months for Phase 1 and 27 months for Phase 2. Construction of the proposed project would generate criteria air pollutants associated with construction equipment exhaust and fugitive dust from site preparation, grading and trenching, building construction, architectural coating, and pavement of asphalt and non-asphalt surfaces, and finishing and landscaping of the site. The proposed project construction-related emissions shown in Table 3-2 are quantified using California Emissions Estimator Model, Version 2016.3.2 (CalEEMod), and are based on the CalEEMod default construction equipment and schedule, which was normalized to fit the construction duration provided by the District. As shown in the table, air pollutant emissions from construction-related activities would be less than their respective Shasta County AQMD significance threshold values, except for Phase 1 rough grading, fine grading, and architectural coating activities and Phase 2 building construction and architectural coating activities. The activities would result in construction emissions that exceed the Level A significance threshold for VOC and NO_X.

Table 3-2 Construction-Related Criteria Air Pollutant Emissions Estimates

	Criteria Air Pollutants (pounds per day)[a]					
Construction Activity	ROG	NO_x	CO	SO_2	Total PM_{10}	Total $PM_{2.5}$
Phase 1						
Rough Grading	3	28	27	<1	10	5
Utility Trenching	<1	1	3	<1	<1	<1
Fine Grading	3	28	27	<1	10	5
Building Construction 2025	3	20	26	<1	4	1
Building Construction 2026	3	20	25	<1	4	1
Building Construction 2027	3	20	24	<1	4	1
Building Construction 2027 and Woodshop Modernization	3	20	24	<1	4	1
Paving	1	9	15	<1	1	<1
Architectural Coating	33	1	3	<1	1	<1
Finishing and Landscaping	<1	1	3	<1	<1	<1
Phase 2						
Site Preparation	3	14	17	<1	19	10
Fine Grading	3	14	24	<1	9	4
Utility Trenching	<1	1	3	<1	<1	<1
Building Construction 2030	4	26	34	<1	9	3
Building Construction 2031	4	26	33	<1	9	3
Building Construction 2032	3	25	32	<1	9	3
Paving	1	7	16	<1	1	<1
Architectural Coating	56	1	4	<1	2	<1
Finishing and Landscaping	<1	1	4	<1	<1	<1
Max Daily Emissions	**56**	**28**	**34**	**<1**	**19**	**10**
Shasta County AQMD Level A Thresholds	25	25	NA	NA	80	NA
Exceeds Threshold?	**Yes**	**Yes**	**NA**	**NA**	**No**	**NA**
Shasta County AQMD Level B Thresholds	137	137	NA	NA	137	NA
Exceeds Threshold?	**No**	**No**	**NA**	**NA**	**No**	**NA**

Source: California Emissions Estimator Model (CalEEMod), Version 2016.3.25

Notes:Reactive Organic Gases = ROG; Nitrogen Oxides = NO_x; Coarse Inhalable Particulate Matter = PM_{10}; Fine Inhalable Particulate Matter = $PM_{2.5}$
[a] Construction phasing and equipment mix are 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 South Coast Air Quality Management District of construction equipment and phasing for comparable projects.

3. Environmental Analysis

However, per the Shasta County AQMD guidelines, exceedance of the Level A significance thresholds would require implementation of mitigation. Implementation of Mitigation Measure AQ-1, which requires use of grading construction equipment during Phase 1 that meets the EPA's Tier 4 (Interim) emissions standards for school construction activities; Mitigation Measure AQ-2, which requires use of building construction equipment during Phase 2 that meets the EPA's Tier 4 (Final) emissions standards for school construction activities; and Mitigation Measure AQ-3, which requires use of paints with a maximum VOC-content of 25 g/L for the interior coating of proposed school buildings, would limit construction-related emissions. As shown in Table 3-3, with the implementation of Mitigation Measures AQ-1, AQ-2, and AQ-3, construction-related NO_x and VOC emissions would be reduced to below their respective Level A and Level B significance thresholds. project and cumulative construction-related air quality impacts under Impact AQ-1 would be reduced to *less than significant with mitigation*.

Impact AQ-1. Construction activities associated with the proposed project would result in pollutant emissions that exceed Shasta County AQMD significance threshold values.

Mitigation Measure AQ-1. Hamilton Unified School District shall make the following specifications in the formal project construction bid:

- The Hamilton Unified School District (District) shall specify in the construction bid that the construction contractor(s) shall, at minimum, use equipment that meets the EPA's Tier 4 interim emissions standards for off-road diesel-powered construction equipment with more than 50 horsepower for all grading activities during Phase 1, unless it can be demonstrated to District that such equipment is not available. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by Tier 4 interim emissions standards for a similarly sized engine, as defined by the California Air Resources Board's regulations.

  Prior to construction, the project engineer shall ensure that all building demolition plans clearly show the requirement for EPA Tier 4 interim emissions standards for construction equipment over 50 horsepower for the specific activities stated above. During construction, the construction contractor shall maintain a list of all operating equipment associated with building demolition in use on the site for verification by the District. The construction equipment list shall state the makes, models, and numbers of construction equipment onsite. Equipment shall be properly serviced and maintained in accordance with the manufacturer's recommendations. Construction contractors shall also ensure that all nonessential idling of construction equipment is restricted to 5 minutes or less in compliance with Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9.

- The Hamilton Unified School District (District) shall specify in the construction bid that the construction contractor(s) shall, at minimum, use equipment that meets the EPA's Tier 4 Final emissions standards for off-road diesel-powered construction equipment with more than 50 horsepower for all building construction activities during Phase 2, unless it can be demonstrated to District that such equipment is not available. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by Tier

4 Final emissions standards for a similarly sized engine, as defined by the California Air Resources Board's regulations.

Prior to construction, the project engineer shall ensure that all building demolition plans clearly show the requirement for EPA Tier 4 Final emissions standards for construction equipment over 50 horsepower for the specific activities stated above. During construction, the construction contractor shall maintain a list of all operating equipment associated with building demolition in use on the site for verification by the District. The construction equipment list shall state the makes, models, and numbers of construction equipment onsite. Equipment shall be properly serviced and maintained in accordance with the manufacturer's recommendations. Construction contractors shall also ensure that all nonessential idling of construction equipment is restricted to 5 minutes or less in compliance with Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9.

- The Hamilton Unified School District (District) shall specify in the construction bid that the construction contractor(s) shall only use interior paints with a maximum VOC (volatile organic compound) content of 25 grams per liter (g/L) for architectural coating to reduce VOC emissions. All building and site plans shall note use of paints with a maximum VOC content of 25 g/L for interior coatings. Prior to construction, the construction contractor(s) shall ensure that all construction plans submitted to the District's Director of Facilities and Maintenance, or designee, clearly show the requirement for use on interior paint with a maximum VOC content of 25 g/L for the specified buildings, herein.

3. Environmental Analysis

Table 3-3 Mitigated Construction-Related Criteria Air Pollutant Emissions Estimates

	Criteria Air Pollutants (pounds per day)[a]					
Construction Activity	ROG	NO_x	CO	SO_2	Total PM_{10}	Total $PM_{2.5}$
Phase 1						
Rough Grading	1	19	37	<1	9	4
Utility Trenching	<1	1	3	<1	<1	<1
Fine Grading	<1	19	37	<1	9	4
Building Construction 2025	3	20	26	<1	4	1
Building Construction 2026	3	20	25	<1	4	1
Building Construction 2027	3	20	25	<1	4	1
Building Construction 2027 and Woodshop Modernization	3	20	24	<1	4	1
Paving	1	9	15	<1	1	<1
Architectural Coating	12	1	3	<1	1	<1
Finishing and Landscaping	<1	1	3	<1	<1	<1
Phase 2						
Site Preparation	3	14	17	<1	19	10
Fine Grading	3	14	24	<1	9	4
Utility Trenching	<1	1	4	<1	<1	<1
Building Construction 2030	3	20	36	<1	9	2
Building Construction 2031	3	20	36	<1	9	2
Building Construction 2032	3	20	36	<1	9	2
Paving	1	7	16	<1	1	<1
Architectural Coating	18	1	4	<1	2	<1
Finishing and Landscaping	<1	1	4	<1	<1	<1
Max Daily Emissions	**18**	**20**	**37**	**<1**	**19**	**10**
Shasta County AQMD Level A Thresholds	25	25	NA	NA	80	NA
Exceeds Threshold?	**Yes**	**Yes**	**NA**	**NA**	**No**	**NA**
Shasta County AQMD Level B Thresholds	137	137	NA	NA	137	NA
Exceeds Threshold?	**No**	**No**	**NA**	**NA**	**No**	**NA**

Source: California Emissions Estimator Model (CalEEMod), Version 2016.3.25

Notes: Reactive Organic Gases = ROG; Nitrogen Oxides = NO_x; Coarse Inhalable Particulate Matter = PM_{10}; Fine Inhalable Particulate Matter = $PM_{2.5}$
[a] Construction phasing and equipment mix are 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 South Coast Air Quality Management District of construction equipment and phasing for comparable projects. Includes incorporation of Mitigation Measures AQ-1, AQ-2, and AQ-3.

Significance after Mitigation. Less than Significant.

Operational Impacts

Typical long-term air pollutant emissions are generated by area sources (e.g., landscape fuel use, aerosols, architectural coatings, and asphalt pavement), energy use (natural gas), and mobile sources (i.e., on-road vehicles). The proposed project would result in additional school buildings as well as paved and landscaped surfaces. The proposed buildings would, at minimum, be designed and built to meet the LEED Gold certification, which would increase building energy efficiency by 35 percent over the 2019 Building Energy Efficiency Standards. As shown in Table 3-4, it is anticipated that operation of the proposed project would result in overall minimal emissions and would not exceed the Shasta County AQMD significance thresholds. Therefore, impacts to the regional air quality associated with operation of the project would be *less than significant*.

Table 3-4 Operational Criteria Air Pollutant Emissions Estimates

	Criteria Air Pollutants (pounds per day)					
Category	ROG	NO_x	CO	SO_2	Total PM_{10}	Total $PM_{2.5}$
Proposed Operations (Summer)						
Area	4	<1	<1	<1	<1	<1
Energy	<1	<1	<1	<1	<1	<1
On-Road Mobile	1	1	8	<1	4	1
TOTAL	**5**	**1**	**8**	**<1**	**4**	**1**
Proposed Operations (Winter)						
Area	4	<1	<1	<1	<1	<1
Energy	<1	<1	<1	<1	<1	<1
On-Road Mobile	<1	1	7	<1	4	1
TOTAL	**4**	**1**	**7**	**<1**	**4**	**1**
Max Daily Emissions						
Area	4	<1	<1	<1	<1	<1
Energy	<1	<1	<1	<1	<1	<1
On-Road Mobile	1	1	8	<1	4	1
Total	5	1	8	<1	4	1
Shasta County AQMD Level A Thresholds	25	25	NA	NA	80	NA
Exceeds Threshold?	**Yes**	**Yes**	**NA**	**NA**	**No**	**NA**
Shasta County AQMD Level B Thresholds	137	137	NA	NA	137	NA
Exceeds Threshold?	**No**	**No**	**NA**	**NA**	**No**	**NA**

Notes: Reactive Organic Gases = ROG; Nitrogen Oxides = NO_x; Coarse Inhalable Particulate Matter = PM_{10}; Fine Inhalable Particulate Matter = $PM_{2.5}$

Source: California Emissions Estimator Model (CalEEMod), Version 2016.3.25.

Criterion c. Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. Development of the proposed project could expose sensitive receptors to elevated pollutant concentrations. Unlike the construction emissions shown above in Table 3-3, under Criterion (b), described in pounds per day (PPD), localized concentrations refer to an amount of pollutant in a volume of air (ppm or $\mu g/m^3$) and can be correlated to potential health effects.

Construction Off-Site Community Risk and Hazards

The GCAPCD 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 Hazard Assessment (OEHHA) adopted new guidance for the preparation of health risk assessments in March 2015.[14] It has also 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. The GCAPCD currently does not require the evaluation of long-term excess cancer risk or chronic health impacts for a short-term project. The proposed project would be developed in two phases, each lasting approximately 27 months. The relatively short duration when compared to a 30-year time frame would limit exposures to on-site and off-site receptors. In addition, exhaust emissions from off-road vehicles associated with overall project-related construction activities would not exceed the significance thresholds with mitigation. For these reasons, it is anticipated that construction emissions would not pose a threat to off-site receptors near the proposed project, and project-related construction health impacts would be *less than significant*.

Operation On-Site Community Risk and Hazards

Types of land uses that typically generate substantial quantities of criteria air pollutants and TACs include industrial (stationary sources), manufacturing, and warehousing (truck idling) land uses. These types of major air pollutant emissions sources are not included as part of the proposed school expansion project. The proposed project would not include stationary sources that emit TACs and would not generate a significant amount of heavy-duty truck trips (a source of diesel particulate matter [DPM]). Therefore, the proposed project would not expose sensitive receptors to substantial concentrations of air pollutant emissions during operation, and impacts would be *less than significant*.

Carbon Monoxide (CO) Hotspot Analysis

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

[14] Office of Environmental Health Hazard Assessment (OEHHA). 2015, February. Air Toxics Hot Spots Program Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments. http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf.

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 NSVAB 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.[15] While the proposed project would result in an increase in student capacity by 250 students, the anticipated 87 new AM peak hour vehicle trips generated would be minimal compared to the aforementioned screening levels. Thus, implementation of the proposed project would not produce the volume of traffic required to generate a CO hotspot and would not have the potential to substantially increase CO hotspots at intersections near the project site. Impacts would be *less than significant*.

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

Less than Significant Impact. Odors are also regulated under Section 78 of the GCAPCD Regulations, Public Nuisance, which states that "no person shall 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 the public; or which endangers the comfort, repose, health or safety of any such persons or the public, or which causes, or has a natural tendency to cause, injury or damage to business or property."[16] 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 proposed project does not fall within the aforementioned land uses and therefore, no operational odors are anticipated.

During the development of the proposed project, emissions from construction equipment, such as diesel exhaust, may generate odors. However, these odors would be low in concentration, temporary, disperse rapidly, and are not expected to affect a substantial number of people. Any odors produced during the installation phase are not expected to be significant or highly objectionable and would be in compliance with Section 78 of the GCAPCD Regulations. Therefore, overall, project-related odor impacts would be *less than significant*.

[15] Bay Area Air Quality Management District (BAAQMD). 2017, May. California Environmental Quality Act Air Quality Guidelines.

[16] Glenn County Air Pollution Control District (GCAPCD). 2010, October (amended). Regulations of the Air Pollution control District of Glenn County. https://www.countyofglenn.net/sites/default/files/Agriculture/AP%20Regs%20Book%201%202010update.pdf

IV. BIOLOGICAL RESOURCES

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

Discussion

Information regarding biological and wetland resources for the project site is based on the review of available information, including project designs and the occurrence records of the California Natural Diversity Data Base (CNDDB) of the California Department of Fish and Wildlife (CDFW). A field reconnaissance survey was conducted by the Initial Study biologist on November 4, 2019, to inspect existing conditions and assess the potential impacts of the proposed project.

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

Less than Significant Impact with Mitigation Incorporated. Special-status species are plants and animals that are legally protected under the State of California and/or federal Endangered Species Acts[17] or other regulations, as well as other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat. Species with legal protection under the Endangered Species Acts often represent major constraints to development, particularly when the species are wide-ranging or highly sensitive to habitat disturbance and where proposed development would result in a "take"[18] of these species.

Figure 3-1 shows the known occurrences of special-status plant and special-status animal species in the Hamilton City vicinity as mapped by the CNDDB. A general occurrence of Swainson's hawk (*Buteo swainsoni*) occurs to the west of the site, and numerous occurrences occur along the Sacramento River corridor to the east. This general occurrence of Swainson's hawk is from an observation made in 1979 of a single bird observed in a field about 0.9 miles west of Highway 45, but no nests were observed. The other Swainson's hawk occurrence shown in Figure 3-1 is about three quarters of a mile to the northeast of the site is from a record in 1990 of a nest observed in the dense riparian woodland along the Sacramento River corridor. No specific occurrences of any special-status species have been reported from the CNDDB within a half mile of the project site.

Due to the extent of past and on-going disturbance and lack of essential habitat features, no special-status plant or animal species are suspected to occur on the site. These include several species known from this part of the Central Valley, such as Swainson's hawk, tricolored blackbird (*Agelaius tricolor*), burrowing owl (*Athene cunicularia*), and Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*). Information on these four species and determination that the site does not provide suitable habitat is summarized below.

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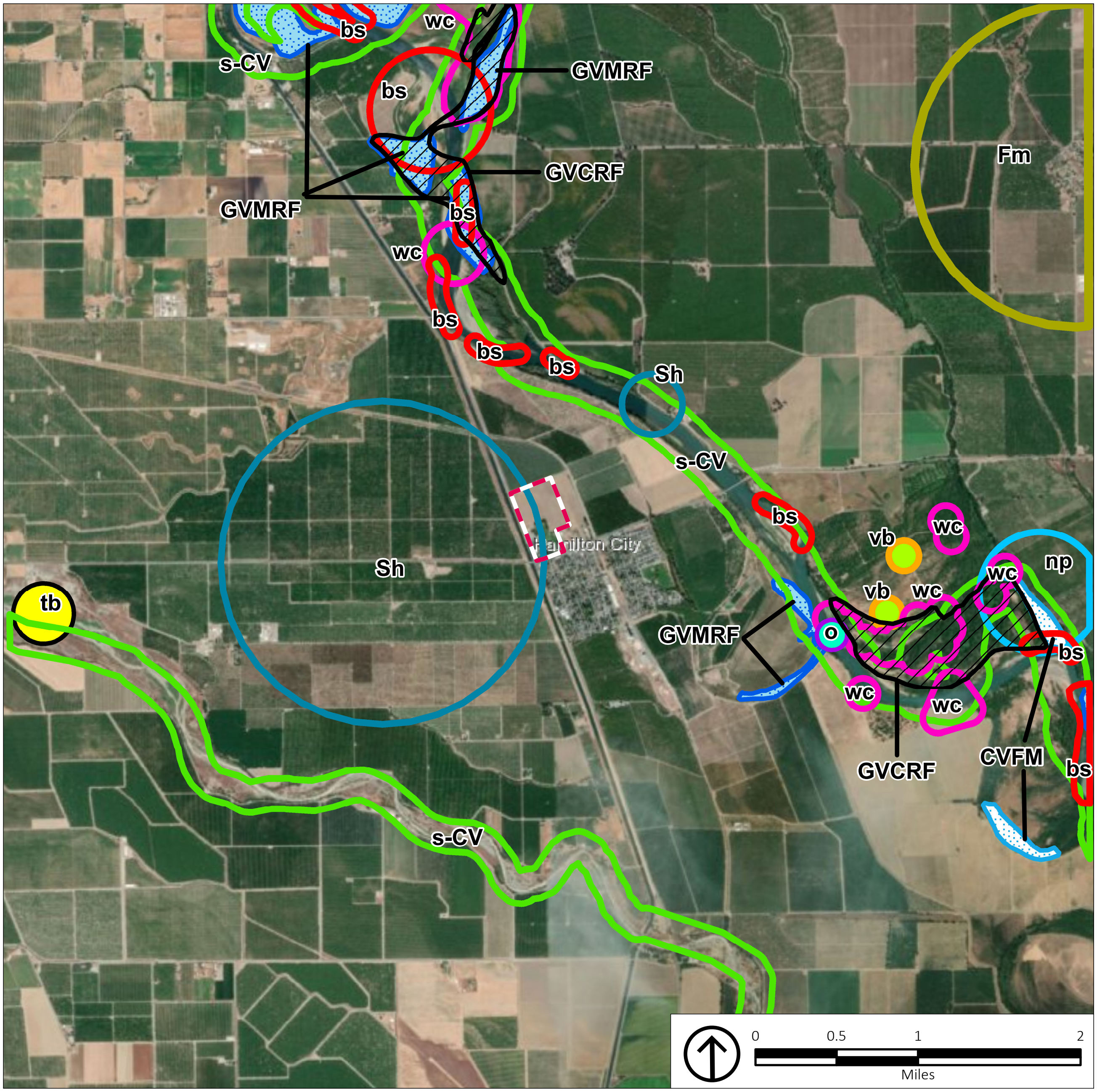
17 The federal Endangered Species Act (FESA) of 1973 declares that all federal departments and agencies shall utilize their authority to conserve endangered and threatened plant and animal species. The California Endangered Species Act (CESA) of 1984 parallels the policies of the FESA and pertains to native California species.

18 "Take" as defined by the FESA means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect" a threatened or endangered species. "Harm" is further defined by the United States Fish and Wildlife Service (USFWS) to include the killing or harming of wildlife due to significant obstruction of essential behavior patterns (i.e., breeding, feeding, or sheltering) through significant habitat modification or degradation. The California Department of Fish and Wildlife (CDFW) also considers the loss of listed species habitat as take, although this policy lacks statutory authority and case law support under the CESA.



Source: ESRI, 2019; California Department of Fish and Wildlife, 2019; County of Glenn, 2019; PlaceWorks, 2019.

Project Boundary

Special Status Animals

bs - bank swallow

Np - North American porcupine

o - osprey

Sh - Swainson's hawk

s-CV - steelhead - Central Valley DPS

tb - tricolored blackbird

vb - valley elderberry longhorn beetle

wc- western yellow-billed cuckoo

Special Status Plant

Fm - Ferris' milk-vetch

Special Status Habitats

CVFM - Coastal and Valley Freshwater Marsh

GVCRF - Great Valley Cottonwood Riparian Forest

GVMRF - Great Valley Mixed Riparian Forest

Figure 3-1
Special Status Species

- Swainson's hawk is a state-listed threatened species. It nests in trees and forages in grasslands and suitable agricultural fields where prey is available. The preferred breeding habitat of this raptor consists of large trees along riparian corridors or in open grasslands and agricultural fields, proximate to foraging habitat. Foraging habitats in the Central Valley include alfalfa, disked and fallow fields, and dryland pasture. The closest known nest occurrence for Swainson's hawk is from riparian woodlands along the Sacramento River, about three quarters of a mile to the northeast of the site and separated by walnut orchards and other unsuitable foraging habitat types. No active nests have been reported by the CNDDB in the immediate site vicinity or were detected during field reconnaissance survey. It is highly unlikely that a Swainson's hawk nest would be established on the site or the existing high school campus in the future due to the intensity of human activity and absence of foraging habitat in the immediate vicinity. The site had been tilled and was largely devoid of vegetative cover at the time of the field reconnaissance survey but was planted in irrigated watermelon row crops this past growing season. The adjacent fields to the north are planted in irrigated walnut orchards and the tilled field to the east was planted in watermelons this past growing season. Orchard and irrigated row crops are not considered suitable foraging habitat for Swainson's hawk by CDFW.

- Burrowing owl has no legal protective status under the federal or California Endangered Species Acts but is considered a Species of Special Concern by the CDFW and is protected under the federal Migratory Bird Treaty Act and State Fish and Game code. Burrowing owls favor flat, open grassland or gentle slopes and sparse shrubland ecosystems, typically with sparse or nonexistent tree or shrub canopies. This owl species uses burrows of California ground squirrel for nesting and retreat, and forages in open grasslands and pastureland typical of the site. No individual or signs of burrowing owl were observed during the field reconnaissance survey, and the site is not considered to provide high quality habitat due to the intensity of agricultural activity, absence of vegetative cover, and lack of ground squirrel or other nesting conditions.

- Tricolored blackbird has no federal status but is considered a Species of Special Concern by the CDFW and is a Candidate for State-listing as Endangered. Tricolored blackbirds are found almost exclusively in the Central Valley, and central and southern coastal areas of California. This species typically nests in tall, dense, stands of cattails or tulles, but also nests in blackberry, thickets of wild rose, and tall herbs. Nesting colonies are typically located near standing or flowing freshwater. Tricolored blackbirds form large, often multi-species, flocks during the non-reproductive period and range more widely than during the reproductive season. A colony was reported from 2014 along Stoney Creek about two miles to the west of the site. Suitable nesting habitat for tricolored blackbird is absent from the site, and no nesting colonies have been reported from the immediate vicinity of Hamilton City.

- Valley elderberry longhorn (VELB) is a federally listed threatened species and has a patchy distribution throughout the Central Valley and associated foothills up to an elevation of approximately 3,000 feet from Shasta County to Kern County. VELB is completely dependent on its host plant, elderberry (*Sambucus* spp.), which occurs in riparian and other woodland and scrub communities. Elderberry plants, located within the range of the taxon, with one or more stems measuring 1.0 inch or greater in diameter at ground level, are typically considered to be suitable habitat for VELB by the U.S. Fish and Wildlife Service. Occurrences of VELB have been reported

3. Environmental Analysis

by the CNDDB from locations along the Sacramento River to the east of Hamilton City, but no elderberry shrubs were observed on the site which precludes the potential presence of VELB.

No evidence of any bird nests was observed during the field reconnaissance survey or have been reported from the site by the CNDDB for species monitored by CDFW. As noted above, the likelihood of Swainson's hawk, burrowing owl, and tricolored blackbird establishing nests on the site is considered highly unlikely given the extent of development and intensity of agricultural activities on the site. However, there remains a remote potential that new nests of other bird species protected under the federal Migratory Bird Treaty Act or State Fish and Game code could be established in the future in advance of construction. Tree removal or construction in the immediate vicinity of an active nest could result in the inadvertent destruction or abandonment of an active nest and loss of eggs or young, which would be a significant impact and a violation State Fish and Game Code. Restricting the timing of initial tree removal and grubbing to outside the bird nesting season (from March through August) or conducting pre-construction surveys during the nesting season and implementing appropriate nest buffer measures if a nest is encountered would ensure avoidance of any adverse impacts on nesting birds. The following measure would mitigate the *potentially significant* impacts of the project on special-status species.

Impact BIO-1: Removal of trees and other vegetation during project construction may result in the inadvertent destruction of active nests unless appropriate precautions are followed. (PS)

Mitigation Measure BIO-1. Any active bird nests in the vicinity of proposed vegetation removal and grading shall be avoided until young birds are able to leave the nest (i.e., fledged) and forage on their own. Avoidance may be accomplished either by scheduling grading and vegetation removal during the non-nesting period (September through February), or if this is not feasible, by conducting a pre-construction survey for active nests. A pre-construction survey report verifying that no active nests are present, or that nesting has been completed as detailed below, shall be submitted to the District for review and approval prior to initiation of grading or vegetation removal during the nesting season. Provisions of the pre-construction survey and nest avoidance measures, if necessary, shall include the following:

- If initial grubbing and grading is scheduled during the active nesting period (March through August), a qualified wildlife biologist shall be retained by the applicant to conduct a pre-construction nesting survey no more than 7 days prior to initiation of grading or vegetation removal to provide confirmation on presence or absence of active nests in the vicinity.
- If active nests are encountered, species-specific measures shall be prepared by a qualified biologist through informal consultation with the California Department of Fish and Wildlife (CDFW) and implemented to prevent nest abandonment. At a minimum, vegetation removal and grading in the vicinity of the nest shall be deferred until the young birds have fledged. A nest setback zone of at least 100 feet for raptors and 50 feet for passerine birds shall be established, and all construction-related disturbances shall be prohibited within the nest setback zone. The perimeter of the nest setback zone shall be fenced or adequately demarcated, and construction personnel restricted from the area.

- If permanent avoidance of the nest is not feasible, impacts shall be minimized by prohibiting disturbance within the nest setback zone until a qualified biologist verifies either that a) the birds have not begun egg-laying and incubation, or b) the juveniles from the nest are foraging independently and capable of independent survival at an earlier date.
- A survey report of findings verifying that any young have fledged shall be submitted for review and approval by the District prior to initiation of grading or vegetation removal in the nest setback zone. Following approval by the District, grading, vegetation removal, and construction in the nest setback zone may proceed as proposed.

Significance after Mitigation. Less than Significant.

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

No Impact. Sensitive natural communities are community types recognized by CDFW and other agencies because of their rarity. In the Hamilton City vicinity, sensitive natural community types include riparian woodlands along the Sacramento River. However, sensitive natural community types are absent from the site and vicinity of proposed construction, and no adverse impacts are anticipated. The project would have *no impact* and no mitigation is required.

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

No Impact. Although definitions vary to some degree, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and flood waters, and water recharge, filtration, and purification functions.

The CDFW, U.S. Army Corps of Engineers (Corps), and California Regional Water Quality Control Board (RWQCB) have jurisdiction over modifications to wetlands and other "waters of the United States." Jurisdiction of the Corps is established through provisions of Section 404 of the Clean Water Act, which prohibits the discharge of dredged or fill material without a permit. The RWQCB jurisdiction is established through Section 401 of the Clean Water Act, which requires certification or waiver to control discharges in water quality, and the State Porter-Cologne Act. Jurisdictional authority of the CDFW over wetland areas is established under Sections 1600-1607 of the State Fish and Game Code, which pertain to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream.

A preliminary wetland assessment was conducted during the field reconnaissance, and no indication of jurisdictional waters was observed on the site. Appropriate best management practices would be implemented during construction to prevent erosion and sedimentation that could enter the storm drain system and eventually be discharged downstream into the Sacramento River. Jurisdictional waters are absent from the site and vicinity of proposed construction. The project would have *no impact* and no mitigation is required.

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

Less than Significant. The proposed project would not have any significant adverse impacts on wildlife movement opportunities or adversely affect native wildlife nursery sites. Wildlife in the vicinity of the site are already acclimated to human activity, and construction-related disturbance would not cause any significant impacts on common wildlife species found in the area. Some common species could be eliminated or displaced from the site during construction, but these are not special-status species and their loss or displacement would not be considered a significant impact. Wildlife species commonly associated with agricultural fields and suburban habitat would eventually frequent the site again following construction, using the remaining trees, ornamental landscaping, and even structures for foraging, roosting, and other activities. No substantial disruption of movement corridors or access to native wildlife nursery sites is anticipated. Potential impacts on wildlife movement opportunities would be *less than significant* and no mitigation is required.

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

No Impact. The project would not conflict with the Biological Resources chapter of the 1993 Policy Plan of the Glenn County General Plan. No sensitive biological resources are present on the site. No tree removal is proposed as part of the project and no conflicts with local ordinances protecting biological resources are anticipated as a result of project implementation. There would be *no impact* and no mitigation would be required.

V. CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant	No Impact
CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☐	☐	☑	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☑	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☑	☐

Discussion

The following discussion is based primarily on Cultural Resources Study for the Hamilton Union High School Expansion project Hamilton City, Glenn County, California performed in November 2019. The study is attached to this IS/MND as Appendix B.

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

Less than Significant Impact. The types of cultural resources that meet the definition of historical resources under CEQA generally consist of districts, sites, buildings, structures, and objects that are significant for their traditional, cultural, and/or historical associations.

Generally, a resource is considered by the lead agency to be a "historical resource" if it is: 1) Listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (PRC Section 5024.1, Title 14 CCR, Section 4850 et seq.); 2) included in a local register of historical resources, or is identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the PRC; or 3) is a building or structure determined to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

Cultural resources are protected by federal and State regulations and standards, including but not limited to, the National Historic Preservation Act, the California Public Resources Code, and CEQA. In addition, the California Office of Historic Preservation (OHP) has determined that structures in excess of 45 years of age should be considered potentially important historical resources, and former buildings and structure locations could be potentially important archaeological sites. Typically, if the project site or adjacent properties are found to be eligible for listing on the California Register, the development would be required to conform to the current Secretary of the Interior's Standards for Treatment of Historic Properties with Guidelines for Preserving,

3. Environmental Analysis

Rehabilitating, and Restoring Historic Buildings, which require the preservation of character defining features which convey a building's historical significance, and offers guidance about appropriate and compatible alterations to such structures.

As explained in Chapter 3, the proposed project would include modernization and new facilities on the existing Hamilton High School campus, as well as future expansion onto the adjacent 48-acre agricultural parcel.

Hamilton City is within the Capay Rancho, granted to Josefa Soto in 1844. The grant consisted of 44,388 acres that extended along the west side of the Sacramento River from Thomes Creek and Rancho Saucos on the north to Stony Creek on the south and encompassed Hamilton City and Monroeville (Cowan 1977:23). Hamilton City was founded in 1905 as a result of the construction of James Hamilton's Holly Sugar Beet factory.[19] Hamilton High School was constructed in 1962. As such, it is over 45 years old.

The school site is not listed on the California Register of Historical Resources or identified as significant in any local context statement.[20] In addition it is not associated with any significant events or persons in local or regional history and does not exhibit any architectural elements meeting the minimum requirements for architectural or design recognition. Therefore, potential impacts associated with the existing school site would be *less than significant*, and no mitigation is required.

The cultural resources study completed for the proposed project included archival research of previous studies and a field survey of the agricultural site onto which the school would be expanded as part of the project. According to the study, 19th and 20th century maps shows no buildings within the study area or on the site itself. The new parcel contains a well and a power line to the well which, according the study, are too new to be considered eligible for inclusion on the California Register. The study concluded that no recommendations are warranted. The impact would be *less than significant,* and no mitigation would be required.

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

Less than Significant with Mitigation Incorporated. Archaeological deposits that meet the definition of unique archaeological resources under CEQA could be damaged or destroyed by ground-disturbing activities associated with construction permitted under the proposed project, such as grading and/or filling. Should this occur, the ability of the deposits to convey their significance, either as containing information important in prehistory or history, or as possessing traditional or cultural significance, could be materially impaired.

The proposed project would include ground-disturbing activities including grading, excavation and filling, as part of construction of the proposed project. The cultural resources study completed for the proposed project (Appendix B) included a field survey consisting of a detailed site survey and auger borings. No archaeological site indicators were observed during the survey, and no archaeological site indicators were found within the auger borings. Soils in all five auger holes were consistent with the soil survey description for the study area.

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[19] Ashluth, Taylor and Barrow, Eilleen, Tom Origer & Associates for Hamilton Unified School District, November 20, 2019, Cultural Resources Study for the Hamilton Union High School Expansion project, page 7.

[20] California Historical Resources in Glenn County, https://ohp.parks.ca.gov/?page_id=21419, accessed October 22, 2019

However, the cultural resources study applied what is known as the buried sites model to assess the potential for archaeological resources. The study concluded that there is a high potential for buried sites based on landform age, analysis of the environmental and historic setting, and the results of previous studies conducted throughout the state. Disturbance of these resources represents a *potentially significant* impact that would be mitigated by Mitigation Measure CULT-1.

Impact CULT-1: Implementation of the proposed project would have the potential to cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.

Mitigation Measure CULT-1: If archaeological resources are encountered during excavation or construction, construction personnel shall be instructed to immediately suspend all activity in the immediate vicinity of the suspected resources and the District and a licensed archeologist shall be contacted to evaluate the situation. A licensed archeologist shall be retained to inspect the discovery and make any necessary recommendations to evaluate the find under current CEQA Guidelines prior to the submittal of a resource mitigation plan and monitoring program to the District for review and approval prior to the continuation of any on-site construction activity.

Significance after Mitigation. Less than Significant.

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

Less than Significant Impact. There are no known human remains on the project site. However, the potential to unearth unknown remains during ground disturbing activities associated with implementation of the project exists. Any human remains encountered during ground-disturbing activities associated with the proposed project would be subject to federal, State, and local regulations to ensure no adverse impacts to human remains would occur in the unlikely event human remains are found.

California Health and Safety Code Section 7052 states that the disinterment of remains known to be human, without the authority of law, is a felony. Health and Safety Code Section 7050.5 and CEQA Guidelines Section 15064.5(e) identify the mandated procedures of conduct following the discovery of human remains. According to the provisions in CEQA, if human remains are encountered at the site, all work in the immediate vicinity of the discovery must cease and necessary steps to ensure the integrity of the immediate area must be taken. The Glenn County Coroner must be notified immediately. The Coroner must then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner must notify the Native American Heritage Commission (NAHC) within 24 hours, who will, in turn, notify the person NAHC identifies as the Most Likely Descendants (MLD) of any human remains. Further actions must be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner must, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by NAHC. Adherence to these existing regulations and processes would result in a *less-than-significant* impact.

VI. ENERGY

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

Discussion

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

Less Than Significant Impact. The following discusses the potential energy demands from construction activities associated with the development of the proposed project and its operation.

Project Construction

The construction phase ends once the proposed project is built and construction activities are completed. Construction activities would use energy in the form of fuel from various sources, such as on-site heavy-duty construction vehicles, vehicles hauling materials to and from the site, and motor vehicles transporting the construction crew. The majority of construction equipment during demolition and grading would be gas or diesel powered, and later construction phases would require electricity-powered equipment for interior construction and architectural coatings. Construction activities would be subject to applicable regulations such as anti-idling measures (Shasta County AQMD), limits on duration of activities (county municipal code), and the use of alternative fuels if possible (Shasta County AQMD), thereby reducing energy consumption.

Transportation energy use depends on the type and number of trips, vehicle miles traveled, fuel efficiency of vehicles, and travel mode. Transportation energy use during construction would come from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction employee vehicles that would use diesel fuel and gasoline. Impacts related to transportation energy use during construction would be temporary and would not require expanded energy supplies or the construction of new infrastructure. Impacts would be *less-than-significant*.

Project Operation

Although the proposed project would result in a larger school with a larger student body, the project would modernize a nearly 60-year-old facility. During operation, energy would be used for heating, cooling, and ventilation of the buildings; water heating; onsite equipment; appliances; indoor, outdoor, and perimeter lighting; and security systems. While the proposed school expansion would result in 38,405 net square feet of new building space, the new buildings would be required to comply with the 2019 Building Energy Efficiency Standards, which are 30 percent more energy efficient for nonresidential buildings than 2016 Standards[21], and California Green Building Standards Code (CALGreen). Thus, the new buildings would be more energy efficient that the existing buildings that would be replaced. Additionally, because the proposed project would be consistent with the requirements of these energy-related regulations, it would not result in wasteful or unnecessary electricity or natural gas demands.

The proposed project would generate new VMT (see Section XVII, Transportation) which would use additional regular gasoline and diesel fuels. Table 3-5 includes total net electricity increases associated with the operation of new buildings and project VMT (see Appendix A for additional detail).

Table 3-5 Net Operational Energy Use

Use Type	Natural Gas (kBTU/yr)	Electricity (kWh/yr)	Gasoline Fuel	Diesel Fuel
New Buildings and Facilities	510,758	180,327	N/A	N/A
New VMT	N/A	7,441	27,162	3,588
TOTAL	**510,758**	**187,768**	**27,162**	**3,588**

Note: Assumes and average electricity efficiency of 0.40 Kwh/Mile.

Source: EMFAC, 2017; USDOT, 2017; PlaceWorks.

A net increase of 187,768 kWh/yr of electrical use and 510,758 kBTU/yr of natural gas are not considered wasteful, inefficient or unnecessary uses of energy. It should also be noted that VMT increase associated with proposed new students would be partially offset by VMT decreases at the elementary schools from which those students would transfer.

New buildings constructed in accordance with the standards identified above would not result in wasteful, inefficient, or unnecessary consumption of energy resources. Accordingly, impacts would be *less than significant*.

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

No Impact. The state's electricity grid is transitioning to renewable energy under California's Renewable Energy Program. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. Electricity production from renewable sources is generally considered carbon neutral. Executive Order S-14-08, signed in November 2008, expanded the state's renewable portfolios standard (RPS) to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Senate Bill 350 (de Leon) was signed into law September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. Senate Bill 350 also set a new goal to double the energy

[21] California Energy Commission, 2018.

efficiency savings in electricity and natural gas through energy efficiency and conservation measures. On September 10, 2018, Senate Bill 100 (SB 100) was signed and raised California's RPS requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also established a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under SB 100 the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

The statewide RPS goal is not directly applicable to individual development projects, but to utilities and energy providers such as Pacific Gas & Electric Company (PG&E), which is the utility that would provide all of electricity needs for the proposed project. Compliance of PG&E in meeting the RPS goals would ensure the State in meeting its objective in transitioning to renewable energy. Additionally, the proposed project would comply with the Building Energy Efficiency Standards and CALGreen. Therefore, implementation of the proposed project would have *no impact* related in terms of conflicting with or obstructing plans for renewable energy and energy efficiency.

3. Environmental Analysis

VII. GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant	No Impact
GEOLOGY AND SOILS. Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☑	☐
ii) Strong seismic ground shaking?	☐	☐	☑	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☑	☐
iv) Landslides?	☐	☐	☑	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☑	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☑	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial director indirect risks to life or property?	☐	☐	☑	☐
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 wastewater?	☐	☐	☐	☑
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☑	☐	☐

Discussion

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

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

Less Than Significant Impact. Seismically induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. The magnitude, sense, and nature of fault rupture can vary for different faults or even along different strands of the same fault. Ground rupture is considered more likely along active faults.

No Alquist-Priolo Fault Rupture Hazard Zone, as designated through the Alquist-Priolo Earthquake Fault Zoning Act, intersects the project site. Nor is the project site within an Earthquake fault Zone.[22] Moreover, the proposed improvements would be required to adhere to the current safety standards established in the 2019 California Building Code (CBC) and Title V of the California Code of Regulations (CCR). As such, project construction and modernization would be an improvement over original site constriction and would reduce the already low potential for direct or indirect bodily harm involving fault rupture. As such, the impact would be *less-than-significant*.

Criterion a.ii Strong Seismic Groundshaking

Less Than Significant Impact. Due to lack of proximate active faults, the project site is not in what is considered a seismically active region. Per the California Geological Survey's *2003 Earthquake Shaking Potential for California* map, the entire eastern portion of Glenn County is within a region "distant from known, active faults and [that] will experience lower levels of shaking less frequently. In most cases only weaker, masonry buildings would be damaged."[23]

Moreover, as noted under Criteria a.i, above, proposed improvements would be required to adhere to the current safety standards established in the 2019 CBC and Title V of the CCR. The proposed project would be characterized as stick-built wood construction. As such, project construction and modernization would be an improvement over original site construction and would reduce the potential for direct or indirect bodily harm involving fault rupture. As such, the impact would be *less-than-significant*.

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[22] California Department of Conservation. California Geological Survey, Earthquake Zones of Required Investigation interactive map, https://maps.conservation.ca.gov/cgs/EQZApp/app/, accessed July 23, 2019.

[23] State of California Geologic Survey, Spring 2003, Earthquake Potential for California, https://ssc.ca.gov/forms_pubs/shaking_18x23.pdf, accessed January 7, 2020.

Criterion a.iii Seismic Related Ground Failure/Liquefaction

Less Than Significant Impact. Liquefaction is the sudden loss of soil strength resulting from shaking during an earthquake. The effect on structures and buildings can be significant. Liquefaction and is a major contributor to urban seismic risk. Areas most susceptible to liquefaction are underlain by non-cohesive soils, such as sand and silt, that are saturated by groundwater typically between 0 and 30 feet below the surface.

The project site is in area for which no liquefaction hazard maps have been issued by the State of California. The presence of site-specific liquefiable soils can only be determined through analysis of onsite soils during a targeted geotechnical investigation, as required by the CBC. All structures would be built to adhere to the 2019 CBC which provides minimum standards to protect property and public welfare by regulating design and construction to mitigate the effects of adverse soil conditions. In the event that potentially liquefiable soils are identified on site, adherence to these building code requirements, including industry standard measures of minimizing the potential for liquefaction through foundation design, treatment of site soils and/or replacement of liquefiable soils with engineered fills, would ensure that seismically induced ground failure is a *less than significant* impact.

Criterion a.iv Landslides

Less Than Significant Impact. The project site is in area for which no landslide hazard maps have been issued by the State of California. The county is divided into two geographically distinct areas--the western portion in the Coast Ranges and the eastern portion in the Sacramento Valley. Elevations range from 7,450 feet in the western part of the county to a low of 65 feet in the Sacramento Valley.

The project site and surrounding areas are within the flat agricultural area of eastern Glenn County. As noted in the technical papers submitted as part of the County's General Plan, this level, low relief eastern area has nearly no potential for landslides, while the mountainous western portion has a higher landslide potential.[24] The project site is nearly level, and proposed project components do not include grading of any slopes that would to exacerbate landslide conditions. Furthermore, all structures on the site would comply with the 2019 CBC which provides minimum standards to protect property and public welfare by regulating design and construction to mitigate the effects of adverse soil conditions.

As such, the impact would be *less than significant*.

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

Less Than Significant Impact. Erosion is a normal and inevitable geologic process whereby earthen materials are loosened, worn away, decomposed or dissolved, and removed from one place and transported to another. Precipitation, running water, waves, and wind are all agents of erosion. Ordinarily, erosion proceeds so slowly as to be imperceptible, but when the natural equilibrium of the environment is changed, the rate of erosion can be greatly accelerated. Accelerated erosion within an urban area can cause damage by undermining structures, blocking storm sewers, and depositing silt, sand, or mud in roads and tunnels. Eroded materials are

[24] Glenn County, 1993, Environmental Setting Technical Paper, Glenn County General Plan, Volume II, page 37, June.

eventually deposited into coastal and local waters where the carried silt remains suspended in the water for some time, constituting a pollutant and altering the normal balance of plant and animal life.

The project would include trenching for installation and connection of underground utilities, and other subsurface disturbances. These site preparation activities would result in the disruption of on-site soils and exposure of uncovered soils to potential erosion impacts. However, site preparation activities would be short-term, occurring for only a brief period during the preliminary stages of project development.

Although minimal erosion would result from grading and construction operations, the proposed project would not result in significant soil erosion or loss of topsoil. Soils of the project site are identified in Table 3-6, below, alongside their key characteristics. The soils composition is typical of former flood basin soils of the Sacramento River Valley.

Table 3-6 Project Site Soils Characteristics

Soil	Percent of Site	Drainage	Flooding Frequency Class	Erosion Hazard	Runoff Potential	Linear Extensibility (Shrink-Swell)	Frost Action
Wyo Loam, deep over gravel	86%	Well Drained	None	Slight	B (low)	1.5%	None
Orland Loam	10%	Well Drained	Occasional	Slight	A (low)	1,5%	None
Cortina, loamy	4%	Somewhat Excessively Drained	Occasional	Slight	B (low)	1.5%	None

Source: United States Department of Agriculture, Natural Resources Conservation Service

As identified in Table 3-6, 86 percent of site soils are classified as Wg—Wyo loam, deep over gravel. Per the United States Department of Agriculture, Natural Resources Conservation Service (NRCS), this soil classification has an erosion potential rating of "slight", indicating that erosion is unlikely under normal climatic conditions. The two other soils of the overall site composition are also rated "slight". The flat topography of the site would further reduce the potential for substantial erosion.

Finally, because the site encompasses an area of more than 1 acre, the proposed project would be subject to the National Pollutant Discharge Elimination System (NPDES) permit requirements. As part of the permit requirements, a Storm Water Pollution Prevention Plan (SWPPP) and Monitoring Program would be prepared. The SWPPP would serve to help identify the sources of pollution that may affect the quality of stormwater discharges and to describe and ensure implementation of practices to reduce the pollutants in construction stormwater discharges. The SWPPP would specify, along with permanent or post-construction measures, BMPs for temporary erosion control. The BMPs typically include the use of vegetation and mulch to stabilize disturbed areas, and sandbags and temporary catch basins to direct runoff away from disturbed areas and trap sediments on-site. Mandatory compliance with the requirements set forth by the NPDES permit, combined with soils that are not susceptible to erosion, would ensure that erosion impacts resulting from the project would be *less than significant*.

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

Less Than Significant Impact. Unstable geologic units are not known to be present on the project site. As noted under Criteria a.iv, potential for landslide is low to the flat topography of the site.

Lateral spreading is a form of horizontal displacement of soil toward an open channel or other "free" face, such as an excavation boundary. Lateral spreading can result from either the slump of low cohesion and unconsolidated material or liquefaction of either the soil layer or a subsurface layer underlying soil material on a slope. One indicator of potential lateral expansion is frost action, defined as the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing (NRCS 2018). As indicated in Table 3-6, all project site soils are rated as having have no frost action potential. As such, the potential for impacts due to lateral spreading would be *less than significant*.

Ground subsidence often results from the withdrawal of large amounts of oil and/or groundwater from a region. Oil withdrawal has occurred in an around Hamilton City. According to the California division of Oil, Gas & Geothermal Resources (DOGGR),[25] there is a single, inactive oil well on the project site. It is a plugged, dry-hole well, meaning it has been permanently sealed with cement to isolate the oil- and gas-bearing geologic formation from water. The well has not been in production since at least 1979 and would not significantly impact the stability of site geology.

There is also a single water well at the approximate center of the project site, drilled in 1973.[26] The well is currently active and less than 1 foot in diameter. This is not a high-volume extraction well would not result in compromised site stability.

Soil collapse occurs when water is introduced to poorly cemented soils, resulting in the dissolution of the soil cementation and volumetric collapse. In most cases, the soils are cemented with weak clay sediments or soluble precipitates. This phenomenon generally occurs in granular sediments situated within arid environments. Collapsible soils will settle without any additional applied pressure when enough water becomes available to the soil. Water weakens or destroys bonding material between particles that can severely reduce the bearing capacity of the original soil resulting in damage to buildings and foundations.

The 2019 CBC may require detailed soils and/or geotechnical studies in areas of suspected geological hazards such as unstable geologic units that may be subject to collapse, subsidence, landsliding, or lateral spreading. The required geotechnical investigation, in accordance with county and state requirements, would also determine the susceptibility of the project site to settlement, and prescribe appropriate engineering techniques for reducing any potential settlement related effects. Where settlement and/or differential settlement is predicted,

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[25] California Division of Oil, Gas & Geothermal Resources – Well Finder, https://maps.conservation.ca.gov/doggr/wellfinder/#close/-122.01644/39.74939/15, accessed August 3, 2019.

[26] Hamilton Unified School District, September 13, 2018, Phase I Environmental Site Assessment, Hamilton Union High School Expansion, page 14.

site preparation measures—such as use of engineered fill, surcharging, wick drains, deep foundations, structural slabs, hinged slabs, flexible utility connections, and utility hangers—would be deployed as warranted. Upon submission to the Division of the State Architect (DSA), the project would be reviewed for compliance with these standards.

Implementation of standard geotechnical engineering practices, including completion and adherence to a geotechnical investigation containing recommendations that would be specific to the project site, as well as adherence to building code requirements, would reduce potential impacts from unstable soils and other adverse soil properties to less-than-significant levels. Therefore, the project would result in *less-than-significant* impacts related to potential lateral spreading, settlement, collapse, subsidence, and liquefaction.

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

Less Than Significant Impact. Expansive soils are characterized by a high clay content, which swell with increased moisture content and contracts during dry periods. This change in volume, usually associated with seasonal changes, can damage building foundations, roads, and concrete pavement. Expansive soils can be determined by a soil's linear extensibility, or "shrink-swell" potential. There is a direct relationship between linear extensibility of a soil and the potential for expansive behavior, with expansive soil generally having a high linear extensibility. Thus, granular soils typically have a low potential to be expansive, whereas clay-rich soils can have a low to high potential to be expansive.

According to the NRCS, the linear extensibility value of all soils of the project site is 1.5 percent (see Table 3-6, above). Linear extensibility values below 3 percent correlate to low expansion and shrink-swell potential. The potential of this hazard is moderate if values are 3 to 6 percent, high if values are 6 to 9 percent, and very high if values are more than 9 percent. If the linear extensibility value is more than 3 percent, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Given the linear extensibility of the project site soils, this would be a *less-than-significant* impact.

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

No Impact. Th proposed project includes modernization and new construction at an existing high school campus that is fully supported by an existing sewer system. As explained in Chapter 3, Project Description, the project would include annexation of the site to the Hamilton City Community Services District (CSD) which would provide wastewater services. No septic tanks or alternative wastewater disposal systems would be required. There would be *no impact*.

Criterion f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant with Mitigation. Paleontological resources have not been identified on the project site, a previously disturbed urban area. However, because the proposed project requires ground disturbing activities, there could be fossils of potential scientific significance and other unique geologic features that are not recorded. Such ground-disturbing construction associated with development permitted under the proposed project could cause damage to, or destruction of, paleontological resources or unique geologic features. Adherence to Mitigation Measure GEO-1, would reduce potential impacts from expansive soils to a *less-than-significant* level.

Impact GEO-1 Ground disturbing activities associated with construction of the proposed project could disturb paleontological resources or unique geological features.

Mitigation Measure GEO-1. In the event that fossils or fossil-bearing deposits are discovered during construction, excavations within 50 feet of the find shall be temporarily halted or diverted. The contractor shall notify a qualified paleontologist to examine the discovery. The paleontologist shall document the discovery, as needed, in accordance with Society of Vertebrate Paleontology standards, evaluate the potential resource, and assess the significance of the finding under the criteria set forth in CEQA Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the project proponent determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the project based on the qualities that make the resource important. The plan shall be submitted to the District for review and approval prior to implementation.

Significance after Mitigation. Less than Significant.

3. Environmental Analysis

VIII. GREENHOUSE GAS EMISSIONS

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

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 GHG 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 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.[27, 28]

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 that would occur as a result of the project are not applicable and are not included in the analysis.[29] 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 AB 32 inventory and treats this short-lived climate pollutant

27 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 rather than a primary cause of change.

28 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 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. 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. California Air Resources Board (CARB). 2017, March 14. Final Proposed Short-Lived Climate Pollutant Reduction Strategy. https://www.arb.ca.gov/cc/shortlived/shortlived.htm.

29 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. Governor's Office of Planning and Research (OPR). 2008, June. CEQA and Climate Change: Addressing Climate Change through CEQA Review. Technical Advisory. http://opr.ca.gov/docs/june08-ceqa.pdf.

separately. [30,31] A background discussion on the GHG regulatory setting and GHG modeling can be found in Appendix A to this Initial Study.

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.

Discussion

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

project-related construction and operation-phase GHG emissions are shown in Table 3-7. As shown in the table, the proposed project would generate GHG emissions from vehicle trips generated by the project (e.g., customers and deliveries) energy use (indirectly from purchased electricity use and directly through fuel consumed for building heating), area sources (e.g., landscaping equipment used on-site, consumer products, coatings), water/wastewater generation, and waste disposal. Annual average construction emissions were amortized over 30 years and included in the emissions inventory to account for one-time GHG emissions from the construction phase of the project. Overall, development and operation of the proposed project would not generate annual emissions that exceed the proposed CAPCOA bright-line threshold of 900 metric tons of carbon dioxide equivalent ($MTCO_2e$) per year.[32] Therefore, the proposed project's cumulative contribution to GHG emissions would be *less than significant*.

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[30] Particulate matter emissions, which include black carbon, are analyzed in Section III, *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. California Air Resources Board (CARB). 2017, March 14. Final Proposed Short-Lived Climate Pollutant Reduction Strategy. https://www.arb.ca.gov/cc/shortlived/shortlived.htm.

[31] California Air Resources Board (CARB). 2017, March 14. Final Proposed Short-Lived Climate Pollutant Reduction Strategy. https://www.arb.ca.gov/cc/shortlived/shortlived.htm.

[32] California Air Pollution Control Officers Association (CAPCOA). 2008, January. CEQA and Climate Change. http://www.capcoa.org/wp-content/uploads/downloads/2010/05/CAPCOA-White-Paper.pdf.

3. Environmental Analysis

Table 3-7 Project GHG Emissions

	GHG Emissions ($MTCO_2e$/Year)	
Category	project Emissions	Percent of Total
Area	<1	<1%
Energy[a]	180	26%
On-Road Mobile Sources	316	46%
Waste	23	3%
Water/Wastewater	10	1%
Amortized Construction Emissions[b]	156	23%
TOTAL	**684**	**100%**
CAPCOA GHG Emissions Threshold ($MTCO_2e$)		900
Exceeds CAPCOA Thresholds?		No

Source: California Emissions Estimator Model (CalEEMod), Version 2016.3.25.

Note: Emissions may not total to 100 percent due to rounding. New buildings, at minimum, would be constructed to the 2019 Building & Energy Efficiency Standards (effective January 1, 2020); $MTCO_2e$/year = metric tons of carbon dioxide equivalent per year.

a. The proposed buildings would, at minimum, be designed and built to meet the LEED Gold certification, which would increase building energy efficiency by 35 percent over the 2019 Building Energy Efficiency Standards. Additionally, a solar photovoltaic system would be installed that would provide up to 50 percent of the electricity demands of the proposed buildings.

b. One-time, short-term emissions are converted to average annual emissions by amortizing them over the service life of a building, which is assumed to be 30 years.

Criterion b. Would the project conflict with an applicable plan, policy, or regulation of an agency 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 the CARB Scoping Plan. A consistency analysis with this plan is presented below.

CARB's Scoping Plan

In accordance with Assembly Bill 32 and Senate Bill 32 the CARB *2017 Climate Change Scoping Plan*[33] (Scoping Plan) contains the State's strategy to achieve 1990 level emissions by year 2020 and a 40 percent reduction from 1990 emissions by year 2030. The Scoping Plan is applicable to state agencies and is not directly applicable to cities/counties and individual projects. Nevertheless, 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.

Statewide strategies to reduce GHG emissions in the latest Scoping Plan (2017) include implementing Senate Bill 350, which expands the Renewables Portfolio Standard to 50 percent by 2030 and doubles energy efficiency savings; expanding the Low Carbon Fuel Standard to 18 percent by 2030; implementing the *Mobile Source Strategy*

[33] Note that the 2017 Climate Change Scoping Plan is an update to the 2008 and 2014 Scoping Plans.

to deploy zero-electric vehicle buses and trucks; implementation of the *Sustainable Freight Action Plan*; implementation of the *Short-Lived Climate Pollutant Reduction Strategy*, which reduces methane and hydrofluorocarbons 40 percent below 2013 levels by 2030 and black carbon emissions 50 percent below 2013 levels by 2030; continuing to implement Senate Bill 375; creation of a post-2020 Cap-and-Trade Program; and development of an *Integrated Natural and Working Lands Action Plan* to secure California's land base as a net carbon sink. Statewide GHG emissions reduction measures that are being implemented as a result of the Scoping Plan would reduce the proposed project's GHG emissions.

The proposed project would be constructed to achieve the standards in effect at the time of development and would not conflict with statewide programs adopted for the purpose of reducing GHG emissions. As stated above, while the measures in the State's Scoping Plan are not directly applicable to individual development projects, the project's GHG emissions would be reduced through compliance with statewide measures that have been adopted since AB 32 and SB 32 were adopted. Therefore, the impact would be *less than significant*.

IX. HAZARDS AND HAZARDOUS MATERIALS

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

Discussion

The analysis in this section is based in part on the Phase I Environmental Site Assessment, Hamilton Union High School Expansion, September 13, 2018 (Phase I ESA). This document is included as Appendix C of this IS/MND.

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

Less Than Significant Impact. The proposed project would not create a significant hazard through the transport, disposal, or use of hazardous materials. Construction and operation of the school would not require extensive or ongoing use of acutely hazardous materials or substances. While grading and construction activities may involve the transport, storage, use, or disposal of some hazardous materials, such as on-site fueling/servicing of construction equipment, the activities would be short-term and would be subject to federal and State safety requirements.

State-level agencies, in conjunction with the Unites States Environmental Protection Agency (U.S. EPA) and the Occupational Safety and Health Administration (OSHA), regulate removal, abatement, and transport procedures for Asbestos-Containing Materials (ACMs). Releases of asbestos from industrial, demolition, or construction activities are prohibited by these regulations and medical evaluation and monitoring is required for employees performing activities that could expose them to asbestos. Additionally, the regulations include warnings that must be heeded and practices that must be followed to reduce the risk of asbestos emissions and exposure. Finally, federal, State, and local agencies must be notified prior to the onset of demolition or construction activities with the potential to release asbestos.

The inclusion of polychlorinated biphenyls (PCBs) in electrical equipment and the handling of those PCBs are regulated by the provisions of the California Toxic Substances Control Act, 15 U.S.C. Section 2601 et seq. (TSCA). Relevant regulations include labeling and periodic inspection requirements for certain types of PCB-containing equipment and outline highly specific safety procedures for their disposal. The State of California regulates PCB-laden electrical equipment and materials contaminated above a certain threshold as hazardous waste; these regulations require that such materials be treated, transported, and disposed of accordingly. At lower concentrations for non-liquids, Regional Water Quality Control Boards (RWQCBs) may exercise discretion over the classification of such wastes.

The State of California's Division of Occupational Safety and Health (DOSH or Cal/OSHA) Lead in Construction Standard is contained in Title 8, Section 1532.1 of the California Code of Regulations. The regulations address all of the following areas: permissible exposure limits (PELs); exposure assessment; compliance methods; respiratory protection; protective clothing and equipment; housekeeping; medical surveillance; medical removal protection (MRP); employee information, training, and certification; signage; record keeping; monitoring; and agency notification. Implementation of these regulations would ensure a less-than-significant impact in this respect during the construction phase of the project.

Long-term operation of expanded school would be similar to existing conditions at the school and would continue to involve little transport, storage, use, or disposal of hazardous materials. The types of hazardous materials associated with operation of the expanded school would generally be limited to those associated with janitorial, maintenance, and repair activities, such as commercial cleansers, lubricants, and paints. These hazardous materials would be used in limited amounts for school operations; and transport, storage, use, and disposal of these materials would be subject to federal and State safety requirements. The storage, handling, and disposal of hazardous materials are regulated by the U.S. EPA and OSHA. The requirements of these agencies would be incorporated into the design and operation of the school. This would include providing for and maintaining appropriate storage areas for potentially hazardous materials and installing or affixing appropriate warning signs and labels. Therefore, operation of the proposed project would result in a *less-than-significant* impact in this respect and no mitigation is required.

3. Environmental Analysis

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

Less than Significant Impact. As described in Chapter 3, Project Description, the proposed project would not include the full demolition of any existing structures, only renovation of one classroom building. As a result, the likelihood of encountering or upsetting existing ACMs and/or lead is minimal. Moreover, as discussed below, the existing regulatory framework would preclude a significant impact resulting from ACMs.

Construction projects typically maintain supplies onsite for containing and cleaning small spills of hazardous materials. However, construction activities would not involve a significant amount of hazardous materials, and their use would be temporary. Furthermore, project construction workers would be trained on the proper use, storage, and disposal of hazardous materials. Operation of the site would continue as existing conditions and would not warrant use of hazardous materials in quantities that could result in conditions.

Asbestos

Asbestos is the name of a group of silicate minerals that are heat resistant, and thus were commonly used as insulation and fire retardant. Inhaling asbestos fibers has been shown to cause lung disease (asbestosis) and lung cancer (mesothelioma). Per the SCAQMD, the demolition, renovation, or removal of asbestos-containing materials is subject to the limitations of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations as listed in the Code of Federal Regulations requiring notification and inspection. The Environmental Protection Agency (EPA) Region IX office has authority to implement the asbestos NESHAP in Shasta County, and notification of the District and EPA Region IX is required for all projects involving the handling of asbestos-containing materials. In addition to new construction, the proposed project would renovate one classroom structure. No external demolition activities would occur at the project site. In addition, as concluded in the Phase I Environmental Site Assessment (ESA) performed for the proposed project, the site is not in an area mapped as likely to contain naturally occurring asbestos.[34] The presence of ultramafic rock outcrops (typically associated with the occurrence of NOA) was not detected during field visits performed a part of the Phase I ESA.[35]

Regardless, removal of any structural or naturally-occurring asbestos would comply with State and federal regulations, including adherence to EPA Region IX. Asbestos waste would be transported to a facility permitted for direct land filling of asbestos-containing waste, both friable and nonfriable, into a fully lined, Resource Conservation and Recovery Act (RCRA) Subpart D landfill unit. Additionally, soils contaminated by asbestos would be removed, if warranted. Compliance with existing regulations is sufficient to reduce potential impacts associated with ACM to a *less-than-significant* level, and no mitigation is necessary.

[34] Hamilton Unified School District, 2018, Phase I Environmental Site Assessment, Hamilton Union High School Expansion, page 10.

[35] Hamilton Unified School District, 2018, Phase I Environmental Site Assessment, Hamilton Union High School Expansion, page 10.

Lead

Lead was formerly used as an ingredient in paint and as a gasoline additive; both of these uses have been banned. Lead is listed as a reproductive toxin and a cancer-causing substance; it also impairs the development of the nervous system and blood cells in children.

The determination of the presence of lead-based paint and its removal would comply with state and federal regulations, including OSHA rule 29, Code of Federal Regulations Part 1926, which establishes standards for occupational health and environmental controls for lead exposure. The standard also includes requirements addressing exposure assessment, methods of compliance, respiratory protection, protective clothing and equipment, hygiene facilities and practices, medical surveillance, medical removal protection, employee information and training, signs, recordkeeping, and observation of monitoring. Title 17, California Code of Regulations, Section 36100 specifically sets forth requirements for lead-based paint abatement in public and residential buildings.

If any building materials containing lead-based paint were to be found, the removal of lead-based paint would also need to comply with Title 22, Division 4.5 of the California Code of Regulations. Title 22 sets forth the requirements with which hazardous-waste generators, transporters, and owners or operators of treatment, storage, or disposal facilities must comply. These regulations include the requirements for packaging, storage, labeling, reporting, and general management of hazardous waste prior to shipment. In addition, the regulations identify standards applicable to transporters of hazardous waste. These regulations specify the requirements for transporting shipments of hazardous waste, including manifesting, vehicle registration, and emergency accidental discharges during transportation.

Soils contaminated by lead-based paint would be removed, as needed. Removed lead waste would be transported to a Comprehensive Environmental Response, Compensation, and Liability Act approved, Toxic Substances Control Act and RCRA permitted, Class I, II, and III landfill. Compliance with existing regulations would reduce hazards related to lead-based paint to less than significant, and no mitigation is needed.

Overall, compliance with State and federal regulations would reduce construction-related impacts associated with the accidental release of hazardous materials into the environment. Impacts would be *less than significant*, and no mitigation is necessary.

Pesticides and Polychlorinated Biphenyls

The Phase I ESA concluded that there is evidence of known Recognized Environmental Conditions (RECs) at the project site, in the form of past agricultural uses that may have left residual pesticides and herbicides in site soils. The Phase I ESA includes documentation of pesticide treatment at the site, and reveals that pesticides have been used at the site since at least 2011, when the County permitting program began.[36] Groundwater may also contain residual agricultural chemicals, and therefore is also considered a REC at the site.

[36] Hamilton Unified School District, 2018, Phase I Environmental Site Assessment, Hamilton Union High School Expansion, page 9, September.

3. Environmental Analysis

The pole-mounted electrical transformer in the parcel to be acquired was also identified as an REC in the Phase I ESA, due to concern that leakage from the transformer could contaminate surrounding soils with Polychlorinated biphenyls (PCBs).[37] PCBs are a group of man-made organic chemicals known to cause cancer and impact the immune, reproductive, nervous, and endocrine systems.

The above results of the Phase I ESA resulted in the required completion of a State-approved Preliminary Endangerment Assessment (PEA). The PEA included a detailed soil sampling workplan developed per DTSC guidelines and requiring approval by the DTSC. The PEA was also subject to a required 30-public review process and final DTSC report approval. The PEA determined that soils at the site are safe and that no further action is necessary. The conclusion of the PEA was approved by the DTSC on April 29, 2020. Based on these analyses, the site of the proposed project would result in a *less-than-significant* impact regarding upset of hazardous materials.

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

Less Than Significant. As noted in Chapter 3, Project Description, the project site is adjacent Ella Barkley High School, a 10th through 12th grade alternative education facility. The next nearest school is Hamilton Elementary/Middle School located approximately 0.6 miles to the south.

The Phase I ESA identified Recognized Environmental Conditions (RECs) on of the subject property in connection with past agricultural land use and the existing electrical transformer. These RECs prompted the completion of a PEA, As noted above, the PEA concluded that no further action on the site was required previous to project implementation. Construction of the proposed project would not emit hazardous emissions that would impact the health of students and staff at Ella Barkley High School.

Furthermore, operation of the proposed high school would not emit hazardous emissions or handle hazardous materials or substances. The impact would be *less than significant*.

[37] Hamilton Unified School District, 2018, Phase I Environmental Site Assessment, Hamilton Union High School Expansion, page 15, September.

Criterion d. Would the project 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?

Less than Significant Impact. The project site contains no known hazardous materials sites according to the Department of Toxic Substances Control Envirostor database[38] or California State Water Resources Control Board GeoTracker database.[39] According to the Phase I ESA, Hamilton Union High School is located on the Certified Unified Program Agency (CUPA), the Statewide Environmental Evaluation and Planning System (SWEEPS) Underground Storage Tank (UST), and Historic (HIST) UST databases. The Phase I indicates that there were two 1,000-gallon capacity diesel and leaded gasoline tanks associated with Hamilton Union High School installed circa 1969 (gasoline) and 1975 (diesel). No releases or violations were noted in the Phase I. Therefore, the historical storage/use of petroleum hydrocarbons on the existing school property is considered a Historical Recognized Condition HREC rather than an active REC. Because there are no active RECs associated with hazardous materials sites on the project site, impacts from the proposed project regarding hazardous materials sites would be *less than significant*.

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

No Impact. The project site is not within an airport land use plan or within 2 miles of a public use airport. Thus, there would be *no impact* related to public airport hazards.

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

Less than Significant Impact. The City of Hamilton Fire Protection District, including a mutual aid agreement with Butte County Fire, the Capay Volunteer Fire Department, and Ord Bend Volunteer Fire Department, provides fire services within the City of Hamilton as well as the surrounding area. The Glenn County Office of Emergency Services established the Glenn County Operational Area Emergency Operations Plan (OA EOP) which is the overall emergency response framework providing guidance for an integrated response within the County of Glenn. The OA EOP consists of a Basic Plan and functional annexes that provide guidance for specific functions and hazards common in response to community needs.

The proposed project would not block roads and would not impede emergency access to surrounding properties or neighborhoods. Emergency vehicle access would be provided at two points located on the intersection of 6th Street and Canal Street. The proposed circulation plan will improve access due to new parking lot on Canal Road which will alleviate congestion at main intersection of Highway 32/6th Street and Canal

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[38] California Department of Toxic Substances Control, Envirostor website, https://www.envirostor.dtsc.ca.gov/public/map/?global_id=60002814, accessed August 2019.

[39] California State Water Resources Control Board, GeoTracker web page, https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=Sacramento, accessed August 2019.

Road. During demolition and construction, vehicles, equipment, and materials would be staged and stored on a portion of the project site. The construction site and staging areas would be clearly marked, and construction fencing would be installed to prevent disturbance and safety hazards. No staging would occur in the public right-of-way. A combination of on- and off-site parking facilities for construction workers would be identified during demolition, grading, and construction.

Moreover, as part of the Division of the State Architect (DSA) approval process, a Fire and Life Safety Review would be conducted. DSA would review building construction and how occupants can safely exit the buildings in case of a fire. The proposed project would not interfere with an adopted emergency response plan, or emergency evacuation plan; therefore, impacts would be *less than significant*.

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

Less Than Significant Impact. The project site is not located within or near an area that is considered wildland. It is not located in a Glenn County Wildland Urban Interface Fire Hazard Area, per the Glenn County Multi-Jurisdictional Hazard Mitigation Plan.[40]

However, the site is located within a Very High Fire Hazard Severity Zone (VHFHSZ), as shown on the most recent map produced by the California Department of Forestry and Fire Protection (Cal Fire).[41] The proposed project would increase impervious surfaces onsite, and therefore, the project and site conditions would not contribute to an increase in exposure to wildfire risk. Additionally, because the project site is located within the VHFHSZ, development on the site would be subject to compliance with California Building Code (CBC) defensible space requirement. The buildings would be designed to meet the CBC's Chapter 7A, Materials and Construction Methods for Exterior Wildfire Exposure, standards; the roofing and exterior coverings would be constructed of Class A non-combustible materials; exterior glazing would be fire resistant; and fire hydrants would be provided around the site to meet current code. Moreover, the entire campus would be equipped with an automatic fire sprinkler system. By complying with the California Building and Fire Codes, as well as the defensible space requirements, impacts would be *less than significant*.

[40] County of Glenn, 2018. Glenn County, CA Multi-Jurisdiction Hazard Mitigation Plan, https://www.countyofglenn.net/sites/default/files/Planning/Glenn%20County%20MJHMP%20100918.pdf, accessed September 12, 2019.

[41] California Department of Forestry and Fire Protection (CDFFP), 2007. Draft Fire Hazard Severity Zones in LRA, https://osfm.fire.ca.gov/media/6575/fhszl06_1_map11.jpg, accessed September 12, 2019.

X. HYDROLOGY AND WATER QUALITY

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

Discussion

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

Less Than Significant Impact. Stormwater runoff can carry a variety of pollutants, such as oil and grease, metals, sediment, bacteria, and trash from roadways, parking lots, rooftops, and landscaped areas and deposit them into adjacent waterways. The proposed project involves the acquisition and conversion of a 48-acre parcel from active farmland to high school buildings, parking lots, and play fields with a net increase in impervious surfaces. Increasing the total area of impervious surfaces can result in a greater potential to introduce pollutants into receiving waters. Construction activities could also result in the degradation of water quality, releasing sediment, oil and grease, and other chemicals into nearby water bodies.

3. Environmental Analysis

The project would disturb one or more acres of land during construction. As such, the District will be required to comply with the requirements of the State Water Resources Control Board (SWRCB) Construction General Permit (2009-0009-DWQ) as amended by 2010-0014-DWQ and 2012-0006-DWQ. Under the terms of the permit, applicants must file Permit Registration Documents (PRDs) with the SWRCB prior to the start of construction. The PRDs include a Notice of Intent (NOI), risk assessment, site map, Stormwater Pollution Prevention Plan (SWPPP), annual fee, and a signed certification statement. The PRDs are submitted electronically to the SWRCB via the Stormwater Multiple Application and Report Tracking System (SMARTS) website. The SWPPP describes the incorporation of Best Management Practices (BMPs) to control sedimentation, erosion, and hazardous materials contamination of runoff during construction. With implementation of these measures that will reduce erosion and siltation, water quality impacts during construction would be *less than significant*.

The project site is not in an area covered by a Phase I or Phase 2 municipal separate storm sewer system (MS4) permit. As such, the post construction requirements in the Construction General Permit are applicable.[42] This requires the project applicant to match post-construction runoff to the pre-project runoff for the 85th percentile storm event. This can be achieved through on-site storm water reuse, interception, evapotranspiration and infiltration through non-structural controls and conservation design measures (e.g., downspout disconnection, soil quality preservation/enhancement, interceptor trees). As part of the PRDs described above, the post-construction water balance calculations must be submitted to the SWRCB.

Although not required by State or County regulations, the District is planning to prepare a Storm Water Control Plan (SWCP) as part of the application package. The BMPs, site design features, and treatment control measures for the project are still in the preliminary design phase but will be described in detail once the civil engineering firm and design team for the school project have been selected. The BMPs and design features most likely will include bioswales, drainage management, and possibly storm water retention on one or more of the play fields. Compliance with the Construction General Permit post-construction standards will ensure that operation of the project will not result in water quality impacts.

Adherence to the requirements of the Construction General Permit combined with the proposed bioswales and retention strategies would ensure the project would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality. Therefore, impacts are considered *less-than-significant impact*.

[42] Based on conversation between representative at the Central Valley Regional Water Quality Control Board (RWQCB) and Steve Bush, PE, Senior Engineer, PlaceWorks on November 6, 2019.

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

Less Than Significant Impact. Water to the site is provided by California Water Services Chico-Hamilton City District (CalWater CHCD). The sole source of water supply for the customers of the CalWater CHCD is groundwater, which is extracted from the aquifers of the Sacramento River Valley.[43] CalWater CHCD has a total of 65 wells throughout the service area. Three of the wells are located in Hamilton City and pump an average of 0.56 million gallons of groundwater per day.[44] The expansion property currently contains an agriculture water supply well. However, the agricultural water well will be abandoned prior to project completion and there will be no on-site extraction of groundwater.

The 2015 *Urban Water Management Plan* for the CalWater CHCD, which includes the area for the project site, states that there is sufficient water for its customers for normal, single-dry, and multiple-dry years until 2040. CalWater CHCD identifies actions within the water shortage contingency plan that would ensure water demand is met through 2040.[45] Therefore, the project would not result in a depletion of groundwater supplies or result in a lowering of groundwater levels. Water supply is discussed in further detail in Section XIV, Utilities and Service Systems.

The Glenn Groundwater Authority is the Groundwater Sustainability Agency (GSA) for the Glenn County portion of the Colusa Groundwater Basin. The Glenn Groundwater Authority is joining with the Colusa Groundwater Authority (CSA) to develop a groundwater sustainability plan for the Colusa Subbasin. According to the Department of Water Resources (DWR), the Colusa Groundwater Subbasin is not considered to be in a critical overdraft condition.[46] The proposed project would add 250 additional students over a 12-year buildout period, which would result in a 1.8 percent increase to the average groundwater pumping amount for the three wells in Hamilton City. Because the CalWater UWMP accounts for future population growth, including the addition of 250 students to the existing high school, and there is no shortage of water through 2040, the proposed project would not impede implementation of groundwater management for the basin.

In summary, the project would have a *less than significant* impact on groundwater supplies and groundwater recharge, and no mitigation measures are needed.

[43] California Water Service (CalWater) Chico-Hamilton City District, 2016. 2015 Urban Water Management Plan, prepared June 2016.

[44] California Water Service (CalWater) Chico-Hamilton City District, 2019. District Information access on October 30, 2019 at https://www.calwater.com/about/district-information/ch/.

[45] California Water Service (CalWater) Chico-Hamilton City District, 2016. 2015 Urban Water Management Plan, prepared June 2016.

[46] Department of Water Resources, 2019. Critically Overdrafted Basins. Accessed online at https://water.ca.gov/Programs/Groundwater-Management/Bulletin-118/Critically-Overdrafted-Basins on November 4, 2019.

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

Criterion c.i. Result in substantial erosion or siltation on- or off-site?

Less Than Significant Impact. The project site lies within the Upper Stony Creek Watershed,[47] and is located approximately 130 feet east of the Glenn-Colusa Canal, and approximately 0.55 mile southwest of the Sacramento River. In addition to the natural drainage system, a network of storm drains south of Highway 32 and natural drainage ditches north of Highway 32 collect runoff from city streets and convey it to the Glenn-Colusa Canal or the Sacramento River.

The proposed project does not involve the alteration of any watercourse, stream or river. The project site is located in a suburban-agricultural area with existing residential development to the south and agricultural land uses to the north, west, and east. The site is relatively flat, with a slight downward slope to the east. The existing high school site currently collects stormwater runoff from the site via a series of shallow drainage ditches, with eventual discharge to the adjacent streets.

Standard erosion and sediment control BMPs are required and would be implemented as part of the SWPPP for the proposed project to minimize the potential for erosion or siltation during construction. The SWPPP must include erosion control measures such as phasing of grading, limiting areas of disturbance, designation of restricted-entry zones, diversion of runoff away from disturbed areas, protective measures for sensitive areas, outlet protection, and provisions for re-vegetation or mulching. The BMPs would also include treatment measures to trap sediment once it has been mobilized, including inlet protection, straw bale barriers, straw mulching, straw wattles, silt fencing, check dams, terracing, and siltation or sediment ponds.

Once constructed, the site design measures, source control measures, and stormwater treatment measures outlined in the SWCP will address stormwater runoff during operation of the high school expansion with the construction of bioswales and temporary on-site detention, which will slow the rate of stormwater runoff from the site and reduce the potential for erosion and siltation in the natural drainage ditches adjacent to the streets.

With implementation of these erosion and sediment control measures, the proposed project would not result in significant increases in erosion and siltation and impacts would be *less than significant*.

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

Less Than Significant Impact. The proposed project would result in a decrease in pervious surfaces which could potentially increase the rate of surface runoff. However, for areas not covered by a MS4 permit or Phase II permit, the Construction General Permit requires that the post-construction runoff amounts equal the pre-construction runoff amounts for the 85^{th} percentile storm event. The site design and treatment control

[47] County of Glenn and County of Colusa, prepared by Davids Engineering, Inc., 2017. Hydrogeologic Conceptual Model Report.

measures to achieve this goal will be described in detail in the SWCP; however preliminary information indicates that the District will install a combination of bioswales and retention basins to ensure that the project would not substantially increase the rate of surface runoff in a manner which would result in flooding on- or offsite. Therefore, impacts would be *less than significant*.

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

Less Than Significant Impact. The proposed project would include site design and treatment control measures, including bioswales and retention basins, that would be sized to limit runoff from the site to not exceed pre-construction runoff amounts. The project would include preparation and implementation of an SWPPP, which would specify BMPs that would be implemented in the project during the construction stage, and a SWCP that would detail which BMPs would be implemented during project operation. The proposed bioswales and retention basins would facilitate natural drainage, control runoff associated with project hardscaping, and further reduce the potential for storm water pollution or an exceedance of existing drainage capacity. In addition, with the implementation of stormwater treatment measures, the project would not provide substantial additional sources of polluted runoff.

Adherence to the requirements of the General Permit and implementation of the SWCP would ensure runoff water would not exceed the capacity of the existing or planned drainage systems or result in additional sources of polluted runoff, and impacts would be *less than significant impact*.

Criterion c.iv. Impede or redirect flood flows?

Less Than Significant Impact. The project site is not located in a FEMA-designated 100-year floodplain or Special Flood Hazard Area. [48] Therefore, implementation of the project would not impede or redirect flood flows associated with flooding in a 100-year floodplain.

However, Hamilton City and Hamilton High School are located within the dam inundation zones of Black Butte Lake and Shasta Lake and Reservoir.[49] Black Butte Dam is located 17.4 miles to the west of the site in Tehama County and Shasta Dam is located 69.6 miles to the north of the site in Shasta County.

The probability of dam failure is very low, and Glenn County, Tehama County, and Shasta County have never been impacted by a dam failure. Dams are continually monitored by various government agencies, including the Department of Water Resources, Division of Safety of Dams.[50] In the unlikely event of a dam failure, the flood waters would reach the school site in 7 hours for Black Butte Dam and 22 hours for Shasta Dam, which would be sufficient time to implement evacuation procedures. Implementation of the project would not impede or alter flood waters within the dam inundation zone. Therefore, impacts would be *less than significant*.

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[48] Federal Emergency Management Agency (FEMA), 2019. Firmette webpage accessed on June 27, 2019 at https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd.

[49] PlaceWorks, 2019. Dam Inundation Study for Hamilton High School Expansion, prepared for Hamilton Unified School District. Dated June 2019.

[50] Glenn County, 2016. Glenn County, CA Multi-Jurisdiction Hazard Mitigation Plan, dated February 2016.

3. Environmental Analysis

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

Less Than Significant Impact. The project site is not located in a FEMA-designated 100-year floodplain or Special Flood Hazard Area but is located within the dam inundation zones of Black Butte Lake and Shasta Lake and Reservoir. However, the probability of dam failure is very low, and Glenn County, Tehama County, and Shasta County have never been impacted by a dam failure. In addition, public high school uses are not considered a use which would risk release of pollutants due to project inundation. A dam inundation study was prepared for this project in compliance with the California Code of Regulations, Title 5 requirements and provides additional details on evacuation procedures and flooding risks.[51] It is highly unlikely that either the Black Butte Dam or Shasta Dam would experience a catastrophic failure, and impacts relating to the project release pollutants due to inundation are considered *less than significant*.

A seiche is a surface wave created when a body of water is shaken, usually by earthquake activity. The project site is approximately 130 feet east of the Glenn-Colusa Canal and approximately 0.55 mile southwest of the Sacramento River. The Glenn-Colusa Canal is an open channel with non-pressurized (gravity) flow in this area, and there is no credible mechanism for catastrophic failure unless there is an external event, such as an earthquake.[52] The maximum water elevation is 143.5 feet (National Geodetic Vertical Datum of 1929 or NGVD29) which is approximately 10 feet below the existing school site elevation of 153 feet above mean sea level (msl). As the water level within the canal is controlled to maintain a constant flow rate, there is minimal potential for a rise in water elevations or flooding to occur.

The project site also is located outside of the 100-year flood zone for the Sacramento River to the northeast and is beyond the river's setback levee.[53] Therefore, the project site would not be at risk from flooding due to seiches from either the Glenn-Colusa Canal or the Sacramento River due to distance from the school site and the school's higher elevation. Therefore, impacts due to a seiche are considered *less than significant*.

A tsunami is a series of ocean waves caused by a sudden displacement of the ocean floor, most often due to earthquakes. As Hamilton City is located approximately 95 miles inland from the Pacific Ocean, the project site is not in an area subject to inundation by tsunamis and there would be no impact.

Therefore, *less than significant impacts* would occur with respect to the release of pollutants from these three potential types of natural hazard events.

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[51] PlaceWorks, 2019. Dam Inundation Study for Hamilton High School Expansion, prepared for Hamilton Unified School District. Dated June 2019.

[52] PlaceWorks, 2019.Pipeline Safety Hazard Assessment for Hamilton High School Expansion, prepared for Hamilton Unified School District. Dated June 2019.

[53] Glenn Local Agency Formation Commission, 2014. Hamilton City Community Services District, Municipal Service Review and Sphere of Influence, adopted December 8, 2014.

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

Less Than Significant Impact. As discussed in Criterion b., the sole source of water supply for the customers of the CalWater CHCD, including the project site, is groundwater which is extracted from the aquifers of the Sacramento River Valley.[54] Hamilton City is located with the Sacramento Valley -Corning groundwater subbasin.[55] Although there currently is not a sustainable groundwater management plan for the region, the Glenn Groundwater Authority is joining with the Colusa Groundwater Authority (CSA) to develop a groundwater sustainability plan for the Colusa Subbasin. According to the Department of Water Resources (DWR), the Colusa Groundwater Subbasin is not considered to be in critical overdraft conditions.[56] The 2015 *Urban Water Management Plan* for the CalWater CHCD contains elements required by the Sustainable Groundwater Management Act (SMGA) and, thus, serves as a roadmap toward implementation of the SMGA and the basin's Groundwater Sustainability Plan.[57] Additionally, as discussed in Criterion b, the project would not result in a depletion of groundwater supplies or result in a lowering of groundwater levels. Therefore, the project would not conflict with or obstruct a sustainable groundwater management plan.

The Central Valley Regional Water Quality Control Board (RWQCB) monitors surface water quality through implementation of the Water Quality Control Plan for the Sacramento River Basin and San Joaquin River Basin, also referred to as the "Basin Plan" and designates beneficial uses for surface water bodies and groundwater within the Central Valley. The Basin Plan also contains water quality criteria for groundwater.

As required by storm water management guidelines discussed under Criterion a, best management practices would be implemented across the project site during both construction and operation of the proposed project. These measures would control and prevent the release of sediment, debris, and other pollutants into the drainage system. Implementation of BMPs during construction would be in accordance with the provisions of the SWPPP, which would minimize the release of sediment, soil, and other pollutants. Operational BMPs as outlined in the SWCP would be implemented for stormwater control. These BMPs will include bioswales and retention basins to treat and control runoff before it enters the regional drainage system. These BMPs would also improve water quality via infiltration and the settling out of silt particles.

With implementation of the BMPs, site design, and treatment control measures specified in the SWCP, the proposed project would not conflict with or obstruct the implementation of the Basin Plan, and potential impacts on water quality would be *less than significant*.

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[54] California Water Service (CalWater) Chico-Hamilton City District, 2016. 2015 Urban Water Management Plan, prepared June 2016.

[55] California Department of Water Resources, 2019. Sustainable Groundwater Management Act (SGMA) Portal accessed on October 30, 2019 at https://sgma.water.ca.gov/portal/gsa/print/390.

[56] Department of Water Resources, 2019. Critically Overdrafted Basins. Accessed online at https://water.ca.gov/Programs/Groundwater-Management/Bulletin-118/Critically-Overdrafted-Basins on November 4, 2019.

[57] California Water Service (CalWater) Chico-Hamilton City District, 2016. 2015 Urban Water Management Plan, prepared June 2016.

XI. LAND USE AND PLANNING

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

Discussion

The project site consists of two parcels in southwest Glenn County. The first parcel contains the existing Hamilton High School and the second parcel is a 48-acre agricultural property used for growing drip-irrigated crops. The Hamilton High School property has a General Plan land use designation of Single Family Residential and a zoning designation of Single Family Residential. School facilities are permitted in this Zoning District "…to provide space for community facilities needed to complement urban residential areas and for institutions which require a residential environment."[58] The adjacent agricultural property has a General Plan land use designation of Intensive Agriculture and is zoned Agricultural Preserve Zone, Intensive Agriculture, which is intended "…to be applied to lands which are covered by a California Land Conservation Act (Williamson Act) contract."[59]

Criterion a. Would the project physically divide an established community?

Less Than Significant Impact. Typically, projects with the potential to divide an established community include construction of major highways or roadways, construction of storm channels, closing bridges or roadways, or the construction of utility transmission lines. The proposed project would expand an existing high school onto an adjacent agricultural property. The project site includes a parcel already developed with a school facility and an adjacent property used for the cultivation of drip-irrigated crops. Surrounding land uses include agriculture to the west and north, commercial and light industrial to the east, and both residential and commercial to the south. However, due to the location of the proposed project just beyond the boundary of that neighborhood, it would not interrupt or divide an established community nor disrupt the physical arrangement of the surrounding built environment. A *less-than-significant impact* would occur.

[58] Glenn County Code, Title 15, Unified Development Code, Chapter 15.370.

[59] Glenn County Code, Title 15, Unified Development Code, Chapter 15.370.

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

Less Than Significant Impact The proposed project would convert Prime Farmland to a public facility. The Glenn County General Plan uses the Intensive Agriculture designation to protect the agricultural community from encroachment of unrelated agricultural uses which could have negative impacts on the physical and economic well-being of the agricultural community.[60] Permitted uses include growing and harvesting field crops, grain and hay crops, growing and harvesting fruit and nut trees, vines, and vegetables, pasture or grazing land, and animal raising operations.[61] However, according to Section 6.3 of the 1993 Glenn County General Plan, "Conversion of agricultural or grazing lands should occur only after careful consideration and deliberation, recognizing, however, that in order to realistically provide for the necessary diversity and growth required in the local economy, some lands presently committed to agriculture may be may consumed by other development activities."[62] Further, Policy CDP-47 calls for reserving adequate sites for new and expanded public facilities, such as schools, needed to serve new growth and development.[63] As explained in Section II, Agriculture and Forestry Resources, the project is consistent with County policy to convert farmland to a needed public resource.

The proposed project meets the requirements of the Glenn County Code and General Plan. The project will not conflict with any existing habitat conservation plan or natural community conservation plan. The impact would be *less than significant*.

[60] County of Glenn General Plan, June 15, 1993, Intensive Agriculture, page 3-6.

[61] County of Glenn General Plan, June 15, 1993, Intensive Agriculture, page 3-7.

[62] Glenn County, 1993 Glenn County General Plan, page 6.5.

[63] County of Glenn General Plan, June 15, 1993, Land Use and Planning, page 5-84.

3. Environmental Analysis

XIII. NOISE

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant	No Impact
NOISE. Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☑	☐	☐
b) Generation of excessive ground borne vibration or ground borne noise levels?	☐	☐	☑	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑

This discussion is based in part on the Hamilton High School Expansion Noise and Vibration Technical Report provided as Appendix D of this IS/MND.

Discussion

Existing Regulations

Glenn County Municipal Code

Hamilton City is an unincorporated area within Glenn County. Glen County has adopted noise standards under Section 15.560.100, *Noise*, of the Municipal Code. Table 3-8 summarizes exterior noise standards by time of day and land use.

Table 3-8 Glenn County Exterior Noise Standards

Land Use	Time of Day	Leq (dBA)
Residential[1]	7:00 AM – 10:00 PM	55
	10:00 PM – 7:00 PM	45
Commercial	7:00 AM – 10:00 PM	60
	10:00 PM – 7:00 PM	55
Industrial	7:00 AM – 10:00 PM	65
	10:00 PM – 7:00 PM	60

Source: Glenn County Municipal Code, Section 15.560.100, *Noise.*

[1] Includes all resource zoning districts

In the event that the receiving property receptor is a dwelling, hospital, school library, or nursing home, even if it is zoned commercial, industrial, or any other related use, the noise level received shall not be greater than 57 dBA L_{eq} during the hours of 7:00 AM to 10:00 PM and 50 dBA L_{eq} from 10:00 PM to 7:00 AM.

The following are exempt from the noise standards of the Municipal Code:

- Bells, chimes or carillons;
- Non-electronically amplified sounds at sporting, amusement and entertainment events;
- Construction site sounds between 7:00 AM and 7:00 PM; and
- Lawn and plant care machinery fitted with correctly functioning sound suppression equipment and operated between 7:00 AM and 8:00 PM.

Existing Conditions

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 government, State of California, and Glenn County have established criteria to protect public health and safety and to prevent disruption of certain human activities. Noise terminology and fundamentals, pertinent existing local regulations, and traffic noise level increase calculations can be found in Appendix D to this Initial Study.

Agricultural uses are located north, east and west of the site. To the south, across 6th Street, are residential and commercial uses. The Ella Barkley High School is adjacent to the project site to the east. The primary noise source affecting the project area is roadway traffic on Canal Street and 6th Street. Intermittent noises from the existing school, agricultural, residential and commercial uses also contribute to the existing noise environment.

Ambient Noise Monitoring Results

To determine baseline noise levels in the project vicinity, ambient noise monitoring was conducted by PlaceWorks in October 2019. Measurements were made during weekday periods when the project area is expected to be most active. Two long-term (24-hour) measurements were conducted within the project vicinity, and short-term (15 minute) measurements were conducted at three locations. All measurements were conducted from Tuesday, October 15 through Wednesday, October 16 of 2019.

The primary noise source during noise measurements was traffic. Secondary noise sources included rooftop mechanical equipment and distant agricultural equipment. Meteorological conditions during the measurement periods were favorable for outdoor sound measurements and were noted to be representative of the typical conditions for the season.

All sound level meters used for noise monitoring satisfy the American National Standards Institute (ANSI) standard for Type 1 instrumentation.[64] The sound level meters were set to "slow" response and "A" weighting (dBA). The meters were calibrated prior to and after the monitoring period. All measurements were at least five

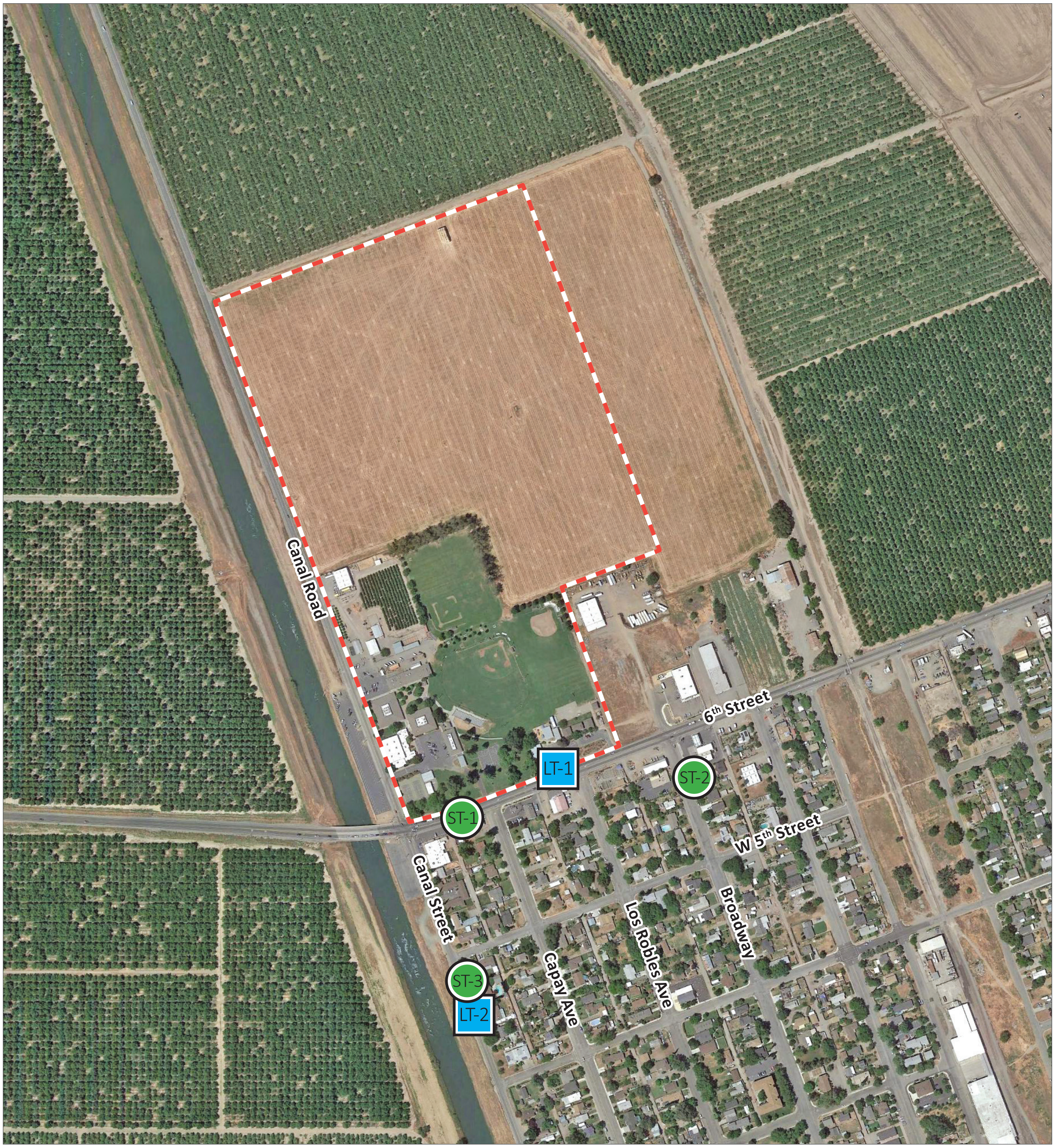
[64] Monitoring of ambient noise was performed using Larson-Davis Model LxT and 820 sound level meters.

3. Environmental Analysis

feet above the ground and away from reflective surfaces. Noise measurement locations are described below and shown in Figure 3-2. A summary of the daily trend during long-term noise measurements are provided in Appendix D. The long-term and short-term noise measurement results are summarized in Tables 3-9 and 3-10, respectively.

The following describes the noise monitoring locations:

- **Long-Term Location 1 (LT-1)** was on 6th Street, approximately 20 feet north of the westbound travel lane centerline. A 24-hour noise measurement was conducted, beginning at the 3:00 PM hour Tuesday, October 15, 2019. The noise environment of this site is characterized primarily by traffic from 6th Street.
- **Long-Term Location 2 (LT-2)** was on Canal Street, approximately 20 feet west of the southbound travel lane centerline. A 24-hour noise measurement was conducted, beginning at the 3:00 PM hour Tuesday, October 15, 2019. The noise environment of this site is characterized primarily by traffic from Canal Street and distant agricultural equipment.
- **Short-Term Location 1 (ST-1)** was at the setback of a multi-story residential building on 6th Street just east of Canal Street. A 15-minute noise measurement was conducted, beginning at 7:15 PM on Tuesday, October 15, 2019. The noise environment of this site is characterized primarily by traffic on 6th Street.
- **Short-Term Location 2 (ST-2)** was on Broadway at the property line of the closest residence to 6th Street, adjacent to the Sinclair gas station and convenience market. A 15-minute noise measurement was conducted, beginning at 7:37 PM on Tuesday, October 15, 2019. The noise environment of this site is characterized primarily by traffic on 6th Street and rooftop mechanical equipment across Broadway. Very light traffic was noted on Broadway at this time.
- **Short-Term Location 3 (ST-3)** was on Canal Street at a residence across from LT-2, approximately 15 feet east of the northbound travel lane centerline. A 15-minute noise measurement was conducted, beginning at 3:19 PM on Wednesday, October 16, 2019. The noise environment of this site is characterized primarily by traffic on Canal Street. Heavy-duty truck pass-bys were as high as 82 dBA. Agricultural equipment noise to the west was noted to be about 60 dBA at times.



Source: Google Earth, 2019; PlaceWorks, 2019.

Project Site

ST = Short-term Measurement Location

LT = Long-term Measurement Location

Figure 3-2
Approximate Noise Monitoring Locations

3. Environmental Analysis

Table 3-9 Long-Term Noise Measurements Summary (dBA)

Monitoring Location	Description	Highest Leq 1hr	Lowest Leq 1hr	CNEL
LT-1	6th Street 20 feet north of westbound centerline 10/15/2019 – 10/16/2019	72.7	60.0	74
LT-2	Canal Street 20 feet west of southbound centerline 10/15/2019 – 10/16/2019	72.5	48.1	71

Table 3-10 Short-Term Noise Measurements Summary (dBA)

Monitoring Location	Description	15-minute Noise Level, dBA		
		Lmin	Leq	Lmax
ST-1	6th Street 7:15 PM, 10/15/2019	52.1	66.8	82.1
ST-2	Broadway 7:37 PM, 10/15/2019	46.7	56.6	67.7
ST-3	Canal Street 3:19 PM, 10/16/2019	47.6	70.5	82.1

Criterion a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, State, or federal standards?

Project Construction

Less than Significant with Mitigation. The transport of workers and materials to and from the construction site could incrementally increase noise levels along access road or roads. Individual construction vehicle pass-bys may create momentary noise levels of up to approximately 85 dBA (Lmax) at 50 feet from the vehicle, but these occurrences would generally be infrequent and short lived.

Noise generated by on-site 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 phase of construction involves different kinds of equipment and has distinct noise characteristics. Noise levels from construction activities are typically dominated by the loudest piece or 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 phase is determined by combining the Leq contributions from each piece of equipment used at a given time, while accounting for the ongoing 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 of up 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 dBA per doubling of distance (conservatively ignoring other attenuation effects from air absorption, ground effects, and shielding 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.

The specific mix of construction equipment is not known at this point, but pile driving and other unusually loud pieces of equipment are not anticipated. Construction noise between 7:00 AM and 7:00 PM is exempt from the provisions of the Municipal Code. However, construction activity would create a temporary increase in ambient noise levels surrounding the project and, if uncontrolled, could result in a potentially significant impact. Implementation of Mitigation Measure NOISE-1 would reduce this impact to *less than significant*.

Impact NOISE-1 Construction activity associated with the proposed project would create a temporary increase in ambient noise levels surrounding the project, resulting in a potentially significant impact.

Mitigation Measure NOISE-1. The project applicant shall incorporate the following practices into the construction contract agreement documents to be implemented by the construction contractor during the entire construction phase of the project:

- The project applicant and contractors shall prepare a Construction Noise Control Plan. The details of the Construction Noise Control Plan shall be included as part of the permit application drawing set and as part of the construction drawing set.
- Limit construction to the hours allowed by the County (7:00 AM to 7:00 PM) and prohibit construction on Sundays and holidays.
- At least 21 days prior to the start of construction activities, all off-site businesses and residents within 500' of the project site shall be notified of the planned construction activities. The notification shall 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 shall include the telephone numbers of the County's and contractor's authorized representatives that are assigned to respond in the event of a noise or vibration complaint.
- At least 10 days prior to the start of construction activities, a sign shall be posted at the entrance(s) to the job site, clearly visible to the public, that includes permitted construction days and hours, as well as the telephone numbers of the County'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 shall investigate, take appropriate corrective action, and report the action to the County.

- During the entire active construction period, equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds), wherever feasible.

- Require the contractor to use impact tools (e.g., jack hammers and hoe rams) that are hydraulically or electrically powered wherever possible. Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used along with external noise jackets on the tools.

- During the entire active construction period, stationary noise sources shall be located as far from sensitive receptors as possible, and they shall be muffled and enclosed within temporary sheds, or insulation barriers or other measures shall be incorporated to the extent feasible.

- Select haul routes that avoid the greatest amount of sensitive use areas.

- Signs shall 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 shall 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, shall be for safety warning purposes only. The construction manager shall 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.

Significance with Mitigation. Less than Significant.

Project Operation

Traffic Noise

A project will normally have a significant effect on the environment related to noise if it will substantially increase the ambient noise levels for adjoining areas. Most people can detect changes in sound levels of approximately 3 dBA under normal, quiet conditions, and changes of 1 to 3 dBA are detectable under quiet, controlled conditions. Changes of less than 1 dBA are usually indiscernible. A change of 5 dBA is readily discernible to most people in an exterior environment. Based on this, the following thresholds of significance are used to assess traffic noise impacts at sensitive receptor locations:

- Up to 1.5 dBA increase for ambient noise environments of 65 dBA CNEL and higher;
- Up to 3 dBA increase for ambient noise environments of 60 -64 CNEL; and
- Up to 5 dBA increase for ambient noise environments of less than 60 dBA CNEL.

The peak hour volumes along study roadway segments in the project area were used to analyze traffic noise increases due to the proposed project. This analysis compares Existing with project volumes to Existing No project volumes logarithmically to estimate the project noise increase along the study roadway segments. The additional trips generated by the proposed project would result in a permanent noise level increase of up to 1.2 dBA CNEL, which would not exceed 1.5 dBA CNEL. Therefore, this impact would be *less than significant*. Traffic noise increase calculations are contained in Appendix D.

Stationary Mechanical Equipment

Typical HVAC noise is 72 dBA at 3 feet. The nearest sensitive receptor to potential HVAC equipment on the proposed new gymnasium is Ella Barkley High School, approximately 775 feet southeast. At 775 feet, HVAC noise levels would attenuate to approximately 24 dBA, which would not be audible above existing ambient conditions. This would, therefore, be *less-than-significant* impact.

Recreational Activity

Currently, a large area of turfed playing fields dominates the northeastern portion of the school. The project would include new turfed playing fields that span the east side of the newly-acquired parcel. These would include a track and soccer field located in the northeast corner of the parcel, 2 full-size baseball diamonds south of the soccer field, and 2 junior baseball diamonds toward the center of the parcel. The soccer field and existing football stadium would both be lighted allowing for evening use.

Future operations of the football stadium would generate noise associated with football crowds and amplified music and speech from the proposed PA system. The closest sensitive receptors during evening games and events are residences across 6th Street, located approximately 1,500 south of the center of the proposed center of the football field. Based on noise measurements during high school football games, PA system noise could reach noise levels of up to 55 dBA L_{max} at this distance. Hourly L_{eq} noise levels are anticipated to be less and would, therefore, not exceed the Municipal Code daytime (7:00 AM – 10:00 PM) standard of 55 dBA L_{eq} at the nearest residential uses. Furthermore, noise from the PA system is estimated to be less than existing ambient conditions, as shown during evening noise measurements at ST-1 and ST-2 in Table 3-10. This would be a *less-than-significant* impact.

Noise and Land Use Compatibility

The nearest proposed classroom buildings to roadway traffic noise would be the new teaching stations located approximately 100 feet from the Canal Street northbound centerline. At this distance, and based on ambient noise monitoring results, noise levels at the new teaching stations are estimated to be 64 dBA CNEL. The Noise Element of the Glen County General Plan does not include a noise and land use compatibility table. The State of California has adopted its own noise and land use compatibility guidelines and indicates that new school uses are "Normally Acceptable" in exterior noise environments of up to 70 dBA CNEL. For new building construction, school uses are "Conditionally Acceptable" in noise environments of up to 70 dBA CNEL. It is noted that conventional construction with windows open will attenuate outdoor noise by about 15 dBA to an interior level of 49 dBA. The State of California's noise insulation standards for non-residential uses are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 11,

3. Environmental Analysis

California Green Building Standards Code (CALGreen). Under the CALGreen performance method, a project must demonstrate that interior noise levels do not exceed 50 dBA $L_{eq(1hr)}$. Therefore, acceptable interior classrooms noise levels could be met without the need for any special sound-rated window upgrades or mitigation and this impact would be *less than significant*.

Criterion b. Would the project expose people to or generate excessive groundborne vibration or ground borne noise levels?

Construction Vibration

Less than Significant Impact. Construction can generate varying degrees of ground vibration, depending on the construction procedures and equipment. Operation of construction equipment generates vibrations that spread through the ground and diminish with distance from the source. The effect on buildings in the vicinity of the construction site varies depending on soil type, ground strata, and receptor-building construction. The effects from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. Vibration from construction activities rarely reaches the levels that can damage structures.

For reference, a vibration level of 0.2 inches per second (in/sec) peak particle velocity (PPV) is used as the limit for non-engineered timber and masonry buildings (which could be applied to the surrounding structures) (FTA 2018). As shown in Table 3-11, typical construction equipment aside from vibratory rollers produce vibration levels of less than 0.2 in/sec at a distance of 25 feet. At over 25 feet, vibratory roller vibration levels would attenuate to less than the 0.2 in/sec PPV. There are no off-site buildings or structures within 25 feet of the construction areas and, therefore, impacts would be *less than significant*.

Table 3-11 Vibration Levels for Typical Construction Equipment

Equipment	PPV (in/sec) at 25 feet
Vibratory Roller	0.21
Large Bulldozer	0.089
Loaded Trucks	0.079
Jackhammer	0.035
Small Bulldozer	0.003

Source: Federal Transit Administration (FTA), 2018. *Transit Noise and Vibration Impact Assessment*, September.

Operational Vibration

Less than Significant Impact. The operation of the proposed project would not include any substantial long-term vibration sources, such as rail, subway or heavy industrial equipment. Thus, the impact would be *less than significant*.

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

No Impact. The nearest airport is Haigh Field, approximately 6.75 miles southwest of the project site. People working in the project area would not be exposed to excessive noise levels. There would be *no impact*.

XIV. POPULATION AND HOUSING

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

Discussion

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

Less than Significant Impact. The proposed project would be limited to a 250-student expansion of an existing high school. No homes, business or infrastructure are proposed. As explained Section II, Agriculture and Forestry Resources, the project is primarily a response to an expected 15 percent increase in District enrollment over the next six (6) years. This growth is driven largely by 250 housing units planned within District boundaries. As such, the project would not induce unplanned population growth, but accommodate planned growth with a school expansion. The impact would be *less than significant*.

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

No Impact. project construction would be restricted to the Hamilton High School campus, and no housing would be displaced or replaced. *No impact* would occur.

XV. PUBLIC SERVICES

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

Discussion

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

Criterion a.i. Fire protection?

Less Than Significant Impact. The Hamilton City Fire Department provides fire protection services to the project site, located approximately 0.6 miles to the southeast. The proposed project would result in the development of an extension of an existing high school on a site currently used for agriculture. The proposed project would result in the construction of new buildings, modernization of existing buildings, and development of new parking and circulation facilities to expand the school capacity to approximately 500 students, a 56 percent increase in student capacity. Thus, development of the proposed project may increase the potential for on-site fire-related incidents and impacts to fire service provision. However, the project is proposed partially on land that is already developed, and partially on land that is currently used for agricultural purposes, neither of which have a known fire risk. New demand for public services, such as fire protection, are

3. Environmental Analysis

primarily driven by population growth. As described in Section XIV, Population and Housing, the project would not result in substantial direct or indirect population growth. Additionally, the improvement of the onsite parking and queuing would remove congestion in the adjacent neighborhood, and the addition of fire lanes around the site would thereby improve emergency vehicle access. The impact would be *less than significant*.

Criterion a.ii. Police protection?

Less Than Significant Impact. The project site is located on the northeastern boundary of Glenn County. Police protection services are provided by the Glenn County Sheriff, which is responsible for all law enforcement services in unincorporated areas of Glenn County and within the City of Willows. The nearest Sheriff's station is located approximately 8.15 miles to the west of the project site. The proposed project would result in the construction of new buildings, modernization of existing buildings, and development of new parking and circulation facilities to expand the school capacity to approximately 500 students, a 56 percent increase in student capacity. Thus, development of the proposed project may increase the potential for on-site police-related incidents and impacts to police service provision. However, land uses such as schools do not tend to generate police activity as frequently as other uses. Further, new demand for public services such as police protection are primarily driven by population growth, and as described above in Section XIV, Population and Housing, the project would not result in substantial direct or indirect population growth. This means that the increase in demand for police services would not be substantial and would not create a need for new police facilities. Environmental impacts from new police facilities would be *less than significant*, and no mitigation is required.

Criterion a.iii. Schools?

No Impact. School service needs are related to the size of a residential population, geographic area served, and community characteristics. The proposed project would address the most critical physical needs of buildings and grounds at the campus through the improvements onsite and the campus expansion. Once constructed, the new school facilities would continue to serve the existing Hamilton High School program and students in the District attendance area. No negative impact on school facilities or services would occur. There would be *no impact*.

Criterion a.iv. Parks?

Less than Significant Impact. Demand for parks is typically induced by the construction of housing, which directly induces population growth, or development of infrastructure that may generate indirect population growth, such as the extension of public roadways. As described above in Section XIV, Population and Housing, the proposed project would not result in substantial direct or indirect population growth. The proposed project would improve Hamilton High School's recreational facilities that are available for community use. The proposed project would provide amenities that are not now available in the community, such as a track and soccer field, two baseball diamonds and two junior baseball diamonds. Therefore, a *less-than-significant* impact would result.

Criterion a.v. Other public facilities?

Less than Significant Impact. The demand for public facilities is typically driven by increases in population and, as discussed above, the project would have a less-than-significant impact with respect to population growth. The fact that the project would improve facilities at an existing school and expand the school to accommodate 250 students over a period of 10 to 12 years would not result in the need for new or expanded public facilities. A *less-than-significant* impact would result.

XVI. RECREATION

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

Discussion

Criterion 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?

Less Than Significant Impact. Operation of Hamilton High School would not require students to use existing neighborhood or regional parks. The proposed project would enhance and update the school's outdoor recreational spaces and develop an indoor gymnasium. The proposed project would improve Hamilton High School's recreational facilities with amenities that are not now available in the community, such as a track and soccer field, two baseball diamonds and two junior baseball diamonds. The resulting impact on recreational facilities would be *less than significant*.

Criterion 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?

Less Than Significant Impact. As discussed under Criterion a., above, the proposed project would not require construction of offsite recreational facilities. The proposed project includes new and enhanced recreational facilities at Hamilton High School. The environmental effects related to the whole project, including the recreational facility improvements and additions, are discussed throughout this IS/MND. Impacts would be *less than significant*.

XVII. TRANSPORTATION

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant	No Impact
TRANSPORTATION. Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☑	☐
b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	☐	☐	☑	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☑	☐
d) Result in inadequate emergency access?	☐	☐	☑	☐

Discussion

This discussion is based in part on the Hamilton High School Site Expansion – Traffic Analysis Memorandum provided as Appendix E of this IS/MND.

Criterion a. Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less than Significant Impact. The proposed project would result in the modernizing of existing school facilities and the construction of new facilities, play fields, and associated parking. The project would increase student capacity from 290 to 540, which is an increase of 250 students. With the increase associated with the project, the high school would generate a maximum of 508 weekday daily trips, over a period of up to 12 years. This includes 130 trips (87 inbound and 43 outbound) during the AM peak hour; 35 trips (17 inbound and 18 outbound) during the PM peak hour, and 82 trips (26 inbound and 56 outbound) during the student dismissal hour. This level of project-generated traffic would not conflict with transportation-related policy, and no mitigation measures would be required. Alternative transportation modes are discussed below.

Bicycle and Pedestrian Facilities

The infrastructure for pedestrian and bicycle travel in the vicinity of the project site has not been fully developed; sidewalks are not continuous, and no bicycle lanes have been marked. However, the project would include dedicated bicycle lanes along the western perimeter of the site and 20 new bicycle parking spaces would be provided as part of Phase I of the project. Pedestrian access to the school would continue to be via sidewalks along Canal Street. There will also be pedestrian access to the southern area of the school through the existing Hamilton High School site. Therefore, bicycle and pedestrian impacts would be *less than significant*, and no mitigation measures are required.

3. Environmental Analysis

Transit

Public transit is provided by Glenn Ride which runs seven round trips every weekday and three round trips on Saturday from Willows to Chico with service to Artois, Orland and Hamilton City. Weekday hours of operation are approximately 5:15 am to 8:13 pm while Saturday service operates from 8:00 am to 7:23 pm. The closest bus stop is located at 5th Street and Los Robles Avenue, approximately 0.18 miles from the school. The project site would not generate a significant number of new transit trips as the users of the site are expected to be future residents of Hamilton City. Therefore, transit impacts would be *less than significant,* and no mitigation measures are required.

Criterion b. Would the project conflict with or be consistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Less than Significant Impact. On September 27, 2013, SB 743 was signed into law. SB 743 started a process that could fundamentally change transportation impact analysis as part of CEQA compliance. These changes include the elimination of auto delay, level of service (LOS), and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts in many parts of California (if not statewide). As part of the updated CEQA Guidelines, the new criteria "shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses" (Public Resources Code Section 21099(b)(1)). On January 20, 2016, OPR released revisions to its CEQA guidelines for the implementation of SB 743. Final review and rulemaking for the new guidelines were completed in December 28, 2018 when the California Natural Resource Agency certified and adopted the CEQA Guidelines update package, including guidelines section implementing Senate Bill 743. OPR allows agencies an opt-in period to adopt the guidelines; they become mandatory on July 1, 2020. Vehicle miles traveled (VMT) is an indicator of the travel levels on the roadway system by motor vehicles. It corresponds to the number of vehicles multiplied by the distance traveled in a given period over a geographical area. In other words, VMT is a function of (1) number of daily trips and (2) the average trip length (VMT= daily trips x average trip length). Glenn County has not implemented VMT metrics yet and currently uses the established LOS criteria.

Furthermore, the project would serve the existing and future residents within its attendance boundary and the expansion will accommodate the anticipated future demand for the school. There is currently no traditional high school within a close proximity of the project site within the school district; residents would have to travel a longer distance to attend the existing nearby schools if the project is not implemented. Therefore, an increase in VMT would occur if the proposed project is not implemented. The project would not alter traffic patterns in the area; therefore, impacts of the project regarding VMT would be *less than significant*.

Criterion c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than Significant Impact. The project site is bounded on the western edge by Canal Road and on the southern edge by 6th Street. The intersection of Canal Road and SR 32 is located on the southern edge of the project site. Parking and circulation improvements on-site as part of the proposed project consist of a new parking lot during Phase II, which would be located directly off Canal Road. The parking lot would consist of a U-shaped design with easy ingress and egress. The proposed project does not include new geometric design features or incompatible uses that would substantially increase hazards on the site. Therefore, impacts of the proposed project on introducing transportation hazards to the project site would be *less than significant*.

Criterion d. Would the project result in inadequate emergency access?

Less than Significant Impact. Circulation improvements on the project site include the addition of a new vehicular and emergency assess route through the campus. This includes walkways and a designated fire loop encompassing the area in which new buildings would be constructed. Therefore, adequate emergency access routes would be provided as part of the proposed project, and the impact would be *less than significant*.

XVIII. TRIBAL CULTURAL RESOURCES

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

Discussion

The following discussion is based primarily on Cultural Resources Study for the Hamilton Union High School Expansion project Hamilton City, Glenn County, California performed in November 2019. The study is attached to this IS/MND as Appendix B.

The Native American Historic Resource Protection Act, Assembly Bill 52 (AB 52), took effect on July 1, 2015. The Bill amends CEQA and adds standards of significance that relate to Native American consultation and certain types of cultural resources. projects subject to AB 52 are those that file a notice of preparation for an EIR or notice of intent to adopt a negative or mitigated negative declaration on or after July 1, 2015. As of July 1, 2016, the Governor's Office of Planning and Research (OPR) developed guidelines and the NAHC informed tribes which agencies are in their traditional area. In response to these guidelines, this Section has been added as a stand-alone section to this IS/MND.

AB 52 requires the CEQA lead agency to begin consultation with a California Native American Tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if the Tribe requests in writing, to be informed by the lead agency through formal notification of the proposed projects in the area. The consultation is required before the determination of whether a negative declaration, mitigated negative declaration, or EIR is required. In addition, AB 52 includes time limits for certain responses regarding consultation. AB 52 also adds "tribal cultural resources" (TCR) to the specific cultural resources protected under CEQA. CEQA Section 21084.3 has been added, which states that "public agencies shall, when feasible, avoid damaging effects to any tribal cultural resources."

Information shared by tribes as a result of AB 52 consultation shall be documented in a confidential file, as necessary, and made part of a lead agencies administrative record. In response to AB 52, there were no requests from any Tribes in the geographic area with which it is traditionally and culturally affiliated with or otherwise to be notified about projects.

A TCR is defined under AB 52 as a site, feature, place, or cultural landscape that is geographically defined in terms of size and scope, sacred place, and object with cultural value to a California Native American tribe that are either included or eligible for inclusion in the California Register of Historic Resources or included on a local register of historical resources, or if the lead agency, supported by substantial evidence, chooses at its discretion to treat the resource as a TCR.

Criterion a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 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:

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

No Impact. The project site contains Hamilton High School and an adjacent agricultural parcel. The school campus is not identified as a state or national historic resource. As recorded in the Cultural Resources Study, the well and power line on the adjacent parcel are too new to be considered eligible for inclusion on the California Register. Therefore, there would be *no impacts* to historical resources.

Criterion a.ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less than Significant with Mitigation. As discussed in Section V, Cultural Resources, the cultural resources study performed for the project applied a buried sites model to assess the potential for archaeological resources. The study concluded that there is a high potential for buried archaeological sites on the 48-acre agricultural parcel based on landform age, analysis of the environmental and historic setting, and the results of previous studies conducted throughout the state. These sites may include physical Tribal Cultural Resources that would represent a potentially significant impact if disturbed. This impact would be mitigated to a *less-than-significant* level by Mitigation Measure TRIBAL-1a.

3. Environmental Analysis

Impact TRIBAL-1a Construction activities associated with the proposed project may disturb buried Tribal Cultural Resources.

Mitigation Measure TRIBAL-1a. Implement Mitigation Measure CULT-1.

Significance after Mitigation. Less than Significant.

As part of the AB 52 diligence process, the authors of the cultural resources study requested a search of the Scared Lands File from the Native American heritage Commission (NAHC). As documented in the study, the NAHC replied via email that the Sacred Lands File has no information about the presence of Native American cultural resources in the immediate project area.

However, in a November 19, 2019 response to an AB 52-required invitation to tribes to consult on the project, Kyle McHenry, Tribal Historic Preservation Officer for the Mechoopda Indian Tribe, stated that the study area is within ancestral lands of the tribe, and that they believe the study area is highly sensitive. Mr. McHenry requested that a monitor from the Mechoopda Indian Tribe be present during earth moving and grading activities. This potential impact would be mitigated to a *less-than-significant* level by Mitigation Measure TRIBAL-1b.

Impact TRIBAL-1b The proposed project could disturb a highly sensitive ancestral site of the Mechoopda Indian Tribe.

Mitigation Measure TRIBAL-1b: Representative(s) of the Mechoopda Indian Tribe shall be kept apprised of the project progress throughout the planning and development process. The District shall facilitate tribal monitoring of the site preparation process, including earth moving and grading, and accommodate all tribal requests for further project information and consultation.

Significance after Mitigation. Less than Significant.

XIV. UTILITIES AND SERVICE SYSTEMS

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

Discussion

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

Less Than Significant Impact. The proposed project involves the acquisition and conversion of a 48-acre parcel from active farmland to high school uses. Phase I of construction would span approximately 2 to 5 years and will begin with the required expansion and upgrade of existing gas and electric, telecommunication systems, stormwater, and water infrastructure on the site to support new facilities proposed in Phases I and II. The proposed project would expand the capacity of the school to accommodate approximately 250 additional students for a future total of 500 students. The project would include annexation of the site to the Hamilton City Community Services District (CSD), which would provide wastewater services. Water would be provided by California Water Services-Chico District (CalWater CHCD). Natural drainage facilities at the school site would be approved by Glenn County Planning and Public Works Agency. Electrical and gas utilities would be provided by Pacific Gas & Electric Company (PG&E).

3. Environmental Analysis

The acquisition site currently has a septic system with an unknown date of installation.[65] The septic system will be removed as part of the project. The CSD treatment facility is located a quarter of a mile from the City and the school site will be connected to the CSD sewer system. As discussed in detail under Criterion c., below, the system is operating at approximately one-half of its design capacity, and the facility can serve an additional 2,500 residences before expansion will be necessary.[66] Therefore, development of the proposed project would not require any improvements and the impact of the proposed project on CSD treatment facility would be *less than significant*.

As discussed in detail in Section X, Hydrology and Water Quality, the proposed project would not exceed the capacity of the natural stormwater drainage system that serves the project site. Additionally, the proposed bioswales and retention basins would facilitate natural drainage, control runoff associated with project hardscaping, and further reduce the potential for storm water pollution or an exceedance of existing drainage capacity. Therefore, as described above in Section X, Hydrology and Water Quality, impacts would be *less than significant,* and no mitigation measures would be required for the stormwater system.

The sole source of water supply for the customers of the CalWater CHCD is groundwater which is extracted from the aquifers of the Sacramento River Valley.[67] Other utility facilities that serve the project site include electric power and natural gas provided by PG&E and telecommunications facilities. Cable television and internet service would be available from several providers, including AT&T and Xfinity. The project would include appropriate on-site infrastructure to connect to the existing water mains, PG&E, and telecommunication systems. The project would not require new off-site facilities, new distribution infrastructure, or capacity improvements to any existing facilities. Accordingly, impacts would be *less than significant*.

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

Less Than Significant Impact. The sole source of water supply for the customers of the CalWater CHCD is groundwater which is extracted from the aquifers of the Sacramento River Valley. Due to the relative abundance of groundwater resources in the region of the Sacramento Valley, there has not been a comprehensive hydrogeologic investigation of the basin nor has there been a legal adjudication of groundwater rights for basin pumpers. [68] The 2015 Urban Water Management Plan (UWMP) for the CalWater CHCD, which includes the area for the project site, reports the historic groundwater pumping rate from the Corning Subbasin for Hamilton was 484 acre-feet (ac-ft) in 2011 and 363 ac-ft in 2015. Additionally, the UWMP states that there is enough water for its customers for normal, single-dry, and multiple-dry years until 2040.[69]

[65] NV5, 2018. Phase I Environmental Site Assessment for Hamilton Union High School Expansion, dated September 13, 2018.
[66] California Water Service (CalWater) Chico-Hamilton City District, 2016. 2015 Urban Water Management Plan, prepared June 2016.
[67] California Water Service (CalWater) Chico-Hamilton City District, 2016. 2015 Urban Water Management Plan, prepared June 2016.
[68] California Water Service (CalWater) Chico-Hamilton City District, 2016. 2015 Urban Water Management Plan, prepared June 2016.
[69] California Water Service (CalWater) Chico-Hamilton City District, 2016. 2015 Urban Water Management Plan, prepared June 2016.

Assuming the average school demand rate of 15,732 gallons/student/year, the water demand generated by the 250 additional students as a result of this project would be 3.93 mgal/year, or approximately 0.01 mgal/day.[70] This would represent a 0.41 percent increase in CalWater CHSD demand during Normal Year 2020 (29,397 ac-ft or 957.9 mgal) and a 0.33 percent increase in demand during Normal Year 2035 (35,916 ac-ft or 1,170 mgal). Additionally, the 0.01 mgal/day increase in water demand represents a 1.8 percent increase compared to the average groundwater pumping amount for the three CalWater CHSD wells in Hamilton City of 0.56 mgal per day.[71] The UWMP accounts for future increases in population and a 7 percent increase in water usage by institutional and governmental accounts between 2020 and 2040.[72] Therefore, the proposed project is accounted for in the UMWP's future water demand projections and impacts are considered *less than significant*.

Criterion c. Would the project 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. As discussed in Criterion a., the CSD provides wastewater services in Hamilton City and the treatment facility is located a quarter of a mile southeast from the City. The system is operating at approximately one-half of its design capacity of 0.5 million gallons per day (MGD), and the facility can serve an additional 2,500 residences before expansion will be necessary.[73]

Assuming an average school indoor water usage rate of 4,405 gallons/student/year, the amount of indoor water used by the 250 additional students as a result of this project would be 1.1 Mgal/year, or 0.003 Mgal/day.[74] Assuming 90 percent of the net increase in water demand for the proposed project becomes wastewater, the proposed project would generate 0.0027 mgal/day of wastewater. This represents less than 1 percent (0.54 percent) of the treatment facility capacity.

While the increase in wastewater flows from implementation of the proposed project would add to the capacity demands on the Hamilton City CSD treatment facility and its conveyance system, the amount of wastewater generated would not exceed the remaining capacity. Therefore, impacts of the proposed project on the CSD treatment facility would be *less than significant*.

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[70] California Air Pollution Control Officers Association, California Emissions Estimator Model, Appendix D, Water Rates, 2016. http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/05_appendix-d2016-3-1.pdf, accessed November 4, 2019.

[71] California Water Service (CalWater) Chico-Hamilton City District, 2019. District Information access on October 30, 2019 at https://www.calwater.com/about/district-information/ch/.

[72] California Water Service (CalWater) Chico-Hamilton City District, 2016. 2015 Urban Water Management Plan, prepared June 2016.

[73] California Water Service (CalWater) Chico-Hamilton City District, 2016. 2015 Urban Water Management Plan, prepared June 2016.

[74] California Emissions Estimator Model, Appendix D, Water Rates, September 2016. http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/05_appendix-d2016-3-1.pdf, accessed November 4, 2019.

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

Less Than Significant Impact. Solid waste in Glenn County is collected by franchised haulers and taken to the Glenn County Transfer Station, newly opened in October 2019.[75] The new 20-acre transfer station is located at the former Glenn County Landfill in Artois, California, and the maximum permitted tonnage is 250 tons per day.[76]

Using a standard of 1 lb/day/student, the buildout of the proposed project is estimated to generate approximately 250 pounds per day (ppd) or 0.125 tons per day of solid waste.[77] The project's contribution to solid waste generation represents 0.05 percent of the maximum daily throughput for Glenn County Transfer Station.

Overall, enough landfill capacity is available in the region for the estimated solid waste generated by the proposed project and project development would not require an expansion of landfill capacity. Therefore, impacts are considered *less than significant*.

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

Less Than Significant Impact. Solid waste would be generated during construction and operation of the proposed project. The proposed project would comply with all regulations pertaining to solid waste, such as the California Integrated Waste Management Act and the County's solid waste and recycling programs. The HUSD and its construction contractor would comply with all applicable laws and regulations and make every effort to reuse and/or recycle the construction debris that would otherwise be taken to a landfill. Hazardous waste, such as paint used during construction, would be disposed of only at facilities permitted to receive them in accordance with local, state, and federal regulations. The proposed project would comply with all applicable local, state, and federal statutes and regulations related to solid waste disposal. Therefore, impacts are considered *less than significant*.

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[75] Glenn County, 2019. Public Works Agency, Solid Waste Division announcement, dated October 14, 2019. Accessed on November 1, 2019 at https://www.countyofglenn.net/news/public-information/20191008/glenn-county-transfer-station-opens-october-14-2019.

[76] CalRecycle, 2019. Public Notice: Glenn County Transfer Station – Glenn County, accessed on November 1, 2019 at https://www2.calrecycle.ca.gov/PublicNotices/Details/1720.

[77] CalRecycle, 2019. Estimated Solid Waste Generation Rates. https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates, accessed November 4, 2019.

XX. WILDFIRE

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

Discussion

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

Criterion a. Substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact. Hamilton City and the project site are located outside California Board of Forestry state responsibility areas.[78] Hamilton City is also outside California Department of Forestry and Fire Protection Moderate, High and Very High fire severity zones.[79] There would be *no impact*.

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

No Impact. Hamilton City and the project site are located outside California Board of Forestry state responsibility areas. Hamilton City is also outside California Department of Forestry and Fire Protection Moderate, High and Very High fire severity zones. There would be *no impact*.

[78] California Board of Forestry, State Responsibility Area Viewer web page, https://bof.fire.ca.gov/projects-and-programs/state-responsibility-area-viewer/, accessed October 11, 2019.

[79] California Department of Forestry And Fire Protection, Fire and Resource Assessment Protection Program, Glenn County Fire Severity Zones e-map, https://osfm.fire.ca.gov/media/6450/fhszs_map11.jpg, accessed October 11, 2019.

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

No Impact. Hamilton City and the project site are located outside California Board of Forestry state responsibility areas. Hamilton City is also outside California Department of Forestry and Fire Protection Moderate, High and Very High fire severity zones. There would be *no impact*.

Criterion d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. Hamilton City and the project site are located outside California Board of Forestry state responsibility areas. Hamilton City is also outside California Department of Forestry and Fire Protection Moderate, High and Very High fire severity zones. There would be *no impact*.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

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

Discussion

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

Less Than Significant Impact with Mitigation. The proposed project would improve the facilities on the school site as well as improve parking and queuing onsite. Implementation of Mitigation Measure BIO-1 would ensure that nesting birds are protected and preserved. The proposed project would occur within the school's existing boundary and an adjacent parcel with historic agricultural use; impacts would be limited to non-sensitive development areas. No sensitive animal or plant species would be impacted. Additionally, the implementation of Mitigation Measures CULT-1 and GEO-1 and TRIBAL-1a/b would ensure that archaeological, paleontological and tribal resources, respectively, are protected and preserved.

Criterion b. Does the project have impacts that are individually limited, but cumulatively considerable?

Less Than Significant Impact. The proposed project would improve the existing school facilities. The proposed project would expand the school footprint, resulting in conversion of prime farmland. However, this conversion is supported by general plan policy and would not contribute to further conversion. The proposed project would improve parking and queuing onsite, thereby reducing congestion on the surrounding roadways. Therefore, the proposed project would result in *less-than-significant* cumulative impacts in the surrounding area.

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

Less Than Significant Impact. The proposed project would improve the facilities at the school and would improve parking and queuing onsite. By increasing efficiency and flow for vehicles to enter and exit the school property, congestion on adjacent streets would be reduced, thereby creating a safer environment for students who live in the neighborhood to walk and/or bike to campus. As demonstrated in this IS/MND, the proposed project would not substantially increase environmental effects that would directly or indirectly affect human beings. Impacts would be *less than significant*.

4. List of Preparers

LEAD AGENCY

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The project team included:
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The project team included:
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TOM ORIGER & ASSOCIATES

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The project team included:
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ENVIRONMENTAL COLLABORATIVE

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4. List of Preparers

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Appendix A

Air Quality and Greenhouse Gas Technical Report

Air Quality and Greenhouse Gas Background and Modeling Data

AIR QUALITY

Sacramento Valley Air Basin

The project site lies in the Sacramento Valley Air Basin (SVAB) which includes comprised of Butte, Colusa, Glenn, Placer, Sacramento, Shasta, Solano, Sutter, Tehama, and Yolo counties. The basin lies along the northern central valley of California and covers an area of nearly 15,000 square miles. The topography of the region is typically flat, with relief from just below sea level in the river delta to 2,150 feet above sea level on the Sutter Buttes.[1] The Sacramento River and its tributaries flow through the entire air basin. The north sector of the basin is dominated by the Klamath and Cascade Ranges, while the west is bordered by the Coastal Mountain Range. The eastern sector is bound by the southern portion of Cascade Mountain Range and the northern portion of the Sierra Nevada Mountains while the San Joaquin Valley borders the valley to the south.

The characteristic climate of the SVAB is influenced by its topography and geography. The Mediterranean climate of the region is represented by its hot, dry summers and mild, wet winters with temperatures generally ranging from 20°F to 115°F annually.[2] The climatological station nearest to the project site with temperature data is the Orland Monitoring Station (ID No. 046506). The lowest average temperature is reported at 36.7°F in January, and the highest average temperature is 96.7°F in August.[3]

In contrast to a very steady temperature pattern, rainfall is seasonally and annually highly variable. The region receives about 20 inches of rain annually, with about 75 percent occurring between November through March. In Glenn County, almost all rain falls from October through April with scattered showers throughout the summer. Rainfall historically averages 19.95 inches per year in the project area.[4]

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1 Sacramento Area Council of Governments (SACOG). 2016, February. 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy, Chapter 7: Environmental Sustainability. https://www.sacog.org/sites/main/files/file-attachments/7_-_environmental _sustainability.pdf.

2 Sacramento Area Council of Governments (SACOG). 2016, February. 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy, Chapter 7: Environmental Sustainability. https://www.sacog.org/sites/main/files/file-attachments/7_-_environmental _sustainability.pdf

3 Western Regional Climate Center (WRCC). 2019, September 9 (accessed). Orland, California ([Station ID] 046506): Period of Record Monthly Climate Summary, 03/01/1903 to 06/10/2016. Western U.S. Climate Summaries. https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6506.

4 Western Regional Climate Center (WRCC). 2019, September 9 (accessed). Orland, California ([Station ID] 046506): Period of Record Monthly Climate Summary, 03/01/1903 to 06/10/2016. Western U.S. Climate Summaries. https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6506.

The Sacramento Valley is shielded from the ocean and, thus, is generally less affected by maritime conditions. However, due to its topography, the relative humidity of the SVAB can vary drastically. The warm seasons are characterized by low humidities that can occasionally decrease further under the influence of the northerly winds. Strong marine intrusion during the summer creates a transitional zone between the high coastal humidity and low continental humidity in the delta area surrounding the Sacramento and San Joaquin Rivers. Winter humidity is typically moderate to high. Between late fall through early spring, thick radiation fog forms overnight as the air close to the ground cools rapidly and reaches its saturation point. The resulting fog forms near the surface and extends upward as the air above it cools. In the Sacramento Valley, a special type of radiation fog, tule fog, forms as the cool, moist air from the Pacific travels over the valley during clear nights with little wind and can last up to two or three weeks.[5]

Due to the north-south orientation of the valley, the prevailing wind travels south year-round. In addition, the mountains surrounding the valley helps to direct onshore air currents through the valley. Spring wind patterns are dominated by marine intrusion through the Carquinez Straight that travels north through the valley, as well as katabatic, or downslope, winds from the Cascade and Klamath ranges.[6]

During the summer, the Sacramento Valley's diurnal wind flow pattern is characterized by marine intrusions and anabatic, or upslope, wind toward the mountains. These wind flow patterns are much stronger than the contesting downslope flows and land breezes. The summer air flow patterns are thus generally dominated by these daytime conditions although there are a significant number of instances in which strong northerly winds travel through the valley.

Autumn winds are characterized by competing marine intrusion winds travelling north and katabatic flows travelling south through the valley. During the winter, the SVAB's wind flow pattern is characterized by downslope flows from its bordering mountain ranges into the valley, in addition to strong south winds.

Air stagnation often occurs from autumn until early winter due to large high-pressure cells and reduced surface heating in the region that diminish surface winds and vertical air flow.[7] The mountains surrounding the valley further obstruct air flow, trapping and concentrating air pollutants in the region under high pressure systems. Furthermore, because of the onshore winds, the air quality of the Sacramento Valley is impacted by pollutants generated in the San Francisco Bay Area and the San Joaquin Valley, in addition to those generated in the region.

The surface concentrations of pollutants are highest when these conditions coincide with temperature inversion that trap cool air and pollutants near the ground. During an inversion, the typical state of the

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[5] Harold Gilliam. 2002. Weather of the San Francisco Bay Region, 2nd Ed.

[6] California Air Resources Board (CARB). 1994, February. California Surface Wind Climatology. https://ww3.arb.ca.gov/research/apr/reports/l013.pdf

[7] Sacramento Area Council of Governments (SACOG). 2016, February. 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy, Chapter 7: Environmental Sustainability. https://www.sacog.org/sites/main/files/file-attachments/7_-_environmental_sustainability.pdf

atmosphere is reversed and, consequently, air temperature increases with height. The warmer air above the inversion base is less dense than the underlying cooler layer, and thus acts like a lid to prevent vertical air mixing.[8]

The Glenn County Air Pollution Control District (GCAPCD) serves all of Glenn County, an agricultural community on the west side of the Northern Sacramento Valley Air Basin (NSVAB) about 80 miles north of Sacramento. The physical geography of the county provides a challenge to its air quality management. As it lies in a basin, Glenn County is subject to the effects of pollutants trapped between the surrounding mountain ranges. This condition can be further aggravated by frequent temperature inversions in the area and prevailing winds sweeping in from San Francisco Bay Area that further concentrate the air pollution in the region. In addition, growth and urbanization throughout the county have contributed to an increase in vehicle emissions and its consequent air quality conditions.[9]

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 is subject to the rules and regulations imposed by the GCAPCD. However, GCAPCD 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 Federal Clean Air Act was passed in 1963 by the United States Congress and has been amended several times. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The Clean Air Act allows states to adopt more stringent standards or to include other pollutants. 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.

The National 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

[8] Sacramento Area Council of Governments (SACOG). 2016, February. 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy, Chapter 7: Environmental Sustainability. https://www.sacog.org/sites/main/files/file-attachments/7_-_environmental_sustainability.pdf

[9] Orland, City of. 2010, October. City of Orland General Plan. http://cityoforland.com/_documents/DraftGeneralPlanOct2010.pdf.

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, which are shown in Table 1, *Ambient Air Quality Standards for Criteria Pollutants*. These pollutants are 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.

Table 1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[a]	Federal Primary Standard[b]	Major Pollutant Sources
Ozone (O_3)[c]	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 ($PM_{2.5}$)[d]	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	
Lead (Pb)	30-Day Average	1.5 µg/m^3	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	*	1.5 µg/m^3	

Table 1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[a]	Federal Primary Standard[b]	Major Pollutant Sources
	Rolling 3-Month Average	*	0.15 µg/m^3	
Sulfates (SO_4)[e]	24 hours	25 µg/m^3	*	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 hours	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.

Table 1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[a]	Federal Primary Standard[b]	Major Pollutant Sources

Notes: ppm: parts per million; μg/m^3; micrograms per cubic meter; *Standard has not been established for this pollutant/duration by this entity.
a. 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.
b.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/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
c. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
d. On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/m^3 to 12.0 μg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/m^3, as was the annual secondary standard of 15 μg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 μg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
e. 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.
Source: California Air Resources Board, 2017, March, Short-Lived Climate Pollutant Reduction Strategy, https://www.arb.ca.gov/cc/shortlived/meetings/03142017/final_slcp_report.pdf, accessed December 5, 2018.

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

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

CRITERIA AIR POLLUTANTS

Pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and State law under the federal Clean Air Act ("National") and CCAA, respectively. The pollutants emitted into the ambient air by stationary and mobile sources are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NO_x), 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 have been established for them. ROG and NO_x are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and nitrogen dioxide (NO_2) are the principal secondary pollutants. Along with other Air Pollution Control and Air Quality Management Districts in the NSVAB, Glenn County belongs to the Northern Sacramento Valley Planning Area (NSVPA). Together, the Districts prepare a triennial update of the Air Quality Attainment Plan (AQAP), with the most recent update in 2018 primarily reviewing ozone and its precursors.[10] Each of the primary and secondary criteria air pollutants and its known health effects is described here.

- Carbon Monoxide (CO) Carbon monoxide is formed by the incomplete combustion of carbon-containing material. Because it is directly emitted from combustion engines, carbon monoxide can have adverse localized impacts, primarily in areas of heavy traffic congestion. Because it is emitted directly and has limited dispersion characteristics, CO is considered a localized pollutant. When carbon monoxide combines with hemoglobin in the blood, the oxygen-carrying capacity of the blood is reduced, and the release of oxygen is inhibited or slowed. This condition puts the following at risk: patients with angina, persons with other cardiovascular diseases, chronic obstructive lung disease, or asthma; persons with anemia, and fetuses. At higher levels, CO also affects the central nervous system. Symptoms of exposure may include headaches, dizziness, sleepiness, nausea, vomiting, confusion, and disorientation.[11] The SVAB is designated unclassified under the California AAQS and attainment/unclassified designation under the National AAQS.[12]

- Reactive Organic Gases (ROGs)/ Volatile Organic Compounds (VOCs) are compounds composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of ROGs. Other sources of ROGs include evaporative emissions from paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by ROGs, but rather by reactions of ROGs to form secondary pollutants such as O_3. As a reactant in ozone formation, ROGs are often referred to as an ozone precursor.[13] There are no AAQS established for ROGs. Furthermore, per correspondence with GCAPCD staff, Glenn County has not yet established their own significance thresholds for criteria air pollutants. Currently, the District uses thresholds determined by Shasta County Air Quality Management District (Shasta County AQMD). As VOCs contribute to the formation of O_3, Shasta County AQMD has established a significance threshold for this pollutant.[14]

- Nitrogen Oxides (NO_x) are a by-product of fuel combustion and contribute to the formation of several air pollutants, including ozone. As a reactant in ozone formation, it is often referred to as an ozone precursor.[15] The two major components of NO_x are nitric oxide (NO) and NO_2. The principal component of NO_x produced by combustion is NO, but NO reacts with oxygen to form NO_2, creating the mixture of

10 Northern Sacramento Valley Planning Area (NSVAB). 2018, December. 2018 Triennial Air Quality Attainment Plan. http://www.airquality.org/SVBAPCC/Documents/2018%20Triennial%20Report.pdf.

11 US Environmental Protection Agency (USEPA). 2019, June 13 (updated). Basic Information about Carbon Monoxide (CO) Outdoor Air Pollution. https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-pollution#Effects.

12 California Air Resources Board (CARB), 2019, February 20. Appendix C: Maps and Tables of Area Designations for State and National Ambient Air Quality Standards. https://ww3.arb.ca.gov/regact/2019/stateareadesignations/appc.pdf?_ga=2.188358312.107941873.1568053973-1060917271.1557163835

13 Northern Sacramento Valley Planning Area (NSVAB). 2018, December. 2018 Triennial Air Quality Attainment Plan. http://www.airquality.org/SVBAPCC/Documents/2018%20Triennial%20Report.pdf.

14 Shasta County Air Quality Management District. 1997, June 24 (amended). Rule 2:1 – New Source Review. https://ww3.arb.ca.gov/nsr/sb288/rules/scaqmd2_1.pdf

15 Northern Sacramento Valley Planning Area (NSVAB). 2018, December. 2018 Triennial Air Quality Attainment Plan.

NO and NO_2 commonly called NO_X. 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. NO_2 acts as an acute irritant and in equal concentrations is more detrimental than NO. At atmospheric concentrations, however, NO_2 is only potentially irritating.[16] The SVAB is designated as being in attainment under the California AAQS and attainment/unclassified designation under the National AAQS.[17]

- **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. When SO_2 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.[18] The SVAB is designated as attainment/unclassified designation under the California and National AAQS.[19]

- **Suspended Particulate Matter (PM_{10} and $PM_{2.5}$)** Inhalable particulates refer to particulate matter less than 10 microns in diameter (PM_{10}). Particulates are classified as primary or secondary, depending on their origin. Primary particles are unchanged after being directly emitted (e.g., road dust) and are the most commonly analyzed and modeled form of PM_{10}. Because it is emitted directly and has limited dispersion characteristics, this type of PM_{10} is considered a localized pollutant. In addition, secondary PM_{10} can be formed in the atmosphere through chemical reactions involving gases. In 1997, USEPA adopted a fine particulate matter standard of 2.5 microns or less in diameter ($PM_{2.5}$). Recent studies undertaken by USEPA identify key health effects categories associated with PM include: premature mortality; aggravation of respiratory and cardiovascular disease as indicated by increased hospital admissions, emergency room visits, school absences, work loss day, and restricted activity; changes in lung function and increased respiratory symptoms; changes to lung tissues and structure and; altered respiratory defense mechanisms. According to USEPA, recent epidemiological information indicates that several subpopulations are apparently more sensitive to effects of air pollution containing PM. Observed effects include decreases in pulmonary function reported in children and increased mortality

16 US Environmental Protection Agency (USEPA). 2016, September 6 (updated). Basic Information about NO_2. https://www.epa.gov/no2-pollution/basic-information-about-no2#Effects.

17 California Air Resources Board (CARB), 2019, February 20. Appendix C: Maps and Tables of Area Designations for State and National Ambient Air Quality Standards. https://ww3.arb.ca.gov/regact/2019/stateareadesignations/appc.pdf?_ga=2.188358312.107941873.1568053973-1060917271.1557163835.

18 US Environmental Protection Agency (USEPA). 2019, April 2 (updated). Sulfur Dioxide Basics. https://www.epa.gov/so2-pollution/sulfur-dioxide-basics#effects.

19 California Air Resources Board (CARB), 2019, February 20. Appendix C: Maps and Tables of Area Designations for State and National Ambient Air Quality Standards. https://ww3.arb.ca.gov/regact/2019/stateareadesignations/appc.pdf?_ga=2.188358312.107941873.1568053973-1060917271.1557163835

reported in the elderly and individual with cardiopulmonary disease.[20] The SVAB is designated as nonattainment under the California AAQS and unclassified designation under the National AAQS for PM_{10}.[21] For $PM_{2.5}$, the SVAB is designated as being in attainment under the California AAQS and attainment/unclassified designation under the National AAQS.[22]

- Ozone (O_3) Ozone in the lower atmosphere is one of the main components of smog. It is not directly emitted but is formed in the atmosphere over several hours from combinations of various precursors in the presence of sunlight. NOx and VOCs are considered to be the primary compounds, or precursors, contributing to the formation of ozone. Ozone is viewed as both a secondary pollutant and a regional pollutants. Short-term exposure to ozone results in injury and damage to the lung, decreases in pulmonary function, and impairment of immune mechanisms. These changes have been implicated in the development of chronic lung disease as the result of long-term exposure. Symptoms of ozone irritation include shortness of breath, chest pain when inhaling deeply, wheezing, and coughing. Children and persons with pre-existing respiratory disease (e.g., asthma, chronic bronchitis, emphysema) are at greater risk. In addition, effects on vegetation have been documented at concentrations below the standards.[23] Within the Northern Sacramento Valley, ozone tends to be a seasonal challenge between the months of May through October.[24] Due to the length of time it takes for NOx and ROGs to react, ozone can be transported long distances downwind from the original source. In this way, ozone can be considered a regional pollutant that can have a widespread impact. The SVAB is designated as being in attainment under the California AAQS and attainment/unclassified designation under the National AAQS.[25]

- Lead (Pb) is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phasing out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers. [26] The SVAB is designated as being in

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[20] US Environmental Protection Agency (USEPA). 2018, November 14 (updated). Particulate Matter (PM) Basics. https://www.epa.gov/pm-pollution/particulate-matter-pm-basics#effects.

[21] California Air Resources Board (CARB), 2019, February 20. Appendix C: Maps and Tables of Area Designations for State and National Ambient Air Quality Standards. https://ww3.arb.ca.gov/regact/2019/stateareadesignations/appc.pdf?_ga=2.188358312.107941873.1568053973-1060917271.1557163835

[22] California Air Resources Board (CARB), 2019, February 20. Appendix C: Maps and Tables of Area Designations for State and National Ambient Air Quality Standards. https://ww3.arb.ca.gov/regact/2019/stateareadesignations/appc.pdf?_ga=2.188358312.107941873.1568053973-1060917271.1557163835.

[23] US Environmental Protection Agency (USEPA). 2018, 31 October (updated). Ground-level Ozone Basics. https://www.epa.gov/ground-level-ozone-pollution/ground-level-ozone-basics#effects.

[24] Northern Sacramento Valley Planning Area (NSVAB). 2018, December. 2018 Triennial Air Quality Attainment Plan. http://www.airquality.org/SVBAPCC/Documents/2018%20Triennial%20Report.pdf.

[25] California Air Resources Board (CARB), 2019, February 20. Appendix C: Maps and Tables of Area Designations for State and National Ambient Air Quality Standards. https://ww3.arb.ca.gov/regact/2019/stateareadesignations/appc.pdf?_ga=2.188358312.107941873.1568053973-1060917271.1557163835.

[26] US Environmental Protection Agency (USEPA). 2017, November29 (updated). Basic Information about Lead Air Pollution. https://www.epa.gov/lead-air-pollution/basic-information-about-lead-air-pollution#health.

attainment under the California AAQS and attainment/unclassified designation under the National AAQS.[27]

TOXIC AIR CONTAMINANTS

Public exposure to 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 pursuant to Section 112(b) of the federal Clean Air Act (42 US Code Section 7412[b]) is a TAC. Under State law, the California Environmental Protection Agency, acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

At the time of the last update to the toxic air contaminants (TAC) list in December 1999, the California Air Resources Board (CARB) had designated 244 compounds as TACs.[28] Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control measures. The majority of the estimated health risks from TACs can be attributed to relatively few compounds; the most important compounds being particulate matter from diesel-fueled engines.

- AB 1807 and AB 2588. California regulates TACs primarily through 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 up 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 that are identified as having no safe threshold.
- AB 2588. Under AB 2588, TAC 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 an HRA, and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

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

[27] California Air Resources Board (CARB), 2019, February 20. Appendix C: Maps and Tables of Area Designations for State and National Ambient Air Quality Standards. (https://ww2.arb.ca.gov/rulemaking/2019/areadesignations18)

[28] California Air Resources Board. 1999, December. Final Staff Report: Update to the Toxic Air Contaminant List. https://ww3.arb.ca.gov/toxics/finalreport.pdf.

- 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.

Diesel Particulate Matter

In 1998, CARB identified DPM as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 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 lungs.

ODORS

Odors represent emissions of one or more pollutants that are a nuisance to healthy persons and may trigger asthma episodes in people with sensitive airways. Pollutants associated with objectionable odors include sulfur compounds and methane. Typical sources of odors include landfills, rendering plants, chemical plants, agricultural uses, wastewater treatment plants, and refineries. Odors are a complex problem that can be caused by minute quantities of substances. Because people have mixed reactions to odors, the nuisance level of an odor varies.

Glenn County Air Pollution Control District

In 1971, State Legislature established the Glenn County Air Pollution Control District to manage non-vehicular sources of air pollution for Glenn County.[29] The GCAPCD shares responsibility with the California Air Resources Board (CARB) to ensure that state and national AAQS are achieved and maintained within the county.

AIR QUALITY MANAGEMENT PLANNING

According to the California Infrastructure SIP, the Federal Clean Air Act requires a state to submit a SIP for those areas that exceed National Ambient Air Quality Standards.[30] In addition, the CCAA authorizes CARB to require preparation of Air Quality Management Plans for air pollution control districts that house non-attainment areas exceeding California AAQS for one or more of the following pollutants: ozone, carbon

[29] County of Glenn. 2019, August 9 (accessed). Air Pollution Control District. https://www.countyofglenn.net/dept/agriculture/air-pollution-control-district/welcome.

[30] California Air Resources Board. 2018, August 24. California Infrastructure SIP. https://ww3.arb.ca.gov/planning/sip/infrasip/docs/2018_transport_staff_report.pdf.

monoxide, sulfur dioxide, or nitrogen dioxide. Currently, Glenn County is in attainment of, or is unclassified for, all federal and state standards, apart from the state PM_{10} standards.

Northern Sacramento Valley Planning Area 2018 Triennial Air Quality Attainment Plan [31]

The CCAA requires that air districts for must prepare and submit an Air Quality Attainment Plan (AQAP) if they are designated as a nonattainment area for the CAAQS. This document is intended to address their nonattainment status for the state standards for ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide and their plans for attaining and maintaining the standards. In addition, the CCAA requires that every three years, the districts review their progress toward attaining the CAAQS. Measures in the Attainment Plan for Stationary Source Controls include:

- All Feasible Measures: Under CCAA, air districts are required to develop plans to attain CAAQS for ozone by the earliest practical date. The CCA requires those districts unable to achieve 5% annual emission reductions to demonstrate that it has included "every feasible measure" to the CARB's satisfaction and an expeditious adoption schedule. The CARB defines "feasible" based on its use in CEQA guidelines—regulations that have been successfully implemented elsewhere.

  The CARB has also developed the "Identification of Performance Standards for Existing Stationary Sources – A Resource Document." This document examines control measures and ranks them into a three-tiered list of feasible measures based on their emissions and emission reduction potential. Members of the NSVPA review the control measures and current emission inventories to assess potential reductions and to prioritize rule development efforts.

- Feasible Measures Considered for Basin-wide Model Rules: Control measures are to be considered for model rule development by the air districts under the NSVPA. Based on these considerations, the Sacramento Valley Air Quality Engineering and Enforcement Professionals (SVAQEEP) committee will develop model rules based on the developments. For the 2018 Triennial AQAP, due to the regional nature of ozone non-attainment status, the adoption of new regulations for ozone is anticipated to benefit all air districts within the NSVPA, including those where ozone sources may not exist. Other control measures that may be considered by the NSVPA include those for the reduction of VOC's from compositing facilities, fugitive VOC emissions from oil and gas production, and NOx from small boilers.

- Rules Adopted Since 2015 Triennial AQAP: Per the 2015 Triennial AQAP, the NSVPA districts committed to adopting specific control measures. Of these commitments, the GCAPCD intended to adopt control measures for Architectural Coatings in 2014 but has not as of current. The Suggested Control Measures (SCM) for architectural coatings is to be considered for future adoption.

[31] Northern Sacramento Valley Planning Area (NSVPA). 2018, December. 2018 Triennial Air Quality Attainment Plan. http://www.airquality.org/SVBAPCC/Documents/2018%20Triennial%20Report.pdf.

Measures in the Attainment Plan for Non-Stationary Source Controls include:

- Incentive Programs: Districts under the NSVPA administer several grant programs that are aimed at achieving stationary source and area-wide control measures in addition to emission reductions. The programs are voluntary and target mobile sources of pollutants. Of these incentives, the Carl Moyer and Vehicle Fee Programs are mentioned in detail in the document.

  The Carl Moyer Memorial Air Quality Standards Attainment Program provides grants administered by local air districts for engines and equipment that are cleaner than required. CARB works in conjunction with these air districts and stakeholders to establish guidelines to make sure the program improves air quality and reduce emissions to meet clean air commitments, mainly for NOx and ROGs.

  Vehicle Fee Program, as based on sections 44220 through 44247 of the Health and Safety Code (AB 2766), allows APCDs to impose a $2 to $4 motor vehicle registration fee to help air districts meet new responsibilities as directed by the CCAA. Since 2004, the limit for these fees have increased to $6 per vehicle (AB 923). This portion of the fee may be used for projects such as school bus replacements or retrofits according to the Lower Emission School Bus Program Guidelines and Carl Moyer Program.

- Public Education Program: These programs are important parts of efforts to reduce air pollution. According to Section 40918(a)(6) of the California Health and Safety Code, each district should include resources for public education to encourage the reduction of emissions from transportation and area-wide sources. Many of these programs have been funded using the Vehicle Registration Surcharge Fees (AB 2766) with each district conducting its own program. For Glenn County, these resources include public services announcements; presentations regarding air pollution for schools, Agriculture and Business groups, and government groups; response to public inquiries, and maintenance of the District website and Twitter accounts.

- Reductions from Land Use Programs: Under CEQA, an air district has three primary roles. As a Lead Agency, they are responsible for adoption of air quality plans, rules, and regulations. As a Responsible Agency, they will issue permits for a project when another agency is considered the lead agency. As a Commenting Agencies, the district will comment on a project's air quality impacts but has no discretionary authority when another agency is considered a lead agency.

  The district staff works with land use jurisdictions to evaluate the impact a proposed land use project will have on air quality and works to provide mitigation measures for projects under CEQA. Furthermore, they may suggest design features to help reduce emissions and total VMT.

- Air Quality Forecasting: Although not required, several NSVPA districts offer their residents ozone forecasting and alert systems in partnership with the local air district, CARB, USEPA, and Sonoma Technologies. The Air Now system provides the public with easy access to national air quality information.

- District Rules Applicable to New Development: Air districts under NSVPA have adopted control measures and programs intended to reduce emissions from new developments through the planning process or through control of specific emission sources. As of June 1993, Glenn County has adopted these rules.

GLENN COUNTY AIR POLLUTION CONTROL DISTRICT RULES[32]

The USEPA has approved of and has included the following GCAPCD rules into the State Implementation Plan (SIP). These rules limit emissions of air pollutants from construction and operation from development projects.

- District Rules, Section 50 – Authorization to Construct. An "authorization to construct" shall be obtained from the Air Pollution Control Officer (APCO) prior to any person building, erecting, altering, or replacing any article, machine, equipment, etc. that may result in the issuance of air contaminants or may eliminate, reduce, or control the issuance of such contaminants. The APCO may not approve of construction unless the applicant demonstrates that the source will be able to comply with all applicable state and district regulations. The Authority to Construct will expire upon issuance of a Permit to Operate or two years from the original date of issuance unless construction has begun physically onsite and completion of the project is diligently pursued.

- District Rules, Section 51 – New Source Review. This rule is intended to establish pre-construction review requirements for new or modified sources of air pollution for the employment of Best Available Control Technology (BACT), analysis of air quality impacts, and insurance that the operation of such sources will not hinder attainment efforts or maintenance of ambient air quality standards.

- District Rules, Section 76 – Visible Emissions. Discharge of visible air pollutant emissions into the atmosphere from any emission source for a period or periods aggregating more than three minutes in any one hour, as observed using an appropriate test method, is prohibited.

- District Rules, Section 78 — Nuisance. No person shall discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or which endanger the comfort, repose, health,

[32] Glenn County Air Pollution Control District. 2010, October (amended). Regulations of the Air Pollution Control District of Glenn County. https://www.countyofglenn.net/sites/default/files/Agriculture/AP%20Regs%20Book%201%202010update.pdf.

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.

- District Rules, Section 85 — Particulate Matter Concentration. No person shall discharge, from any source, particulate matter in excess of 0.3 grains per cubic feet of gas at standard conditions. If the source involves a combustion process, the concentration must be calculated to 12 percent carbon dioxide (CO_2). When measuring combustion contaminants from incinerators used to dispose of combustible refuse by burning, exclude the amount CO_2 produced by liquid or gaseous fuel combustion of any kind from the calculation to 12 percent CO_2.

- District Rules, Section 86 — Dust and Fumes Total Emissions. No person shall discharge, from any source, dust or fumes in any one hour in total quantities in excess of the amounts specified in Section 86, except for emissions associated with agricultural operations.

- District Rules, Section 89 — Sulfur Oxides. No person shall discharge, from any single source of emissions whatsoever, any sulfur oxides in excess of 0.2 percent by volume (2000 ppm), which is collectively calculated as sulfur dioxide (SO_2).

- District Rules, Section 90 — Reduced Sulfur Emissions Standards. No person shall cause or allow air contaminant emissions from any premises which will result in ground-level concentrations of TRS, expressed as hydrogen sulfide (H_2S), that exceed 0.03 ppm over a period of one hour.

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 SVAB is shown in Table 2, *Attainment Status of Criteria Pollutants in the Sacramento Valley Air Basin*.

Table 2 Attainment Status of Criteria Pollutants in the Sacramento Valley Air Basin

Pollutant	Federal	State
Ozone	Attainment/Unclassified	Attainment
PM_{10}	Unclassified	Nonattainment
$PM_{2.5}$	Attainment/Unclassified	Attainment
CO	Attainment/Unclassified	Unclassified
NO_2	Attainment/Unclassified	Attainment
SO_2	Attainment/Unclassified	Attainment/Unclassified
Lead	Attainment/Unclassified	Attainment

Source: California Air Resources Board (CARB), 2019, February 20. Appendix C: Maps and Tables of Area Designations for State and National Ambient Air Quality Standards. http://www.arb.ca.gov/desig/adm/adm.htm.

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project site are best documented by measurements taken by the GCAPCD. The air quality monitoring station closest to the project site is the Willows – 720 N Colusa Street Monitoring Station. This station monitors O_3 and $PM_{2.5}$ and PM_{10}. Data for $PM_{2.5}$ and NO_x is supplemented by the Chico—East Avenue Monitoring Station for $PM_{2.5}$. The most current five years of data monitored at these monitoring stations are included in Table 3, *Ambient Air Quality Monitoring Summary*. The data show recurring violations of federal $PM_{2.5}$ standards and both the state and federal and PM_{10} standards.

Table 3 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Threshold Were Exceeded and Maximum Levels During Such Violations				
	2014	2015	2016	2017	2018
Ozone (O_3)[a]					
State 1-Hour ≥ 0.09 ppm	0	0	0	0	0
State 8-hour ≥ 0.07 ppm	1	0	0	0	0
Federal 8-Hour > 0.075 ppm[b]	0	0	0	0	0
Maximum 1-Hour Conc. (ppm)	0.081	0.078	0.079	0.076	0.079
Maximum 8-Hour Conc. (ppm)	0.072	0.068	0.063	0.067	0.063
Nitrogen Dioxide (NO_2)[b]					
State 1-Hour ≥ 0.18 ppm (days exceeded)	0	0	0	0	0
Federal 1-Hour ≥ 0.100 pp, (days exceeded)	0	0	0	0	0
Maximum 1-Hour Conc. (ppb)	0.0427	0.0412	0.0324	0.0375	0.0519
Coarse Particulates (PM_{10})[a]					
State 24-Hour > 50 µg/m^3	13	38	16	38	58
Federal 24-Hour > 150 µg/m^3	0	0	0	1	1
Maximum 24-Hour Conc. (µg/ m^3)	76.4	118.0	79.6	181.7	230.2
Fine Particulates ($PM_{2.5}$)[b]					
Federal 24-Hour > 35 µg/m^3	1	2	1	2	18
Maximum 24-Hour Conc. (µg/m^3)	58.6	39.0	37.2	45.2	411.7

Notes: ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter; * = insufficient data/not available
a. Data obtained from the Willows—720 N Colusa St Station.
b. Data obtained from Chico-East Avenue Station
Source: California Air Resources Board, 2019, Air Pollution Data Monitoring Cards (2014, 2015, 2016, 2017, and 2018), Accessed 2019, September 6. http://www.arb.ca.gov/adam/index.html. Data from Cupertino Monitoring Station for years 2010–2013. Data from the San Jose Jackson Street Monitoring Station for years 2014-2015.

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.

For CEQA purposes, a sensitive receptor is generically defined as any residence including private homes, condominiums, apartments, and living quarters; education resources such as preschools and kindergarten through grade twelve (K-12) schools; daycare centers; and health care facilities such as hospitals or retirement and nursing homes. A sensitive receptor includes long term care hospitals, hospices, prisons, and dormitories or similar live-in housing.[33] Residential areas are considered to be sensitive receptors to air

[33] US Environmental Protection Agency. 2017, April 10 (updated). What are Sensitive Receptors? https://www3.epa.gov/region1/eco/uep/sensitivereceptors.html.

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 are the students and employees of Ella Barkley High School northeast of the site and the single-family residences to the south of the site, along 5th Street.

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. As mentioned, the GCAPCD has not yet established its own set of CEQA air quality significance thresholds. Therefore, the calculated emissions of the project are compared to thresholds of significance for individual projects using the Shasta County District New Source Review Rules.[34]

Shasta County Thresholds of Significance

The analysis of the proposed project's air quality impacts follows the guidance in the Shasta County District New Source Review Rule and the Air Pollution Control Officer (APCO), which were adopted by Glenn County to assist lead agencies in their preparation of air quality analyses for development projects. CEQA allows the use of significance criteria established by the applicable air quality management or air pollution control district in assessing impacts of a project on air quality. The recommended assessment methodologies are based on the more stringent emission unit according to the Best Available Control Technology (BACT) and the methodologies and criteria specified by the APCO (Rule 2:1, Part 205).The Shasta County AQMD has also established thresholds of significance for regional air quality emissions during construction activities and project operation (Rule 2:1, Part 301). These significance threshold values are contained in Table 4. Shasta County has two levels of emission thresholds for NO_x, VOC, and PM_{10}, categorized as Levels A and B thresholds,[35] that are used to determine the appropriate mitigation measures to be implemented. The

34 California Air Resources Board. 2018, December 28 (reviewed). Shasta County AQMD List of Current Rules. https://www.arb.ca.gov/drdb/sha/cur.htm.

35 Shasta County Air Quality Management District (SCAQMD). 2003, November. Protocol for Review. https://www.co.shasta.ca.us/docs/libraries/resource-management-docs/aq-docs/scaqmd-ceqa-land-use-protocol.pdf.

District recommends that the defined Standard Mitigation Measures (SMM) for energy conservation, PM_{10} controls, and transit options be applied to all projects.[36] For projects that exceed Level A thresholds, the District recommends application of Best Available Mitigation Measures (BAMM) in addition to the SMMs. Further mitigation using special BMMs may apply to projects that exceed Level B thresholds.

Table 4 Shasta County Air Quality Management District Thresholds of Significance

Level	VOC (lbs/day)	NO_X (lbs/day)	PM_{10} (lbs/day)
A	25	25	80
B	137	137	137

Source: Shasta County Air Quality Management District (SCAQMD). 2003, November. Protocol for Review.

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 SVAB and in the state have steadily declined. 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. [37]

TOXIC AIR CONTAMINANTS

Whenever a project would require use of chemical compounds that have been identified by GCAPCD under Section 98 [38], placed on CARB's air toxics list pursuant to AB 1807, or placed on the USEPA's National Emissions Standards for Hazardous Air Pollutants, a health risk assessment is required by the District. Table 5, *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*

[36] Shasta County Air Quality Management District (SCAQMD). 2003, November. Protocol for Review. https://www.co.shasta.ca.us/docs/libraries/resource-management-docs/aq-docs/scaqmd-ceqa-land-use-protocol.pdf.

[37] Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

[38] Glenn County Air Pollution Control District. 2010, October (amended). Regulations of the Air Pollution Control District of Glenn County. https://www.countyofglenn.net/sites/default/files/Agriculture/AP%20Regs%20Book%201%202010update.pdf.

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 5 GCAPCD Toxic Air Contaminants Incremental Risk Thresholds

Cancer Risk	≥ 10 in 1 million
Hazard Index	≥ 1.0

Source: Glenn County Air Pollution Control District (GCAPCD). 2010, October. Regulations of the Air Pollution Control District of Glenn County.

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), to the atmosphere. The primary source of these GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHG—water vapor, carbon dioxide (CO_2), methane (CH_4), and ozone (O_3)—that are 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 are nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons.[39,40,41]

The major GHGs are briefly described as follows:

- **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.

39 Intergovernmental Panel on Climate Change, 2001. Third Assessment Report: Climate Change 2001, New York: Cambridge University Press.

40 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 because it is considered part of the feedback loop of changing radiative forcing rather than a primary cause of change.

41 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. 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 (California Air Resources Board, 2017, March 14. Short-Lived Climate Pollutant Reduction Strategy, https://www.arb.ca.gov/cc/shortlived/shortlived.htm). However, State and national GHG inventories do not 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.

- **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.

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have a stronger greenhouse effect than others. These are referred to as high GWP gases. The GWP of applicable GHG emissions are shown in Table 6, *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 Fourth Assessment Report (AR4) GWP values for methane (CH_4), a project that generates 10 metric tons (MT) of CH_4 would be equivalent to 250 MT of CO_2.[42]

Table 6 GHG Emissions and Their Relative Global Warming Potential Compared to CO_2

GHGs	Second Assessment Report (SAR) Global Warming Potential Relative to CO_2[a]	Fourth Assessment Report (AR4) Global Warming Potential Relative to CO_2[a]	Fifth Assessment Report (AR5) Global Warming Potential Relative to CO_2[a]
Carbon Dioxide (CO_2)	1	1	1
Methane (CH_4)[b]	21	25	28
Nitrous Oxide (N_2O)	310	298	265

Source: Intergovernmental Panel on Climate Change (IPCC). Second Assessment Report: Climate Change 1995 and Fourth Assessment Report: Climate Change 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 2017 Scoping Plan Update was based on the AR4 GWP values.
[a] Based on 100-year time horizon of the GWP of the air pollutant relative to CO_2.
[b] 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 2019, the statewide GHG emissions inventory was updated for 2000 to 2017 emissions using the GWPs in IPCC's AR4.[43] Based on these GWPs, California produced 424.10 $MMTCO_2e$ GHG emissions in 2017. California's transportation sector was the single largest generator of GHG emissions, producing 40.1 percent of the state's total emissions. Industrial sector emissions made up 21.1 percent, and electric power

42 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.

43 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).

generation made up 14.7 percent of the state's emissions inventory. Other major sectors of GHG emissions include commercial and residential (9.7 percent), agriculture and forestry (7.6 percent) high GWP (4.7 percent), and recycling and waste (2.1 percent).[44]

California's GHG emissions have followed a declining trend since 2007. In 2017, emissions from routine GHG emitting activities statewide were 424 $MMTCO_2e$, 5 $MMTCO_2e$ lower than 2016 levels. This represents an overall decrease of 14 percent since peak levels in 2004 and 7 $MMTCO_2e$ below the 1990 level and the state's 2020 GHG target. During the 2000 to 2017 period, per capita GHG emissions in California have continued to drop from a peak in 2001 of 14.0 $MTCO_2e$ per capita to 10.7 $MTCO_2e$ per capita in 2017, a 24 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 41 percent decline since the 2001 peak, while the state's GDP has grown 52 percent during this period. For the first time since California started to track GHG emissions, California uses more electricity from zero-GHG sources (hydro, solar, wind, and nuclear energy). [45]

Regulatory Settings

FEDERAL REGULATIONS

The United States Environmental Protection Agency (USEPA) 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 USEPA'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 did not themselves impose any emission reduction requirements, but allowed the USEPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation.[46]

To regulate GHGs from passenger vehicles, the USEPA was required to issue an endangerment finding.[47] The finding identifies emissions of six key GHGs—CO_2, CH_4, N_2O, HCFCs, PFCs, 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 proposed project's GHG emissions inventory because they constitute the majority of GHG emissions and should be evaluated as part of a project's GHG emissions inventory.

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[44] California Air Resources Board (CARB). 2019, August 26. 2019 Edition California Greenhouse Gas Inventory for 2000-2017: By Category as Defined in the 2008 Scoping Plan. https://www.arb.ca.gov/cc/inventory/data/data.htm.

[45] 2019, August 26. California Greenhouse Emissions for 2000 to 2017: Trends of Emissions and Other Indicators. https://www.arb.ca.gov/cc/inventory/data/data.htm.

[46] US Environmental Protection Agency. 2009, December7. Greenhouse Gases Threaten Public Health and the Environment. https://archive.epa.gov/epapages/newsroom_archive/newsreleases/08d11a451131bca585257685005bf252.html.

[47] US Environmental Protection Agency, 2017, July 11 (updated). Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act. https://www.epa.gov/ghgemissions/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a-clean.

US Mandatory Report Rule for Greenhouse Gases (2009)

In response to the endangerment finding, the USEPA 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 $MTCO_2e$ per year are required to submit an annual report.

Update to Corporate Average Fuel Economy Standards (2010 to 2012)

The current Corporate Average Fuel Economy (CAFE) 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 [mpg] 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 considered to be in compliance with State requirements. The federal government issued new standards in 2012 for model years 2017–2025, which will require a fleet average of 54.5 mpg in 2025.

While the EPA is reexamining the 2017–2025 emissions and CAFE standards, a consortium of automakers and California have agreed on a voluntary framework to reduce emissions that can serve as an alternative path forward for clean vehicle standards nationwide. Automakers who agreed to the framework are Ford, Honda, BMW of North America and Volkswagen Group of America. The framework supports continued annual reductions of vehicle greenhouse gas emissions through the 2026 model year, encourages innovation to accelerate the transition to electric vehicles, and provides industry the certainty needed to make investments and create jobs. This commitment means that the auto companies party to the voluntary agreement will only sell cars in the United States that meet these standards.[48]

USEPA Regulation of Stationary Sources under the Clean Air Act (Ongoing)

Pursuant to its authority under the Clean Air Act (CAA), the EPA has been developing regulations for new stationary sources such as power plants, refineries, and other large sources of emissions. Pursuant to President Obama's 2013 Climate Action Plan, the EPA was directed to also develop regulations for existing stationary sources. However, the EPA is reviewing the Clean Power Plan under President Trump's Energy Independence Executive Order.

STATE REGULATIONS

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-03-05, AB 32, SB 32, Executive Order B-30-15, and SB 375. These are summarized as follows:

[48] California Air Resources Board. 2019, September 5 (accessed). California and major automakers reach groundbreaking framework agreement on clean emission standards. https://ww2.arb.ca.gov/news/california-and-major-automakers-reach-groundbreaking-framework-agreement-clean-emission.

Executive Order S-03-05

Executive Order S-03-05, signed June 1, 2005, 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)

Also known as the Global Warming Solutions Act (2006), AB 32 was signed August 31, 2006, in order to reduce California's contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-03-05. Under AB 32, California Air Resources Board (CARB) prepared the *2008 Climate Change Scoping Plan*, the *2014 Climate Change Scoping Plan,* and the *2017 Climate Change Scoping Plan,* which is discussed below.

CARB 2008 Scoping Plan

The 2008 Scoping Plan, adopted by CARB on December 11, 2008, identified that GHG emissions in California are anticipated to be 596 $MMTCO_2e$ in 2020. In December 2007, CARB approved a 2020 emissions limit of 427 $MMTCO_2e$ (471 million tons) for the state. 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, adopted May 22, 2014, highlights California's progress toward meeting the near-term 2020 GHG emission reduction goal defined in the 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, are slightly higher at 431 $MMTCO_2e$.[49] As identified in the Update to the Scoping Plan, California is on track to meet the goals of AB 32. The update also addresses the state's longer-term GHG goals in 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

[49] California Air Resources Board, 2014, May 15. First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006. https://ww3.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf.

created by statewide goals.[50] 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.[51]

Executive Order B-30-15

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions within 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, SB 32 and AB 197 were signed 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 direct 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 14, 2017, CARB adopted the 2017 Climate Change Scoping Plan Update (2017 Scoping Plan) to address the 2030 target for the State. 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.[52]

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-

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50 California Air Resources Board, 2014, May 15. First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006. https://ww3.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf.

51 California Air Resources Board, 2014, May 15. First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006. https://ww3.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf.

52 California Air Resources Board. 2017, January. 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.

lived climate pollutants (i.e., methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conserve 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 toxic air contaminants (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 ZE vehicle buses and trucks.
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementation of SB 350, which expands the Renewables Portfolios Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, and utilizes near-zero emissions technology, and deployment of ZE vehicle trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy, which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 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 recommended local actions to reduce GHG emissions; for example, 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 the 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 vehicle miles traveled (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 policies that are already required and in place to achieve the 2020 limit, as shown in Table 7, *2017 Climate Change Scoping Plan Emissions Reductions Gap to Achieve the 2030 GHG Target*. It includes the existing renewables requirements, advanced clean cars, the "10 percent" 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 7 2017 CLIMATE CHANGE SCOPING PLAN EMISSIONS REDUCTIONS GAP TO ACHIEVE THE 2030 GHG TARGET

Modeling Scenario	2030 GHG Emissions $MMTCO_2e$
Reference Scenario (Business-as-Usual)	389
With Known Commitments	310
2030 GHG Target	260
Gap to 2030 Target with Known Commitments	60

Source: California Air Resources Board, 2017. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target, https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed on August 28, 2018.

Table 8, *2017 Climate Change Scoping Plan Emissions by Sector to Achieve the 2030 GHG Target*, provides GHG emissions by sector, for 1990, and the range of GHG emissions for each sector estimated for 2030, and the percent change compared to 1990 levels.

TABLE 8 2017 CLIMATE CHANGE SCOPING PLAN EMISSIONS BY SECTOR TO ACHIEVE THE 2030 GHG TARGET

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%

TABLE 8 2017 CLIMATE CHANGE SCOPING PLAN EMISSIONS BY SECTOR TO ACHIEVE THE 2030 GHG TARGET

Scoping Plan Sector	1990 $MMTCO_2e$	2030 Proposed Plan Ranges $MMTCO_2e$	% Change from 1990
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[a]	-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 2017. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target.
Notes: TCU = Transportation, Communications, and Utilities; TBD = To Be Determined.
[a] 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. The bill also establishes targets for reducing organic waste in landfills. On March 14, 2017, CARB adopted the "Final Proposed Short-Lived Climate Pollutant 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.[53] In-use on-road rules are expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020.

[53] California Air Resources Board. 2017, March. Short-Lived Climate Pollutant Reduction Strategy. https://www.arb.ca.gov/cc/shortlived/meetings/03142017/final_slcp_report.pdf.

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 Glenn County Transportation Commission (GCTC) is the designated regional transportation planning agency for Glenn County. As Glenn County does not belong to any of the identified MPOs, SB 375 does not include established targets for the GCTC.

2018 Update to the SB 375 Targets

CARB is required to update the targets for the MPOs every eight years. CARB adopted revised SB 375 targets for the MPOs in March 2018.54 The updated targets become effective on October 1, 2018. The targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan Update (for SB 32), 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 SCS to achieve the SB 375 targets. CARB foresees that the additional GHG emissions reductions in 2035 may be achieved from land use changes, transportation investment, and technology strategies. [55]

Assembly Bill 1493

Also known as Pavley I, AB 1493 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 is 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 USEPA. In 2012, the USEPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model years 2017 through 2025 light-duty vehicles (see also the discussion on the update to the CAFE standards under the heading for Federal Regulations, 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 GHGs with requirements for greater numbers of ZE vehicles into a single package of

[54] California Air Resources Board. 2018, February. Updated Final Staff Report: Proposed Update to the SB 375 Greenhouse Gas Emissions Reduction Targets. https://ww3.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf.

[55] California Air Resources Board. 2018, February. Updated Final Staff Report: Proposed Update to the SB 375 Greenhouse Gas Emissions Reduction Targets. https://ww3.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf.

standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent less global warming gases and 75 percent less smog-forming emissions.[56]

Executive Order S-01-07

On January 18, 2007, the state set a new LCFS for transportation fuels sold in California. Executive Order S-01-07 sets a declining standard for GHG emissions measured in CO_2e 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 LCFS 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 renewable portfolios standard (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, signed in November 2008, expanded the RPS 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

Signed in September 2015, SB 350 establishes tiered increases the RPS to 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.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100, which raises California's RPS requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies

[56] See also the discussion on the update to the CAFE 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.

by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18

Executive Order B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Executive Order B-55-18 directs CARB to work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions should be offset by equivalent net removals of CO_2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

Executive Order B-16-2012

Signed on March 23, 2012, the State required CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate ZE vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directed the number of ZE 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 stabled a target for the transportation sector of reducing GHG emissions 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). 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. The 2019 Building Energy Efficiency Standards, which were adopted on May 9, 2018, go into effect starting January 1, 2020.[57] The 2019 standards move toward cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic systems for single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas 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; and 4) nonresidential

[57] California Energy Commission. 2019, September 9(accessed), 2016 Building Energy and Efficiency Standards Frequently Asked Questions, https://ww2.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf.

lighting requirements.[58] Under the 2019 standards, nonresidential buildings will be 30 percent more energy efficient compared to the 2016 standards, and single-family homes will be 7 percent more energy efficient. 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.[59]

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 California Code of Regulations, 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.[60] The mandatory provisions of the 2016 CalGreen building standards became effective on January 1, 2017. The CEC adopted the 2019 CALGreen on May 9, 2018, and it becomes effective January 1, 2020.

2006 Appliance Efficiency Regulations

Adopted by the California Energy Commission on October 11, 2006, the 2006 Appliance Efficiency Regulations (Title 20, California Code of Regulations, Sections 1601 through 1608) were 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.

Assembly Bill 341

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. Section 5.408

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58 California Energy Commission. 2018, May. Energy Commission Adopts Standards Requiring Solar Systems for New Homes, First in Nation. https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first.

59 California Energy Commission, 2018, March. 2019 Building Energy and Efficiency Standards Frequently Asked Questions. http://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf.

60 The green building standards became mandatory in the 2010 edition of the code.

of 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.

Assembly Bill 1327

The California Solid Waste Reuse and Recycling Access Act (AB 1327, Public Resources Code Sections 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.

Assembly Bill 1826

AB 1826, signed on October of 2014, requires 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 with 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 to 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 Energy Commission, in consultation with the department, 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.[61]

LOCAL REGULATIONS

Neither GCAPCD nor the City of Hamilton have adopted GHG significance thresholds. In absence of significance thresholds from the District, emissions from the project will be compared to the 900 $MTCO_2e$/yr bright-line threshold identified in the 2008 California Air Pollution Control Officers Association (CAPCOA) white paper.[62] This threshold is based on the market capture approach and reflects the amount of emissions that 90 percent of development projects surveyed in four cities within California would generate.

The 900 $MTCO_2e$/yr is a conservative bright-line threshold. As a comparison, the Bay Area Air Quality Management District (BAAQMD) and South Coast Air Quality Management District (SCAQMD) have also established bright-line screening thresholds of 1,100 $MTCO_2e$ and 3,000 $MTCO_2e$ per year, respectively, for development projects based on similar market capture methodologies utilized by CAPCOA. The SCAQMD based their bright-line screening threshold on review of 711 CEQA projects and determined that 90 percent of the projects reviewed would not exceed 3,000 $MTCO_2e$ per year.[63] Similarly, the bright-line screening threshold established by BAAQMD captures approximately 59 percent of all development projects. [64]

For the purpose of CEQA analyses, projects that are not exempt from CEQA are required to quantify project-level GHG emissions and compared to the bright-line threshold of 900 $MTCO_2e$/yr. A GHG inventory for a development project should include GHG emissions for the following GHG sectors where applicable: electricity, transportation, waste generation, wastewater treatment, and commercial and residential (e.g., natural gas use, area sources).[65] In addition, construction-related emissions are amortized over the lifetime of a project, which is conservatively estimated at 30 years unless a longer project lifetime can be

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61 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.

62 California Air Pollution Control Officers Association (CAPCOA). 2008. January. CEQA & Climate Change. http://www.capcoa.org/wp-content/uploads/downloads/2010/05/CAPCOA-White-Paper.pdf

63 South Coast Air Quality Management District (SCAQMD). 2008, October. Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf

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

65 Permitted sources are evaluated separately under the stationary source threshold of 10,000 $MTCO_2e$.

substantiated. Projects that do not exceed the bright-line threshold of significance are considered to have a less than cumulatively considerable impact to climate change. Projects that do exceed the applicable GHG bright-line significance threshold would be considered potentially significant and would require inclusion of all feasible mitigation measures to reduce GHG emissions.

Regional Construction Emissions Worksheet:

PHASE 1

Rough Grading

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2025 Summer**						
	Fugitive Dust					8.67	3.60
	Off-Road	2.90	27.94	26.33	0.06	1.13	1.04
	Total	**2.90**	**27.94**	**26.33**	**0.06**	**9.80**	**4.64**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.01	0.16	0.04	0.00	0.01	0.00
	Worker	0.10	0.05	0.73	0.00	0.26	0.07
	Total	**0.10**	**0.21**	**0.77**	**0.00**	**0.27**	**0.07**
TOTAL		***3.00***	***28.15***	***27.10***	***0.06***	***10.07***	***4.71***
Onsite	**2025 Winter**						
	Fugitive Dust					8.67	3.60
	Off-Road	2.90	27.94	26.33	0.06	1.13	1.04
	Total	**2.90**	**27.94**	**26.33**	**0.06**	**9.80**	**4.64**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.01	0.16	0.04	0.00	0.01	0.00
	Worker	0.09	0.07	0.60	0.00	0.26	0.07
	Total	**0.10**	**0.23**	**0.64**	**0.00**	**0.27**	**0.07**
TOTAL		***3.00***	***28.17***	***26.97***	***0.06***	***10.07***	***4.71***
Onsite	**2025**						
	Fugitive Dust	0.00	0.00	0.00	0.00	8.67	3.60
	Off-Road	2.90	27.94	26.33	0.06	1.13	1.04
	Total	**2.90**	**27.94**	**26.33**	**0.06**	**9.80**	**4.64**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.01	0.16	0.04	0.00	0.01	0.00
	Worker	0.10	0.07	0.73	0.00	0.26	0.07
	Total	**0.10**	**0.23**	**0.77**	**0.00**	**0.27**	**0.07**
TOTAL		***3.00***	***28.17***	***27.10***	***0.06***	***10.07***	***4.71***

Trenching

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2025 Summer**						
	Off-Road	0.17	1.22	3.26	0.01	0.06	0.06
	Total	**0.17**	**1.22**	**3.26**	**0.01**	**0.06**	**0.06**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.01	0.01	0.11	0.00	0.04	0.01
	Total	**0.01**	**0.01**	**0.11**	**0.00**	**0.04**	**0.01**
TOTAL		***0.18***	***1.23***	***3.37***	***0.01***	***0.10***	***0.07***
Onsite	**2025 Winter**						
	Off-Road	0.17	1.22	3.26	0.01	0.06	0.06
	Total	**0.17**	**1.22**	**3.26**	**0.01**	**0.06**	**0.06**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.01	0.01	0.09	0.00	0.04	0.01
	Total	**0.01**	**0.01**	**0.09**	**0.00**	**0.04**	**0.01**
TOTAL		***0.18***	***1.23***	***3.35***	***0.01***	***0.10***	***0.07***
Onsite	**2025**						
	Off-Road	0.17	1.22	3.26	0.01	0.06	0.06
	Total	**0.17**	**1.22**	**3.26**	**0.01**	**0.06**	**0.06**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.01	0.01	0.11	0.00	0.04	0.01
	Total	**0.01**	**0.01**	**0.11**	**0.00**	**0.04**	**0.01**
TOTAL		***0.18***	***1.23***	***3.37***	***0.01***	***0.10***	***0.07***

Fine Grading

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2025 Summer**						
	Fugitive Dust					8.67	3.60
	Off-Road	2.90	27.94	26.33	0.06	1.13	1.04
	Total	**2.90**	**27.94**	**26.33**	**0.06**	**9.80**	**4.64**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.01	0.16	0.04	0.00	0.01	0.00
	Worker	0.10	0.05	0.73	0.00	0.26	0.07
	Total	**0.10**	**0.21**	**0.77**	**0.00**	**0.27**	**0.07**
TOTAL		***3.00***	***28.15***	***27.10***	***0.06***	***10.07***	***4.71***
Onsite	**2025 Winter**						
	Fugitive Dust					8.67	3.60
	Off-Road	2.90	27.94	26.33	0.06	1.13	1.04
	Total	**2.90**	**27.94**	**26.33**	**0.06**	**9.80**	**4.64**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.01	0.16	0.04	0.00	0.01	0.00
	Worker	0.09	0.07	0.60	0.00	0.26	0.07
	Total	**0.10**	**0.23**	**0.64**	**0.00**	**0.27**	**0.07**
TOTAL		***3.00***	***28.17***	***26.97***	***0.06***	***10.07***	***4.71***
Onsite	**2025**						
	Fugitive Dust	0.00	0.00	0.00	0.00	8.67	3.60
	Off-Road	2.90	27.94	26.33	0.06	1.13	1.04
	Total	**2.90**	**27.94**	**26.33**	**0.06**	**9.80**	**4.64**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.01	0.16	0.04	0.00	0.01	0.00
	Worker	0.10	0.07	0.73	0.00	0.26	0.07
	Total	**0.10**	**0.23**	**0.77**	**0.00**	**0.27**	**0.07**
TOTAL		***3.00***	***28.17***	***27.10***	***0.06***	***10.07***	***4.71***

Building Construction 2025

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2025** Summer						
	Off-Road	1.37	12.47	16.08	0.03	0.53	0.50
	Total	**1.37**	**12.47**	**16.08**	**0.03**	**0.53**	**0.50**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.22	6.75	1.53	0.02	0.54	0.16
	Worker	1.05	0.59	8.03	0.02	2.83	0.76
	Total	**1.27**	**7.35**	**9.56**	**0.05**	**3.36**	**0.92**
TOTAL		***2.64***	***19.82***	***25.65***	***0.07***	***3.89***	***1.42***
Onsite	**2025** Winter						
	Off-Road	1.37	12.47	16.08	0.03	0.53	0.50
	Total	**1.37**	**12.47**	**16.08**	**0.03**	**0.53**	**0.50**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.24	6.81	1.83	0.02	0.54	0.16
	Worker	1.04	0.74	6.56	0.02	2.83	0.76
	Total	**1.28**	**7.54**	**8.39**	**0.04**	**3.36**	**0.92**
TOTAL		***2.65***	***20.01***	***24.47***	***0.07***	***3.89***	***1.42***
Onsite	**2025**						
	Off-Road	1.37	12.47	16.08	0.03	0.53	0.50
	Total	**1.37**	**12.47**	**16.08**	**0.03**	**0.53**	**0.50**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.24	6.81	1.83	0.02	0.54	0.16
	Worker	1.05	0.74	8.03	0.02	2.83	0.76
	Total	**1.28**	**7.54**	**9.56**	**0.05**	**3.36**	**0.92**
TOTAL		***2.65***	***20.01***	***25.65***	***0.07***	***3.89***	***1.42***

Building Construction 2026

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2026** Summer						
	Off-Road		1.37	12.47	16.08	0.03	0.53	0.50
	Total		**1.37**	**12.47**	**16.08**	**0.03**	**0.53**	**0.50**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.21	6.63	1.43	0.02	0.54	0.16
	Worker		0.99	0.54	7.45	0.02	2.83	0.76
	Total		**1.21**	**7.17**	**8.88**	**0.05**	**3.36**	**0.92**
TOTAL			***2.57***	***19.64***	***24.97***	***0.07***	***3.89***	***1.42***
Onsite		**2026** Winter						
	Off-Road		1.37	12.47	16.08	0.03	0.53	0.50
	Total		**1.37**	**12.47**	**16.08**	**0.03**	**0.53**	**0.50**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.23	6.67	1.71	0.02	0.54	0.16
	Worker		0.99	0.67	6.07	0.02	2.83	0.76
	Total		**1.21**	**7.34**	**7.78**	**0.04**	**3.36**	**0.92**
TOTAL			***2.58***	***19.81***	***23.87***	***0.07***	***3.89***	***1.42***
Onsite		**2026**						
	Off-Road		1.37	12.47	16.08	0.03	0.53	0.50
	Total		**1.37**	**12.47**	**16.08**	**0.03**	**0.53**	**0.50**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.23	6.67	1.71	0.02	0.54	0.16
	Worker		0.99	0.67	7.45	0.02	2.83	0.76
	Total		**1.21**	**7.34**	**8.88**	**0.05**	**3.36**	**0.92**
TOTAL			***2.58***	***19.81***	***24.97***	***0.07***	***3.89***	***1.42***

Building Construction 2027

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2027** Summer						
	Off-Road		1.37	12.47	16.08	0.03	0.53	0.50
	Total		**1.37**	**12.47**	**16.08**	**0.03**	**0.53**	**0.50**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.20	6.52	1.34	0.02	0.54	0.16
	Worker		0.94	0.49	6.93	0.02	2.83	0.76
	Total		**1.14**	**7.01**	**8.27**	**0.05**	**3.36**	**0.92**
TOTAL			***2.51***	***19.48***	***24.36***	***0.07***	***3.89***	***1.42***
Onsite		**2027** Winter						
	Off-Road		1.37	12.47	16.08	0.03	0.53	0.50
	Total		**1.37**	**12.47**	**16.08**	**0.03**	**0.53**	**0.50**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.22	6.56	1.61	0.02	0.54	0.16
	Worker		0.94	0.61	5.63	0.02	2.83	0.76
	Total		**1.15**	**7.17**	**7.24**	**0.04**	**3.36**	**0.92**
TOTAL			***2.52***	***19.64***	***23.32***	***0.07***	***3.89***	***1.42***
Onsite		**2027**						
	Off-Road		1.37	12.47	16.08	0.03	0.53	0.50
	Total		**1.37**	**12.47**	**16.08**	**0.03**	**0.53**	**0.50**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.22	6.56	1.61	0.02	0.54	0.16
	Worker		0.94	0.61	6.93	0.02	2.83	0.76
	Total		**1.15**	**7.17**	**8.27**	**0.05**	**3.36**	**0.92**
TOTAL			***2.52***	***19.64***	***24.36***	***0.07***	***3.89***	***1.42***

Woodshop Modernization

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2027** Summer						
	Off-Road		0.00	0.00	0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.08	0.02	0.00	0.01	0.00
	Worker		0.01	0.01	0.09	0.00	0.04	0.01
	Total		**0.02**	**0.08**	**0.11**	**0.00**	**0.04**	**0.01**
TOTAL			***0.02***	***0.08***	***0.11***	***0.00***	***0.04***	***0.01***
Onsite		**2027** Winter						
	Off-Road		0.00	0.00	0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.08	0.02	0.00	0.01	0.00
	Worker		0.01	0.01	0.08	0.00	0.04	0.01
	Total		**0.02**	**0.08**	**0.10**	**0.00**	**0.04**	**0.01**
TOTAL			***0.02***	***0.08***	***0.10***	***0.00***	***0.04***	***0.01***
Onsite		**2027**						
	Off-Road		0.00	0.00	0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.08	0.02	0.00	0.01	0.00
	Worker		0.01	0.01	0.09	0.00	0.04	0.01
	Total		**0.02**	**0.08**	**0.11**	**0.00**	**0.04**	**0.01**
TOTAL			***0.02***	***0.08***	***0.11***	***0.00***	***0.04***	***0.01***

Paving

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2027** Summer						
	Off-Road		0.92	8.58	14.58	0.02	0.42	0.39
	Paving		0.12				0.00	0.00
	Total		**1.03**	**8.58**	**14.58**	**0.02**	**0.42**	**0.39**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.06	0.03	0.47	0.00	0.19	0.05
	Total		**0.06**	**0.03**	**0.47**	**0.00**	**0.19**	**0.05**
TOTAL			***1.10***	***8.62***	***15.05***	***0.02***	***0.61***	***0.44***
Onsite		**2027** Winter						
	Off-Road		0.92	8.58	14.58	0.02	0.42	0.39
	Paving		0.12				0.00	0.00
	Total		**1.03**	**8.58**	**14.58**	**0.02**	**0.42**	**0.39**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.06	0.04	0.38	0.00	0.19	0.05
	Total		**0.06**	**0.04**	**0.38**	**0.00**	**0.19**	**0.05**
TOTAL			***1.10***	***8.62***	***14.96***	***0.02***	***0.61***	***0.44***
Onsite		**2027**						
	Off-Road		0.92	8.58	14.58	0.02	0.42	0.39
	Paving		0.12	0.00	0.00	0.00	0.00	0.00
	Total		**1.03**	**8.58**	**14.58**	**0.02**	**0.42**	**0.39**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.06	0.04	0.47	0.00	0.19	0.05
	Total		**0.06**	**0.04**	**0.47**	**0.00**	**0.19**	**0.05**
TOTAL			***1.10***	***8.62***	***15.05***	***0.02***	***0.61***	***0.44***

Architectural Coating

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2027** Summer						
	Archit. Coating	33.09				0.00	0.00
	Off-Road	0.17	1.15	1.81	0.00	0.05	0.05
	Total	**33.26**	**1.15**	**1.81**	**0.00**	**0.05**	**0.05**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.19	0.10	1.42	0.00	0.58	0.16
	Total	**0.19**	**0.10**	**1.42**	**0.00**	**0.58**	**0.16**
TOTAL		***33.45***	***1.25***	***3.23***	***0.01***	***0.63***	***0.21***
Onsite	**2027** Winter						
	Archit. Coating	33.09				0.00	0.00
	Off-Road	0.17	1.15	1.81	0.00	0.05	0.05
	Total	**33.26**	**1.15**	**1.81**	**0.00**	**0.05**	**0.05**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.19	0.12	1.15	0.00	0.58	0.16
	Total	**0.19**	**0.12**	**1.15**	**0.00**	**0.58**	**0.16**
TOTAL		***33.45***	***1.27***	***2.96***	***0.01***	***0.63***	***0.21***
Onsite	**2027**						
	Archit. Coating	33.09	0.00	0.00	0.00	0.00	0.00
	Off-Road	0.17	1.15	1.81	0.00	0.05	0.05
	Total	**33.26**	**1.15**	**1.81**	**0.00**	**0.05**	**0.05**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.19	0.12	1.42	0.00	0.58	0.16
	Total	**0.19**	**0.12**	**1.42**	**0.00**	**0.58**	**0.16**
TOTAL		***33.45***	***1.27***	***3.23***	***0.01***	***0.63***	***0.21***

Finishing and Landscaping

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2021 Summer**						
	Off-Road	0.17	1.22	3.26	0.01	0.06	0.06
	Total	**0.17**	**1.22**	**3.26**	**0.01**	**0.06**	**0.06**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.01	0.01	0.09	0.00	0.04	0.01
	Total	**0.01**	**0.01**	**0.09**	**0.00**	**0.04**	**0.01**
TOTAL		***0.18***	***1.23***	***3.35***	***0.01***	***0.10***	***0.07***
Onsite	**2021 Winter**						
	Off-Road	0.17	1.22	3.26	0.01	0.06	0.06
	Total	**0.17**	**1.22**	**3.26**	**0.01**	**0.06**	**0.06**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.01	0.01	0.08	0.00	0.04	0.01
	Total	**0.01**	**0.01**	**0.08**	**0.00**	**0.04**	**0.01**
TOTAL		***0.18***	***1.23***	***3.34***	***0.01***	***0.10***	***0.07***
Onsite	**2021**						
	Off-Road	0.17	1.22	3.26	0.01	0.06	0.06
	Total	**0.17**	**1.22**	**3.26**	**0.01**	**0.06**	**0.06**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.01	0.01	0.09	0.00	0.04	0.01
	Total	**0.01**	**0.01**	**0.09**	**0.00**	**0.04**	**0.01**
TOTAL		***0.18***	***1.23***	***3.35***	***0.01***	***0.10***	***0.07***

PHASE 2

Site Preparation

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2030 Summer**						
	Fugitive Dust						18.07	9.93
	Off-Road		2.44	13.67	16.29	0.05	0.44	0.44
	Total		**2.44**	**13.67**	**16.29**	**0.05**	**18.50**	**10.37**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.15	0.03	0.00	0.01	0.00
	Worker		0.06	0.03	0.46	0.00	0.23	0.06
	Total		**0.07**	**0.18**	**0.49**	**0.00**	**0.24**	**0.07**
TOTAL			***2.51***	***13.84***	***16.78***	***0.05***	***18.75***	***10.43***
Onsite		**2030 Winter**						
	Fugitive Dust						18.07	9.93
	Off-Road		2.44	13.67	16.29	0.05	0.44	0.44
	Total		**2.44**	**13.67**	**16.29**	**0.05**	**18.50**	**10.37**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.15	0.03	0.00	0.01	0.00
	Worker		0.06	0.04	0.37	0.00	0.23	0.06
	Total		**0.07**	**0.18**	**0.41**	**0.00**	**0.24**	**0.07**
TOTAL			***2.51***	***13.85***	***16.70***	***0.05***	***18.75***	***10.43***
Onsite		**2030**						
	Fugitive Dust		0.00	0.00	0.00	0.00	18.07	9.93
	Off-Road		2.44	13.67	16.29	0.05	0.44	0.44
	Total		**2.44**	**13.67**	**16.29**	**0.05**	**18.50**	**10.37**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.15	0.03	0.00	0.01	0.00
	Worker		0.06	0.04	0.46	0.00	0.23	0.06
	Total		**0.07**	**0.18**	**0.49**	**0.00**	**0.24**	**0.07**
TOTAL			***2.51***	***13.85***	***16.78***	***0.05***	***18.75***	***10.43***

Fine Grading

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2030 Summer**						
	Fugitive Dust						8.67	3.60
	Off-Road		3.28	13.85	23.02	0.07	0.49	0.49
	Total		**3.28**	**13.85**	**23.02**	**0.07**	**9.16**	**4.08**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.15	0.03	0.00	0.01	0.00
	Worker		0.07	0.03	0.51	0.00	0.26	0.07
	Total		**0.07**	**0.18**	**0.54**	**0.00**	**0.27**	**0.07**
TOTAL			***3.35***	***14.03***	***23.57***	***0.07***	***9.43***	***4.16***
Onsite		**2030 Winter**						
	Fugitive Dust						8.67	3.60
	Off-Road		3.28	13.85	23.02	0.07	0.49	0.49
	Total		**3.28**	**13.85**	**23.02**	**0.07**	**9.16**	**4.08**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.15	0.03	0.00	0.01	0.00
	Worker		0.07	0.04	0.41	0.00	0.26	0.07
	Total		**0.07**	**0.19**	**0.45**	**0.00**	**0.27**	**0.07**
TOTAL			***3.35***	***14.03***	***23.47***	***0.07***	***9.43***	***4.16***
Onsite		**2030**						
	Fugitive Dust		0.00	0.00	0.00	0.00	8.67	3.60
	Off-Road		3.28	13.85	23.02	0.07	0.49	0.49
	Total		**3.28**	**13.85**	**23.02**	**0.07**	**9.16**	**4.08**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.15	0.03	0.00	0.01	0.00
	Worker		0.07	0.04	0.51	0.00	0.26	0.07
	Total		**0.07**	**0.19**	**0.54**	**0.00**	**0.27**	**0.07**
TOTAL			***3.35***	***14.03***	***23.57***	***0.07***	***9.43***	***4.16***

Trenching

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2030 Summer**						
	Off-Road		0.23	0.56	3.56	0.01	0.02	0.02
	Total		**0.23**	**0.56**	**3.56**	**0.01**	**0.02**	**0.02**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.01	0.01	0.08	0.00	0.04	0.01
	Total		**0.01**	**0.01**	**0.08**	**0.00**	**0.04**	**0.01**
TOTAL			***0.24***	***0.56***	***3.64***	***0.01***	***0.06***	***0.03***
Onsite		**2030 Winter**						
	Off-Road		0.23	0.56	3.56	0.01	0.02	0.02
	Total		**0.23**	**0.56**	**3.56**	**0.01**	**0.02**	**0.02**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.01	0.01	0.06	0.00	0.04	0.01
	Total		**0.01**	**0.01**	**0.06**	**0.00**	**0.04**	**0.01**
TOTAL			***0.24***	***0.56***	***3.62***	***0.01***	***0.06***	***0.03***
Onsite		**2030**						
	Off-Road		0.23	0.56	3.56	0.01	0.02	0.02
	Total		**0.23**	**0.56**	**3.56**	**0.01**	**0.02**	**0.02**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.01	0.01	0.08	0.00	0.04	0.01
	Total		**0.01**	**0.01**	**0.08**	**0.00**	**0.04**	**0.01**
TOTAL			***0.24***	***0.56***	***3.64***	***0.01***	***0.06***	***0.03***

Building Construction 2030

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2030** Summer						
	Off-Road		1.31	7.93	16.16	0.03	0.15	0.15
	Total		**1.31**	**7.93**	**16.16**	**0.03**	**0.15**	**0.15**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.48	16.64	3.13	0.06	1.42	0.42
	Worker		2.01	0.99	15.06	0.06	7.51	2.01
	Total		**2.49**	**17.63**	**18.18**	**0.11**	**8.92**	**2.43**
TOTAL			***3.80***	***25.56***	***34.34***	***0.15***	***9.07***	***2.58***
Onsite		**2030** Winter						
	Off-Road		1.31	7.93	16.16	0.03	0.15	0.15
	Total		**1.31**	**7.93**	**16.16**	**0.03**	**0.15**	**0.15**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.52	16.71	3.78	0.06	1.42	0.42
	Worker		2.02	1.23	12.11	0.05	7.51	2.01
	Total		**2.53**	**17.94**	**15.88**	**0.11**	**8.92**	**2.43**
TOTAL			***3.84***	***25.87***	***32.04***	***0.14***	***9.07***	***2.58***
Onsite		**2030**						
	Off-Road		1.31	7.93	16.16	0.03	0.15	0.15
	Total		**1.31**	**7.93**	**16.16**	**0.03**	**0.15**	**0.15**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.52	16.71	3.78	0.06	1.42	0.42
	Worker		2.02	1.23	15.06	0.06	7.51	2.01
	Total		**2.53**	**17.94**	**18.18**	**0.11**	**8.92**	**2.43**
TOTAL			***3.84***	***25.87***	***34.34***	***0.15***	***9.07***	***2.58***

Building Construction 2031

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2031** Summer						
	Off-Road		1.31	7.93	16.16	0.03	0.15	0.15
	Total		**1.31**	**7.93**	**16.16**	**0.03**	**0.15**	**0.15**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.47	16.48	3.03	0.06	1.42	0.42
	Worker		1.83	0.90	14.06	0.05	7.50	2.01
	Total		**2.30**	**17.38**	**17.09**	**0.11**	**8.92**	**2.43**
TOTAL			***3.61***	***25.31***	***33.24***	***0.14***	***9.07***	***2.58***
Onsite		**2031** Winter						
	Off-Road		1.31	7.93	16.16	0.03	0.15	0.15
	Total		**1.31**	**7.93**	**16.16**	**0.03**	**0.15**	**0.15**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.50	16.54	3.66	0.06	1.42	0.42
	Worker		1.84	1.11	11.25	0.05	7.50	2.01
	Total		**2.34**	**17.65**	**14.92**	**0.10**	**8.92**	**2.43**
TOTAL			***3.65***	***25.59***	***31.07***	***0.14***	***9.07***	***2.58***
Onsite		**2031**						
	Off-Road		1.31	7.93	16.16	0.03	0.15	0.15
	Total		**1.31**	**7.93**	**16.16**	**0.03**	**0.15**	**0.15**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.50	16.54	3.66	0.06	1.42	0.42
	Worker		1.84	1.11	14.06	0.05	7.50	2.01
	Total		**2.34**	**17.65**	**17.09**	**0.11**	**8.92**	**2.43**
TOTAL			***3.65***	***25.59***	***33.24***	***0.14***	***9.07***	***2.58***

Building Construction 2032

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2032** Summer						
	Off-Road		1.31	7.93	16.16	0.03	0.15	0.15
	Total		**1.31**	**7.93**	**16.16**	**0.03**	**0.15**	**0.15**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.46	16.34	2.96	0.06	1.42	0.42
	Worker		1.67	0.82	13.20	0.05	7.50	2.01
	Total		**2.13**	**17.16**	**16.16**	**0.11**	**8.92**	**2.43**
TOTAL			***3.44***	***25.10***	***32.31***	***0.14***	***9.06***	***2.58***
Onsite		**2032** Winter						
	Off-Road		1.31	7.93	16.16	0.03	0.15	0.15
	Total		**1.31**	**7.93**	**16.16**	**0.03**	**0.15**	**0.15**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.49	16.40	3.59	0.06	1.42	0.42
	Worker		1.68	1.01	10.52	0.05	7.50	2.01
	Total		**2.18**	**17.41**	**14.10**	**0.10**	**8.92**	**2.43**
TOTAL			***3.49***	***25.34***	***30.26***	***0.13***	***9.07***	***2.58***
Onsite		**2032**						
	Off-Road		1.31	7.93	16.16	0.03	0.15	0.15
	Total		**1.31**	**7.93**	**16.16**	**0.03**	**0.15**	**0.15**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.49	16.40	3.59	0.06	1.42	0.42
	Worker		1.68	1.01	13.20	0.05	7.50	2.01
	Total		**2.18**	**17.41**	**16.16**	**0.11**	**8.92**	**2.43**
TOTAL			***3.49***	***25.34***	***32.31***	***0.14***	***9.07***	***2.58***

Paving

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2032** Summer						
	Off-Road		1.38	7.12	15.85	0.03	0.33	0.33
	Paving		0.03				0.00	0.00
	Total		**1.42**	**7.12**	**15.85**	**0.03**	**0.33**	**0.33**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.04	0.02	0.34	0.00	0.19	0.05
	Total		**0.04**	**0.02**	**0.34**	**0.00**	**0.19**	**0.05**
TOTAL			***1.46***	***7.14***	***16.19***	***0.03***	***0.52***	***0.38***
Onsite		**2032** Winter						
	Off-Road		1.38	7.12	15.85	0.03	0.33	0.33
	Paving		0.03				0.00	0.00
	Total		**1.42**	**7.12**	**15.85**	**0.03**	**0.33**	**0.33**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.04	0.03	0.27	0.00	0.19	0.05
	Total		**0.04**	**0.03**	**0.27**	**0.00**	**0.19**	**0.05**
TOTAL			***1.46***	***7.15***	***16.12***	***0.03***	***0.52***	***0.38***
Onsite		**2032**						
	Off-Road		1.38	7.12	15.85	0.03	0.33	0.33
	Paving		0.03	0.00	0.00	0.00	0.00	0.00
	Total		**1.42**	**7.12**	**15.85**	**0.03**	**0.33**	**0.33**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.04	0.03	0.34	0.00	0.19	0.05
	Total		**0.04**	**0.03**	**0.34**	**0.00**	**0.19**	**0.05**
TOTAL			***1.46***	***7.15***	***16.19***	***0.03***	***0.52***	***0.38***

Architectural Coating

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2032** Summer						
	Archit. Coating		55.17				0.00	0.00
	Off-Road		0.13	0.86	1.80	0.00	0.02	0.02
	Total		**55.30**	**0.86**	**1.80**	**0.00**	**0.02**	**0.02**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.33	0.16	2.64	0.01	1.50	0.40
	Total		**0.33**	**0.16**	**2.64**	**0.01**	**1.50**	**0.40**
TOTAL			***55.64***	***1.02***	***4.44***	***0.01***	***1.52***	***0.42***
Onsite		**2032** Winter						
	Archit. Coating		55.17				0.00	0.00
	Off-Road		0.13	0.86	1.80	0.00	0.02	0.02
	Total		**55.30**	**0.86**	**1.80**	**0.00**	**0.02**	**0.02**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.34	0.20	2.10	0.01	1.50	0.40
	Total		**0.34**	**0.20**	**2.10**	**0.01**	**1.50**	**0.40**
TOTAL			***55.64***	***1.06***	***3.90***	***0.01***	***1.52***	***0.42***
Onsite		**2032**						
	Archit. Coating		55.17	0.00	0.00	0.00	0.00	0.00
	Off-Road		0.13	0.86	1.80	0.00	0.02	0.02
	Total		**55.30**	**0.86**	**1.80**	**0.00**	**0.02**	**0.02**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.34	0.20	2.64	0.01	1.50	0.40
	Total		**0.34**	**0.20**	**2.64**	**0.01**	**1.50**	**0.40**
TOTAL			***55.64***	***1.06***	***4.44***	***0.01***	***1.52***	***0.42***

Finishing and Landscaping

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2032 Summer**						
	Off-Road		0.23	0.56	3.58	0.01	0.02	0.02
	Total		**0.23**	**0.56**	**3.58**	**0.01**	**0.02**	**0.02**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.01	0.00	0.07	0.00	0.04	0.01
	Total		**0.01**	**0.00**	**0.07**	**0.00**	**0.04**	**0.01**
TOTAL			***0.24***	***0.56***	***3.65***	***0.01***	***0.06***	***0.03***
Onsite		**2032 Winter**						
	Off-Road		0.23	0.56	3.58	0.01	0.02	0.02
	Total		**0.23**	**0.56**	**3.58**	**0.01**	**0.02**	**0.02**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.01	0.01	0.05	0.00	0.04	0.01
	Total		**0.01**	**0.01**	**0.05**	**0.00**	**0.04**	**0.01**
TOTAL			***0.24***	***0.56***	***3.63***	***0.01***	***0.06***	***0.03***
Onsite		**2032**						
	Off-Road		0.23	0.56	3.58	0.01	0.02	0.02
	Total		**0.23**	**0.56**	**3.58**	**0.01**	**0.02**	**0.02**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.01	0.01	0.07	0.00	0.04	0.01
	Total		**0.01**	**0.01**	**0.07**	**0.00**	**0.04**	**0.01**
TOTAL			***0.24***	***0.56***	***3.65***	***0.01***	***0.06***	***0.03***

Phase 1	**ROG**	**NOx**	**CO**	**SO2**	**PM10 Total**	**PM2.5 Total**
Rough Grading	***3.00***	***28.17***	***27.10***	***0.06***	***10.07***	***4.71***
Utility Trenching	***0.18***	***1.23***	***3.37***	***0.01***	***0.10***	***0.07***
Fine Grading	***3.00***	***28.17***	***27.10***	***0.06***	***10.07***	***4.71***
Building Construction 2025	***2.65***	***20.01***	***25.65***	***0.07***	***3.89***	***1.42***
Building Construction 2026	***2.58***	***19.81***	***24.97***	***0.07***	***3.89***	***1.42***
Building Construction 2027	***2.52***	***19.64***	***24.36***	***0.07***	***3.89***	***1.42***
Building Construction 2027 and Woodshop Modernization	***2.53***	***19.72***	***24.47***	***0.07***	***3.93***	***1.43***
Paving	***1.10***	***8.62***	***15.05***	***0.02***	***0.61***	***0.44***
Architectural Coating	***33.45***	***1.27***	***3.23***	***0.01***	***0.63***	***0.21***
Finishing and Landscaping	***0.18***	***1.23***	***3.35***	***0.01***	***0.10***	***0.07***

Phase 2

Site Preparation	***2.51***	***13.85***	***16.78***	***0.05***	***18.75***	***10.43***
Fine Grading	***3.35***	***14.03***	***23.57***	***0.07***	***9.43***	***4.16***
Utility Trenching	***0.24***	***0.56***	***3.64***	***0.01***	***0.06***	***0.03***
Building Construction 2030	***3.84***	***25.87***	***34.34***	***0.15***	***9.07***	***2.58***
Building Construction 2031	***3.65***	***25.59***	***33.24***	***0.14***	***9.07***	***2.58***
Building Construction 2032	***3.49***	***25.34***	***32.31***	***0.14***	***9.07***	***2.58***
Paving	***1.46***	***7.15***	***16.19***	***0.03***	***0.52***	***0.38***
Architectural Coating	***55.64***	***1.06***	***4.44***	***0.01***	***1.52***	***0.42***
Finishing and Landscaping	***0.24***	***0.56***	***3.65***	***0.01***	***0.06***	***0.03***
MAX DAILY	**55.64**	**28.17**	**34.34**	**0.15**	**18.75**	**10.43**
Shasta County Level A Thresholds	**25**	**25**	**NA**	**NA**	**80**	**NA**
Exceeds Thresholds?	Yes	Yes	NA	NA	No	NA
Shasta County Level B Thresholds	**137**	**137**	**NA**	**NA**	**137**	**NA**
Exceeds Thresholds?	No	No	NA	NA	No	NA

Regional Mitigated Construction Emissions Worksheet:

PHASE 1

Rough Grading

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2025 Summer**						
	Fugitive Dust						8.67	3.60
	Off-Road		1.01	19.27	36.72	0.06	0.10	0.10
	Total		**1.01**	**19.27**	**36.72**	**0.06**	**8.77**	**3.70**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.16	0.04	0.00	0.01	0.00
	Worker		0.10	0.05	0.73	0.00	0.26	0.07
	Total		**0.10**	**0.21**	**0.77**	**0.00**	**0.27**	**0.07**
TOTAL			***1.11***	***19.48***	***37.49***	***0.06***	***9.04***	***3.77***
Onsite		**2025 Winter**						
	Fugitive Dust						8.67	3.60
	Off-Road		1.01	19.27	36.72	0.06	0.10	0.10
	Total		**1.01**	**19.27**	**36.72**	**0.06**	**8.77**	**3.70**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.16	0.04	0.00	0.01	0.00
	Worker		0.09	0.07	0.60	0.00	0.26	0.07
	Total		**0.10**	**0.23**	**0.64**	**0.00**	**0.27**	**0.07**
TOTAL			***1.11***	***19.50***	***37.36***	***0.06***	***9.04***	***3.77***
Onsite		**2025**						
	Fugitive Dust		0.00	0.00	0.00	0.00	8.67	3.60
	Off-Road		1.01	19.27	36.72	0.06	0.10	0.10
	Total		**1.01**	**19.27**	**36.72**	**0.06**	**8.77**	**3.70**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.16	0.04	0.00	0.01	0.00
	Worker		0.10	0.07	0.73	0.00	0.26	0.07
	Total		**0.10**	**0.23**	**0.77**	**0.00**	**0.27**	**0.07**
TOTAL			***1.11***	***19.50***	***37.49***	***0.06***	***9.04***	***3.77***

Trenching

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2025 Summer**						
	Off-Road		0.17	1.22	3.26	0.01	0.06	0.06
	Total		**0.17**	**1.22**	**3.26**	**0.01**	**0.06**	**0.06**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.01	0.01	0.11	0.00	0.04	0.01
	Total		**0.01**	**0.01**	**0.11**	**0.00**	**0.04**	**0.01**
TOTAL			***0.18***	***1.23***	***3.37***	***0.01***	***0.10***	***0.07***
Onsite		**2025 Winter**						
	Off-Road		0.17	1.22	3.26	0.01	0.06	0.06
	Total		**0.17**	**1.22**	**3.26**	**0.01**	**0.06**	**0.06**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.01	0.01	0.09	0.00	0.04	0.01
	Total		**0.01**	**0.01**	**0.09**	**0.00**	**0.04**	**0.01**
TOTAL			***0.18***	***1.23***	***3.35***	***0.01***	***0.10***	***0.07***
Onsite		**2025**						
	Off-Road		0.17	1.22	3.26	0.01	0.06	0.06
	Total		**0.17**	**1.22**	**3.26**	**0.01**	**0.06**	**0.06**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.01	0.01	0.11	0.00	0.04	0.01
	Total		**0.01**	**0.01**	**0.11**	**0.00**	**0.04**	**0.01**
TOTAL			***0.18***	***1.23***	***3.37***	***0.01***	***0.10***	***0.07***

Fine Grading								
			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2025 Summer**						
	Fugitive Dust						8.67	3.60
	Off-Road		1.01	19.27	36.72	0.06	0.10	0.10
	Total		**1.01**	**19.27**	**36.72**	**0.06**	**8.77**	**3.70**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.16	0.04	0.00	0.01	0.00
	Worker		0.10	0.05	0.73	0.00	0.26	0.07
	Total		**0.10**	**0.21**	**0.77**	**0.00**	**0.27**	**0.07**
TOTAL			***1.11***	***19.48***	***37.49***	***0.06***	***9.04***	***3.77***
Onsite		**2025 Winter**						
	Fugitive Dust						8.67	3.60
	Off-Road		1.01	19.27	36.72	0.06	0.10	0.10
	Total		**1.01**	**19.27**	**36.72**	**0.06**	**8.77**	**3.70**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.16	0.04	0.00	0.01	0.00
	Worker		0.09	0.07	0.60	0.00	0.26	0.07
	Total		**0.10**	**0.23**	**0.64**	**0.00**	**0.27**	**0.07**
TOTAL			***1.11***	***19.50***	***37.36***	***0.06***	***9.04***	***3.77***
Onsite		**2025**						
	Fugitive Dust		0.00	0.00	0.00	0.00	8.67	3.60
	Off-Road		1.01	19.27	36.72	0.06	0.10	0.10
	Total		**1.01**	**19.27**	**36.72**	**0.06**	**8.77**	**3.70**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.16	0.04	0.00	0.01	0.00
	Worker		0.10	0.07	0.73	0.00	0.26	0.07
	Total		**0.10**	**0.23**	**0.77**	**0.00**	**0.27**	**0.07**
TOTAL			***1.11***	***19.50***	***37.49***	***0.06***	***9.04***	***3.77***

Building Construction 2025								
			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2025** Summer						
	Off-Road		1.37	12.47	16.08	0.03	0.53	0.50
	Total		**1.37**	**12.47**	**16.08**	**0.03**	**0.53**	**0.50**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.22	6.75	1.53	0.02	0.54	0.16
	Worker		1.05	0.59	8.03	0.02	2.83	0.76
	Total		**1.27**	**7.35**	**9.56**	**0.05**	**3.36**	**0.92**
TOTAL			***2.64***	***19.82***	***25.65***	***0.07***	***3.89***	***1.42***
Onsite		**2025** Winter						
	Off-Road		1.37	12.47	16.08	0.03	0.53	0.50
	Total		**1.37**	**12.47**	**16.08**	**0.03**	**0.53**	**0.50**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.24	6.81	1.83	0.02	0.54	0.16
	Worker		1.04	0.74	6.56	0.02	2.83	0.76
	Total		**1.28**	**7.54**	**8.39**	**0.04**	**3.36**	**0.92**
TOTAL			***2.65***	***20.01***	***24.47***	***0.07***	***3.89***	***1.42***
Onsite		**2025**						
	Off-Road		1.37	12.47	16.08	0.03	0.53	0.50
	Total		**1.37**	**12.47**	**16.08**	**0.03**	**0.53**	**0.50**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.24	6.81	1.83	0.02	0.54	0.16
	Worker		1.05	0.74	8.03	0.02	2.83	0.76
	Total		**1.28**	**7.54**	**9.56**	**0.05**	**3.36**	**0.92**
TOTAL			***2.65***	***20.01***	***25.65***	***0.07***	***3.89***	***1.42***

Building Construction 2026

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2026** Summer						
	Off-Road		1.37	12.47	16.08	0.03	0.53	0.50
	Total		**1.37**	**12.47**	**16.08**	**0.03**	**0.53**	**0.50**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.21	6.63	1.43	0.02	0.54	0.16
	Worker		0.99	0.54	7.45	0.02	2.83	0.76
	Total		**1.21**	**7.17**	**8.88**	**0.05**	**3.36**	**0.92**
TOTAL			***2.57***	***19.64***	***24.97***	***0.07***	***3.89***	***1.42***
Onsite		**2026** Winter						
	Off-Road		1.37	12.47	16.08	0.03	0.53	0.50
	Total		**1.37**	**12.47**	**16.08**	**0.03**	**0.53**	**0.50**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.23	6.67	1.71	0.02	0.54	0.16
	Worker		0.99	0.67	6.07	0.02	2.83	0.76
	Total		**1.21**	**7.34**	**7.78**	**0.04**	**3.36**	**0.92**
TOTAL			***2.58***	***19.81***	***23.87***	***0.07***	***3.89***	***1.42***
Onsite		**2026**						
	Off-Road		1.37	12.47	16.08	0.03	0.53	0.50
	Total		**1.37**	**12.47**	**16.08**	**0.03**	**0.53**	**0.50**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.23	6.67	1.71	0.02	0.54	0.16
	Worker		0.99	0.67	7.45	0.02	2.83	0.76
	Total		**1.21**	**7.34**	**8.88**	**0.05**	**3.36**	**0.92**
TOTAL			***2.58***	***19.81***	***24.97***	***0.07***	***3.89***	***1.42***

Building Construction 2027

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2027** Summer						
	Off-Road		1.37	12.47	16.08	0.03	0.53	0.50
	Total		**1.37**	**12.47**	**16.08**	**0.03**	**0.53**	**0.50**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.20	6.52	1.34	0.02	0.54	0.16
	Worker		0.94	0.49	6.93	0.02	2.83	0.76
	Total		**1.14**	**7.01**	**8.27**	**0.05**	**3.36**	**0.92**
TOTAL			***2.51***	***19.48***	***24.36***	***0.07***	***3.89***	***1.42***
Onsite		**2027** Winter						
	Off-Road		1.37	12.47	16.08	0.03	0.53	0.50
	Total		**1.37**	**12.47**	**16.08**	**0.03**	**0.53**	**0.50**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.22	6.56	1.61	0.02	0.54	0.16
	Worker		0.94	0.61	5.63	0.02	2.83	0.76
	Total		**1.15**	**7.17**	**7.24**	**0.04**	**3.36**	**0.92**
TOTAL			***2.52***	***19.64***	***23.32***	***0.07***	***3.89***	***1.42***
Onsite		**2027**						
	Off-Road		1.37	12.47	16.08	0.03	0.53	0.50
	Total		**1.37**	**12.47**	**16.08**	**0.03**	**0.53**	**0.50**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.22	6.56	1.61	0.02	0.54	0.16
	Worker		0.94	0.61	6.93	0.02	2.83	0.76
	Total		**1.15**	**7.17**	**8.27**	**0.05**	**3.36**	**0.92**
TOTAL			***2.52***	***19.64***	***24.36***	***0.07***	***3.89***	***1.42***

Woodshop Modernization			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2027** Summer						
	Off-Road		0.00	0.00	0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.08	0.02	0.00	0.01	0.00
	Worker		0.01	0.01	0.09	0.00	0.04	0.01
	Total		**0.02**	**0.08**	**0.11**	**0.00**	**0.04**	**0.01**
TOTAL			***0.02***	***0.08***	***0.11***	***0.00***	***0.04***	***0.01***
Onsite		**2027** Winter						
	Off-Road		0.00	0.00	0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.08	0.02	0.00	0.01	0.00
	Worker		0.01	0.01	0.08	0.00	0.04	0.01
	Total		**0.02**	**0.08**	**0.10**	**0.00**	**0.04**	**0.01**
TOTAL			***0.02***	***0.08***	***0.10***	***0.00***	***0.04***	***0.01***
Onsite		**2027**						
	Off-Road		0.00	0.00	0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.08	0.02	0.00	0.01	0.00
	Worker		0.01	0.01	0.09	0.00	0.04	0.01
	Total		**0.02**	**0.08**	**0.11**	**0.00**	**0.04**	**0.01**
TOTAL			***0.02***	***0.08***	***0.11***	***0.00***	***0.04***	***0.01***

Paving			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2027** Summer						
	Off-Road		0.92	8.58	14.58	0.02	0.42	0.39
	Paving		0.12				0.00	0.00
	Total		**1.03**	**8.58**	**14.58**	**0.02**	**0.42**	**0.39**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.06	0.03	0.47	0.00	0.19	0.05
	Total		**0.06**	**0.03**	**0.47**	**0.00**	**0.19**	**0.05**
TOTAL			***1.10***	***8.62***	***15.05***	***0.02***	***0.61***	***0.44***
Onsite		**2027** Winter						
	Off-Road		0.92	8.58	14.58	0.02	0.42	0.39
	Paving		0.12				0.00	0.00
	Total		**1.03**	**8.58**	**14.58**	**0.02**	**0.42**	**0.39**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.06	0.04	0.38	0.00	0.19	0.05
	Total		**0.06**	**0.04**	**0.38**	**0.00**	**0.19**	**0.05**
TOTAL			***1.10***	***8.62***	***14.96***	***0.02***	***0.61***	***0.44***
Onsite		**2027**						
	Off-Road		0.92	8.58	14.58	0.02	0.42	0.39
	Paving		0.12	0.00	0.00	0.00	0.00	0.00
	Total		**1.03**	**8.58**	**14.58**	**0.02**	**0.42**	**0.39**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.06	0.04	0.47	0.00	0.19	0.05
	Total		**0.06**	**0.04**	**0.47**	**0.00**	**0.19**	**0.05**
TOTAL			***1.10***	***8.62***	***15.05***	***0.02***	***0.61***	***0.44***

Architectural Coating

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2027** Summer						
	Archit. Coating		11.47				0.00	0.00
	Off-Road		0.17	1.15	1.81	0.00	0.05	0.05
	Total		**11.64**	**1.15**	**1.81**	**0.00**	**0.05**	**0.05**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.19	0.10	1.42	0.00	0.58	0.16
	Total		**0.19**	**0.10**	**1.42**	**0.00**	**0.58**	**0.16**
TOTAL			***11.83***	***1.25***	***3.23***	***0.01***	***0.63***	***0.21***
Onsite		**2027** Winter						
	Archit. Coating		11.47				0.00	0.00
	Off-Road		0.17	1.15	1.81	0.00	0.05	0.05
	Total		**11.64**	**1.15**	**1.81**	**0.00**	**0.05**	**0.05**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.19	0.12	1.15	0.00	0.58	0.16
	Total		**0.19**	**0.12**	**1.15**	**0.00**	**0.58**	**0.16**
TOTAL			***11.83***	***1.27***	***2.96***	***0.01***	***0.63***	***0.21***
Onsite		**2027**						
	Archit. Coating		11.47	0.00	0.00	0.00	0.00	0.00
	Off-Road		0.17	1.15	1.81	0.00	0.05	0.05
	Total		**11.64**	**1.15**	**1.81**	**0.00**	**0.05**	**0.05**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.19	0.12	1.42	0.00	0.58	0.16
	Total		**0.19**	**0.12**	**1.42**	**0.00**	**0.58**	**0.16**
TOTAL			***11.83***	***1.27***	***3.23***	***0.01***	***0.63***	***0.21***

Finishing and Landscaping

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2021 Summer**						
	Off-Road		0.17	1.22	3.26	0.01	0.06	0.06
	Total		**0.17**	**1.22**	**3.26**	**0.01**	**0.06**	**0.06**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.01	0.01	0.09	0.00	0.04	0.01
	Total		**0.01**	**0.01**	**0.09**	**0.00**	**0.04**	**0.01**
TOTAL			***0.18***	***1.23***	***3.35***	***0.01***	***0.10***	***0.07***
Onsite		**2021 Winter**						
	Off-Road		0.17	1.22	3.26	0.01	0.06	0.06
	Total		**0.17**	**1.22**	**3.26**	**0.01**	**0.06**	**0.06**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.01	0.01	0.08	0.00	0.04	0.01
	Total		**0.01**	**0.01**	**0.08**	**0.00**	**0.04**	**0.01**
TOTAL			***0.18***	***1.23***	***3.34***	***0.01***	***0.10***	***0.07***
Onsite		**2021**						
	Off-Road		0.17	1.22	3.26	0.01	0.06	0.06
	Total		**0.17**	**1.22**	**3.26**	**0.01**	**0.06**	**0.06**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.01	0.01	0.09	0.00	0.04	0.01
	Total		**0.01**	**0.01**	**0.09**	**0.00**	**0.04**	**0.01**
TOTAL			***0.18***	***1.23***	***3.35***	***0.01***	***0.10***	***0.07***

PHASE 2

Site Preparation

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2030 Summer**						
	Fugitive Dust						18.07	9.93
	Off-Road		2.44	13.67	16.29	0.05	0.44	0.44
	Total		**2.44**	**13.67**	**16.29**	**0.05**	**18.50**	**10.37**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.15	0.03	0.00	0.01	0.00
	Worker		0.06	0.03	0.46	0.00	0.23	0.06
	Total		**0.07**	**0.18**	**0.49**	**0.00**	**0.24**	**0.07**
TOTAL			***2.51***	***13.84***	***16.78***	***0.05***	***18.75***	***10.43***
Onsite		**2030 Winter**						
	Fugitive Dust						18.07	9.93
	Off-Road		2.44	13.67	16.29	0.05	0.44	0.44
	Total		**2.44**	**13.67**	**16.29**	**0.05**	**18.50**	**10.37**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.15	0.03	0.00	0.01	0.00
	Worker		0.06	0.04	0.37	0.00	0.23	0.06
	Total		**0.07**	**0.18**	**0.41**	**0.00**	**0.24**	**0.07**
TOTAL			***2.51***	***13.85***	***16.70***	***0.05***	***18.75***	***10.43***
Onsite		**2030**						
	Fugitive Dust		0.00	0.00	0.00	0.00	18.07	9.93
	Off-Road		2.44	13.67	16.29	0.05	0.44	0.44
	Total		**2.44**	**13.67**	**16.29**	**0.05**	**18.50**	**10.37**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.15	0.03	0.00	0.01	0.00
	Worker		0.06	0.04	0.46	0.00	0.23	0.06
	Total		**0.07**	**0.18**	**0.49**	**0.00**	**0.24**	**0.07**
TOTAL			***2.51***	***13.85***	***16.78***	***0.05***	***18.75***	***10.43***

Fine Grading

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2030 Summer**						
	Fugitive Dust						8.67	3.60
	Off-Road		3.28	13.85	23.02	0.07	0.49	0.49
	Total		**3.28**	**13.85**	**23.02**	**0.07**	**9.16**	**4.08**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.15	0.03	0.00	0.01	0.00
	Worker		0.07	0.03	0.51	0.00	0.26	0.07
	Total		**0.07**	**0.18**	**0.54**	**0.00**	**0.27**	**0.07**
TOTAL			***3.35***	***14.03***	***23.57***	***0.07***	***9.43***	***4.16***
Onsite		**2030 Winter**						
	Fugitive Dust						8.67	3.60
	Off-Road		3.28	13.85	23.02	0.07	0.49	0.49
	Total		**3.28**	**13.85**	**23.02**	**0.07**	**9.16**	**4.08**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.15	0.03	0.00	0.01	0.00
	Worker		0.07	0.04	0.41	0.00	0.26	0.07
	Total		**0.07**	**0.19**	**0.45**	**0.00**	**0.27**	**0.07**
TOTAL			***3.35***	***14.03***	***23.47***	***0.07***	***9.43***	***4.16***
Onsite		**2030**						
	Fugitive Dust		0.00	0.00	0.00	0.00	8.67	3.60
	Off-Road		3.28	13.85	23.02	0.07	0.49	0.49
	Total		**3.28**	**13.85**	**23.02**	**0.07**	**9.16**	**4.08**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.15	0.03	0.00	0.01	0.00
	Worker		0.07	0.04	0.51	0.00	0.26	0.07
	Total		**0.07**	**0.19**	**0.54**	**0.00**	**0.27**	**0.07**
TOTAL			***3.35***	***14.03***	***23.57***	***0.07***	***9.43***	***4.16***

Trenching

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2030 Summer**						
	Off-Road		0.23	0.56	3.56	0.01	0.02	0.02
	Total		**0.23**	**0.56**	**3.56**	**0.01**	**0.02**	**0.02**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.01	0.01	0.08	0.00	0.04	0.01
	Total		**0.01**	**0.01**	**0.08**	**0.00**	**0.04**	**0.01**
TOTAL			***0.24***	***0.56***	***3.64***	***0.01***	***0.06***	***0.03***
Onsite		**2030 Winter**						
	Off-Road		0.23	0.56	3.56	0.01	0.02	0.02
	Total		**0.23**	**0.56**	**3.56**	**0.01**	**0.02**	**0.02**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.01	0.01	0.06	0.00	0.04	0.01
	Total		**0.01**	**0.01**	**0.06**	**0.00**	**0.04**	**0.01**
TOTAL			***0.24***	***0.56***	***3.62***	***0.01***	***0.06***	***0.03***
Onsite		**2030**						
	Off-Road		0.23	0.56	3.56	0.01	0.02	0.02
	Total		**0.23**	**0.56**	**3.56**	**0.01**	**0.02**	**0.02**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.01	0.01	0.08	0.00	0.04	0.01
	Total		**0.01**	**0.01**	**0.08**	**0.00**	**0.04**	**0.01**
TOTAL			***0.24***	***0.56***	***3.64***	***0.01***	***0.06***	***0.03***

Building Construction 2030

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2030** Summer						
	Off-Road		0.33	2.23	17.46	0.03	0.04	0.04
	Total		**0.33**	**2.23**	**17.46**	**0.03**	**0.04**	**0.04**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.48	16.64	3.13	0.06	1.42	0.42
	Worker		2.01	0.99	15.06	0.06	7.51	2.01
	Total		**2.49**	**17.63**	**18.18**	**0.11**	**8.92**	**2.43**
TOTAL			***2.82***	***19.86***	***35.65***	***0.15***	***8.96***	***2.47***
Onsite		**2030** Winter						
	Off-Road		0.33	2.23	17.46	0.03	0.04	0.04
	Total		**0.33**	**2.23**	**17.46**	**0.03**	**0.04**	**0.04**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.52	16.71	3.78	0.06	1.42	0.42
	Worker		2.02	1.23	12.11	0.05	7.51	2.01
	Total		**2.53**	**17.94**	**15.88**	**0.11**	**8.92**	**2.43**
TOTAL			***2.86***	***20.17***	***33.34***	***0.14***	***8.96***	***2.47***
Onsite		**2030**						
	Off-Road		0.33	2.23	17.46	0.03	0.04	0.04
	Total		**0.33**	**2.23**	**17.46**	**0.03**	**0.04**	**0.04**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.52	16.71	3.78	0.06	1.42	0.42
	Worker		2.02	1.23	15.06	0.06	7.51	2.01
	Total		**2.53**	**17.94**	**18.18**	**0.11**	**8.92**	**2.43**
TOTAL			***2.86***	***20.17***	***35.65***	***0.15***	***8.96***	***2.47***

Building Construction 2031

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2031** Summer						
	Off-Road	0.33	2.23	17.46	0.03	0.04	0.04
	Total	**0.33**	**2.23**	**17.46**	**0.03**	**0.04**	**0.04**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.47	16.48	3.03	0.06	1.42	0.42
	Worker	1.83	0.90	14.06	0.05	7.50	2.01
	Total	**2.30**	**17.38**	**17.09**	**0.11**	**8.92**	**2.43**
TOTAL		***2.63***	***19.61***	***34.55***	***0.14***	***8.96***	***2.47***
Onsite	**2031** Winter						
	Off-Road	0.33	2.23	17.46	0.03	0.04	0.04
	Total	**0.33**	**2.23**	**17.46**	**0.03**	**0.04**	**0.04**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.50	16.54	3.66	0.06	1.42	0.42
	Worker	1.84	1.11	11.25	0.05	7.50	2.01
	Total	**2.34**	**17.65**	**14.92**	**0.10**	**8.92**	**2.43**
TOTAL		***2.67***	***19.89***	***32.38***	***0.14***	***8.96***	***2.47***
Onsite	**2031**						
	Off-Road	0.33	2.23	17.46	0.03	0.04	0.04
	Total	**0.33**	**2.23**	**17.46**	**0.03**	**0.04**	**0.04**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.50	16.54	3.66	0.06	1.42	0.42
	Worker	1.84	1.11	14.06	0.05	7.50	2.01
	Total	**2.34**	**17.65**	**17.09**	**0.11**	**8.92**	**2.43**
TOTAL		***2.67***	***19.89***	***34.55***	***0.14***	***8.96***	***2.47***

Building Construction 2032

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2032** Summer						
	Off-Road	0.33	2.23	17.46	0.03	0.04	0.04
	Total	**0.33**	**2.23**	**17.46**	**0.03**	**0.04**	**0.04**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.46	16.34	2.96	0.06	1.42	0.42
	Worker	1.67	0.82	13.20	0.05	7.50	2.01
	Total	**2.13**	**17.16**	**16.16**	**0.11**	**8.92**	**2.43**
TOTAL		***2.46***	***19.40***	***33.62***	***0.14***	***8.96***	***2.47***
Onsite	**2032** Winter						
	Off-Road	0.33	2.23	17.46	0.03	0.04	0.04
	Total	**0.33**	**2.23**	**17.46**	**0.03**	**0.04**	**0.04**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.49	16.40	3.59	0.06	1.42	0.42
	Worker	1.68	1.01	10.52	0.05	7.50	2.01
	Total	**2.18**	**17.41**	**14.10**	**0.10**	**8.92**	**2.43**
TOTAL		***2.50***	***19.64***	***31.56***	***0.13***	***8.96***	***2.47***
Onsite	**2032**						
	Off-Road	0.33	2.23	17.46	0.03	0.04	0.04
	Total	**0.33**	**2.23**	**17.46**	**0.03**	**0.04**	**0.04**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.49	16.40	3.59	0.06	1.42	0.42
	Worker	1.68	1.01	13.20	0.05	7.50	2.01
	Total	**2.18**	**17.41**	**16.16**	**0.11**	**8.92**	**2.43**
TOTAL		***2.50***	***19.64***	***33.62***	***0.14***	***8.96***	***2.47***

Paving

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2032** Summer						
	Off-Road		1.38	7.12	15.85	0.03	0.33	0.33
	Paving		0.03				0.00	0.00
	Total		**1.42**	**7.12**	**15.85**	**0.03**	**0.33**	**0.33**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.04	0.02	0.34	0.00	0.19	0.05
	Total		**0.04**	**0.02**	**0.34**	**0.00**	**0.19**	**0.05**
TOTAL			***1.46***	***7.14***	***16.19***	***0.03***	***0.52***	***0.38***
Onsite		**2032** Winter						
	Off-Road		1.38	7.12	15.85	0.03	0.33	0.33
	Paving		0.03				0.00	0.00
	Total		**1.42**	**7.12**	**15.85**	**0.03**	**0.33**	**0.33**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.04	0.03	0.27	0.00	0.19	0.05
	Total		**0.04**	**0.03**	**0.27**	**0.00**	**0.19**	**0.05**
TOTAL			***1.46***	***7.15***	***16.12***	***0.03***	***0.52***	***0.38***
Onsite		**2032**						
	Off-Road		1.38	7.12	15.85	0.03	0.33	0.33
	Paving		0.03	0.00	0.00	0.00	0.00	0.00
	Total		**1.42**	**7.12**	**15.85**	**0.03**	**0.33**	**0.33**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.04	0.03	0.34	0.00	0.19	0.05
	Total		**0.04**	**0.03**	**0.34**	**0.00**	**0.19**	**0.05**
TOTAL			***1.46***	***7.15***	***16.19***	***0.03***	***0.52***	***0.38***

Architectural Coating

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2032** Summer						
	Archit. Coating		17.93				0.00	0.00
	Off-Road		0.13	0.86	1.80	0.00	0.02	0.02
	Total		**18.06**	**0.86**	**1.80**	**0.00**	**0.02**	**0.02**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.33	0.16	2.64	0.01	1.50	0.40
	Total		**0.33**	**0.16**	**2.64**	**0.01**	**1.50**	**0.40**
TOTAL			***18.40***	***1.02***	***4.44***	***0.01***	***1.52***	***0.42***
Onsite		**2032** Winter						
	Archit. Coating		17.93				0.00	0.00
	Off-Road		0.13	0.86	1.80	0.00	0.02	0.02
	Total		**18.06**	**0.86**	**1.80**	**0.00**	**0.02**	**0.02**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.34	0.20	2.10	0.01	1.50	0.40
	Total		**0.34**	**0.20**	**2.10**	**0.01**	**1.50**	**0.40**
TOTAL			***18.40***	***1.06***	***3.90***	***0.01***	***1.52***	***0.42***
Onsite		**2032**						
	Archit. Coating		17.93	0.00	0.00	0.00	0.00	0.00
	Off-Road		0.13	0.86	1.80	0.00	0.02	0.02
	Total		**18.06**	**0.86**	**1.80**	**0.00**	**0.02**	**0.02**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.34	0.20	2.64	0.01	1.50	0.40
	Total		**0.34**	**0.20**	**2.64**	**0.01**	**1.50**	**0.40**
TOTAL			***18.40***	***1.06***	***4.44***	***0.01***	***1.52***	***0.42***

Finishing and Landscaping							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	**2032 Summer**						
	Off-Road	0.23	0.56	3.58	0.01	0.02	0.02
	Total	**0.23**	**0.56**	**3.58**	**0.01**	**0.02**	**0.02**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.01	0.00	0.07	0.00	0.04	0.01
	Total	**0.01**	**0.00**	**0.07**	**0.00**	**0.04**	**0.01**
TOTAL		***0.24***	***0.56***	***3.65***	***0.01***	***0.06***	***0.03***
Onsite	**2032 Winter**						
	Off-Road	0.23	0.56	3.58	0.01	0.02	0.02
	Total	**0.23**	**0.56**	**3.58**	**0.01**	**0.02**	**0.02**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.01	0.01	0.05	0.00	0.04	0.01
	Total	**0.01**	**0.01**	**0.05**	**0.00**	**0.04**	**0.01**
TOTAL		***0.24***	***0.56***	***3.63***	***0.01***	***0.06***	***0.03***
Onsite	**2032**						
	Off-Road	0.23	0.56	3.58	0.01	0.02	0.02
	Total	**0.23**	**0.56**	**3.58**	**0.01**	**0.02**	**0.02**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.01	0.01	0.07	0.00	0.04	0.01
	Total	**0.01**	**0.01**	**0.07**	**0.00**	**0.04**	**0.01**
TOTAL		***0.24***	***0.56***	***3.65***	***0.01***	***0.06***	***0.03***

Phase 1	**ROG**	**NOx**	**CO**	**SO2**	**PM10 Total**	**PM2.5 Total**
Rough Grading	***1***	***19***	***37***	***0***	***9***	***4***
Utility Trenching	***0***	***1***	***3***	***0***	***0***	***0***
Fine Grading	***0***	***19***	***37***	***0***	***9***	***4***
Building Construction 2025	***3***	***20***	***26***	***0***	***4***	***1***
Building Construction 2026	***3***	***20***	***25***	***0***	***4***	***1***
Building Construction 2027	***3***	***20***	***24***	***0***	***4***	***1***
Building Construction 2027 and Woodshop Modernization	***3***	***20***	***24***	***0***	***4***	***1***
Paving	***1***	***9***	***15***	***0***	***1***	***0***
Architectural Coating	***12***	***1***	***3***	***0***	***1***	***0***
Finishing and Landscaping	***0***	***1***	***3***	***0***	***0***	***0***

Phase 2

Site Preparation	***3***	***14***	***17***	***0***	***19***	***10***
Fine Grading	***3***	***14***	***24***	***0***	***9***	***4***
Utility Trenching	***0***	***1***	***4***	***0***	***0***	***0***
Building Construction 2030	***3***	***20***	***36***	***0***	***9***	***2***
Building Construction 2031	***3***	***20***	***35***	***0***	***9***	***2***
Building Construction 2032	***3***	***20***	***34***	***0***	***9***	***2***
Paving	***1***	***7***	***16***	***0***	***1***	***0***
Architectural Coating	***18***	***1***	***4***	***0***	***2***	***0***
Finishing and Landscaping	***0***	***1***	***4***	***0***	***0***	***0***
MAX DAILY	**18**	**20**	**37**	**0**	**19**	**10**
Shasta County Level A Thresholds	**25**	**25**	**NA**	**NA**	**80**	**NA**
Exceeds Thresholds?	No	No	NA	NA	No	NA
Shasta County Level B Thresholds	**137**	**137**	**NA**	**NA**	**137**	**NA**
Exceeds Thresholds?	No	No	NA	NA	No	NA

Regional Operation Emissions Worksheet: Combined Buildout Year 2032[1]

[1] CalEEMod, Version 2016.3.2

Proposed Operations

Summer

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	3.95	0.00	0.23	0.00	0.00	0.00
Energy	0.04	0.39	0.33	0.00	0.03	0.03
Mobile	0.60	0.55	7.67	0.03	4.00	1.07
Total	**4.59**	**0.94**	**8.22**	**0.03**	**4.03**	**1.10**

Winter

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	3.95	0.00	0.23	0.00	0.00	0.00
Energy	0.04	0.39	0.33	0.00	0.03	0.03
Mobile	0.44	0.67	6.62	0.02	4.00	1.07
Total	**4.42**	**1.06**	**7.17**	**0.03**	**4.03**	**1.10**

Max Daily

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	3.95	0.00	0.23	0.00	0.00	0.00
Energy	0.04	0.39	0.33	0.00	0.03	0.03
Mobile	0.60	0.67	7.67	0.03	4.00	1.07
Total	**4.59**	**1.06**	**8.22**	**0.03**	**4.03**	**1.10**

Thresholds

Shasta County Level A Thresholds	**25**	**25**	**NA**	**NA**	**80**	**NA**
Exceeds Thresholds?	No	No	NA	NA	No	NA
Shasta County Level B Thresholds	**137**	**137**	**NA**	**NA**	**137**	**NA**
Exceeds Thresholds?	No	No	NA	NA	No	NA

GHG Emissions Inventory

Proposed Project Buildout

Construction

	$MTCO_2e$ Total Project[1]
2025	490
2026	833
2027	302
2030	856
2031	1,643
2032	559
Total Construction	**4,684**

*CalEEMod, Version 2016.3.2.

Operation*

Proposed Combined		
Area	0	$MTCO_2e$/Year[2]
Energy	180	$MTCO_2e$/Year
Mobile	316	$MTCO_2e$/Year
Solid Waste	23	$MTCO_2e$/Year
Water	10	$MTCO_2e$/Year
Amortized Construction Emissions[3]	156	$MTCO_2e$/Year
Total	**684**	**$MTCO_2e$/Year**
CAPCOA GHG Threshold[4]	900	$MTCO_2e$/Year
Exceed Threshold?	**No**	

[1]CalEEMod, Version 2016.3.2.

[2] $MTCO_2e$=metric tons of carbon dioxide equivalent.

[3] 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.

[4] California Air Pollution Control Officer's Association (CAPCOA). 2008, January. CEQA and Climate Change. http://www.capcoa.org/wp-content/uploads/downloads/2010/05/CAPCOA-White-Paper.pdf.

CalEEMod Inputs - Hamilton High School Expansion

Name:	Hamilton High School Expansion
Project Number:	HASD-02
Project Location:	620 Canal St, Hamilton City, CA 95951
County:	Glenn County
Climate Zone:	3
Land Use Setting:	Rural
Operational Year:	2027
Utility Company:	PG&E
Air Basin:	Sacramento Valley Air Basin
Air District:	Glenn County Air Pollution Control District (GCAPCD)

Proiect Site Acreage	12
Disturbed Site Acreage	12.00

Project Components	SQFT	Acres
New Construction		
Gymnasium	35,000.00	
Total Building Construction	**35,000.00**	**0.80**
Parking	42,500.00	0.98
Total Other Asphalt Surfaces	12,500.00	0.29
Hardscape	4,000.00	0.09
Additional Area	428,720.00	9.84
Site Upgrades		
Wood Shop Building Modernization	8,000.00	0.18

CalEEMod Land Use Inputs

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Land Use Square Feet
Educational	High School	35.00	1000 sqft	0.80	35,000
Parking	Surface Parking	42.50	1000 sqft	0.98	42,500
Parking	Other Asphalt Surfaces	12.50	1000 sqft	0.29	12,500
Parking	Other Non-asphalt Surfaces	4.00	1000 sqft	0.09	4,000
Additional Area	Other Non-asphalt Surfaces	428.72	1000 sqft	9.84	428,720
				12.00	

Architectural Coating

Percentage of Proposed Buildings' Interior Painted:	90%	
Percentage of Proposed Buildings' Exterior Painted:	90%	
CalEEMod Defaults		
Interior Paint VOC content:	250	grams per liter
Exterior Paing VOC content:	250	grams per liter

Nonresidential Structures	Land Use Square Feet	CalEEMod Factor[2]	Total Paintable Surface Area	Paintable Interior Area[1]	Paintable Exterior Area[1]
High School Structures	35,000	2.0	70,000	47,250	15,750
Woodshop Modernization	8,000	2.0	16,000	10,800	3,600
			86,000	58,050	19,350
Parking Lot	42,500	6%	2,550	-	2,550
			2,550		2,550

[1]CalEEMod methodology calculates the paintable interior and exterior areas by multiplying the total paintable surface area by 75 and 25 percent, respectively.

[2]The program assumes the total surface for painting equals 2.7 times the floor square footage for residential and 2 times that for nonresidential square footage defined by the user. Architectural coatings for the parking lot is based on CalEEMod methodology applied to a surface parking lot (i.e., striping), in which 6% of surface area is painted.

[3]100% of the interior and exterior of buildings to be modernized will be painted

CalEEMod Inputs - Hamilton High School Expansion

Name:	Hamilton High School Expansion
Project Number:	HASD-02
Project Location:	620 Canal St, Hamilton City, CA 95951
County:	Glenn County
Climate Zone:	3
Land Use Setting:	Rural
Operational Year:	2032
Utility Company:	PG&E
Air Basin:	Sacramento Valley Air Basin
Air District:	Glenn County Air Pollution Control District (GCAPCD)

Proiect Site Acreage	32
Disturbed Site Acreage	32.00

Project Components	SQFT	Acres
New Construction		
Teaching Stations	37,000.00	0.85
Multipurpose Building	11,000.00	0.25
Learning Laboratories	10,000.00	0.23
Administration Building	11,000.00	0.25
Restrooms	7,000.00	0.16
Storage	6,000.00	0.14
Total Building Construction	**82,000.00**	**1.88**
Total Other Asphalt Surfaces	18,000.00	0.41
Hardscape	40,000.00	0.92
Landscape	914,760.00	21.00
Total	**954,760.00**	**21.92**
Additional Area	339,160.00	7.79
Site Upgrades		
Wood Shop Building Modernization	8,000.00	0.18

CalEEMod Land Use Inputs

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Land Use Square Feet
Educational	High School	82.000	1000 sqft	1.88	82,000
Parking	Other Asphalt Surfaces	18.000	1000 sqft	0.41	18,000
Parking	Other Non-asphalt Surfaces	954.760	1000 sqft	21.92	954,760
Additional Area	Other Non-asphalt Surfaces	339.160	1000 sqft	7.79	339,160
				32.00	

Architectural Coating

Percentage of Proposed Buildings' Interior Painted:	90%	
Percentage of Proposed Buildings' Exterior Painted:	90%	
CalEEMod Defaults		
Interior Paint VOC content:	250	grams per liter
Exterior Paing VOC content:	250	grams per liter

Nonresidential Structures	Land Use Square Feet	CalEEMod Factor[2]	Total Paintable Surface Area	Paintable Interior Area[1]	Paintable Exterior Area[1]
High School Structures	82,000	2.0	164,000	110,700	36,900
			164,000	110,700	36,900

[1]CalEEMod methodology calculates the paintable interior and exterior areas by multiplying the total paintable surface area by 75 and 25 percent, respectively.

[2] The program assumes the total surface for painting equals 2.7 times the floor square footage for residential and 2 times that for nonresidential square footage defined by the user. Architectural coatings for the parking lot is based on CalEEMod methodology applied to a surface parking lot (i.e., striping), in which 6% of surface area is painted.

[3] 100% of the interior and exterior of buildings to be modernized will be painted

Construction Activities and Schedule Assumptions: Hamilton High School Project

* Normalized CalEEMod Defaults based on phase durations provided by applicant

CalEEMod Defaults

Construction Activities		Construction Schedule		
	Phase Type	**Start Date**	**End Date**	**CalEEMod Duration (Workday)**
Phase 1 Development				
Rough Grading	Grading	5/1/2025	6/11/2025	30
Utility Trenching	Trenching	6/11/2025	6/25/2025	11
Fine Grading	Grading	6/26/2025	8/6/2025	30
Building Construction	Building Construction	8/7/2025	9/30/2026	300
Wood Shop Building Modernization	Building Construction	8/20/2026	9/30/2026	30
Paving	Paving	10/1/2026	10/28/2026	20
Architectural Coating	Architectural Coating	10/29/2026	11/25/2026	20
Finishing/Landscaping	Trenching	11/26/2026	12/9/2026	10
Phase 2 Development				
Site Preparation	Site Preparation	5/1/2030	5/28/2030	20
Fine Grading	Grading	5/29/2030	7/30/2030	45
Utility Trenching	Trenching	7/31/2030	8/13/2030	10
Building Construction	Building Construction	8/14/2030	7/13/2032	500
Paving	Paving	7/14/2032	8/31/2032	35
Architectural Coating	Architectural Coating	9/1/2032	10/19/2032	35
Finishing/Landscaping	Trenching	10/20/2032	11/2/2032	10

Normalized Schedules

Construction Activities		Construction Schedule		
	Phase Type	**Start Date**	**End Date**	**CalEEMod Duration (Workday)**
Phase 1 Development		**5/1/2025**	**7/30/2027**	
Rough Grading	Grading	5/1/2025	6/28/2025	42
Utility Trenching	Trenching	6/29/2025	7/18/2025	15
Fine Grading	Grading	7/19/2025	9/16/2025	42
Building Construction	Building Construction	9/17/2025	4/26/2027	419
Wood Shop Building Modernization	Building Construction	2/26/2027	4/26/2027	42
Paving	Paving	4/27/2027	6/3/2027	28
Architectural Coating	Architectural Coating	6/4/2027	7/13/2027	28
Finishing/Landscaping	Trenching	7/14/2027	7/31/2027	13
Phase 2 Development		**5/1/2030**	**7/30/2032**	
Site Preparation	Site Preparation	5/1/2030	5/25/2030	18
Fine Grading	Grading	5/26/2030	7/20/2030	40
Utility Trenching	Trenching	7/21/2030	8/2/2030	10
Building Construction	Building Construction	8/3/2030	4/21/2032	448
Paving	Paving	4/22/2032	6/3/2032	31
Architectural Coating	Architectural Coating	6/4/2032	7/16/2032	31
Finishing/Landscaping	Trenching	7/17/2032	7/31/2032	10

CalEEMod Construction Off-Road Equipment Inputs

**Based on CalEEMod defaults*

General Construction Hours: 8 hours btwn 7:00 AM to 4:00 PM (with 1 hr break), Mon-Fri

	Construction Equipment Details						
	Equipment	**model**	**# of Equipment**	**hr/day**	**hp**	**load factor***	**total trips**
PHASE 1 DEVELOPMENT							
Rough Grading							
	Excavators		2	8	158	0.38	
	Graders		1	8	187	0.41	
	Rubber Tired Dozers		1	8	247	0.4	
	Scrapers		2	8	367	0.48	
	Tractors/Loaders/Backhoes		2	8	97	0.37	
	Worker Trips						20
	Vendor Trips						
	Hauling Trips						
	Water Trucks						2
Utility Trenching							
	Excavators		1	8	158	0.3819	
	Worker Trips						3
	Vendor Trips						
	Hauling Trips						
Fine Grading							
	Excavators		2	8	158	0.38	
	Graders		1	8	187	0.41	
	Rubber Tired Dozers		1	8	247	0.4	
	Scrapers		2	8	367	0.48	
	Tractors/Loaders/Backhoes		2	8	97	0.37	
	Worker Trips						20
	Vendor Trips						
	Hauling Trips						
	Water Trucks						2
Building Construction							
	Cranes		1	7	231	0.29	
	Forklifts		3	8	89	0.2	
	Generator Sets		1	8	84	0.74	
	Tractors/Loaders/Backhoes		3	7	97	0.37	
	Welders		1	8	46	0.45	
	Worker Trips						220
	Vendor Trips						86
	Hauling Trips						
Wood Shop Building Modernization							
	Sharing equipment with Building Construction Phase						
	Worker Trips						3
	Vendor Trips						1
	Hauling Trips						
Paving							
	Pavers		2	8	130	0.42	
	Paving Equipment		2	8	132	0.36	
	Rollers		2	8	80	0.38	
	Worker Trips						15
	Vendor Trips						
	Hauling Trips						
Architectural Coating							
	Air Compressors		1	6	78	0.48	
	Worker Trips						45
	Vendor Trips						
	Hauling Trips						
Finishing/Landscaping							
	Excavators		1	8	158	0.3819	
	Worker Trips						3
	Vendor Trips						
	Hauling Trips						

PHASE 2 DEVELOPMENT							
Site Preparation							
	Rubber Tired Dozers		3	8	247	0.4	
	Tractors/Loaders/Backhoes		4	8	97	0.37	
	Worker Trips						18
	Vendor Trips						
	Hauling Trips						
	Water Trucks						2
Fine Grading							
	Excavators		2	8	158	0.38	
	Graders		1	8	187	0.41	
	Rubber Tired Dozers		1	8	247	0.4	
	Scrapers		2	8	367	0.48	
	Tractors/Loaders/Backhoes		2	8	97	0.37	
	Worker Trips						20
	Vendor Trips						
	Hauling Trips						
	Water Trucks						2
Utility Trenching							
	Excavators		1	8	158	0.3819	
	Worker Trips						3
	Vendor Trips						
	Hauling Trips						
	Water Trucks						
Building Construction							
	Cranes		1	7	231	0.29	
	Forklifts		3	8	89	0.2	
	Generator Sets		1	8	84	0.74	
	Tractors/Loaders/Backhoes		3	7	97	0.37	
	Welders		1	8	46	0.45	
	Worker Trips						585
	Vendor Trips						228
	Water Trucks						
	Hauling Trips						
Paving							
	Pavers		2	8	130	0.42	
	Paving Equipment		2	8	132	0.36	
	Rollers		2	8	80	0.38	
	Worker Trips						15
	Vendor Trips						
	Water Trucks						
	Hauling Trips						
Architectural Coating							
	Air Compressors		1	6	78	0.48	
	Worker Trips						117
	Vendor Trips						
	Hauling Trips						
Finishing/Landscaping							
	Excavators		1	8	158	0.3819	
	Worker Trips						3
	Vendor Trips						
	Hauling Trips						

Construction Trips Worksheet

Phase Name	Worker Trip Ends Per Day	Vendor Trip Ends Per Day	Haul Truck Trip Ends Per Day	Total Haul Truck Trip Ends	Start Date	End Date	Workdays
Phase 1 Development							
Rough Grading	20	2	0	0	5/1/2025	6/28/2025	42
Utility Trenching	3	0	0	0	6/29/2025	7/18/2025	15
Fine Grading	20	2	0	0	7/19/2025	9/16/2025	42
Building Construction	220	86	0	0	9/17/2025	4/26/2027	419
Wood Shop Building Modernization	3	1	0	0	2/26/2027	4/26/2027	42
Paving	15	0	0	0	4/27/2027	6/3/2027	28
Architectural Coating	45	0	0	0	6/4/2027	7/13/2027	28
Finishing/Landscaping	3	0	0	0	7/14/2027	7/31/2027	13
Phase 2 Development							
Site Preparation	18	2	0	0	5/1/2030	5/25/2030	18
Fine Grading	20	2	0	0	5/26/2030	7/20/2030	40
Utility Trenching	3	0	0	0	7/21/2030	8/2/2030	10
Building Construction	585	228	0	0	8/3/2030	4/21/2032	448
Paving	15	0	0	0	4/22/2032	6/3/2032	31
Architectural Coating	117	0	0	0	6/4/2032	7/16/2032	31
Finishing/Landscaping	3	0	0	0	7/17/2032	7/31/2032	10

Construction Activity (Overlapping)	Worker Trip Ends Per Day	Vendor Trip Ends Per Day	Haul Truck Trip Ends Per Day	Total Trip Ends Per Day	Start Date	End Date	Workdays
Phase 1 Development							
Rough Grading	20	2	0	22	5/1/2025	6/28/2025	42
Utility Trenching	3	0	0	3	6/29/2025	7/18/2025	15
Fine Grading	20	2	0	22	7/19/2025	9/16/2025	42
Building Construction	220	86	0	306	9/17/2025	4/26/2027	419
Building Construction and Wood Shop Building Modernization	223	87	0	310	2/26/2027	4/26/2027	42
Paving	15	0	0	15	4/27/2027	6/3/2027	28
Architectural Coating	45	0	0	45	6/4/2027	7/13/2027	28
Finishing/Landscaping	3	0	0	3	7/14/2027	7/31/2027	13
Phase 2 Development							
Site Preparation	18	2	0	20	5/1/2030	5/25/2030	18
Fine Grading	20	2	0	22	5/26/2030	7/20/2030	40
Utility Trenching	3	0	0	3	7/21/2030	8/2/2030	10
Building Construction	585	228	0	813	8/3/2030	4/21/2032	448
Paving	15	0	0	15	4/22/2032	6/3/2032	31
Architectural Coating	117	0	0	117	6/4/2032	7/16/2032	31
Finishing/Landscaping	3	0	0	3	7/17/2032	7/31/2032	10
Maximum Daily Trips	**585**	**228**	**0**	**813**			

CalEEMod Inputs - Hamilton High School Expansion

Name:	Hamilton High School Expansion
Project Number:	HASD-02
Project Location:	620 Canal St, Hamilton City, CA 95951
County:	Glenn County
Climate Zone:	3
Land Use Setting:	Urban
Operational Year:	2032
Utility Company:	PG&E
Air Basin:	Sacramento Valley Air Basin
Air District:	Glenn County Air Pollution Control District (GCAPCD)

Project Acreage	48.00
Disturbed Acreage	48.00

2032 Buildout

CalEEMod Land Use Inputs

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Land Use Square Feet
Educational	High School	250	students	2.686	117,000
Parking	Surface Parking	42.500	1000 sqft	0.976	42,500.00
Parking	Other Asphalt Surfaces	30.500	1000 sqft	0.700	30,500
Parking	Other Non-asphalt Surfaces	1,726.640	1000 sqft	39.638	1,726,640
Additional Area	Other Non-asphalt Surfaces	174.240	1000 sqft	4.000	174,240
				48.00	

Land Use Type	Average Daily Trips[1]	CalEEMod Trip Rate	Saturday Trips[2]	CalEEMod Trip Rate	Sunday Trips[2]	CalEEMod Trip Rate
High School	508	**2.03**	145	**0.58**	63	**0.25**

Source: [1]PlaceWorks. 2019. Hamilton High School Site Expansion – Traffic Analysis
[2]ITE. 2017, September. Trip Generation Manual, 10th Edition.

Water Use

CalEEMod Defaults

Land Use	Indoor (gal/year)	Outdoor (gal/year)	Total
High School (students)	3,933,000.00	1,101,250	**3,933,000.00**

*Assumes 100% aerobic treatment.

Solid Waste CalEEMod Defaults*

Land Use	Generation Rate (tons/year)
High School	45.63

Architectural Coating

Percentage of Proposed Buildings' Interior Painted:	90%
Percentage of Proposed Buildings' Exterior Painted:	90%

CalEEMod Defaults

Interior Paint VOC content:	250	grams per liter
Exterior Paing VOC content:	250	grams per liter

Nonresidential Structures	Land Use Square Feet	CalEEMod Factor[2]	Total Paintable Surface Area	Paintable Interior Area[1]	Paintable Exterior Area[1]
High School Structures	117,000	2.0	234,000	157,950	52,650
Woodshop Modernization	8,000	2.0	16,000	10,800	3,600
			250,000	168,750	56,250
Parking Lot	42,500	6%	2,550	-	2,550
			2,550		2,550

[1]CalEEMod methodology calculates the paintable interior and exterior areas by multiplying the total paintable surface area by 75 and 25 percent, respectively.

[2]The program assumes the total surface for painting equals 2.7 times the floor square footage for residential and 2 times that for nonresidential square footage defined by the user. Architectural coatings for the parking lot is based on CalEEMod methodology applied to a surface parking lot (i.e., striping), in which 6% of surface area is painted.

[3]100% of the interior and exterior of buildings to be modernized will be painted

Efficiency Standards

Phase 1	LEED Gold
Phase 2	LEED Gold

Electricity (Buildings)

Buildings constructed after January 1, 2020 are required to meet the 2019 Building and Energy Efficiency Standards. The 2019 Standards are 30% more energy efficient for non-residential buildings and 7% more energy efficient for single family residential buildings than the 2016 Building and Energy Efficiency Standards. [1]
Additional 35% efficiency over 2019 Building Energy Efficiency standards based on data provided by applicant.

Modeling is conservative because the carbon intensity of electricity does not account for additional reductions from the 33% RPS and 50% RPS under SB 350.

Non-Residential Exceed Title 24	**55%**	Improvement over 2016

Sources:
[1] California Energy Commission (CEC). 2018. 2019 Building Energy and Efficiency Standards Frequently Asked Questions. Accessed on April 3, 2019. http://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf

Photovoltaic System

** as provided by applicant*

Total Energy Demand Provided (Phase 1)	**30%**
Total Energy Demand Provided (Phase 2)	**50%**

Changes to the CalEEMod Defaults - Fleet Mix 2032

Average Daily Trips: 508

Default	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
FleetMix	0.605055	0.028915	0.167095	0.089243	0.012792	0.004149	0.008514	0.076768	0.001065	0.001134	0.00407	0.000686	0.000514	100%
Trips	307	15	85	45	6	2	4	39	1	1	2	0	0	508
Percent	0.81			0.09		0.11								
Proportion	0.751495	0.035913	0.207537	1.000000	0.121111	0.039282	0.080608	0.726818	0.010083	0.010736	0.005055	0.006495	0.004866	
Assumed Mix	0.97			0.02		0.01						100%		
adjusted with Assumed	0.728950	0.034836	0.201311	0.020000	0.001211	0.000393	0.000806	0.007268	0.000101	0.000107	0.004903	0.000065	0.000049	100%
Trips	370	18	102	10	1	0	0	4	0	0	2	0	0	508
Calibrated for zero heavy-duty trucks	0.728950	0.034836	0.201311	0.020000	0.001211	0.000393	0.000806	0	0	0	0.004903	0.001400	0	99.4%
Modified	**0.733491**	**0.035053**	**0.202564**	**0.020125**	**0.001219**	**0.000395**	**0.000811**	**0**	**0**	**0**	**0.004934**	**0.001409**	**0**	**100.0%**
Trips	373	18	103	10	1	0	0	**0**	**0**	**0**	3	1	**0**	508
Assumed Mix	97%			2%		1%								100%

Fleet mix for the project is modified to reflect a higher proportion of passenger vehicles that the regional VMT. Assumes a mix of approximately 97% passenger vehicles, 2% medium duty trucks, and 1% heavy duty trucks and buses.

Hamilton High School Expansion Phase 1 Construction
Glenn County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High School	35.00	1000sqft	0.80	35,000.00	0
Other Asphalt Surfaces	42.50	1000sqft	0.98	42,500.00	0
Other Non-Asphalt Surfaces	432.72	1000sqft	9.93	432,720.00	0
Parking Lot	12.50	1000sqft	0.29	12,500.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	61
Climate Zone	3			**Operational Year**	2027
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - BSF is conservative based on data provided by applicant

Construction Phase - schedule normalized based on CalEEMod defaults and data provided by applicant

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - assuming one excavator for finishing/landscaping phase

Off-road Equipment -

Off-road Equipment - assuming 1 excavator/day

Off-road Equipment - sharing equipment with building construction phase.

Trips and VMT - Assuming 2 vendor trips/water truck/day. Assuming 3 worker and 1 vendor trip for woodshop building modernization, and 1 additional worker trip under architecutral coating for woodshop.

Grading -

Architectural Coating - Assuming 90% of interior and exterior would be painted, assuming woodshop would also be painted, accounts for area of parking lot only.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	17,500.00	19,350.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	52,500.00	58,050.00
tblArchitecturalCoating	ConstArea_Parking	29,263.00	2,550.00
tblConstructionPhase	NumDays	20.00	28.00
tblConstructionPhase	NumDays	300.00	419.00
tblConstructionPhase	NumDays	300.00	42.00
tblConstructionPhase	NumDays	30.00	42.00
tblConstructionPhase	NumDays	30.00	42.00
tblConstructionPhase	NumDays	20.00	28.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	86.00	1.00
tblTripsAndVMT	WorkerTripNumber	220.00	3.00
tblTripsAndVMT	WorkerTripNumber	44.00	45.00

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					
2025	3.0021	28.1539	27.0970	0.0743	8.9411	1.1327	10.0737	3.6678	1.0421	4.7098	0.0000	7,385.4951	7,385.4951	1.9515	0.0000	7,405.0192
2026	2.5732	19.6362	24.9668	0.0733	3.3375	0.5524	3.8899	0.8971	0.5194	1.4165	0.0000	7,280.3724	7,280.3724	0.7725	0.0000	7,299.6856
2027	33.4493	19.5637	24.4651	0.0729	3.3820	0.5514	3.9334	0.9091	0.5185	1.4276	0.0000	7,245.6264	7,245.6264	0.7677	0.0000	7,264.8181
Maximum	**33.4493**	**28.1539**	**27.0970**	**0.0743**	**8.9411**	**1.1327**	**10.0737**	**3.6678**	**1.0421**	**4.7098**	**0.0000**	**7,385.4951**	**7,385.4951**	**1.9515**	**0.0000**	**7,405.0192**

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					
2025	3.0021	28.1539	27.0970	0.0743	8.9411	1.1327	10.0737	3.6678	1.0421	4.7098	0.0000	7,385.4951	7,385.4951	1.9515	0.0000	7,405.0192
2026	2.5732	19.6362	24.9668	0.0733	3.3375	0.5524	3.8899	0.8971	0.5194	1.4165	0.0000	7,280.3724	7,280.3724	0.7725	0.0000	7,299.6856
2027	33.4493	19.5637	24.4651	0.0729	3.3820	0.5514	3.9334	0.9091	0.5185	1.4276	0.0000	7,245.6264	7,245.6264	0.7677	0.0000	7,264.8181
Maximum	**33.4493**	**28.1539**	**27.0970**	**0.0743**	**8.9411**	**1.1327**	**10.0737**	**3.6678**	**1.0421**	**4.7098**	**0.0000**	**7,385.4951**	**7,385.4951**	**1.9515**	**0.0000**	**7,405.0192**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Rough Grading	Grading	5/1/2025	6/28/2025	5	42	
2	Utility Trenching	Trenching	6/29/2025	7/18/2025	5	15	
3	Fine Grading	Grading	7/19/2025	9/16/2025	5	42	
4	Building Construction	Building Construction	9/17/2025	4/26/2027	5	419	
5	Wood Shop Building Modernization	Building Construction	2/26/2027	4/26/2027	5	42	
6	Paving	Paving	4/27/2027	6/3/2027	5	28	
7	Architectural Coating	Architectural Coating	6/4/2027	7/13/2027	5	28	
8	Finishing/Landscaping	Trenching	7/14/2027	7/30/2027	5	13	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 11.2

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 58,050; Non-Residential Outdoor: 19,350; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Rough Grading	Excavators	2	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	Scrapers	2	8.00	367	0.48
Rough Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Utility Trenching	Excavators	1	8.00	158	0.38
Fine Grading	Excavators	2	8.00	158	0.38
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Fine Grading	Scrapers	2	8.00	367	0.48
Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	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
Wood Shop Building Modernization	Cranes	0	7.00	231	0.29
Wood Shop Building Modernization	Forklifts	0	8.00	89	0.20
Wood Shop Building Modernization	Generator Sets	0	8.00	84	0.74
Wood Shop Building Modernization	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Wood Shop Building Modernization	Welders	0	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Finishing/Landscaping	Excavators	1	8.00	158	0.38

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
Rough Grading	8	20.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Utility Trenching	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	8	20.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	220.00	86.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Wood Shop Building Modernization	0	3.00	1.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	45.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Rough Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**8.6733**	**1.1309**	**9.8042**	**3.5965**	**1.0404**	**4.6369**		**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

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	5.1700e-003	0.1570	0.0356	5.3000e-004	0.0123	2.1000e-004	0.0125	3.5300e-003	2.0000e-004	3.7300e-003		55.3357	55.3357	2.7600e-003		55.4047
Worker	0.0957	0.0540	0.7303	2.2300e-003	0.2555	1.5500e-003	0.2570	0.0678	1.4300e-003	0.0692		222.6895	222.6895	5.5800e-003		222.8290
Total	**0.1008**	**0.2110**	**0.7659**	**2.7600e-003**	**0.2677**	**1.7600e-003**	**0.2695**	**0.0713**	**1.6300e-003**	**0.0729**		**278.0252**	**278.0252**	**8.3400e-003**		**278.2337**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**8.6733**	**1.1309**	**9.8042**	**3.5965**	**1.0404**	**4.6369**	**0.0000**	**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

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	5.1700e-003	0.1570	0.0356	5.3000e-004	0.0123	2.1000e-004	0.0125	3.5300e-003	2.0000e-004	3.7300e-003		55.3357	55.3357	2.7600e-003		55.4047
Worker	0.0957	0.0540	0.7303	2.2300e-003	0.2555	1.5500e-003	0.2570	0.0678	1.4300e-003	0.0692		222.6895	222.6895	5.5800e-003		222.8290
Total	**0.1008**	**0.2110**	**0.7659**	**2.7600e-003**	**0.2677**	**1.7600e-003**	**0.2695**	**0.0713**	**1.6300e-003**	**0.0729**		**278.0252**	**278.0252**	**8.3400e-003**		**278.2337**

3.3 Utility Trenching - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1671	1.2217	3.2594	5.1700e-003		0.0599	0.0599		0.0551	0.0551		500.3379	500.3379	0.1618		504.3834
Total	**0.1671**	**1.2217**	**3.2594**	**5.1700e-003**		**0.0599**	**0.0599**		**0.0551**	**0.0551**		**500.3379**	**500.3379**	**0.1618**		**504.3834**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0144	8.1000e-003	0.1096	3.4000e-004	0.0383	2.3000e-004	0.0386	0.0102	2.1000e-004	0.0104		33.4034	33.4034	8.4000e-004		33.4244
Total	**0.0144**	**8.1000e-003**	**0.1096**	**3.4000e-004**	**0.0383**	**2.3000e-004**	**0.0386**	**0.0102**	**2.1000e-004**	**0.0104**		**33.4034**	**33.4034**	**8.4000e-004**		**33.4244**

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	0.1671	1.2217	3.2594	5.1700e-003		0.0599	0.0599		0.0551	0.0551	0.0000	500.3379	500.3379	0.1618		504.3834
Total	**0.1671**	**1.2217**	**3.2594**	**5.1700e-003**		**0.0599**	**0.0599**		**0.0551**	**0.0551**	**0.0000**	**500.3379**	**500.3379**	**0.1618**		**504.3834**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0144	8.1000e-003	0.1096	3.4000e-004	0.0383	2.3000e-004	0.0386	0.0102	2.1000e-004	0.0104		33.4034	33.4034	8.4000e-004		33.4244
Total	**0.0144**	**8.1000e-003**	**0.1096**	**3.4000e-004**	**0.0383**	**2.3000e-004**	**0.0386**	**0.0102**	**2.1000e-004**	**0.0104**		**33.4034**	**33.4034**	**8.4000e-004**		**33.4244**

3.4 Fine Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**8.6733**	**1.1309**	**9.8042**	**3.5965**	**1.0404**	**4.6369**		**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

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	5.1700e-003	0.1570	0.0356	5.3000e-004	0.0123	2.1000e-004	0.0125	3.5300e-003	2.0000e-004	3.7300e-003		55.3357	55.3357	2.7600e-003		55.4047
Worker	0.0957	0.0540	0.7303	2.2300e-003	0.2555	1.5500e-003	0.2570	0.0678	1.4300e-003	0.0692		222.6895	222.6895	5.5800e-003		222.8290
Total	**0.1008**	**0.2110**	**0.7659**	**2.7600e-003**	**0.2677**	**1.7600e-003**	**0.2695**	**0.0713**	**1.6300e-003**	**0.0729**		**278.0252**	**278.0252**	**8.3400e-003**		**278.2337**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**8.6733**	**1.1309**	**9.8042**	**3.5965**	**1.0404**	**4.6369**	**0.0000**	**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

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	5.1700e-003	0.1570	0.0356	5.3000e-004	0.0123	2.1000e-004	0.0125	3.5300e-003	2.0000e-004	3.7300e-003		55.3357	55.3357	2.7600e-003		55.4047
Worker	0.0957	0.0540	0.7303	2.2300e-003	0.2555	1.5500e-003	0.2570	0.0678	1.4300e-003	0.0692		222.6895	222.6895	5.5800e-003		222.8290
Total	**0.1008**	**0.2110**	**0.7659**	**2.7600e-003**	**0.2677**	**1.7600e-003**	**0.2695**	**0.0713**	**1.6300e-003**	**0.0729**		**278.0252**	**278.0252**	**8.3400e-003**		**278.2337**

3.5 Building Construction - 2025

Unmitigated 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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2222	6.7526	1.5308	0.0228	0.5275	8.8800e-003	0.5363	0.1519	8.4800e-003	0.1604		2,379.4364	2,379.4364	0.1186		2,382.4024
Worker	1.0522	0.5938	8.0337	0.0246	2.8101	0.0171	2.8272	0.7452	0.0157	0.7609		2,449.5844	2,449.5844	0.0614		2,451.1188
Total	**1.2744**	**7.3464**	**9.5645**	**0.0474**	**3.3375**	**0.0260**	**3.3635**	**0.8971**	**0.0242**	**0.9213**		**4,829.0208**	**4,829.0208**	**0.1800**		**4,833.5211**

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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2222	6.7526	1.5308	0.0228	0.5275	8.8800e-003	0.5363	0.1519	8.4800e-003	0.1604		2,379.4364	2,379.4364	0.1186		2,382.4024
Worker	1.0522	0.5938	8.0337	0.0246	2.8101	0.0171	2.8272	0.7452	0.0157	0.7609		2,449.5844	2,449.5844	0.0614		2,451.1188
Total	**1.2744**	**7.3464**	**9.5645**	**0.0474**	**3.3375**	**0.0260**	**3.3635**	**0.8971**	**0.0242**	**0.9213**		**4,829.0208**	**4,829.0208**	**0.1800**		**4,833.5211**

3.5 Building Construction - 2026

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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2117	6.6266	1.4332	0.0226	0.5275	8.3100e-003	0.5358	0.1519	7.9400e-003	0.1599		2,363.4126	2,363.4126	0.1162		2,366.3178
Worker	0.9941	0.5400	7.4490	0.0237	2.8101	0.0165	2.8266	0.7452	0.0152	0.7604		2,360.4854	2,360.4854	0.0554		2,361.8698
Total	**1.2058**	**7.1666**	**8.8822**	**0.0463**	**3.3375**	**0.0248**	**3.3624**	**0.8971**	**0.0232**	**0.9203**		**4,723.8981**	**4,723.8981**	**0.1716**		**4,728.1876**

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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2117	6.6266	1.4332	0.0226	0.5275	8.3100e-003	0.5358	0.1519	7.9400e-003	0.1599		2,363.4126	2,363.4126	0.1162		2,366.3178
Worker	0.9941	0.5400	7.4490	0.0237	2.8101	0.0165	2.8266	0.7452	0.0152	0.7604		2,360.4854	2,360.4854	0.0554		2,361.8698
Total	**1.2058**	**7.1666**	**8.8822**	**0.0463**	**3.3375**	**0.0248**	**3.3624**	**0.8971**	**0.0232**	**0.9203**		**4,723.8981**	**4,723.8981**	**0.1716**		**4,728.1876**

3.5 Building Construction - 2027

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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2020	6.5192	1.3404	0.0225	0.5275	7.8800e-003	0.5354	0.1519	7.5300e-003	0.1595		2,349.3808	2,349.3808	0.1147		2,352.2471
Worker	0.9384	0.4922	6.9300	0.0229	2.8101	0.0157	2.8258	0.7452	0.0144	0.7596		2,281.3437	2,281.3437	0.0501		2,282.5949
Total	**1.1404**	**7.0115**	**8.2704**	**0.0454**	**3.3376**	**0.0236**	**3.3611**	**0.8971**	**0.0220**	**0.9191**		**4,630.7244**	**4,630.7244**	**0.1647**		**4,634.8421**

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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2020	6.5192	1.3404	0.0225	0.5275	7.8800e-003	0.5354	0.1519	7.5300e-003	0.1595		2,349.3808	2,349.3808	0.1147		2,352.2471
Worker	0.9384	0.4922	6.9300	0.0229	2.8101	0.0157	2.8258	0.7452	0.0144	0.7596		2,281.3437	2,281.3437	0.0501		2,282.5949
Total	**1.1404**	**7.0115**	**8.2704**	**0.0454**	**3.3376**	**0.0236**	**3.3611**	**0.8971**	**0.0220**	**0.9191**		**4,630.7244**	**4,630.7244**	**0.1647**		**4,634.8421**

3.6 Wood Shop Building Modernization - 2027

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	0.0000	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**

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	2.3500e-003	0.0758	0.0156	2.6000e-004	6.1300e-003	9.0000e-005	6.2300e-003	1.7700e-003	9.0000e-005	1.8500e-003		27.3184	27.3184	1.3300e-003		27.3517
Worker	0.0128	6.7100e-003	0.0945	3.1000e-004	0.0383	2.1000e-004	0.0385	0.0102	2.0000e-004	0.0104		31.1092	31.1092	6.8000e-004		31.1263
Total	**0.0152**	**0.0825**	**0.1101**	**5.7000e-004**	**0.0445**	**3.0000e-004**	**0.0448**	**0.0119**	**2.9000e-004**	**0.0122**		**58.4276**	**58.4276**	**2.0100e-003**		**58.4780**

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	0.0000	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**

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	2.3500e-003	0.0758	0.0156	2.6000e-004	6.1300e-003	9.0000e-005	6.2300e-003	1.7700e-003	9.0000e-005	1.8500e-003		27.3184	27.3184	1.3300e-003		27.3517
Worker	0.0128	6.7100e-003	0.0945	3.1000e-004	0.0383	2.1000e-004	0.0385	0.0102	2.0000e-004	0.0104		31.1092	31.1092	6.8000e-004		31.1263
Total	**0.0152**	**0.0825**	**0.1101**	**5.7000e-004**	**0.0445**	**3.0000e-004**	**0.0448**	**0.0119**	**2.9000e-004**	**0.0122**		**58.4276**	**58.4276**	**2.0100e-003**		**58.4780**

3.7 Paving - 2027

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.1188					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0340**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**		**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0640	0.0336	0.4725	1.5600e-003	0.1916	1.0700e-003	0.1927	0.0508	9.8000e-004	0.0518		155.5462	155.5462	3.4100e-003		155.6315
Total	**0.0640**	**0.0336**	**0.4725**	**1.5600e-003**	**0.1916**	**1.0700e-003**	**0.1927**	**0.0508**	**9.8000e-004**	**0.0518**		**155.5462**	**155.5462**	**3.4100e-003**		**155.6315**

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.1188					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0340**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**	**0.0000**	**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0640	0.0336	0.4725	1.5600e-003	0.1916	1.0700e-003	0.1927	0.0508	9.8000e-004	0.0518		155.5462	155.5462	3.4100e-003		155.6315
Total	**0.0640**	**0.0336**	**0.4725**	**1.5600e-003**	**0.1916**	**1.0700e-003**	**0.1927**	**0.0508**	**9.8000e-004**	**0.0518**		**155.5462**	**155.5462**	**3.4100e-003**		**155.6315**

3.8 Architectural Coating - 2027

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	33.0865					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**33.2573**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1919	0.1007	1.4175	4.6800e-003	0.5748	3.2100e-003	0.5780	0.1524	2.9500e-003	0.1554		466.6385	466.6385	0.0102		466.8944
Total	**0.1919**	**0.1007**	**1.4175**	**4.6800e-003**	**0.5748**	**3.2100e-003**	**0.5780**	**0.1524**	**2.9500e-003**	**0.1554**		**466.6385**	**466.6385**	**0.0102**		**466.8944**

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	33.0865					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**33.2573**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1919	0.1007	1.4175	4.6800e-003	0.5748	3.2100e-003	0.5780	0.1524	2.9500e-003	0.1554		466.6385	466.6385	0.0102		466.8944
Total	**0.1919**	**0.1007**	**1.4175**	**4.6800e-003**	**0.5748**	**3.2100e-003**	**0.5780**	**0.1524**	**2.9500e-003**	**0.1554**		**466.6385**	**466.6385**	**0.0102**		**466.8944**

3.9 Finishing/Landscaping - 2027

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	0.1671	1.2217	3.2594	5.1700e-003		0.0599	0.0599		0.0551	0.0551		500.3379	500.3379	0.1618		504.3834
Total	**0.1671**	**1.2217**	**3.2594**	**5.1700e-003**		**0.0599**	**0.0599**		**0.0551**	**0.0551**		**500.3379**	**500.3379**	**0.1618**		**504.3834**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0128	6.7100e-003	0.0945	3.1000e-004	0.0383	2.1000e-004	0.0385	0.0102	2.0000e-004	0.0104		31.1092	31.1092	6.8000e-004		31.1263
Total	**0.0128**	**6.7100e-003**	**0.0945**	**3.1000e-004**	**0.0383**	**2.1000e-004**	**0.0385**	**0.0102**	**2.0000e-004**	**0.0104**		**31.1092**	**31.1092**	**6.8000e-004**		**31.1263**

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	0.1671	1.2217	3.2594	5.1700e-003		0.0599	0.0599		0.0551	0.0551	0.0000	500.3379	500.3379	0.1618		504.3834
Total	**0.1671**	**1.2217**	**3.2594**	**5.1700e-003**		**0.0599**	**0.0599**		**0.0551**	**0.0551**	**0.0000**	**500.3379**	**500.3379**	**0.1618**		**504.3834**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0128	6.7100e-003	0.0945	3.1000e-004	0.0383	2.1000e-004	0.0385	0.0102	2.0000e-004	0.0104		31.1092	31.1092	6.8000e-004		31.1263
Total	**0.0128**	**6.7100e-003**	**0.0945**	**3.1000e-004**	**0.0383**	**2.1000e-004**	**0.0385**	**0.0102**	**2.0000e-004**	**0.0104**		**31.1092**	**31.1092**	**6.8000e-004**		**31.1263**

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

Hamilton High School Expansion Phase 1 Construction

Glenn County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High School	35.00	1000sqft	0.80	35,000.00	0
Other Asphalt Surfaces	42.50	1000sqft	0.98	42,500.00	0
Other Non-Asphalt Surfaces	432.72	1000sqft	9.93	432,720.00	0
Parking Lot	12.50	1000sqft	0.29	12,500.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	61
Climate Zone	3			**Operational Year**	2027
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - BSF is conservative based on data provided by applicant

Construction Phase - schedule normalized based on CalEEMod defaults and data provided by applicant

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - assuming one excavator for finishing/landscaping phase

Off-road Equipment -

Off-road Equipment - assuming 1 excavator/day

Off-road Equipment - sharing equipment with building construction phase.

Trips and VMT - Assuming 2 vendor trips/water truck/day. Assuming 3 worker and 1 vendor trip for woodshop building modernization, and 1 additional worker trip under architecutral coating for woodshop

Grading -

Architectural Coating - Assuming 90% of interior and exterior would be painted, assuming woodshop would also be painted, accounts for area of parking lot only

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	17,500.00	19,350.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	52,500.00	58,050.00
tblArchitecturalCoating	ConstArea_Parking	29,263.00	2,550.00
tblConstructionPhase	NumDays	20.00	28.00
tblConstructionPhase	NumDays	300.00	419.00
tblConstructionPhase	NumDays	300.00	42.00
tblConstructionPhase	NumDays	30.00	42.00
tblConstructionPhase	NumDays	30.00	42.00
tblConstructionPhase	NumDays	20.00	28.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	86.00	1.00
tblTripsAndVMT	WorkerTripNumber	220.00	3.00
tblTripsAndVMT	WorkerTripNumber	44.00	45.00

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					
2025	3.0014	28.1682	26.9701	0.0704	8.9411	1.1327	10.0737	3.6678	1.0421	4.7098	0.0000	6,990.4959	6,990.4959	1.9511	0.0000	7,010.1927
2026	2.5812	19.8133	23.8657	0.0695	3.3375	0.5526	3.8902	0.8971	0.5196	1.4168	0.0000	6,897.7114	6,897.7114	0.7800	0.0000	6,917.2123
2027	33.4489	19.7243	23.4151	0.0692	3.3820	0.5516	3.9336	0.9091	0.5187	1.4278	0.0000	6,868.8374	6,868.8374	0.7759	0.0000	6,888.2343
Maximum	**33.4489**	**28.1682**	**26.9701**	**0.0704**	**8.9411**	**1.1327**	**10.0737**	**3.6678**	**1.0421**	**4.7098**	**0.0000**	**6,990.4959**	**6,990.4959**	**1.9511**	**0.0000**	**7,010.1927**

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					
2025	3.0014	28.1682	26.9701	0.0704	8.9411	1.1327	10.0737	3.6678	1.0421	4.7098	0.0000	6,990.4959	6,990.4959	1.9511	0.0000	7,010.1927
2026	2.5812	19.8133	23.8657	0.0695	3.3375	0.5526	3.8902	0.8971	0.5196	1.4168	0.0000	6,897.7114	6,897.7114	0.7800	0.0000	6,917.2123
2027	33.4489	19.7243	23.4151	0.0692	3.3820	0.5516	3.9336	0.9091	0.5187	1.4278	0.0000	6,868.8374	6,868.8374	0.7759	0.0000	6,888.2343
Maximum	**33.4489**	**28.1682**	**26.9701**	**0.0704**	**8.9411**	**1.1327**	**10.0737**	**3.6678**	**1.0421**	**4.7098**	**0.0000**	**6,990.4959**	**6,990.4959**	**1.9511**	**0.0000**	**7,010.1927**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Rough Grading	Grading	5/1/2025	6/28/2025	5	42	
2	Utility Trenching	Trenching	6/29/2025	7/18/2025	5	15	
3	Fine Grading	Grading	7/19/2025	9/16/2025	5	42	
4	Building Construction	Building Construction	9/17/2025	4/26/2027	5	419	
5	Wood Shop Building Modernization	Building Construction	2/26/2027	4/26/2027	5	42	
6	Paving	Paving	4/27/2027	6/3/2027	5	28	
7	Architectural Coating	Architectural Coating	6/4/2027	7/13/2027	5	28	
8	Finishing/Landscaping	Trenching	7/14/2027	7/30/2027	5	13	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 11.2

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 58,050; Non-Residential Outdoor: 19,350; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Rough Grading	Excavators	2	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	Scrapers	2	8.00	367	0.48
Rough Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Utility Trenching	Excavators	1	8.00	158	0.38
Fine Grading	Excavators	2	8.00	158	0.38
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Fine Grading	Scrapers	2	8.00	367	0.48
Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	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
Wood Shop Building Modernization	Cranes	0	7.00	231	0.29
Wood Shop Building Modernization	Forklifts	0	8.00	89	0.20
Wood Shop Building Modernization	Generator Sets	0	8.00	84	0.74
Wood Shop Building Modernization	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Wood Shop Building Modernization	Welders	0	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Finishing/Landscaping	Excavators	1	8.00	158	0.38

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
Rough Grading	8	20.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Utility Trenching	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	8	20.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	220.00	86.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Wood Shop Building Modernization	0	3.00	1.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	45.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Rough Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**8.6733**	**1.1309**	**9.8042**	**3.5965**	**1.0404**	**4.6369**		**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

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	5.5100e-003	0.1583	0.0425	5.1000e-004	0.0123	2.1000e-004	0.0125	3.5300e-003	2.0000e-004	3.7400e-003		53.2816	53.2816	3.1300e-003		53.3598
Worker	0.0947	0.0670	0.5965	1.9500e-003	0.2555	1.5500e-003	0.2570	0.0678	1.4300e-003	0.0692		194.8103	194.8103	4.7600e-003		194.9293
Total	**0.1002**	**0.2253**	**0.6390**	**2.4600e-003**	**0.2677**	**1.7600e-003**	**0.2695**	**0.0713**	**1.6300e-003**	**0.0729**		**248.0919**	**248.0919**	**7.8900e-003**		**248.2891**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**8.6733**	**1.1309**	**9.8042**	**3.5965**	**1.0404**	**4.6369**	**0.0000**	**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

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	5.5100e-003	0.1583	0.0425	5.1000e-004	0.0123	2.1000e-004	0.0125	3.5300e-003	2.0000e-004	3.7400e-003		53.2816	53.2816	3.1300e-003		53.3598
Worker	0.0947	0.0670	0.5965	1.9500e-003	0.2555	1.5500e-003	0.2570	0.0678	1.4300e-003	0.0692		194.8103	194.8103	4.7600e-003		194.9293
Total	**0.1002**	**0.2253**	**0.6390**	**2.4600e-003**	**0.2677**	**1.7600e-003**	**0.2695**	**0.0713**	**1.6300e-003**	**0.0729**		**248.0919**	**248.0919**	**7.8900e-003**		**248.2891**

3.3 Utility Trenching - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1671	1.2217	3.2594	5.1700e-003		0.0599	0.0599		0.0551	0.0551		500.3379	500.3379	0.1618		504.3834
Total	**0.1671**	**1.2217**	**3.2594**	**5.1700e-003**		**0.0599**	**0.0599**		**0.0551**	**0.0551**		**500.3379**	**500.3379**	**0.1618**		**504.3834**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0142	0.0101	0.0895	2.9000e-004	0.0383	2.3000e-004	0.0386	0.0102	2.1000e-004	0.0104		29.2216	29.2216	7.1000e-004		29.2394
Total	**0.0142**	**0.0101**	**0.0895**	**2.9000e-004**	**0.0383**	**2.3000e-004**	**0.0386**	**0.0102**	**2.1000e-004**	**0.0104**		**29.2216**	**29.2216**	**7.1000e-004**		**29.2394**

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	0.1671	1.2217	3.2594	5.1700e-003		0.0599	0.0599		0.0551	0.0551	0.0000	500.3379	500.3379	0.1618		504.3834
Total	**0.1671**	**1.2217**	**3.2594**	**5.1700e-003**		**0.0599**	**0.0599**		**0.0551**	**0.0551**	**0.0000**	**500.3379**	**500.3379**	**0.1618**		**504.3834**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0142	0.0101	0.0895	2.9000e-004	0.0383	2.3000e-004	0.0386	0.0102	2.1000e-004	0.0104		29.2216	29.2216	7.1000e-004		29.2394
Total	**0.0142**	**0.0101**	**0.0895**	**2.9000e-004**	**0.0383**	**2.3000e-004**	**0.0386**	**0.0102**	**2.1000e-004**	**0.0104**		**29.2216**	**29.2216**	**7.1000e-004**		**29.2394**

3.4 Fine Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**8.6733**	**1.1309**	**9.8042**	**3.5965**	**1.0404**	**4.6369**		**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

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	5.5100e-003	0.1583	0.0425	5.1000e-004	0.0123	2.1000e-004	0.0125	3.5300e-003	2.0000e-004	3.7400e-003		53.2816	53.2816	3.1300e-003		53.3598
Worker	0.0947	0.0670	0.5965	1.9500e-003	0.2555	1.5500e-003	0.2570	0.0678	1.4300e-003	0.0692		194.8103	194.8103	4.7600e-003		194.9293
Total	**0.1002**	**0.2253**	**0.6390**	**2.4600e-003**	**0.2677**	**1.7600e-003**	**0.2695**	**0.0713**	**1.6300e-003**	**0.0729**		**248.0919**	**248.0919**	**7.8900e-003**		**248.2891**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**8.6733**	**1.1309**	**9.8042**	**3.5965**	**1.0404**	**4.6369**	**0.0000**	**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

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	5.5100e-003	0.1583	0.0425	5.1000e-004	0.0123	2.1000e-004	0.0125	3.5300e-003	2.0000e-004	3.7400e-003		53.2816	53.2816	3.1300e-003		53.3598
Worker	0.0947	0.0670	0.5965	1.9500e-003	0.2555	1.5500e-003	0.2570	0.0678	1.4300e-003	0.0692		194.8103	194.8103	4.7600e-003		194.9293
Total	**0.1002**	**0.2253**	**0.6390**	**2.4600e-003**	**0.2677**	**1.7600e-003**	**0.2695**	**0.0713**	**1.6300e-003**	**0.0729**		**248.0919**	**248.0919**	**7.8900e-003**		**248.2891**

3.5 Building Construction - 2025

Unmitigated 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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2368	6.8070	1.8267	0.0219	0.5275	9.1500e-003	0.5366	0.1519	8.7500e-003	0.1607		2,291.1079	2,291.1079	0.1346		2,294.4727
Worker	1.0413	0.7367	6.5617	0.0215	2.8101	0.0171	2.8272	0.7452	0.0157	0.7609		2,142.9137	2,142.9137	0.0523		2,144.2220
Total	**1.2781**	**7.5437**	**8.3884**	**0.0434**	**3.3375**	**0.0262**	**3.3638**	**0.8971**	**0.0245**	**0.9216**		**4,434.0216**	**4,434.0216**	**0.1869**		**4,438.6947**

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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2368	6.8070	1.8267	0.0219	0.5275	9.1500e-003	0.5366	0.1519	8.7500e-003	0.1607		2,291.1079	2,291.1079	0.1346		2,294.4727
Worker	1.0413	0.7367	6.5617	0.0215	2.8101	0.0171	2.8272	0.7452	0.0157	0.7609		2,142.9137	2,142.9137	0.0523		2,144.2220
Total	**1.2781**	**7.5437**	**8.3884**	**0.0434**	**3.3375**	**0.0262**	**3.3638**	**0.8971**	**0.0245**	**0.9216**		**4,434.0216**	**4,434.0216**	**0.1869**		**4,438.6947**

3.5 Building Construction - 2026

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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2257	6.6740	1.7146	0.0218	0.5275	8.5400e-003	0.5360	0.1519	8.1600e-003	0.1601		2,276.2146	2,276.2146	0.1320		2,279.5133
Worker	0.9882	0.6696	6.0665	0.0207	2.8101	0.0165	2.8266	0.7452	0.0152	0.7604		2,065.0224	2,065.0224	0.0471		2,066.2009
Total	**1.2138**	**7.3436**	**7.7810**	**0.0425**	**3.3375**	**0.0251**	**3.3626**	**0.8971**	**0.0234**	**0.9205**		**4,341.2370**	**4,341.2370**	**0.1791**		**4,345.7142**

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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2257	6.6740	1.7146	0.0218	0.5275	8.5400e-003	0.5360	0.1519	8.1600e-003	0.1601		2,276.2146	2,276.2146	0.1320		2,279.5133
Worker	0.9882	0.6696	6.0665	0.0207	2.8101	0.0165	2.8266	0.7452	0.0152	0.7604		2,065.0224	2,065.0224	0.0471		2,066.2009
Total	**1.2138**	**7.3436**	**7.7810**	**0.0425**	**3.3375**	**0.0251**	**3.3626**	**0.8971**	**0.0234**	**0.9205**		**4,341.2370**	**4,341.2370**	**0.1791**		**4,345.7142**

3.5 Building Construction - 2027

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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2154	6.5600	1.6082	0.0217	0.5275	8.0800e-003	0.5356	0.1519	7.7200e-003	0.1597		2,263.1139	2,263.1139	0.1303		2,266.3712
Worker	0.9365	0.6101	5.6268	0.0200	2.8101	0.0157	2.8258	0.7452	0.0144	0.7596		1,995.7195	1,995.7195	0.0425		1,996.7831
Total	**1.1519**	**7.1700**	**7.2350**	**0.0417**	**3.3376**	**0.0238**	**3.3613**	**0.8971**	**0.0222**	**0.9193**		**4,258.8334**	**4,258.8334**	**0.1728**		**4,263.1543**

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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2154	6.5600	1.6082	0.0217	0.5275	8.0800e-003	0.5356	0.1519	7.7200e-003	0.1597		2,263.1139	2,263.1139	0.1303		2,266.3712
Worker	0.9365	0.6101	5.6268	0.0200	2.8101	0.0157	2.8258	0.7452	0.0144	0.7596		1,995.7195	1,995.7195	0.0425		1,996.7831
Total	**1.1519**	**7.1700**	**7.2350**	**0.0417**	**3.3376**	**0.0238**	**3.3613**	**0.8971**	**0.0222**	**0.9193**		**4,258.8334**	**4,258.8334**	**0.1728**		**4,263.1543**

3.6 Wood Shop Building Modernization - 2027

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	0.0000	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**

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	2.5000e-003	0.0763	0.0187	2.5000e-004	6.1300e-003	9.0000e-005	6.2300e-003	1.7700e-003	9.0000e-005	1.8600e-003		26.3153	26.3153	1.5200e-003		26.3532
Worker	0.0128	8.3200e-003	0.0767	2.7000e-004	0.0383	2.1000e-004	0.0385	0.0102	2.0000e-004	0.0104		27.2144	27.2144	5.8000e-004		27.2289
Total	**0.0153**	**0.0846**	**0.0954**	**5.2000e-004**	**0.0445**	**3.0000e-004**	**0.0448**	**0.0119**	**2.9000e-004**	**0.0122**		**53.5296**	**53.5296**	**2.1000e-003**		**53.5820**

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	0.0000	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**

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	2.5000e-003	0.0763	0.0187	2.5000e-004	6.1300e-003	9.0000e-005	6.2300e-003	1.7700e-003	9.0000e-005	1.8600e-003		26.3153	26.3153	1.5200e-003		26.3532
Worker	0.0128	8.3200e-003	0.0767	2.7000e-004	0.0383	2.1000e-004	0.0385	0.0102	2.0000e-004	0.0104		27.2144	27.2144	5.8000e-004		27.2289
Total	**0.0153**	**0.0846**	**0.0954**	**5.2000e-004**	**0.0445**	**3.0000e-004**	**0.0448**	**0.0119**	**2.9000e-004**	**0.0122**		**53.5296**	**53.5296**	**2.1000e-003**		**53.5820**

3.7 Paving - 2027

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.1188					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0340**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**		**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0639	0.0416	0.3837	1.3600e-003	0.1916	1.0700e-003	0.1927	0.0508	9.8000e-004	0.0518		136.0718	136.0718	2.9000e-003		136.1443
Total	**0.0639**	**0.0416**	**0.3837**	**1.3600e-003**	**0.1916**	**1.0700e-003**	**0.1927**	**0.0508**	**9.8000e-004**	**0.0518**		**136.0718**	**136.0718**	**2.9000e-003**		**136.1443**

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.1188					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0340**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**	**0.0000**	**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0639	0.0416	0.3837	1.3600e-003	0.1916	1.0700e-003	0.1927	0.0508	9.8000e-004	0.0518		136.0718	136.0718	2.9000e-003		136.1443
Total	**0.0639**	**0.0416**	**0.3837**	**1.3600e-003**	**0.1916**	**1.0700e-003**	**0.1927**	**0.0508**	**9.8000e-004**	**0.0518**		**136.0718**	**136.0718**	**2.9000e-003**		**136.1443**

3.8 Architectural Coating - 2027

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	33.0865					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**33.2573**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1916	0.1248	1.1509	4.0900e-003	0.5748	3.2100e-003	0.5780	0.1524	2.9500e-003	0.1554		408.2154	408.2154	8.7000e-003		408.4329
Total	**0.1916**	**0.1248**	**1.1509**	**4.0900e-003**	**0.5748**	**3.2100e-003**	**0.5780**	**0.1524**	**2.9500e-003**	**0.1554**		**408.2154**	**408.2154**	**8.7000e-003**		**408.4329**

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	33.0865					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**33.2573**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1916	0.1248	1.1509	4.0900e-003	0.5748	3.2100e-003	0.5780	0.1524	2.9500e-003	0.1554		408.2154	408.2154	8.7000e-003		408.4329
Total	**0.1916**	**0.1248**	**1.1509**	**4.0900e-003**	**0.5748**	**3.2100e-003**	**0.5780**	**0.1524**	**2.9500e-003**	**0.1554**		**408.2154**	**408.2154**	**8.7000e-003**		**408.4329**

3.9 Finishing/Landscaping - 2027

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	0.1671	1.2217	3.2594	5.1700e-003		0.0599	0.0599		0.0551	0.0551		500.3379	500.3379	0.1618		504.3834
Total	**0.1671**	**1.2217**	**3.2594**	**5.1700e-003**		**0.0599**	**0.0599**		**0.0551**	**0.0551**		**500.3379**	**500.3379**	**0.1618**		**504.3834**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0128	8.3200e-003	0.0767	2.7000e-004	0.0383	2.1000e-004	0.0385	0.0102	2.0000e-004	0.0104		27.2144	27.2144	5.8000e-004		27.2289
Total	**0.0128**	**8.3200e-003**	**0.0767**	**2.7000e-004**	**0.0383**	**2.1000e-004**	**0.0385**	**0.0102**	**2.0000e-004**	**0.0104**		**27.2144**	**27.2144**	**5.8000e-004**		**27.2289**

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	0.1671	1.2217	3.2594	5.1700e-003		0.0599	0.0599		0.0551	0.0551	0.0000	500.3379	500.3379	0.1618		504.3834
Total	**0.1671**	**1.2217**	**3.2594**	**5.1700e-003**		**0.0599**	**0.0599**		**0.0551**	**0.0551**	**0.0000**	**500.3379**	**500.3379**	**0.1618**		**504.3834**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0128	8.3200e-003	0.0767	2.7000e-004	0.0383	2.1000e-004	0.0385	0.0102	2.0000e-004	0.0104		27.2144	27.2144	5.8000e-004		27.2289
Total	**0.0128**	**8.3200e-003**	**0.0767**	**2.7000e-004**	**0.0383**	**2.1000e-004**	**0.0385**	**0.0102**	**2.0000e-004**	**0.0104**		**27.2144**	**27.2144**	**5.8000e-004**		**27.2289**

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

Hamilton High School Expansion Phase 1 Construction

Glenn County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High School	35.00	1000sqft	0.80	35,000.00	0
Other Asphalt Surfaces	42.50	1000sqft	0.98	42,500.00	0
Other Non-Asphalt Surfaces	432.72	1000sqft	9.93	432,720.00	0
Parking Lot	12.50	1000sqft	0.29	12,500.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	61
Climate Zone	3			**Operational Year**	2027
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - BSF is conservative based on data provided by applicant

Construction Phase - schedule normalized based on CalEEMod defaults and data provided by applicant

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - assuming one excavator for finishing/landscaping phase

Off-road Equipment -

Off-road Equipment - assuming 1 excavator/day

Off-road Equipment - sharing equipment with building construction phase.

Trips and VMT - Assuming 2 vendor trips/water truck/day. Assuming 3 worker and 1 vendor trip for woodshop building modernization, and 1 additional worker trip under architecutral coating for woodshop

Grading -

Architectural Coating - Assuming 90% of interior and exterior would be painted, assuming woodshop would also be painted, accounts for area of parking lot only

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	17,500.00	19,350.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	52,500.00	58,050.00
tblArchitecturalCoating	ConstArea_Parking	29,263.00	2,550.00
tblConstructionPhase	NumDays	20.00	28.00
tblConstructionPhase	NumDays	300.00	419.00
tblConstructionPhase	NumDays	300.00	42.00
tblConstructionPhase	NumDays	30.00	42.00
tblConstructionPhase	NumDays	30.00	42.00
tblConstructionPhase	NumDays	20.00	28.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	86.00	1.00
tblTripsAndVMT	WorkerTripNumber	220.00	3.00
tblTripsAndVMT	WorkerTripNumber	44.00	45.00

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					
2025	0.2240	1.9503	2.0873	5.4800e-003	0.4978	0.0691	0.5668	0.1870	0.0640	0.2510	0.0000	487.6489	487.6489	0.1024	0.0000	490.2078
2026	0.3249	2.5791	3.1120	9.2200e-003	0.4202	0.0721	0.4923	0.1133	0.0678	0.1811	0.0000	831.2049	831.2049	0.0915	0.0000	833.4922
2027	0.5845	0.9515	1.2307	3.3500e-003	0.1435	0.0296	0.1731	0.0387	0.0278	0.0664	0.0000	300.8932	300.8932	0.0389	0.0000	301.8662
Maximum	**0.5845**	**2.5791**	**3.1120**	**9.2200e-003**	**0.4978**	**0.0721**	**0.5668**	**0.1870**	**0.0678**	**0.2510**	**0.0000**	**831.2049**	**831.2049**	**0.1024**	**0.0000**	**833.4922**

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					
2025	0.2240	1.9503	2.0873	5.4800e-003	0.4978	0.0691	0.5668	0.1870	0.0640	0.2510	0.0000	487.6485	487.6485	0.1024	0.0000	490.2074
2026	0.3249	2.5791	3.1119	9.2200e-003	0.4202	0.0721	0.4923	0.1133	0.0678	0.1811	0.0000	831.2045	831.2045	0.0915	0.0000	833.4918
2027	0.5845	0.9515	1.2307	3.3500e-003	0.1435	0.0296	0.1731	0.0387	0.0278	0.0664	0.0000	300.8931	300.8931	0.0389	0.0000	301.8660
Maximum	**0.5845**	**2.5791**	**3.1119**	**9.2200e-003**	**0.4978**	**0.0721**	**0.5668**	**0.1870**	**0.0678**	**0.2510**	**0.0000**	**831.2045**	**831.2045**	**0.1024**	**0.0000**	**833.4918**

	ROG	**NOx**	**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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**5-1-2025**	**7-31-2025**	0.8112	0.8112
2	**8-1-2025**	**10-31-2025**	0.8861	0.8861
3	**11-1-2025**	**1-31-2026**	0.7416	0.7416

4	**2-1-2026**	**4-30-2026**	0.7098	0.7098
5	**5-1-2026**	**7-31-2026**	0.7297	0.7297
6	**8-1-2026**	**10-31-2026**	0.7318	0.7318
7	**11-1-2026**	**1-31-2027**	0.7332	0.7332
8	**2-1-2027**	**4-30-2027**	0.6871	0.6871
9	**5-1-2027**	**7-31-2027**	0.6221	0.6221
		Highest	0.8861	0.8861

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Rough Grading	Grading	5/1/2025	6/28/2025	5	42	
2	Utility Trenching	Trenching	6/29/2025	7/18/2025	5	15	
3	Fine Grading	Grading	7/19/2025	9/16/2025	5	42	
4	Building Construction	Building Construction	9/17/2025	4/26/2027	5	419	
5	Wood Shop Building Modernization	Building Construction	2/26/2027	4/26/2027	5	42	
6	Paving	Paving	4/27/2027	6/3/2027	5	28	
7	Architectural Coating	Architectural Coating	6/4/2027	7/13/2027	5	28	
8	Finishing/Landscaping	Trenching	7/14/2027	7/30/2027	5	13	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 11.2

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 58,050; Non-Residential Outdoor: 19,350; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Rough Grading	Excavators	2	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	Scrapers	2	8.00	367	0.48
Rough Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Utility Trenching	Excavators	1	8.00	158	0.38
Fine Grading	Excavators	2	8.00	158	0.38
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Fine Grading	Scrapers	2	8.00	367	0.48
Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	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
Wood Shop Building Modernization	Cranes	0	7.00	231	0.29
Wood Shop Building Modernization	Forklifts	0	8.00	89	0.20
Wood Shop Building Modernization	Generator Sets	0	8.00	84	0.74
Wood Shop Building Modernization	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Wood Shop Building Modernization	Welders	0	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Finishing/Landscaping	Excavators	1	8.00	158	0.38

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
Rough Grading	8	20.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Utility Trenching	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	8	20.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	220.00	86.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

Wood Shop Building Modernization	0	3.00	1.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	45.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Rough Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1821	0.0000	0.1821	0.0755	0.0000	0.0755	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0609	0.5868	0.5530	1.3000e-003		0.0238	0.0238		0.0219	0.0219	0.0000	114.4631	114.4631	0.0370	0.0000	115.3885
Total	**0.0609**	**0.5868**	**0.5530**	**1.3000e-003**	**0.1821**	**0.0238**	**0.2059**	**0.0755**	**0.0219**	**0.0974**	**0.0000**	**114.4631**	**114.4631**	**0.0370**	**0.0000**	**115.3885**

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	3.3400e-003	8.1000e-004	1.0000e-005	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	1.0378	1.0378	6.0000e-005	0.0000	1.0391
Worker	1.8300e-003	1.2500e-003	0.0128	4.0000e-005	5.1700e-003	3.0000e-005	5.2000e-003	1.3700e-003	3.0000e-005	1.4000e-003	0.0000	3.8421	3.8421	9.0000e-005	0.0000	3.8445
Total	**1.9400e-003**	**4.5900e-003**	**0.0136**	**5.0000e-005**	**5.4200e-003**	**3.0000e-005**	**5.4500e-003**	**1.4400e-003**	**3.0000e-005**	**1.4800e-003**	**0.0000**	**4.8799**	**4.8799**	**1.5000e-004**	**0.0000**	**4.8836**

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					0.1821	0.0000	0.1821	0.0755	0.0000	0.0755	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0609	0.5868	0.5530	1.3000e-003		0.0238	0.0238		0.0219	0.0219	0.0000	114.4629	114.4629	0.0370	0.0000	115.3884
Total	**0.0609**	**0.5868**	**0.5530**	**1.3000e-003**	**0.1821**	**0.0238**	**0.2059**	**0.0755**	**0.0219**	**0.0974**	**0.0000**	**114.4629**	**114.4629**	**0.0370**	**0.0000**	**115.3884**

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	3.3400e-003	8.1000e-004	1.0000e-005	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	1.0378	1.0378	6.0000e-005	0.0000	1.0391
Worker	1.8300e-003	1.2500e-003	0.0128	4.0000e-005	5.1700e-003	3.0000e-005	5.2000e-003	1.3700e-003	3.0000e-005	1.4000e-003	0.0000	3.8421	3.8421	9.0000e-005	0.0000	3.8445
Total	**1.9400e-003**	**4.5900e-003**	**0.0136**	**5.0000e-005**	**5.4200e-003**	**3.0000e-005**	**5.4500e-003**	**1.4400e-003**	**3.0000e-005**	**1.4800e-003**	**0.0000**	**4.8799**	**4.8799**	**1.5000e-004**	**0.0000**	**4.8836**

3.3 Utility Trenching - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.2500e-003	9.1600e-003	0.0245	4.0000e-005		4.5000e-004	4.5000e-004		4.1000e-004	4.1000e-004	0.0000	3.4042	3.4042	1.1000e-003	0.0000	3.4318
Total	**1.2500e-003**	**9.1600e-003**	**0.0245**	**4.0000e-005**		**4.5000e-004**	**4.5000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**3.4042**	**3.4042**	**1.1000e-003**	**0.0000**	**3.4318**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	7.0000e-005	6.9000e-004	0.0000	2.8000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	0.2058	0.2058	1.0000e-005	0.0000	0.2060
Total	**1.0000e-004**	**7.0000e-005**	**6.9000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2058**	**0.2058**	**1.0000e-005**	**0.0000**	**0.2060**

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	1.2500e-003	9.1600e-003	0.0245	4.0000e-005		4.5000e-004	4.5000e-004		4.1000e-004	4.1000e-004	0.0000	3.4042	3.4042	1.1000e-003	0.0000	3.4318
Total	**1.2500e-003**	**9.1600e-003**	**0.0245**	**4.0000e-005**		**4.5000e-004**	**4.5000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**3.4042**	**3.4042**	**1.1000e-003**	**0.0000**	**3.4318**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	7.0000e-005	6.9000e-004	0.0000	2.8000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	0.2058	0.2058	1.0000e-005	0.0000	0.2060
Total	**1.0000e-004**	**7.0000e-005**	**6.9000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2058**	**0.2058**	**1.0000e-005**	**0.0000**	**0.2060**

3.4 Fine Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1821	0.0000	0.1821	0.0755	0.0000	0.0755	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0609	0.5868	0.5530	1.3000e-003		0.0238	0.0238		0.0219	0.0219	0.0000	114.4631	114.4631	0.0370	0.0000	115.3885
Total	**0.0609**	**0.5868**	**0.5530**	**1.3000e-003**	**0.1821**	**0.0238**	**0.2059**	**0.0755**	**0.0219**	**0.0974**	**0.0000**	**114.4631**	**114.4631**	**0.0370**	**0.0000**	**115.3885**

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	3.3400e-003	8.1000e-004	1.0000e-005	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	1.0378	1.0378	6.0000e-005	0.0000	1.0391
Worker	1.8300e-003	1.2500e-003	0.0128	4.0000e-005	5.1700e-003	3.0000e-005	5.2000e-003	1.3700e-003	3.0000e-005	1.4000e-003	0.0000	3.8421	3.8421	9.0000e-005	0.0000	3.8445
Total	**1.9400e-003**	**4.5900e-003**	**0.0136**	**5.0000e-005**	**5.4200e-003**	**3.0000e-005**	**5.4500e-003**	**1.4400e-003**	**3.0000e-005**	**1.4800e-003**	**0.0000**	**4.8799**	**4.8799**	**1.5000e-004**	**0.0000**	**4.8836**

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					0.1821	0.0000	0.1821	0.0755	0.0000	0.0755	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0609	0.5868	0.5530	1.3000e-003		0.0238	0.0238		0.0219	0.0219	0.0000	114.4629	114.4629	0.0370	0.0000	115.3884
Total	**0.0609**	**0.5868**	**0.5530**	**1.3000e-003**	**0.1821**	**0.0238**	**0.2059**	**0.0755**	**0.0219**	**0.0974**	**0.0000**	**114.4629**	**114.4629**	**0.0370**	**0.0000**	**115.3884**

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	3.3400e-003	8.1000e-004	1.0000e-005	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	1.0378	1.0378	6.0000e-005	0.0000	1.0391
Worker	1.8300e-003	1.2500e-003	0.0128	4.0000e-005	5.1700e-003	3.0000e-005	5.2000e-003	1.3700e-003	3.0000e-005	1.4000e-003	0.0000	3.8421	3.8421	9.0000e-005	0.0000	3.8445
Total	**1.9400e-003**	**4.5900e-003**	**0.0136**	**5.0000e-005**	**5.4200e-003**	**3.0000e-005**	**5.4500e-003**	**1.4400e-003**	**3.0000e-005**	**1.4800e-003**	**0.0000**	**4.8799**	**4.8799**	**1.5000e-004**	**0.0000**	**4.8836**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0520	0.4739	0.6112	1.0200e-003		0.0201	0.0201		0.0189	0.0189	0.0000	88.1294	88.1294	0.0207	0.0000	88.6473
Total	**0.0520**	**0.4739**	**0.6112**	**1.0200e-003**		**0.0201**	**0.0201**		**0.0189**	**0.0189**	**0.0000**	**88.1294**	**88.1294**	**0.0207**	**0.0000**	**88.6473**

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	8.5800e-003	0.2595	0.0629	8.5000e-004	0.0195	3.4000e-004	0.0198	5.6300e-003	3.3000e-004	5.9500e-003	0.0000	80.7470	80.7470	4.3200e-003	0.0000	80.8550
Worker	0.0364	0.0249	0.2549	8.5000e-004	0.1029	6.5000e-004	0.1036	0.0274	6.0000e-004	0.0280	0.0000	76.4767	76.4767	1.8700e-003	0.0000	76.5235
Total	**0.0450**	**0.2844**	**0.3178**	**1.7000e-003**	**0.1224**	**9.9000e-004**	**0.1233**	**0.0330**	**9.3000e-004**	**0.0339**	**0.0000**	**157.2236**	**157.2236**	**6.1900e-003**	**0.0000**	**157.3785**

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	0.0520	0.4739	0.6112	1.0200e-003		0.0201	0.0201		0.0189	0.0189	0.0000	88.1293	88.1293	0.0207	0.0000	88.6472
Total	**0.0520**	**0.4739**	**0.6112**	**1.0200e-003**		**0.0201**	**0.0201**		**0.0189**	**0.0189**	**0.0000**	**88.1293**	**88.1293**	**0.0207**	**0.0000**	**88.6472**

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	8.5800e-003	0.2595	0.0629	8.5000e-004	0.0195	3.4000e-004	0.0198	5.6300e-003	3.3000e-004	5.9500e-003	0.0000	80.7470	80.7470	4.3200e-003	0.0000	80.8550
Worker	0.0364	0.0249	0.2549	8.5000e-004	0.1029	6.5000e-004	0.1036	0.0274	6.0000e-004	0.0280	0.0000	76.4767	76.4767	1.8700e-003	0.0000	76.5235
Total	**0.0450**	**0.2844**	**0.3178**	**1.7000e-003**	**0.1224**	**9.9000e-004**	**0.1233**	**0.0330**	**9.3000e-004**	**0.0339**	**0.0000**	**157.2236**	**157.2236**	**6.1900e-003**	**0.0000**	**157.3785**

3.5 Building Construction - 2026

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	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0281	0.8740	0.2024	2.9100e-003	0.0668	1.1000e-003	0.0679	0.0193	1.0500e-003	0.0204	0.0000	275.4612	275.4612	0.0145	0.0000	275.8248
Worker	0.1183	0.0778	0.8105	2.8000e-003	0.3534	2.1600e-003	0.3556	0.0940	1.9800e-003	0.0960	0.0000	253.0888	253.0888	5.8000e-003	0.0000	253.2338
Total	**0.1464**	**0.9518**	**1.0129**	**5.7100e-003**	**0.4202**	**3.2600e-003**	**0.4234**	**0.1133**	**3.0300e-003**	**0.1163**	**0.0000**	**528.5500**	**528.5500**	**0.0203**	**0.0000**	**529.0587**

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	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0281	0.8740	0.2024	2.9100e-003	0.0668	1.1000e-003	0.0679	0.0193	1.0500e-003	0.0204	0.0000	275.4612	275.4612	0.0145	0.0000	275.8248
Worker	0.1183	0.0778	0.8105	2.8000e-003	0.3534	2.1600e-003	0.3556	0.0940	1.9800e-003	0.0960	0.0000	253.0888	253.0888	5.8000e-003	0.0000	253.2338
Total	**0.1464**	**0.9518**	**1.0129**	**5.7100e-003**	**0.4202**	**3.2600e-003**	**0.4234**	**0.1133**	**3.0300e-003**	**0.1163**	**0.0000**	**528.5500**	**528.5500**	**0.0203**	**0.0000**	**529.0587**

3.5 Building Construction - 2027

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	0.0561	0.5113	0.6595	1.1100e-003		0.0216	0.0216		0.0204	0.0204	0.0000	95.0870	95.0870	0.0224	0.0000	95.6458
Total	**0.0561**	**0.5113**	**0.6595**	**1.1100e-003**		**0.0216**	**0.0216**		**0.0204**	**0.0204**	**0.0000**	**95.0870**	**95.0870**	**0.0224**	**0.0000**	**95.6458**

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	8.4300e-003	0.2700	0.0596	9.1000e-004	0.0210	3.3000e-004	0.0213	6.0700e-003	3.1000e-004	6.3800e-003	0.0000	86.0360	86.0360	4.5100e-003	0.0000	86.1488
Worker	0.0352	0.0223	0.2365	8.5000e-004	0.1110	6.4000e-004	0.1117	0.0295	5.9000e-004	0.0301	0.0000	76.8466	76.8466	1.6500e-003	0.0000	76.8878
Total	**0.0436**	**0.2923**	**0.2961**	**1.7600e-003**	**0.1320**	**9.7000e-004**	**0.1330**	**0.0356**	**9.0000e-004**	**0.0365**	**0.0000**	**162.8827**	**162.8827**	**6.1600e-003**	**0.0000**	**163.0366**

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	0.0561	0.5113	0.6595	1.1100e-003		0.0216	0.0216		0.0204	0.0204	0.0000	95.0869	95.0869	0.0224	0.0000	95.6457
Total	**0.0561**	**0.5113**	**0.6595**	**1.1100e-003**		**0.0216**	**0.0216**		**0.0204**	**0.0204**	**0.0000**	**95.0869**	**95.0869**	**0.0224**	**0.0000**	**95.6457**

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	8.4300e-003	0.2700	0.0596	9.1000e-004	0.0210	3.3000e-004	0.0213	6.0700e-003	3.1000e-004	6.3800e-003	0.0000	86.0360	86.0360	4.5100e-003	0.0000	86.1488
Worker	0.0352	0.0223	0.2365	8.5000e-004	0.1110	6.4000e-004	0.1117	0.0295	5.9000e-004	0.0301	0.0000	76.8466	76.8466	1.6500e-003	0.0000	76.8878
Total	**0.0436**	**0.2923**	**0.2961**	**1.7600e-003**	**0.1320**	**9.7000e-004**	**0.1330**	**0.0356**	**9.0000e-004**	**0.0365**	**0.0000**	**162.8827**	**162.8827**	**6.1600e-003**	**0.0000**	**163.0366**

3.6 Wood Shop Building Modernization - 2027

Unmitigated 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	0.0000	0.0000	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**

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	5.0000e-005	1.6100e-003	3.5000e-004	1.0000e-005	1.2000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.5124	0.5124	3.0000e-005	0.0000	0.5131
Worker	2.5000e-004	1.6000e-004	1.6500e-003	1.0000e-005	7.8000e-004	0.0000	7.8000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.5367	0.5367	1.0000e-005	0.0000	0.5370
Total	**3.0000e-004**	**1.7700e-003**	**2.0000e-003**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**9.1000e-004**	**2.5000e-004**	**0.0000**	**2.5000e-004**	**0.0000**	**1.0491**	**1.0491**	**4.0000e-005**	**0.0000**	**1.0501**

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	0.0000	0.0000	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**

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	5.0000e-005	1.6100e-003	3.5000e-004	1.0000e-005	1.2000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.5124	0.5124	3.0000e-005	0.0000	0.5131
Worker	2.5000e-004	1.6000e-004	1.6500e-003	1.0000e-005	7.8000e-004	0.0000	7.8000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.5367	0.5367	1.0000e-005	0.0000	0.5370
Total	**3.0000e-004**	**1.7700e-003**	**2.0000e-003**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**9.1000e-004**	**2.5000e-004**	**0.0000**	**2.5000e-004**	**0.0000**	**1.0491**	**1.0491**	**4.0000e-005**	**0.0000**	**1.0501**

3.7 Paving - 2027

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	0.0128	0.1201	0.2041	3.2000e-004		5.8600e-003	5.8600e-003		5.3900e-003	5.3900e-003	0.0000	28.0270	28.0270	9.0600e-003	0.0000	28.2536
Paving	1.6600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0145**	**0.1201**	**0.2041**	**3.2000e-004**		**5.8600e-003**	**5.8600e-003**		**5.3900e-003**	**5.3900e-003**	**0.0000**	**28.0270**	**28.0270**	**9.0600e-003**	**0.0000**	**28.2536**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.2000e-004	5.5100e-003	2.0000e-005	2.5800e-003	1.0000e-005	2.6000e-003	6.9000e-004	1.0000e-005	7.0000e-004	0.0000	1.7891	1.7891	4.0000e-005	0.0000	1.7901
Total	**8.2000e-004**	**5.2000e-004**	**5.5100e-003**	**2.0000e-005**	**2.5800e-003**	**1.0000e-005**	**2.6000e-003**	**6.9000e-004**	**1.0000e-005**	**7.0000e-004**	**0.0000**	**1.7891**	**1.7891**	**4.0000e-005**	**0.0000**	**1.7901**

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	0.0128	0.1201	0.2041	3.2000e-004		5.8600e-003	5.8600e-003		5.3900e-003	5.3900e-003	0.0000	28.0269	28.0269	9.0600e-003	0.0000	28.2535
Paving	1.6600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0145**	**0.1201**	**0.2041**	**3.2000e-004**		**5.8600e-003**	**5.8600e-003**		**5.3900e-003**	**5.3900e-003**	**0.0000**	**28.0269**	**28.0269**	**9.0600e-003**	**0.0000**	**28.2535**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.2000e-004	5.5100e-003	2.0000e-005	2.5800e-003	1.0000e-005	2.6000e-003	6.9000e-004	1.0000e-005	7.0000e-004	0.0000	1.7891	1.7891	4.0000e-005	0.0000	1.7901
Total	**8.2000e-004**	**5.2000e-004**	**5.5100e-003**	**2.0000e-005**	**2.5800e-003**	**1.0000e-005**	**2.6000e-003**	**6.9000e-004**	**1.0000e-005**	**7.0000e-004**	**0.0000**	**1.7891**	**1.7891**	**4.0000e-005**	**0.0000**	**1.7901**

3.8 Architectural Coating - 2027

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	0.4632					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3900e-003	0.0160	0.0253	4.0000e-005		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	3.5746	3.5746	1.9000e-004	0.0000	3.5794
Total	**0.4656**	**0.0160**	**0.0253**	**4.0000e-005**		**7.2000e-004**	**7.2000e-004**		**7.2000e-004**	**7.2000e-004**	**0.0000**	**3.5746**	**3.5746**	**1.9000e-004**	**0.0000**	**3.5794**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4600e-003	1.5600e-003	0.0165	6.0000e-005	7.7500e-003	4.0000e-005	7.8000e-003	2.0600e-003	4.0000e-005	2.1000e-003	0.0000	5.3673	5.3673	1.2000e-004	0.0000	5.3702
Total	**2.4600e-003**	**1.5600e-003**	**0.0165**	**6.0000e-005**	**7.7500e-003**	**4.0000e-005**	**7.8000e-003**	**2.0600e-003**	**4.0000e-005**	**2.1000e-003**	**0.0000**	**5.3673**	**5.3673**	**1.2000e-004**	**0.0000**	**5.3702**

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	0.4632					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3900e-003	0.0160	0.0253	4.0000e-005		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	3.5746	3.5746	1.9000e-004	0.0000	3.5794
Total	**0.4656**	**0.0160**	**0.0253**	**4.0000e-005**		**7.2000e-004**	**7.2000e-004**		**7.2000e-004**	**7.2000e-004**	**0.0000**	**3.5746**	**3.5746**	**1.9000e-004**	**0.0000**	**3.5794**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4600e-003	1.5600e-003	0.0165	6.0000e-005	7.7500e-003	4.0000e-005	7.8000e-003	2.0600e-003	4.0000e-005	2.1000e-003	0.0000	5.3673	5.3673	1.2000e-004	0.0000	5.3702
Total	**2.4600e-003**	**1.5600e-003**	**0.0165**	**6.0000e-005**	**7.7500e-003**	**4.0000e-005**	**7.8000e-003**	**2.0600e-003**	**4.0000e-005**	**2.1000e-003**	**0.0000**	**5.3673**	**5.3673**	**1.2000e-004**	**0.0000**	**5.3702**

3.9 Finishing/Landscaping - 2027

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	1.0900e-003	7.9400e-003	0.0212	3.0000e-005		3.9000e-004	3.9000e-004		3.6000e-004	3.6000e-004	0.0000	2.9503	2.9503	9.5000e-004	0.0000	2.9742
Total	**1.0900e-003**	**7.9400e-003**	**0.0212**	**3.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.6000e-004**	**3.6000e-004**	**0.0000**	**2.9503**	**2.9503**	**9.5000e-004**	**0.0000**	**2.9742**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	5.0000e-005	5.1000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.1661	0.1661	0.0000	0.0000	0.1662
Total	**8.0000e-005**	**5.0000e-005**	**5.1000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.1661**	**0.1661**	**0.0000**	**0.0000**	**0.1662**

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	1.0900e-003	7.9400e-003	0.0212	3.0000e-005		3.9000e-004	3.9000e-004		3.6000e-004	3.6000e-004	0.0000	2.9503	2.9503	9.5000e-004	0.0000	2.9742
Total	**1.0900e-003**	**7.9400e-003**	**0.0212**	**3.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.6000e-004**	**3.6000e-004**	**0.0000**	**2.9503**	**2.9503**	**9.5000e-004**	**0.0000**	**2.9742**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	5.0000e-005	5.1000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.1661	0.1661	0.0000	0.0000	0.1662
Total	**8.0000e-005**	**5.0000e-005**	**5.1000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.1661**	**0.1661**	**0.0000**	**0.0000**	**0.1662**

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

Hamilton High School Expansion Phase 2 Construction

Glenn County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High School	82.00	1000sqft	1.88	82,000.00	0
Other Asphalt Surfaces	18.00	1000sqft	0.41	18,000.00	0
Other Non-Asphalt Surfaces	1,293.92	1000sqft	29.70	1,293,920.00	0

1.2 Other Project Characteristics

Urbanization Rural **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 61

Climate Zone 3 **Operational Year** 2032

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MWhr) 641.35 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - BSF is conservative based on data provided by applicant

Construction Phase - schedule normalized based on CalEEMod defaults and data provided by applicant

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - assuming 1 excavator for utility trenching phase

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - assuming 1 excavator for finishing/landscaping

Grading -

Trips and VMT - Assuming 2 vendor trips/water truck/day

Architectural Coating - Assuming 90% of interior and exterior would be painted based on data from applicant, accounts for area of parking lot only

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	41,000.00	36,900.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	123,000.00	110,700.00
tblArchitecturalCoating	ConstArea_Parking	78,715.00	0.00
tblConstructionPhase	NumDays	45.00	40.00
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	500.00	448.00
tblConstructionPhase	NumDays	35.00	31.00
tblConstructionPhase	NumDays	35.00	31.00
tblConstructionPhase	PhaseEndDate	9/10/2030	7/19/2030
tblConstructionPhase	PhaseEndDate	7/9/2030	5/25/2030
tblConstructionPhase	PhaseStartDate	7/10/2030	5/26/2030
tblConstructionPhase	PhaseStartDate	6/12/2030	5/1/2030
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

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					
2030	3.8021	25.5630	34.3417	0.1457	18.3084	0.4892	18.7463	9.9952	0.4891	10.4329	0.0000	14,620.9213	14,620.9213	0.5064	0.0000	14,633.5806
2031	3.6094	25.3133	33.2446	0.1443	8.8708	0.1967	9.0675	2.3844	0.1935	2.5779	0.0000	14,477.8637	14,477.8637	0.4945	0.0000	14,490.2263
2032	55.6365	25.0977	32.3147	0.1430	8.8708	0.3314	9.0649	2.3844	0.3313	2.5754	0.0000	14,355.8677	14,355.8677	0.4830	0.0000	14,367.9431
Maximum	**55.6365**	**25.5630**	**34.3417**	**0.1457**	**18.3084**	**0.4892**	**18.7463**	**9.9952**	**0.4891**	**10.4329**	**0.0000**	**14,620.9213**	**14,620.9213**	**0.5064**	**0.0000**	**14,633.5806**

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					
2030	3.8021	25.5630	34.3417	0.1457	18.3084	0.4892	18.7463	9.9952	0.4891	10.4329	0.0000	14,620.9213	14,620.9213	0.5064	0.0000	14,633.5806
2031	3.6094	25.3133	33.2446	0.1443	8.8708	0.1967	9.0675	2.3844	0.1935	2.5779	0.0000	14,477.8637	14,477.8637	0.4945	0.0000	14,490.2263
2032	55.6365	25.0977	32.3147	0.1430	8.8708	0.3314	9.0649	2.3844	0.3313	2.5754	0.0000	14,355.8677	14,355.8677	0.4830	0.0000	14,367.9431
Maximum	**55.6365**	**25.5630**	**34.3417**	**0.1457**	**18.3084**	**0.4892**	**18.7463**	**9.9952**	**0.4891**	**10.4329**	**0.0000**	**14,620.9213**	**14,620.9213**	**0.5064**	**0.0000**	**14,633.5806**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2030	5/25/2030	5	18	
2	Fine Grading	Grading	5/26/2030	7/19/2030	5	40	
3	Utility Trenching	Trenching	7/20/2030	8/2/2030	5	10	
4	Building Construction	Building Construction	8/3/2030	4/21/2032	5	448	
5	Paving	Paving	4/22/2032	6/3/2032	5	31	
6	Architectural Coating	Architectural Coating	6/4/2032	7/16/2032	5	31	
7	Finishing/Landscaping	Trenching	7/17/2032	7/31/2032	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 30.11

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 110,700; Non-Residential Outdoor: 36,900; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Utility Trenching	Excavators	1	8.00	158	0.38
Finishing/Landscaping	Excavators	1	8.00	158	0.38
Fine Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Fine Grading	Graders	1	8.00	187	0.41

Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Fine Grading	Scrapers	2	8.00	367	0.48
Building Construction	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
Utility Trenching	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	8	20.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	585.00	228.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	117.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2030

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4399	13.6680	16.2918	0.0466		0.4367	0.4367		0.4367	0.4367		4,409.7537	4,409.7537	0.2176		4,415.1936
Total	**2.4399**	**13.6680**	**16.2918**	**0.0466**	**18.0663**	**0.4367**	**18.5029**	**9.9307**	**0.4367**	**10.3673**		**4,409.7537**	**4,409.7537**	**0.2176**		**4,415.1936**

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	4.2400e-003	0.1459	0.0274	5.2000e-004	0.0123	1.6000e-004	0.0124	3.5300e-003	1.5000e-004	3.6800e-003		53.9776	53.9776	2.5500e-003		54.0414
Worker	0.0618	0.0305	0.4633	1.7200e-003	0.2299	1.0300e-003	0.2309	0.0610	9.5000e-004	0.0619		171.3824	171.3824	3.0600e-003		171.4588
Total	**0.0661**	**0.1765**	**0.4908**	**2.2400e-003**	**0.2422**	**1.1900e-003**	**0.2434**	**0.0645**	**1.1000e-003**	**0.0656**		**225.3600**	**225.3600**	**5.6100e-003**		**225.5002**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4399	13.6680	16.2918	0.0466		0.4367	0.4367		0.4367	0.4367	0.0000	4,409.7537	4,409.7537	0.2176		4,415.1936
Total	**2.4399**	**13.6680**	**16.2918**	**0.0466**	**18.0663**	**0.4367**	**18.5029**	**9.9307**	**0.4367**	**10.3673**	**0.0000**	**4,409.7537**	**4,409.7537**	**0.2176**		**4,415.1936**

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	4.2400e-003	0.1459	0.0274	5.2000e-004	0.0123	1.6000e-004	0.0124	3.5300e-003	1.5000e-004	3.6800e-003		53.9776	53.9776	2.5500e-003		54.0414
Worker	0.0618	0.0305	0.4633	1.7200e-003	0.2299	1.0300e-003	0.2309	0.0610	9.5000e-004	0.0619		171.3824	171.3824	3.0600e-003		171.4588
Total	**0.0661**	**0.1765**	**0.4908**	**2.2400e-003**	**0.2422**	**1.1900e-003**	**0.2434**	**0.0645**	**1.1000e-003**	**0.0656**		**225.3600**	**225.3600**	**5.6100e-003**		**225.5002**

3.3 Fine Grading - 2030

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.2807	13.8462	23.0239	0.0699		0.4879	0.4879		0.4879	0.4879		7,213.1086	7,213.1086	0.2915		7,220.3963
Total	**3.2807**	**13.8462**	**23.0239**	**0.0699**	**8.6733**	**0.4879**	**9.1613**	**3.5965**	**0.4879**	**4.0844**		**7,213.1086**	**7,213.1086**	**0.2915**		**7,220.3963**

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	4.2400e-003	0.1459	0.0274	5.2000e-004	0.0123	1.6000e-004	0.0124	3.5300e-003	1.5000e-004	3.6800e-003		53.9776	53.9776	2.5500e-003		54.0414
Worker	0.0687	0.0339	0.5148	1.9100e-003	0.2555	1.1400e-003	0.2566	0.0678	1.0500e-003	0.0688		190.4248	190.4248	3.4000e-003		190.5098
Total	**0.0729**	**0.1799**	**0.5422**	**2.4300e-003**	**0.2677**	**1.3000e-003**	**0.2690**	**0.0713**	**1.2000e-003**	**0.0725**		**244.4025**	**244.4025**	**5.9500e-003**		**244.5511**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.2807	13.8462	23.0239	0.0699		0.4879	0.4879		0.4879	0.4879	0.0000	7,213.1086	7,213.1086	0.2915		7,220.3963
Total	**3.2807**	**13.8462**	**23.0239**	**0.0699**	**8.6733**	**0.4879**	**9.1613**	**3.5965**	**0.4879**	**4.0844**	**0.0000**	**7,213.1086**	**7,213.1086**	**0.2915**		**7,220.3963**

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	4.2400e-003	0.1459	0.0274	5.2000e-004	0.0123	1.6000e-004	0.0124	3.5300e-003	1.5000e-004	3.6800e-003		53.9776	53.9776	2.5500e-003		54.0414
Worker	0.0687	0.0339	0.5148	1.9100e-003	0.2555	1.1400e-003	0.2566	0.0678	1.0500e-003	0.0688		190.4248	190.4248	3.4000e-003		190.5098
Total	**0.0729**	**0.1799**	**0.5422**	**2.4300e-003**	**0.2677**	**1.3000e-003**	**0.2690**	**0.0713**	**1.2000e-003**	**0.0725**		**244.4025**	**244.4025**	**5.9500e-003**		**244.5511**

3.4 Utility Trenching - 2030

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	0.2256	0.5559	3.5601	6.3500e-003		0.0244	0.0244		0.0244	0.0244		601.7856	601.7856	0.0201		602.2886
Total	**0.2256**	**0.5559**	**3.5601**	**6.3500e-003**		**0.0244**	**0.0244**		**0.0244**	**0.0244**		**601.7856**	**601.7856**	**0.0201**		**602.2886**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0103	5.0900e-003	0.0772	2.9000e-004	0.0383	1.7000e-004	0.0385	0.0102	1.6000e-004	0.0103		28.5637	28.5637	5.1000e-004		28.5765
Total	**0.0103**	**5.0900e-003**	**0.0772**	**2.9000e-004**	**0.0383**	**1.7000e-004**	**0.0385**	**0.0102**	**1.6000e-004**	**0.0103**		**28.5637**	**28.5637**	**5.1000e-004**		**28.5765**

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	0.2256	0.5559	3.5601	6.3500e-003		0.0244	0.0244		0.0244	0.0244	0.0000	601.7856	601.7856	0.0201		602.2886
Total	**0.2256**	**0.5559**	**3.5601**	**6.3500e-003**		**0.0244**	**0.0244**		**0.0244**	**0.0244**	**0.0000**	**601.7856**	**601.7856**	**0.0201**		**602.2886**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0103	5.0900e-003	0.0772	2.9000e-004	0.0383	1.7000e-004	0.0385	0.0102	1.6000e-004	0.0103		28.5637	28.5637	5.1000e-004		28.5765
Total	**0.0103**	**5.0900e-003**	**0.0772**	**2.9000e-004**	**0.0383**	**1.7000e-004**	**0.0385**	**0.0102**	**1.6000e-004**	**0.0103**		**28.5637**	**28.5637**	**5.1000e-004**		**28.5765**

3.5 Building Construction - 2030

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	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

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	0.4838	16.6357	3.1263	0.0589	1.3985	0.0181	1.4166	0.4028	0.0173	0.4201		6,153.4482	6,153.4482	0.2908		6,160.7175
Worker	2.0093	0.9927	15.0584	0.0558	7.4722	0.0335	7.5057	1.9816	0.0308	2.0124		5,569.9264	5,569.9264	0.0994		5,572.4103
Total	**2.4930**	**17.6284**	**18.1847**	**0.1147**	**8.8708**	**0.0516**	**8.9223**	**2.3844**	**0.0481**	**2.4324**		**11,723.3746**	**11,723.3746**	**0.3901**		**11,733.1277**

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	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

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	0.4838	16.6357	3.1263	0.0589	1.3985	0.0181	1.4166	0.4028	0.0173	0.4201		6,153.4482	6,153.4482	0.2908		6,160.7175
Worker	2.0093	0.9927	15.0584	0.0558	7.4722	0.0335	7.5057	1.9816	0.0308	2.0124		5,569.9264	5,569.9264	0.0994		5,572.4103
Total	**2.4930**	**17.6284**	**18.1847**	**0.1147**	**8.8708**	**0.0516**	**8.9223**	**2.3844**	**0.0481**	**2.4324**		**11,723.3746**	**11,723.3746**	**0.3901**		**11,733.1277**

3.5 Building Construction - 2031

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	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

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	0.4716	16.4794	3.0264	0.0588	1.3986	0.0174	1.4160	0.4028	0.0166	0.4195		6,138.5351	6,138.5351	0.2887		6,145.7525
Worker	1.8287	0.8993	14.0613	0.0545	7.4722	0.0312	7.5034	1.9816	0.0287	2.0103		5,441.7818	5,441.7818	0.0896		5,444.0209
Total	**2.3003**	**17.3787**	**17.0876**	**0.1133**	**8.8708**	**0.0486**	**8.9194**	**2.3844**	**0.0453**	**2.4297**		**11,580.3169**	**11,580.3169**	**0.3783**		**11,589.7734**

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	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

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	0.4716	16.4794	3.0264	0.0588	1.3986	0.0174	1.4160	0.4028	0.0166	0.4195		6,138.5351	6,138.5351	0.2887		6,145.7525
Worker	1.8287	0.8993	14.0613	0.0545	7.4722	0.0312	7.5034	1.9816	0.0287	2.0103		5,441.7818	5,441.7818	0.0896		5,444.0209
Total	**2.3003**	**17.3787**	**17.0876**	**0.1133**	**8.8708**	**0.0486**	**8.9194**	**2.3844**	**0.0453**	**2.4297**		**11,580.3169**	**11,580.3169**	**0.3783**		**11,589.7734**

3.5 Building Construction - 2032

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	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

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	0.4624	16.3431	2.9600	0.0587	1.3986	0.0169	1.4154	0.4028	0.0161	0.4190		6,128.5790	6,128.5790	0.2856		6,135.7178
Worker	1.6714	0.8199	13.1977	0.0534	7.4722	0.0291	7.5013	1.9816	0.0268	2.0083		5,329.7420	5,329.7420	0.0812		5,331.7724
Total	**2.1338**	**17.1631**	**16.1577**	**0.1121**	**8.8708**	**0.0460**	**8.9168**	**2.3844**	**0.0429**	**2.4273**		**11,458.3209**	**11,458.3209**	**0.3668**		**11,467.4902**

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	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

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	0.4624	16.3431	2.9600	0.0587	1.3986	0.0169	1.4154	0.4028	0.0161	0.4190		6,128.5790	6,128.5790	0.2856		6,135.7178
Worker	1.6714	0.8199	13.1977	0.0534	7.4722	0.0291	7.5013	1.9816	0.0268	2.0083		5,329.7420	5,329.7420	0.0812		5,331.7724
Total	**2.1338**	**17.1631**	**16.1577**	**0.1121**	**8.8708**	**0.0460**	**8.9168**	**2.3844**	**0.0429**	**2.4273**		**11,458.3209**	**11,458.3209**	**0.3668**		**11,467.4902**

3.6 Paving - 2032

Unmitigated 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	1.3845	7.1202	15.8495	0.0281		0.3306	0.3306		0.3306	0.3306		2,656.5168	2,656.5168	0.1245		2,659.6302
Paving	0.0347					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4192**	**7.1202**	**15.8495**	**0.0281**		**0.3306**	**0.3306**		**0.3306**	**0.3306**		**2,656.5168**	**2,656.5168**	**0.1245**		**2,659.6302**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0429	0.0210	0.3384	1.3700e-003	0.1916	7.5000e-004	0.1923	0.0508	6.9000e-004	0.0515		136.6601	136.6601	2.0800e-003		136.7121
Total	**0.0429**	**0.0210**	**0.3384**	**1.3700e-003**	**0.1916**	**7.5000e-004**	**0.1923**	**0.0508**	**6.9000e-004**	**0.0515**		**136.6601**	**136.6601**	**2.0800e-003**		**136.7121**

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	1.3845	7.1202	15.8495	0.0281		0.3306	0.3306		0.3306	0.3306	0.0000	2,656.5168	2,656.5168	0.1245		2,659.6302
Paving	0.0347					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4192**	**7.1202**	**15.8495**	**0.0281**		**0.3306**	**0.3306**		**0.3306**	**0.3306**	**0.0000**	**2,656.5168**	**2,656.5168**	**0.1245**		**2,659.6302**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0429	0.0210	0.3384	1.3700e-003	0.1916	7.5000e-004	0.1923	0.0508	6.9000e-004	0.0515		136.6601	136.6601	2.0800e-003		136.7121
Total	**0.0429**	**0.0210**	**0.3384**	**1.3700e-003**	**0.1916**	**7.5000e-004**	**0.1923**	**0.0508**	**6.9000e-004**	**0.0515**		**136.6601**	**136.6601**	**2.0800e-003**		**136.7121**

3.7 Architectural Coating - 2032

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	55.1715					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	**55.3022**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**281.4481**	**281.4481**	**0.0114**		**281.7328**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3343	0.1640	2.6395	0.0107	1.4945	5.8200e-003	1.5003	0.3963	5.3500e-003	0.4017		1,065.9484	1,065.9484	0.0162		1,066.3545
Total	**0.3343**	**0.1640**	**2.6395**	**0.0107**	**1.4945**	**5.8200e-003**	**1.5003**	**0.3963**	**5.3500e-003**	**0.4017**		**1,065.9484**	**1,065.9484**	**0.0162**		**1,066.3545**

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	55.1715					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	**55.3022**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**	**0.0000**	**281.4481**	**281.4481**	**0.0114**		**281.7328**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3343	0.1640	2.6395	0.0107	1.4945	5.8200e-003	1.5003	0.3963	5.3500e-003	0.4017		1,065.9484	1,065.9484	0.0162		1,066.3545
Total	**0.3343**	**0.1640**	**2.6395**	**0.0107**	**1.4945**	**5.8200e-003**	**1.5003**	**0.3963**	**5.3500e-003**	**0.4017**		**1,065.9484**	**1,065.9484**	**0.0162**		**1,066.3545**

3.8 Finishing/Landscaping - 2032

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	0.2267	0.5587	3.5779	6.3900e-003		0.0245	0.0245		0.0245	0.0245		604.7946	604.7946	0.0202		605.3001
Total	**0.2267**	**0.5587**	**3.5779**	**6.3900e-003**		**0.0245**	**0.0245**		**0.0245**	**0.0245**		**604.7946**	**604.7946**	**0.0202**		**605.3001**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.5700e-003	4.2000e-003	0.0677	2.7000e-004	0.0383	1.5000e-004	0.0385	0.0102	1.4000e-004	0.0103		27.3320	27.3320	4.2000e-004		27.3424
Total	**8.5700e-003**	**4.2000e-003**	**0.0677**	**2.7000e-004**	**0.0383**	**1.5000e-004**	**0.0385**	**0.0102**	**1.4000e-004**	**0.0103**		**27.3320**	**27.3320**	**4.2000e-004**		**27.3424**

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	0.2267	0.5587	3.5779	6.3900e-003		0.0245	0.0245		0.0245	0.0245	0.0000	604.7946	604.7946	0.0202		605.3001
Total	**0.2267**	**0.5587**	**3.5779**	**6.3900e-003**		**0.0245**	**0.0245**		**0.0245**	**0.0245**	**0.0000**	**604.7946**	**604.7946**	**0.0202**		**605.3001**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.5700e-003	4.2000e-003	0.0677	2.7000e-004	0.0383	1.5000e-004	0.0385	0.0102	1.4000e-004	0.0103		27.3320	27.3320	4.2000e-004		27.3424
Total	**8.5700e-003**	**4.2000e-003**	**0.0677**	**2.7000e-004**	**0.0383**	**1.5000e-004**	**0.0385**	**0.0102**	**1.4000e-004**	**0.0103**		**27.3320**	**27.3320**	**4.2000e-004**		**27.3424**

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

Hamilton High School Expansion Phase 2 Construction

Glenn County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High School	82.00	1000sqft	1.88	82,000.00	0
Other Asphalt Surfaces	18.00	1000sqft	0.41	18,000.00	0
Other Non-Asphalt Surfaces	1,293.92	1000sqft	29.70	1,293,920.00	0

1.2 Other Project Characteristics

Urbanization Rural | **Wind Speed (m/s)** 2.2 | **Precipitation Freq (Days)** 61

Climate Zone 3 | **Operational Year** 2032

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MWhr) 641.35 | **CH4 Intensity (lb/MWhr)** 0.029 | **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - BSF is conservative based on data provided by applicant

Construction Phase - schedule normalized based on CalEEMod defaults and data provided by applicant

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - assuming 1 excavator for utility trenching phase

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - assuming 1 excavator for finishing/landscaping

Grading -

Trips and VMT - Assuming 2 vendor trips/water truck/day

Architectural Coating - Assuming 90% of interior and exterior would be painted based on data from applicant, accounts for area of parking lot only

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	41,000.00	36,900.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	123,000.00	110,700.00
tblArchitecturalCoating	ConstArea_Parking	78,715.00	0.00
tblConstructionPhase	NumDays	45.00	40.00
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	500.00	448.00
tblConstructionPhase	NumDays	35.00	31.00
tblConstructionPhase	NumDays	35.00	31.00
tblConstructionPhase	PhaseEndDate	9/10/2030	7/19/2030
tblConstructionPhase	PhaseEndDate	7/9/2030	5/25/2030
tblConstructionPhase	PhaseStartDate	7/10/2030	5/26/2030
tblConstructionPhase	PhaseStartDate	6/12/2030	5/1/2030
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

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					
2030	3.8431	25.8699	32.0391	0.1365	18.3084	0.4892	18.7463	9.9952	0.4891	10.4330	0.0000	13,698.2575	13,698.2575	0.5311	0.0000	13,711.5348
2031	3.6510	25.5866	31.0722	0.1353	8.8708	0.1970	9.0678	2.3844	0.1937	2.5781	0.0000	13,571.2100	13,571.2100	0.5203	0.0000	13,584.2185
2032	55.6388	25.3420	30.2612	0.1342	8.8708	0.3314	9.0652	2.3844	0.3313	2.5757	0.0000	13,462.8193	13,462.8193	0.5096	0.0000	13,475.5596
Maximum	**55.6388**	**25.8699**	**32.0391**	**0.1365**	**18.3084**	**0.4892**	**18.7463**	**9.9952**	**0.4891**	**10.4330**	**0.0000**	**13,698.2575**	**13,698.2575**	**0.5311**	**0.0000**	**13,711.5348**

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					
2030	3.8431	25.8699	32.0391	0.1365	18.3084	0.4892	18.7463	9.9952	0.4891	10.4330	0.0000	13,698.2575	13,698.2575	0.5311	0.0000	13,711.5348
2031	3.6510	25.5866	31.0722	0.1353	8.8708	0.1970	9.0678	2.3844	0.1937	2.5781	0.0000	13,571.2100	13,571.2100	0.5203	0.0000	13,584.2185
2032	55.6388	25.3420	30.2612	0.1342	8.8708	0.3314	9.0652	2.3844	0.3313	2.5757	0.0000	13,462.8193	13,462.8193	0.5096	0.0000	13,475.5596
Maximum	**55.6388**	**25.8699**	**32.0391**	**0.1365**	**18.3084**	**0.4892**	**18.7463**	**9.9952**	**0.4891**	**10.4330**	**0.0000**	**13,698.2575**	**13,698.2575**	**0.5311**	**0.0000**	**13,711.5348**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2030	5/25/2030	5	18	
2	Fine Grading	Grading	5/26/2030	7/19/2030	5	40	
3	Utility Trenching	Trenching	7/20/2030	8/2/2030	5	10	
4	Building Construction	Building Construction	8/3/2030	4/21/2032	5	448	
5	Paving	Paving	4/22/2032	6/3/2032	5	31	
6	Architectural Coating	Architectural Coating	6/4/2032	7/16/2032	5	31	
7	Finishing/Landscaping	Trenching	7/17/2032	7/31/2032	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 30.11

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 110,700; Non-Residential Outdoor: 36,900; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Utility Trenching	Excavators	1	8.00	158	0.38
Finishing/Landscaping	Excavators	1	8.00	158	0.38
Fine Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Fine Grading	Graders	1	8.00	187	0.41

Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Fine Grading	Scrapers	2	8.00	367	0.48
Building Construction	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
Utility Trenching	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	8	20.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	585.00	228.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	117.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2030

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4399	13.6680	16.2918	0.0466		0.4367	0.4367		0.4367	0.4367		4,409.7537	4,409.7537	0.2176		4,415.1936
Total	**2.4399**	**13.6680**	**16.2918**	**0.0466**	**18.0663**	**0.4367**	**18.5029**	**9.9307**	**0.4367**	**10.3673**		**4,409.7537**	**4,409.7537**	**0.2176**		**4,415.1936**

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	4.5300e-003	0.1466	0.0331	5.0000e-004	0.0123	1.6000e-004	0.0124	3.5300e-003	1.5000e-004	3.6900e-003		52.0153	52.0153	2.9000e-003		52.0878
Worker	0.0621	0.0378	0.3725	1.5000e-003	0.2299	1.0300e-003	0.2309	0.0610	9.5000e-004	0.0619		149.8760	149.8760	2.5800e-003		149.9406
Total	**0.0666**	**0.1843**	**0.4056**	**2.0000e-003**	**0.2422**	**1.1900e-003**	**0.2434**	**0.0645**	**1.1000e-003**	**0.0656**		**201.8913**	**201.8913**	**5.4800e-003**		**202.0284**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4399	13.6680	16.2918	0.0466		0.4367	0.4367		0.4367	0.4367	0.0000	4,409.7537	4,409.7537	0.2176		4,415.1936
Total	**2.4399**	**13.6680**	**16.2918**	**0.0466**	**18.0663**	**0.4367**	**18.5029**	**9.9307**	**0.4367**	**10.3673**	**0.0000**	**4,409.7537**	**4,409.7537**	**0.2176**		**4,415.1936**

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	4.5300e-003	0.1466	0.0331	5.0000e-004	0.0123	1.6000e-004	0.0124	3.5300e-003	1.5000e-004	3.6900e-003		52.0153	52.0153	2.9000e-003		52.0878
Worker	0.0621	0.0378	0.3725	1.5000e-003	0.2299	1.0300e-003	0.2309	0.0610	9.5000e-004	0.0619		149.8760	149.8760	2.5800e-003		149.9406
Total	**0.0666**	**0.1843**	**0.4056**	**2.0000e-003**	**0.2422**	**1.1900e-003**	**0.2434**	**0.0645**	**1.1000e-003**	**0.0656**		**201.8913**	**201.8913**	**5.4800e-003**		**202.0284**

3.3 Fine Grading - 2030

Unmitigated 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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.2807	13.8462	23.0239	0.0699		0.4879	0.4879		0.4879	0.4879		7,213.1086	7,213.1086	0.2915		7,220.3963
Total	**3.2807**	**13.8462**	**23.0239**	**0.0699**	**8.6733**	**0.4879**	**9.1613**	**3.5965**	**0.4879**	**4.0844**		**7,213.1086**	**7,213.1086**	**0.2915**		**7,220.3963**

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	4.5300e-003	0.1466	0.0331	5.0000e-004	0.0123	1.6000e-004	0.0124	3.5300e-003	1.5000e-004	3.6900e-003		52.0153	52.0153	2.9000e-003		52.0878
Worker	0.0690	0.0420	0.4139	1.6700e-003	0.2555	1.1400e-003	0.2566	0.0678	1.0500e-003	0.0688		166.5289	166.5289	2.8700e-003		166.6007
Total	**0.0735**	**0.1885**	**0.4470**	**2.1700e-003**	**0.2677**	**1.3000e-003**	**0.2690**	**0.0713**	**1.2000e-003**	**0.0725**		**218.5442**	**218.5442**	**5.7700e-003**		**218.6885**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.2807	13.8462	23.0239	0.0699		0.4879	0.4879		0.4879	0.4879	0.0000	7,213.1086	7,213.1086	0.2915		7,220.3963
Total	**3.2807**	**13.8462**	**23.0239**	**0.0699**	**8.6733**	**0.4879**	**9.1613**	**3.5965**	**0.4879**	**4.0844**	**0.0000**	**7,213.1086**	**7,213.1086**	**0.2915**		**7,220.3963**

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	4.5300e-003	0.1466	0.0331	5.0000e-004	0.0123	1.6000e-004	0.0124	3.5300e-003	1.5000e-004	3.6900e-003		52.0153	52.0153	2.9000e-003		52.0878
Worker	0.0690	0.0420	0.4139	1.6700e-003	0.2555	1.1400e-003	0.2566	0.0678	1.0500e-003	0.0688		166.5289	166.5289	2.8700e-003		166.6007
Total	**0.0735**	**0.1885**	**0.4470**	**2.1700e-003**	**0.2677**	**1.3000e-003**	**0.2690**	**0.0713**	**1.2000e-003**	**0.0725**		**218.5442**	**218.5442**	**5.7700e-003**		**218.6885**

3.4 Utility Trenching - 2030

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	0.2256	0.5559	3.5601	6.3500e-003		0.0244	0.0244		0.0244	0.0244		601.7856	601.7856	0.0201		602.2886
Total	**0.2256**	**0.5559**	**3.5601**	**6.3500e-003**		**0.0244**	**0.0244**		**0.0244**	**0.0244**		**601.7856**	**601.7856**	**0.0201**		**602.2886**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0104	6.2900e-003	0.0621	2.5000e-004	0.0383	1.7000e-004	0.0385	0.0102	1.6000e-004	0.0103		24.9793	24.9793	4.3000e-004		24.9901
Total	**0.0104**	**6.2900e-003**	**0.0621**	**2.5000e-004**	**0.0383**	**1.7000e-004**	**0.0385**	**0.0102**	**1.6000e-004**	**0.0103**		**24.9793**	**24.9793**	**4.3000e-004**		**24.9901**

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	0.2256	0.5559	3.5601	6.3500e-003		0.0244	0.0244		0.0244	0.0244	0.0000	601.7856	601.7856	0.0201		602.2886
Total	**0.2256**	**0.5559**	**3.5601**	**6.3500e-003**		**0.0244**	**0.0244**		**0.0244**	**0.0244**	**0.0000**	**601.7856**	**601.7856**	**0.0201**		**602.2886**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0104	6.2900e-003	0.0621	2.5000e-004	0.0383	1.7000e-004	0.0385	0.0102	1.6000e-004	0.0103		24.9793	24.9793	4.3000e-004		24.9901
Total	**0.0104**	**6.2900e-003**	**0.0621**	**2.5000e-004**	**0.0383**	**1.7000e-004**	**0.0385**	**0.0102**	**1.6000e-004**	**0.0103**		**24.9793**	**24.9793**	**4.3000e-004**		**24.9901**

3.5 Building Construction - 2030

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	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

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	0.5162	16.7080	3.7751	0.0568	1.3985	0.0184	1.4169	0.4028	0.0176	0.4204		5,929.7411	5,929.7411	0.3309		5,938.0123
Worker	2.0178	1.2273	12.1070	0.0488	7.4722	0.0335	7.5057	1.9816	0.0308	2.0124		4,870.9697	4,870.9697	0.0840		4,873.0697
Total	**2.5340**	**17.9353**	**15.8821**	**0.1056**	**8.8708**	**0.0519**	**8.9226**	**2.3844**	**0.0484**	**2.4327**		**10,800.7108**	**10,800.7108**	**0.4149**		**10,811.0819**

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	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

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	0.5162	16.7080	3.7751	0.0568	1.3985	0.0184	1.4169	0.4028	0.0176	0.4204		5,929.7411	5,929.7411	0.3309		5,938.0123
Worker	2.0178	1.2273	12.1070	0.0488	7.4722	0.0335	7.5057	1.9816	0.0308	2.0124		4,870.9697	4,870.9697	0.0840		4,873.0697
Total	**2.5340**	**17.9353**	**15.8821**	**0.1056**	**8.8708**	**0.0519**	**8.9226**	**2.3844**	**0.0484**	**2.4327**		**10,800.7108**	**10,800.7108**	**0.4149**		**10,811.0819**

3.5 Building Construction - 2031

Unmitigated 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	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

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	0.5034	16.5418	3.6612	0.0566	1.3986	0.0177	1.4162	0.4028	0.0169	0.4197		5,915.5142	5,915.5142	0.3286		5,923.7289
Worker	1.8385	1.1102	11.2540	0.0477	7.4722	0.0312	7.5034	1.9816	0.0287	2.0103		4,758.1490	4,758.1490	0.0755		4,760.0368
Total	**2.3419**	**17.6520**	**14.9152**	**0.1043**	**8.8708**	**0.0489**	**8.9197**	**2.3844**	**0.0456**	**2.4300**		**10,673.6632**	**10,673.6632**	**0.4041**		**10,683.7657**

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	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

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	0.5034	16.5418	3.6612	0.0566	1.3986	0.0177	1.4162	0.4028	0.0169	0.4197		5,915.5142	5,915.5142	0.3286		5,923.7289
Worker	1.8385	1.1102	11.2540	0.0477	7.4722	0.0312	7.5034	1.9816	0.0287	2.0103		4,758.1490	4,758.1490	0.0755		4,760.0368
Total	**2.3419**	**17.6520**	**14.9152**	**0.1043**	**8.8708**	**0.0489**	**8.9197**	**2.3844**	**0.0456**	**2.4300**		**10,673.6632**	**10,673.6632**	**0.4041**		**10,683.7657**

3.5 Building Construction - 2032

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	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

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	0.4937	16.3964	3.5864	0.0565	1.3986	0.0171	1.4157	0.4028	0.0164	0.4192		5,905.7851	5,905.7851	0.3251		5,913.9121
Worker	1.6828	1.0109	10.5179	0.0467	7.4722	0.0291	7.5013	1.9816	0.0268	2.0083		4,659.4874	4,659.4874	0.0683		4,661.1946
Total	**2.1765**	**17.4073**	**14.1042**	**0.1032**	**8.8708**	**0.0462**	**8.9170**	**2.3844**	**0.0431**	**2.4275**		**10,565.2725**	**10,565.2725**	**0.3934**		**10,575.1067**

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	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

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	0.4937	16.3964	3.5864	0.0565	1.3986	0.0171	1.4157	0.4028	0.0164	0.4192		5,905.7851	5,905.7851	0.3251		5,913.9121
Worker	1.6828	1.0109	10.5179	0.0467	7.4722	0.0291	7.5013	1.9816	0.0268	2.0083		4,659.4874	4,659.4874	0.0683		4,661.1946
Total	**2.1765**	**17.4073**	**14.1042**	**0.1032**	**8.8708**	**0.0462**	**8.9170**	**2.3844**	**0.0431**	**2.4275**		**10,565.2725**	**10,565.2725**	**0.3934**		**10,575.1067**

3.6 Paving - 2032

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	1.3845	7.1202	15.8495	0.0281		0.3306	0.3306		0.3306	0.3306		2,656.5168	2,656.5168	0.1245		2,659.6302
Paving	0.0347					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4192**	**7.1202**	**15.8495**	**0.0281**		**0.3306**	**0.3306**		**0.3306**	**0.3306**		**2,656.5168**	**2,656.5168**	**0.1245**		**2,659.6302**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0432	0.0259	0.2697	1.2000e-003	0.1916	7.5000e-004	0.1923	0.0508	6.9000e-004	0.0515		119.4740	119.4740	1.7500e-003		119.5178
Total	**0.0432**	**0.0259**	**0.2697**	**1.2000e-003**	**0.1916**	**7.5000e-004**	**0.1923**	**0.0508**	**6.9000e-004**	**0.0515**		**119.4740**	**119.4740**	**1.7500e-003**		**119.5178**

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	1.3845	7.1202	15.8495	0.0281		0.3306	0.3306		0.3306	0.3306	0.0000	2,656.5168	2,656.5168	0.1245		2,659.6302
Paving	0.0347					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4192**	**7.1202**	**15.8495**	**0.0281**		**0.3306**	**0.3306**		**0.3306**	**0.3306**	**0.0000**	**2,656.5168**	**2,656.5168**	**0.1245**		**2,659.6302**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0432	0.0259	0.2697	1.2000e-003	0.1916	7.5000e-004	0.1923	0.0508	6.9000e-004	0.0515		119.4740	119.4740	1.7500e-003		119.5178
Total	**0.0432**	**0.0259**	**0.2697**	**1.2000e-003**	**0.1916**	**7.5000e-004**	**0.1923**	**0.0508**	**6.9000e-004**	**0.0515**		**119.4740**	**119.4740**	**1.7500e-003**		**119.5178**

3.7 Architectural Coating - 2032

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	55.1715					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	**55.3022**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**281.4481**	**281.4481**	**0.0114**		**281.7328**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3366	0.2022	2.1036	9.3300e-003	1.4945	5.8200e-003	1.5003	0.3963	5.3500e-003	0.4017		931.8975	931.8975	0.0137		932.2389
Total	**0.3366**	**0.2022**	**2.1036**	**9.3300e-003**	**1.4945**	**5.8200e-003**	**1.5003**	**0.3963**	**5.3500e-003**	**0.4017**		**931.8975**	**931.8975**	**0.0137**		**932.2389**

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	55.1715					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	**55.3022**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**	**0.0000**	**281.4481**	**281.4481**	**0.0114**		**281.7328**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3366	0.2022	2.1036	9.3300e-003	1.4945	5.8200e-003	1.5003	0.3963	5.3500e-003	0.4017		931.8975	931.8975	0.0137		932.2389
Total	**0.3366**	**0.2022**	**2.1036**	**9.3300e-003**	**1.4945**	**5.8200e-003**	**1.5003**	**0.3963**	**5.3500e-003**	**0.4017**		**931.8975**	**931.8975**	**0.0137**		**932.2389**

3.8 Finishing/Landscaping - 2032

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	0.2267	0.5587	3.5779	6.3900e-003		0.0245	0.0245		0.0245	0.0245		604.7946	604.7946	0.0202		605.3001
Total	**0.2267**	**0.5587**	**3.5779**	**6.3900e-003**		**0.0245**	**0.0245**		**0.0245**	**0.0245**		**604.7946**	**604.7946**	**0.0202**		**605.3001**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.6300e-003	5.1800e-003	0.0539	2.4000e-004	0.0383	1.5000e-004	0.0385	0.0102	1.4000e-004	0.0103		23.8948	23.8948	3.5000e-004		23.9036
Total	**8.6300e-003**	**5.1800e-003**	**0.0539**	**2.4000e-004**	**0.0383**	**1.5000e-004**	**0.0385**	**0.0102**	**1.4000e-004**	**0.0103**		**23.8948**	**23.8948**	**3.5000e-004**		**23.9036**

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	0.2267	0.5587	3.5779	6.3900e-003		0.0245	0.0245		0.0245	0.0245	0.0000	604.7946	604.7946	0.0202		605.3001
Total	**0.2267**	**0.5587**	**3.5779**	**6.3900e-003**		**0.0245**	**0.0245**		**0.0245**	**0.0245**	**0.0000**	**604.7946**	**604.7946**	**0.0202**		**605.3001**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.6300e-003	5.1800e-003	0.0539	2.4000e-004	0.0383	1.5000e-004	0.0385	0.0102	1.4000e-004	0.0103		23.8948	23.8948	3.5000e-004		23.9036
Total	**8.6300e-003**	**5.1800e-003**	**0.0539**	**2.4000e-004**	**0.0383**	**1.5000e-004**	**0.0385**	**0.0102**	**1.4000e-004**	**0.0103**		**23.8948**	**23.8948**	**3.5000e-004**		**23.9036**

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

Hamilton High School Expansion Phase 2 Construction

Glenn County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High School	82.00	1000sqft	1.88	82,000.00	0
Other Asphalt Surfaces	18.00	1000sqft	0.41	18,000.00	0
Other Non-Asphalt Surfaces	1,293.92	1000sqft	29.70	1,293,920.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	61
Climate Zone	3			**Operational Year**	2032
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - BSF is conservative based on data provided by applicant

Construction Phase - schedule normalized based on CalEEMod defaults and data provided by applicant

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - assuming 1 excavator for utility trenching phase

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - assuming 1 excavator for finishing/landscaping

Grading -

Trips and VMT - Assuming 2 vendor trips/water truck/day

Architectural Coating - Assuming 90% of interior and exterior would be painted based on data from applicant, accounts for area of parking lot only

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	41,000.00	36,900.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	123,000.00	110,700.00
tblArchitecturalCoating	ConstArea_Parking	78,715.00	0.00
tblConstructionPhase	NumDays	45.00	40.00
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	500.00	448.00
tblConstructionPhase	NumDays	35.00	31.00
tblConstructionPhase	NumDays	35.00	31.00
tblConstructionPhase	PhaseEndDate	9/10/2030	7/19/2030
tblConstructionPhase	PhaseEndDate	7/9/2030	5/25/2030
tblConstructionPhase	PhaseStartDate	7/10/2030	5/26/2030
tblConstructionPhase	PhaseStartDate	6/12/2030	5/1/2030
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

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					
2030	0.2855	1.7890	2.3512	9.3800e-003	0.8014	0.0245	0.8259	0.2868	0.0244	0.3111	0.0000	855.0047	855.0047	0.0321	0.0000	855.8082
2031	0.4523	3.3335	4.0532	0.0180	1.1168	0.0257	1.1425	0.3011	0.0253	0.3264	0.0000	1,641.9068	1,641.9068	0.0593	0.0000	1,643.3889
2032	1.0183	1.1421	1.5397	6.1600e-003	0.3677	0.0134	0.3811	0.0991	0.0133	0.1124	0.0000	558.6837	558.6837	0.0200	0.0000	559.1840
Maximum	**1.0183**	**3.3335**	**4.0532**	**0.0180**	**1.1168**	**0.0257**	**1.1425**	**0.3011**	**0.0253**	**0.3264**	**0.0000**	**1,641.9068**	**1,641.9068**	**0.0593**	**0.0000**	**1,643.3889**

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					
2030	0.2855	1.7890	2.3512	9.3800e-003	0.8014	0.0245	0.8259	0.2868	0.0244	0.3111	0.0000	855.0043	855.0043	0.0321	0.0000	855.8078
2031	0.4523	3.3335	4.0532	0.0180	1.1168	0.0257	1.1425	0.3011	0.0253	0.3264	0.0000	1,641.9064	1,641.9064	0.0593	0.0000	1,643.3885
2032	1.0183	1.1421	1.5397	6.1600e-003	0.3677	0.0134	0.3811	0.0991	0.0133	0.1124	0.0000	558.6836	558.6836	0.0200	0.0000	559.1839
Maximum	**1.0183**	**3.3335**	**4.0532**	**0.0180**	**1.1168**	**0.0257**	**1.1425**	**0.3011**	**0.0253**	**0.3264**	**0.0000**	**1,641.9064**	**1,641.9064**	**0.0593**	**0.0000**	**1,643.3885**

	ROG	**NOx**	**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**

Quarter	**Start Date**	**End Date**	**Maximum Unmitigated ROG + NOX (tons/quarter)**	**Maximum Mitigated ROG + NOX (tons/quarter)**
1	**5-1-2030**	**7-31-2030**	0.4908	0.4908
2	**8-1-2030**	**10-31-2030**	0.9483	0.9483

3	11-1-2030	1-31-2031	0.9710	0.9710
4	2-1-2031	4-30-2031	0.9260	0.9260
5	5-1-2031	7-31-2031	0.9503	0.9503
6	8-1-2031	10-31-2031	0.9538	0.9538
7	11-1-2031	1-31-2032	0.9561	0.9561
8	2-1-2032	4-30-2032	0.8594	0.8594
9	5-1-2032	7-31-2032	0.9788	0.9788
		Highest	0.9788	0.9788

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2030	5/25/2030	5	18	
2	Fine Grading	Grading	5/26/2030	7/19/2030	5	40	
3	Utility Trenching	Trenching	7/20/2030	8/2/2030	5	10	
4	Building Construction	Building Construction	8/3/2030	4/21/2032	5	448	
5	Paving	Paving	4/22/2032	6/3/2032	5	31	
6	Architectural Coating	Architectural Coating	6/4/2032	7/16/2032	5	31	
7	Finishing/Landscaping	Trenching	7/17/2032	7/31/2032	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 30.11

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 110,700; Non-Residential Outdoor: 36,900; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Utility Trenching	Excavators	1	8.00	158	0.38
Finishing/Landscaping	Excavators	1	8.00	158	0.38

Fine Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Fine Grading	Scrapers	2	8.00	367	0.48
Building Construction	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
Utility Trenching	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	8	20.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	585.00	228.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	117.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2030

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					0.1626	0.0000	0.1626	0.0894	0.0000	0.0894	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0220	0.1230	0.1466	4.2000e-004		3.9300e-003	3.9300e-003		3.9300e-003	3.9300e-003	0.0000	36.0042	36.0042	1.7800e-003	0.0000	36.0486
Total	**0.0220**	**0.1230**	**0.1466**	**4.2000e-004**	**0.1626**	**3.9300e-003**	**0.1665**	**0.0894**	**3.9300e-003**	**0.0933**	**0.0000**	**36.0042**	**36.0042**	**1.7800e-003**	**0.0000**	**36.0486**

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	1.3300e-003	2.7000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4340	0.4340	2.0000e-005	0.0000	0.4345
Worker	5.1000e-004	3.0000e-004	3.4500e-003	1.0000e-005	1.9900e-003	1.0000e-005	2.0000e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.2669	1.2669	2.0000e-005	0.0000	1.2675
Total	**5.5000e-004**	**1.6300e-003**	**3.7200e-003**	**1.0000e-005**	**2.1000e-003**	**1.0000e-005**	**2.1100e-003**	**5.6000e-004**	**1.0000e-005**	**5.7000e-004**	**0.0000**	**1.7009**	**1.7009**	**4.0000e-005**	**0.0000**	**1.7020**

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					0.1626	0.0000	0.1626	0.0894	0.0000	0.0894	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0220	0.1230	0.1466	4.2000e-004		3.9300e-003	3.9300e-003		3.9300e-003	3.9300e-003	0.0000	36.0041	36.0041	1.7800e-003	0.0000	36.0485
Total	**0.0220**	**0.1230**	**0.1466**	**4.2000e-004**	**0.1626**	**3.9300e-003**	**0.1665**	**0.0894**	**3.9300e-003**	**0.0933**	**0.0000**	**36.0041**	**36.0041**	**1.7800e-003**	**0.0000**	**36.0485**

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	1.3300e-003	2.7000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4340	0.4340	2.0000e-005	0.0000	0.4345
Worker	5.1000e-004	3.0000e-004	3.4500e-003	1.0000e-005	1.9900e-003	1.0000e-005	2.0000e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.2669	1.2669	2.0000e-005	0.0000	1.2675
Total	**5.5000e-004**	**1.6300e-003**	**3.7200e-003**	**1.0000e-005**	**2.1000e-003**	**1.0000e-005**	**2.1100e-003**	**5.6000e-004**	**1.0000e-005**	**5.7000e-004**	**0.0000**	**1.7009**	**1.7009**	**4.0000e-005**	**0.0000**	**1.7020**

3.3 Fine Grading - 2030

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					0.1735	0.0000	0.1735	0.0719	0.0000	0.0719	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0656	0.2769	0.4605	1.4000e-003		9.7600e-003	9.7600e-003		9.7600e-003	9.7600e-003	0.0000	130.8724	130.8724	5.2900e-003	0.0000	131.0047
Total	**0.0656**	**0.2769**	**0.4605**	**1.4000e-003**	**0.1735**	**9.7600e-003**	**0.1832**	**0.0719**	**9.7600e-003**	**0.0817**	**0.0000**	**130.8724**	**130.8724**	**5.2900e-003**	**0.0000**	**131.0047**

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	2.9400e-003	6.0000e-004	1.0000e-005	2.4000e-004	0.0000	2.4000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.9644	0.9644	5.0000e-005	0.0000	0.9656
Worker	1.2600e-003	7.5000e-004	8.5200e-003	3.0000e-005	4.9200e-003	2.0000e-005	4.9500e-003	1.3100e-003	2.0000e-005	1.3300e-003	0.0000	3.1282	3.1282	5.0000e-005	0.0000	3.1296
Total	**1.3500e-003**	**3.6900e-003**	**9.1200e-003**	**4.0000e-005**	**5.1600e-003**	**2.0000e-005**	**5.1900e-003**	**1.3800e-003**	**2.0000e-005**	**1.4000e-003**	**0.0000**	**4.0926**	**4.0926**	**1.0000e-004**	**0.0000**	**4.0952**

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					0.1735	0.0000	0.1735	0.0719	0.0000	0.0719	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0656	0.2769	0.4605	1.4000e-003		9.7600e-003	9.7600e-003		9.7600e-003	9.7600e-003	0.0000	130.8723	130.8723	5.2900e-003	0.0000	131.0045
Total	**0.0656**	**0.2769**	**0.4605**	**1.4000e-003**	**0.1735**	**9.7600e-003**	**0.1832**	**0.0719**	**9.7600e-003**	**0.0817**	**0.0000**	**130.8723**	**130.8723**	**5.2900e-003**	**0.0000**	**131.0045**

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	9.0000e-005	2.9400e-003	6.0000e-004	1.0000e-005	2.4000e-004	0.0000	2.4000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.9644	0.9644	5.0000e-005	0.0000	0.9656
Worker	1.2600e-003	7.5000e-004	8.5200e-003	3.0000e-005	4.9200e-003	2.0000e-005	4.9500e-003	1.3100e-003	2.0000e-005	1.3300e-003	0.0000	3.1282	3.1282	5.0000e-005	0.0000	3.1296
Total	**1.3500e-003**	**3.6900e-003**	**9.1200e-003**	**4.0000e-005**	**5.1600e-003**	**2.0000e-005**	**5.1900e-003**	**1.3800e-003**	**2.0000e-005**	**1.4000e-003**	**0.0000**	**4.0926**	**4.0926**	**1.0000e-004**	**0.0000**	**4.0952**

3.4 Utility Trenching - 2030

Unmitigated 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	1.1300e-003	2.7800e-003	0.0178	3.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	2.7297	2.7297	9.0000e-005	0.0000	2.7319
Total	**1.1300e-003**	**2.7800e-003**	**0.0178**	**3.0000e-005**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**	**0.0000**	**2.7297**	**2.7297**	**9.0000e-005**	**0.0000**	**2.7319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	3.0000e-005	3.2000e-004	0.0000	1.8000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1173	0.1173	0.0000	0.0000	0.1174
Total	**5.0000e-005**	**3.0000e-005**	**3.2000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.9000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1173**	**0.1173**	**0.0000**	**0.0000**	**0.1174**

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	1.1300e-003	2.7800e-003	0.0178	3.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	2.7297	2.7297	9.0000e-005	0.0000	2.7319
Total	**1.1300e-003**	**2.7800e-003**	**0.0178**	**3.0000e-005**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**	**0.0000**	**2.7297**	**2.7297**	**9.0000e-005**	**0.0000**	**2.7319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	3.0000e-005	3.2000e-004	0.0000	1.8000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1173	0.1173	0.0000	0.0000	0.1174
Total	**5.0000e-005**	**3.0000e-005**	**3.2000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.9000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1173**	**0.1173**	**0.0000**	**0.0000**	**0.1174**

3.5 Building Construction - 2030

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	0.0700	0.4245	0.8644	1.6600e-003		7.9300e-003	7.9300e-003		7.9300e-003	7.9300e-003	0.0000	140.6307	140.6307	5.6400e-003	0.0000	140.7717
Total	**0.0700**	**0.4245**	**0.8644**	**1.6600e-003**		**7.9300e-003**	**7.9300e-003**		**7.9300e-003**	**7.9300e-003**	**0.0000**	**140.6307**	**140.6307**	**5.6400e-003**	**0.0000**	**140.7717**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0264	0.8979	0.1819	3.1000e-003	0.0726	9.7000e-004	0.0736	0.0210	9.3000e-004	0.0219	0.0000	294.0918	294.0918	0.0149	0.0000	294.4651
Worker	0.0985	0.0585	0.6668	2.7000e-003	0.3852	1.7900e-003	0.3870	0.1025	1.6500e-003	0.1041	0.0000	244.7652	244.7652	4.2600e-003	0.0000	244.8716
Total	**0.1249**	**0.9564**	**0.8487**	**5.8000e-003**	**0.4578**	**2.7600e-003**	**0.4606**	**0.1235**	**2.5800e-003**	**0.1260**	**0.0000**	**538.8569**	**538.8569**	**0.0192**	**0.0000**	**539.3367**

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	0.0700	0.4245	0.8644	1.6600e-003		7.9300e-003	7.9300e-003		7.9300e-003	7.9300e-003	0.0000	140.6305	140.6305	5.6400e-003	0.0000	140.7715
Total	**0.0700**	**0.4245**	**0.8644**	**1.6600e-003**		**7.9300e-003**	**7.9300e-003**		**7.9300e-003**	**7.9300e-003**	**0.0000**	**140.6305**	**140.6305**	**5.6400e-003**	**0.0000**	**140.7715**

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	0.0264	0.8979	0.1819	3.1000e-003	0.0726	9.7000e-004	0.0736	0.0210	9.3000e-004	0.0219	0.0000	294.0918	294.0918	0.0149	0.0000	294.4651
Worker	0.0985	0.0585	0.6668	2.7000e-003	0.3852	1.7900e-003	0.3870	0.1025	1.6500e-003	0.1041	0.0000	244.7652	244.7652	4.2600e-003	0.0000	244.8716
Total	**0.1249**	**0.9564**	**0.8487**	**5.8000e-003**	**0.4578**	**2.7600e-003**	**0.4606**	**0.1235**	**2.5800e-003**	**0.1260**	**0.0000**	**538.8569**	**538.8569**	**0.0192**	**0.0000**	**539.3367**

3.5 Building Construction - 2031

Unmitigated 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	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0336**	**343.0336**	**0.0138**	**0.0000**	**343.3777**

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	0.0628	2.1689	0.4299	7.5500e-003	0.1771	2.2900e-003	0.1794	0.0512	2.1800e-003	0.0534	0.0000	715.6326	715.6326	0.0362	0.0000	716.5369
Worker	0.2186	0.1291	1.5148	6.4400e-003	0.9397	4.0700e-003	0.9438	0.2499	3.7400e-003	0.2536	0.0000	583.2406	583.2406	9.3500e-003	0.0000	583.4743
Total	**0.2815**	**2.2980**	**1.9447**	**0.0140**	**1.1168**	**6.3600e-003**	**1.1231**	**0.3011**	**5.9200e-003**	**0.3071**	**0.0000**	**1,298.8732**	**1,298.8732**	**0.0455**	**0.0000**	**1,300.0112**

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	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0332**	**343.0332**	**0.0138**	**0.0000**	**343.3773**

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	0.0628	2.1689	0.4299	7.5500e-003	0.1771	2.2900e-003	0.1794	0.0512	2.1800e-003	0.0534	0.0000	715.6326	715.6326	0.0362	0.0000	716.5369
Worker	0.2186	0.1291	1.5148	6.4400e-003	0.9397	4.0700e-003	0.9438	0.2499	3.7400e-003	0.2536	0.0000	583.2406	583.2406	9.3500e-003	0.0000	583.4743
Total	**0.2815**	**2.2980**	**1.9447**	**0.0140**	**1.1168**	**6.3600e-003**	**1.1231**	**0.3011**	**5.9200e-003**	**0.3071**	**0.0000**	**1,298.8732**	**1,298.8732**	**0.0455**	**0.0000**	**1,300.0112**

3.5 Building Construction - 2032

Unmitigated 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	0.0524	0.3174	0.6463	1.2400e-003		5.9300e-003	5.9300e-003		5.9300e-003	5.9300e-003	0.0000	105.1444	105.1444	4.2200e-003	0.0000	105.2499
Total	**0.0524**	**0.3174**	**0.6463**	**1.2400e-003**		**5.9300e-003**	**5.9300e-003**		**5.9300e-003**	**5.9300e-003**	**0.0000**	**105.1444**	**105.1444**	**4.2200e-003**	**0.0000**	**105.2499**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0189	0.6591	0.1290	2.3100e-003	0.0543	6.8000e-004	0.0550	0.0157	6.5000e-004	0.0164	0.0000	218.9932	218.9932	0.0110	0.0000	219.2674
Worker	0.0613	0.0360	0.4347	1.9300e-003	0.2880	1.1600e-003	0.2892	0.0766	1.0700e-003	0.0777	0.0000	175.0713	175.0713	2.5900e-003	0.0000	175.1362
Total	**0.0802**	**0.6951**	**0.5637**	**4.2400e-003**	**0.3423**	**1.8400e-003**	**0.3442**	**0.0923**	**1.7200e-003**	**0.0940**	**0.0000**	**394.0645**	**394.0645**	**0.0136**	**0.0000**	**394.4035**

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	0.0524	0.3174	0.6463	1.2400e-003		5.9300e-003	5.9300e-003		5.9300e-003	5.9300e-003	0.0000	105.1443	105.1443	4.2200e-003	0.0000	105.2497
Total	**0.0524**	**0.3174**	**0.6463**	**1.2400e-003**		**5.9300e-003**	**5.9300e-003**		**5.9300e-003**	**5.9300e-003**	**0.0000**	**105.1443**	**105.1443**	**4.2200e-003**	**0.0000**	**105.2497**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0189	0.6591	0.1290	2.3100e-003	0.0543	6.8000e-004	0.0550	0.0157	6.5000e-004	0.0164	0.0000	218.9932	218.9932	0.0110	0.0000	219.2674
Worker	0.0613	0.0360	0.4347	1.9300e-003	0.2880	1.1600e-003	0.2892	0.0766	1.0700e-003	0.0777	0.0000	175.0713	175.0713	2.5900e-003	0.0000	175.1362
Total	**0.0802**	**0.6951**	**0.5637**	**4.2400e-003**	**0.3423**	**1.8400e-003**	**0.3442**	**0.0923**	**1.7200e-003**	**0.0940**	**0.0000**	**394.0645**	**394.0645**	**0.0136**	**0.0000**	**394.4035**

3.6 Paving - 2032

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	0.0215	0.1104	0.2457	4.3000e-004		5.1200e-003	5.1200e-003		5.1200e-003	5.1200e-003	0.0000	37.3543	37.3543	1.7500e-003	0.0000	37.3980
Paving	5.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0220**	**0.1104**	**0.2457**	**4.3000e-004**		**5.1200e-003**	**5.1200e-003**		**5.1200e-003**	**5.1200e-003**	**0.0000**	**37.3543**	**37.3543**	**1.7500e-003**	**0.0000**	**37.3980**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	3.6000e-004	4.3200e-003	2.0000e-005	2.8600e-003	1.0000e-005	2.8700e-003	7.6000e-004	1.0000e-005	7.7000e-004	0.0000	1.7395	1.7395	3.0000e-005	0.0000	1.7401
Total	**6.1000e-004**	**3.6000e-004**	**4.3200e-003**	**2.0000e-005**	**2.8600e-003**	**1.0000e-005**	**2.8700e-003**	**7.6000e-004**	**1.0000e-005**	**7.7000e-004**	**0.0000**	**1.7395**	**1.7395**	**3.0000e-005**	**0.0000**	**1.7401**

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	0.0215	0.1104	0.2457	4.3000e-004		5.1200e-003	5.1200e-003		5.1200e-003	5.1200e-003	0.0000	37.3542	37.3542	1.7500e-003	0.0000	37.3980
Paving	5.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0220**	**0.1104**	**0.2457**	**4.3000e-004**		**5.1200e-003**	**5.1200e-003**		**5.1200e-003**	**5.1200e-003**	**0.0000**	**37.3542**	**37.3542**	**1.7500e-003**	**0.0000**	**37.3980**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	3.6000e-004	4.3200e-003	2.0000e-005	2.8600e-003	1.0000e-005	2.8700e-003	7.6000e-004	1.0000e-005	7.7000e-004	0.0000	1.7395	1.7395	3.0000e-005	0.0000	1.7401
Total	**6.1000e-004**	**3.6000e-004**	**4.3200e-003**	**2.0000e-005**	**2.8600e-003**	**1.0000e-005**	**2.8700e-003**	**7.6000e-004**	**1.0000e-005**	**7.7000e-004**	**0.0000**	**1.7395**	**1.7395**	**3.0000e-005**	**0.0000**	**1.7401**

3.7 Architectural Coating - 2032

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	0.8552					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0300e-003	0.0133	0.0279	5.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	3.9575	3.9575	1.6000e-004	0.0000	3.9616
Total	**0.8572**	**0.0133**	**0.0279**	**5.0000e-005**		**3.1000e-004**	**3.1000e-004**		**3.1000e-004**	**3.1000e-004**	**0.0000**	**3.9575**	**3.9575**	**1.6000e-004**	**0.0000**	**3.9616**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7500e-003	2.7900e-003	0.0337	1.5000e-004	0.0223	9.0000e-005	0.0224	5.9400e-003	8.0000e-005	6.0200e-003	0.0000	13.5680	13.5680	2.0000e-004	0.0000	13.5731
Total	**4.7500e-003**	**2.7900e-003**	**0.0337**	**1.5000e-004**	**0.0223**	**9.0000e-005**	**0.0224**	**5.9400e-003**	**8.0000e-005**	**6.0200e-003**	**0.0000**	**13.5680**	**13.5680**	**2.0000e-004**	**0.0000**	**13.5731**

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	0.8552					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0300e-003	0.0133	0.0279	5.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	3.9575	3.9575	1.6000e-004	0.0000	3.9615
Total	**0.8572**	**0.0133**	**0.0279**	**5.0000e-005**		**3.1000e-004**	**3.1000e-004**		**3.1000e-004**	**3.1000e-004**	**0.0000**	**3.9575**	**3.9575**	**1.6000e-004**	**0.0000**	**3.9615**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7500e-003	2.7900e-003	0.0337	1.5000e-004	0.0223	9.0000e-005	0.0224	5.9400e-003	8.0000e-005	6.0200e-003	0.0000	13.5680	13.5680	2.0000e-004	0.0000	13.5731
Total	**4.7500e-003**	**2.7900e-003**	**0.0337**	**1.5000e-004**	**0.0223**	**9.0000e-005**	**0.0224**	**5.9400e-003**	**8.0000e-005**	**6.0200e-003**	**0.0000**	**13.5680**	**13.5680**	**2.0000e-004**	**0.0000**	**13.5731**

3.8 Finishing/Landscaping - 2032

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	1.1300e-003	2.7900e-003	0.0179	3.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	2.7433	2.7433	9.0000e-005	0.0000	2.7456
Total	**1.1300e-003**	**2.7900e-003**	**0.0179**	**3.0000e-005**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**	**0.0000**	**2.7433**	**2.7433**	**9.0000e-005**	**0.0000**	**2.7456**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	2.0000e-005	2.8000e-004	0.0000	1.8000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1122	0.1122	0.0000	0.0000	0.1123
Total	**4.0000e-005**	**2.0000e-005**	**2.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.9000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1122**	**0.1122**	**0.0000**	**0.0000**	**0.1123**

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	1.1300e-003	2.7900e-003	0.0179	3.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	2.7433	2.7433	9.0000e-005	0.0000	2.7456
Total	**1.1300e-003**	**2.7900e-003**	**0.0179**	**3.0000e-005**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**	**0.0000**	**2.7433**	**2.7433**	**9.0000e-005**	**0.0000**	**2.7456**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	2.0000e-005	2.8000e-004	0.0000	1.8000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1122	0.1122	0.0000	0.0000	0.1123
Total	**4.0000e-005**	**2.0000e-005**	**2.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.9000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1122**	**0.1122**	**0.0000**	**0.0000**	**0.1123**

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

Hamilton High School Expansion Phase 1 Construction
Glenn County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High School	35.00	1000sqft	0.80	35,000.00	0
Other Asphalt Surfaces	42.50	1000sqft	0.98	42,500.00	0
Other Non-Asphalt Surfaces	432.72	1000sqft	9.93	432,720.00	0
Parking Lot	12.50	1000sqft	0.29	12,500.00	0

1.2 Other Project Characteristics

Urbanization Rural **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 61

Climate Zone 3 **Operational Year** 2027

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MWhr) 641.35 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - BSF is conservative based on data provided by applicant

Construction Phase - Normalized CalEEMod schedule based on construction duration provided by applicant

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - assuming 1 excavator for finishing/landscaping phase

Off-road Equipment -

Off-road Equipment - assuming 1 excavator/day for utility trenching

Off-road Equipment - assuming shared equipment with building construction phase

Trips and VMT - Assuming 2 VT/water truck/day, assuming 3 WT and 1 VT for woodshop modernization and one additional WT under arch coat for woodshop

Grading -

Architectural Coating - MM: 25g/L VOC content interior coating, assuming 90% of interior and exterior would be painted, assuming woodshop would be painted, accounting for parking area only

Construction Off-road Equipment Mitigation - MM: use equipment that meets EPA Tier 4 (interim) emissions standards for equipment over 50 hp

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	17,500.00	19,350.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	52,500.00	58,050.00
tblArchitecturalCoating	ConstArea_Parking	29,263.00	2,550.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	25.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	30.00	42.00
tblConstructionPhase	NumDays	30.00	42.00
tblConstructionPhase	NumDays	300.00	419.00
tblConstructionPhase	NumDays	300.00	42.00
tblConstructionPhase	NumDays	20.00	28.00
tblConstructionPhase	NumDays	20.00	28.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	86.00	1.00
tblTripsAndVMT	WorkerTripNumber	220.00	3.00
tblTripsAndVMT	WorkerTripNumber	44.00	45.00

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					
2025	3.0021	28.1539	27.0970	0.0743	8.9411	1.1327	10.0737	3.6678	1.0421	4.7098	0.0000	7,385.4951	7,385.4951	1.9515	0.0000	7,405.0192
2026	2.5732	19.6362	24.9668	0.0733	3.3375	0.5524	3.8899	0.8971	0.5194	1.4165	0.0000	7,280.3724	7,280.3724	0.7725	0.0000	7,299.6856
2027	11.8282	19.5637	24.4651	0.0729	3.3820	0.5514	3.9334	0.9091	0.5185	1.4276	0.0000	7,245.6264	7,245.6264	0.7677	0.0000	7,264.8181
Maximum	**11.8282**	**28.1539**	**27.0970**	**0.0743**	**8.9411**	**1.1327**	**10.0737**	**3.6678**	**1.0421**	**4.7098**	**0.0000**	**7,385.4951**	**7,385.4951**	**1.9515**	**0.0000**	**7,405.0192**

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					
2025	1.8079	19.4817	37.4885	0.0743	8.9411	0.1106	9.0444	3.6678	0.1088	3.7710	0.0000	7,385.4951	7,385.4951	1.9515	0.0000	7,405.0192
2026	1.7393	18.0787	26.7560	0.0733	3.3375	0.1094	3.4470	0.8971	0.1078	1.0049	0.0000	7,280.3724	7,280.3724	0.7725	0.0000	7,299.6856
2027	11.8282	18.0062	26.2542	0.0729	3.3820	0.1085	3.4905	0.9091	0.1069	1.0159	0.0000	7,245.6264	7,245.6264	0.7677	0.0000	7,264.8181
Maximum	**11.8282**	**19.4817**	**37.4885**	**0.0743**	**8.9411**	**0.1106**	**9.0444**	**3.6678**	**0.1088**	**3.7710**	**0.0000**	**7,385.4951**	**7,385.4951**	**1.9515**	**0.0000**	**7,405.0192**

	ROG	**NOx**	**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	**11.65**	**17.50**	**-18.25**	**0.00**	**0.00**	**85.31**	**10.70**	**0.00**	**84.45**	**23.33**	**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	Rough Grading	Grading	5/1/2025	6/28/2025	5	42	
2	Utility Trenching	Trenching	6/29/2025	7/18/2025	5	15	
3	Fine Grading	Grading	7/19/2025	9/16/2025	5	42	
4	Building Construction	Building Construction	9/17/2025	4/26/2027	5	419	
5	Wood Shop Building Modernization	Building Construction	2/26/2027	4/26/2027	5	42	
6	Paving	Paving	4/27/2027	6/3/2027	5	28	
7	Architectural Coating	Architectural Coating	6/4/2027	7/13/2027	5	28	
8	Finishing/Landscaping	Trenching	7/14/2027	7/31/2027	5	13	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 11.2

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 58,050; Non-Residential Outdoor: 19,350; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Rough Grading	Excavators	2	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	Scrapers	2	8.00	367	0.48
Rough Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Utility Trenching	Excavators	1	8.00	158	0.38
Fine Grading	Excavators	2	8.00	158	0.38
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Fine Grading	Scrapers	2	8.00	367	0.48
Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	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
Wood Shop Building Modernization	Cranes	0	7.00	231	0.29
Wood Shop Building Modernization	Forklifts	0	8.00	89	0.20
Wood Shop Building Modernization	Generator Sets	0	8.00	84	0.74
Wood Shop Building Modernization	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Wood Shop Building Modernization	Welders	0	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Finishing/Landscaping	Excavators	1	8.00	158	0.38

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
Rough Grading	8	20.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Utility Trenching	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	8	20.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	220.00	86.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Wood Shop Building Modernization	0	3.00	1.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	45.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Rough Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**8.6733**	**1.1309**	**9.8042**	**3.5965**	**1.0404**	**4.6369**		**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

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	5.1700e-003	0.1570	0.0356	5.3000e-004	0.0123	2.1000e-004	0.0125	3.5300e-003	2.0000e-004	3.7300e-003		55.3357	55.3357	2.7600e-003		55.4047
Worker	0.0957	0.0540	0.7303	2.2300e-003	0.2555	1.5500e-003	0.2570	0.0678	1.4300e-003	0.0692		222.6895	222.6895	5.5800e-003		222.8290
Total	**0.1008**	**0.2110**	**0.7659**	**2.7600e-003**	**0.2677**	**1.7600e-003**	**0.2695**	**0.0713**	**1.6300e-003**	**0.0729**		**278.0252**	**278.0252**	**8.3400e-003**		**278.2337**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	1.0110	19.2707	36.7226	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**1.0110**	**19.2707**	**36.7226**	**0.0621**	**8.6733**	**0.1015**	**8.7749**	**3.5965**	**0.1015**	**3.6980**	**0.0000**	**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

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	5.1700e-003	0.1570	0.0356	5.3000e-004	0.0123	2.1000e-004	0.0125	3.5300e-003	2.0000e-004	3.7300e-003		55.3357	55.3357	2.7600e-003		55.4047
Worker	0.0957	0.0540	0.7303	2.2300e-003	0.2555	1.5500e-003	0.2570	0.0678	1.4300e-003	0.0692		222.6895	222.6895	5.5800e-003		222.8290
Total	**0.1008**	**0.2110**	**0.7659**	**2.7600e-003**	**0.2677**	**1.7600e-003**	**0.2695**	**0.0713**	**1.6300e-003**	**0.0729**		**278.0252**	**278.0252**	**8.3400e-003**		**278.2337**

3.3 Utility Trenching - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1671	1.2217	3.2594	5.1700e-003		0.0599	0.0599		0.0551	0.0551		500.3379	500.3379	0.1618		504.3834
Total	**0.1671**	**1.2217**	**3.2594**	**5.1700e-003**		**0.0599**	**0.0599**		**0.0551**	**0.0551**		**500.3379**	**500.3379**	**0.1618**		**504.3834**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0144	8.1000e-003	0.1096	3.4000e-004	0.0383	2.3000e-004	0.0386	0.0102	2.1000e-004	0.0104		33.4034	33.4034	8.4000e-004		33.4244
Total	**0.0144**	**8.1000e-003**	**0.1096**	**3.4000e-004**	**0.0383**	**2.3000e-004**	**0.0386**	**0.0102**	**2.1000e-004**	**0.0104**		**33.4034**	**33.4034**	**8.4000e-004**		**33.4244**

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	0.0635	2.2767	3.9180	5.1700e-003		8.4700e-003	8.4700e-003		8.4700e-003	8.4700e-003	0.0000	500.3379	500.3379	0.1618		504.3834
Total	**0.0635**	**2.2767**	**3.9180**	**5.1700e-003**		**8.4700e-003**	**8.4700e-003**		**8.4700e-003**	**8.4700e-003**	**0.0000**	**500.3379**	**500.3379**	**0.1618**		**504.3834**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0144	8.1000e-003	0.1096	3.4000e-004	0.0383	2.3000e-004	0.0386	0.0102	2.1000e-004	0.0104		33.4034	33.4034	8.4000e-004		33.4244
Total	**0.0144**	**8.1000e-003**	**0.1096**	**3.4000e-004**	**0.0383**	**2.3000e-004**	**0.0386**	**0.0102**	**2.1000e-004**	**0.0104**		**33.4034**	**33.4034**	**8.4000e-004**		**33.4244**

3.4 Fine Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**8.6733**	**1.1309**	**9.8042**	**3.5965**	**1.0404**	**4.6369**		**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

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	5.1700e-003	0.1570	0.0356	5.3000e-004	0.0123	2.1000e-004	0.0125	3.5300e-003	2.0000e-004	3.7300e-003		55.3357	55.3357	2.7600e-003		55.4047
Worker	0.0957	0.0540	0.7303	2.2300e-003	0.2555	1.5500e-003	0.2570	0.0678	1.4300e-003	0.0692		222.6895	222.6895	5.5800e-003		222.8290
Total	**0.1008**	**0.2110**	**0.7659**	**2.7600e-003**	**0.2677**	**1.7600e-003**	**0.2695**	**0.0713**	**1.6300e-003**	**0.0729**		**278.0252**	**278.0252**	**8.3400e-003**		**278.2337**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	1.0110	19.2707	36.7226	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**1.0110**	**19.2707**	**36.7226**	**0.0621**	**8.6733**	**0.1015**	**8.7749**	**3.5965**	**0.1015**	**3.6980**	**0.0000**	**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

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	5.1700e-003	0.1570	0.0356	5.3000e-004	0.0123	2.1000e-004	0.0125	3.5300e-003	2.0000e-004	3.7300e-003		55.3357	55.3357	2.7600e-003		55.4047
Worker	0.0957	0.0540	0.7303	2.2300e-003	0.2555	1.5500e-003	0.2570	0.0678	1.4300e-003	0.0692		222.6895	222.6895	5.5800e-003		222.8290
Total	**0.1008**	**0.2110**	**0.7659**	**2.7600e-003**	**0.2677**	**1.7600e-003**	**0.2695**	**0.0713**	**1.6300e-003**	**0.0729**		**278.0252**	**278.0252**	**8.3400e-003**		**278.2337**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2222	6.7526	1.5308	0.0228	0.5275	8.8800e-003	0.5363	0.1519	8.4800e-003	0.1604		2,379.4364	2,379.4364	0.1186		2,382.4024
Worker	1.0522	0.5938	8.0337	0.0246	2.8101	0.0171	2.8272	0.7452	0.0157	0.7609		2,449.5844	2,449.5844	0.0614		2,451.1188
Total	**1.2744**	**7.3464**	**9.5645**	**0.0474**	**3.3375**	**0.0260**	**3.3635**	**0.8971**	**0.0242**	**0.9213**		**4,829.0208**	**4,829.0208**	**0.1800**		**4,833.5211**

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	0.5335	10.9122	17.8738	0.0270		0.0846	0.0846		0.0846	0.0846	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**0.5335**	**10.9122**	**17.8738**	**0.0270**		**0.0846**	**0.0846**		**0.0846**	**0.0846**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2222	6.7526	1.5308	0.0228	0.5275	8.8800e-003	0.5363	0.1519	8.4800e-003	0.1604		2,379.4364	2,379.4364	0.1186		2,382.4024
Worker	1.0522	0.5938	8.0337	0.0246	2.8101	0.0171	2.8272	0.7452	0.0157	0.7609		2,449.5844	2,449.5844	0.0614		2,451.1188
Total	**1.2744**	**7.3464**	**9.5645**	**0.0474**	**3.3375**	**0.0260**	**3.3635**	**0.8971**	**0.0242**	**0.9213**		**4,829.0208**	**4,829.0208**	**0.1800**		**4,833.5211**

3.5 Building Construction - 2026

Unmitigated 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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2117	6.6266	1.4332	0.0226	0.5275	8.3100e-003	0.5358	0.1519	7.9400e-003	0.1599		2,363.4126	2,363.4126	0.1162		2,366.3178
Worker	0.9941	0.5400	7.4490	0.0237	2.8101	0.0165	2.8266	0.7452	0.0152	0.7604		2,360.4854	2,360.4854	0.0554		2,361.8698
Total	**1.2058**	**7.1666**	**8.8822**	**0.0463**	**3.3375**	**0.0248**	**3.3624**	**0.8971**	**0.0232**	**0.9203**		**4,723.8981**	**4,723.8981**	**0.1716**		**4,728.1876**

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	0.5335	10.9122	17.8738	0.0270		0.0846	0.0846		0.0846	0.0846	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**0.5335**	**10.9122**	**17.8738**	**0.0270**		**0.0846**	**0.0846**		**0.0846**	**0.0846**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2117	6.6266	1.4332	0.0226	0.5275	8.3100e-003	0.5358	0.1519	7.9400e-003	0.1599		2,363.4126	2,363.4126	0.1162		2,366.3178
Worker	0.9941	0.5400	7.4490	0.0237	2.8101	0.0165	2.8266	0.7452	0.0152	0.7604		2,360.4854	2,360.4854	0.0554		2,361.8698
Total	**1.2058**	**7.1666**	**8.8822**	**0.0463**	**3.3375**	**0.0248**	**3.3624**	**0.8971**	**0.0232**	**0.9203**		**4,723.8981**	**4,723.8981**	**0.1716**		**4,728.1876**

3.5 Building Construction - 2027

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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2020	6.5192	1.3404	0.0225	0.5275	7.8800e-003	0.5354	0.1519	7.5300e-003	0.1595		2,349.3808	2,349.3808	0.1147		2,352.2471
Worker	0.9384	0.4922	6.9300	0.0229	2.8101	0.0157	2.8258	0.7452	0.0144	0.7596		2,281.3437	2,281.3437	0.0501		2,282.5949
Total	**1.1404**	**7.0115**	**8.2704**	**0.0454**	**3.3376**	**0.0236**	**3.3611**	**0.8971**	**0.0220**	**0.9191**		**4,630.7244**	**4,630.7244**	**0.1647**		**4,634.8421**

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	0.5335	10.9122	17.8738	0.0270		0.0846	0.0846		0.0846	0.0846	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**0.5335**	**10.9122**	**17.8738**	**0.0270**		**0.0846**	**0.0846**		**0.0846**	**0.0846**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2020	6.5192	1.3404	0.0225	0.5275	7.8800e-003	0.5354	0.1519	7.5300e-003	0.1595		2,349.3808	2,349.3808	0.1147		2,352.2471
Worker	0.9384	0.4922	6.9300	0.0229	2.8101	0.0157	2.8258	0.7452	0.0144	0.7596		2,281.3437	2,281.3437	0.0501		2,282.5949
Total	**1.1404**	**7.0115**	**8.2704**	**0.0454**	**3.3376**	**0.0236**	**3.3611**	**0.8971**	**0.0220**	**0.9191**		**4,630.7244**	**4,630.7244**	**0.1647**		**4,634.8421**

3.6 Wood Shop Building Modernization - 2027

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	0.0000	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**

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	2.3500e-003	0.0758	0.0156	2.6000e-004	6.1300e-003	9.0000e-005	6.2300e-003	1.7700e-003	9.0000e-005	1.8500e-003		27.3184	27.3184	1.3300e-003		27.3517
Worker	0.0128	6.7100e-003	0.0945	3.1000e-004	0.0383	2.1000e-004	0.0385	0.0102	2.0000e-004	0.0104		31.1092	31.1092	6.8000e-004		31.1263
Total	**0.0152**	**0.0825**	**0.1101**	**5.7000e-004**	**0.0445**	**3.0000e-004**	**0.0448**	**0.0119**	**2.9000e-004**	**0.0122**		**58.4276**	**58.4276**	**2.0100e-003**		**58.4780**

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	0.0000	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**

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	2.3500e-003	0.0758	0.0156	2.6000e-004	6.1300e-003	9.0000e-005	6.2300e-003	1.7700e-003	9.0000e-005	1.8500e-003		27.3184	27.3184	1.3300e-003		27.3517
Worker	0.0128	6.7100e-003	0.0945	3.1000e-004	0.0383	2.1000e-004	0.0385	0.0102	2.0000e-004	0.0104		31.1092	31.1092	6.8000e-004		31.1263
Total	**0.0152**	**0.0825**	**0.1101**	**5.7000e-004**	**0.0445**	**3.0000e-004**	**0.0448**	**0.0119**	**2.9000e-004**	**0.0122**		**58.4276**	**58.4276**	**2.0100e-003**		**58.4780**

3.7 Paving - 2027

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.1188					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0340**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**		**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0640	0.0336	0.4725	1.5600e-003	0.1916	1.0700e-003	0.1927	0.0508	9.8000e-004	0.0518		155.5462	155.5462	3.4100e-003		155.6315
Total	**0.0640**	**0.0336**	**0.4725**	**1.5600e-003**	**0.1916**	**1.0700e-003**	**0.1927**	**0.0508**	**9.8000e-004**	**0.0518**		**155.5462**	**155.5462**	**3.4100e-003**		**155.6315**

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	0.3341	10.0395	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.1188					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4529**	**10.0395**	**17.2957**	**0.0228**		**0.0374**	**0.0374**		**0.0374**	**0.0374**	**0.0000**	**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0640	0.0336	0.4725	1.5600e-003	0.1916	1.0700e-003	0.1927	0.0508	9.8000e-004	0.0518		155.5462	155.5462	3.4100e-003		155.6315
Total	**0.0640**	**0.0336**	**0.4725**	**1.5600e-003**	**0.1916**	**1.0700e-003**	**0.1927**	**0.0508**	**9.8000e-004**	**0.0518**		**155.5462**	**155.5462**	**3.4100e-003**		**155.6315**

3.8 Architectural Coating - 2027

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	11.4654					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**11.6363**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1919	0.1007	1.4175	4.6800e-003	0.5748	3.2100e-003	0.5780	0.1524	2.9500e-003	0.1554		466.6385	466.6385	0.0102		466.8944
Total	**0.1919**	**0.1007**	**1.4175**	**4.6800e-003**	**0.5748**	**3.2100e-003**	**0.5780**	**0.1524**	**2.9500e-003**	**0.1554**		**466.6385**	**466.6385**	**0.0102**		**466.8944**

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	11.4654					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**11.6363**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1919	0.1007	1.4175	4.6800e-003	0.5748	3.2100e-003	0.5780	0.1524	2.9500e-003	0.1554		466.6385	466.6385	0.0102		466.8944
Total	**0.1919**	**0.1007**	**1.4175**	**4.6800e-003**	**0.5748**	**3.2100e-003**	**0.5780**	**0.1524**	**2.9500e-003**	**0.1554**		**466.6385**	**466.6385**	**0.0102**		**466.8944**

3.9 Finishing/Landscaping - 2027

Unmitigated 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	0.1671	1.2217	3.2594	5.1700e-003		0.0599	0.0599		0.0551	0.0551		500.3379	500.3379	0.1618		504.3834
Total	**0.1671**	**1.2217**	**3.2594**	**5.1700e-003**		**0.0599**	**0.0599**		**0.0551**	**0.0551**		**500.3379**	**500.3379**	**0.1618**		**504.3834**

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	0.0000	0.0000	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	0.0128	6.7100e-003	0.0945	3.1000e-004	0.0383	2.1000e-004	0.0385	0.0102	2.0000e-004	0.0104		31.1092	31.1092	6.8000e-004		31.1263
Total	**0.0128**	**6.7100e-003**	**0.0945**	**3.1000e-004**	**0.0383**	**2.1000e-004**	**0.0385**	**0.0102**	**2.0000e-004**	**0.0104**		**31.1092**	**31.1092**	**6.8000e-004**		**31.1263**

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	0.0635	2.2767	3.9180	5.1700e-003		8.4700e-003	8.4700e-003		8.4700e-003	8.4700e-003	0.0000	500.3379	500.3379	0.1618		504.3834
Total	**0.0635**	**2.2767**	**3.9180**	**5.1700e-003**		**8.4700e-003**	**8.4700e-003**		**8.4700e-003**	**8.4700e-003**	**0.0000**	**500.3379**	**500.3379**	**0.1618**		**504.3834**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0128	6.7100e-003	0.0945	3.1000e-004	0.0383	2.1000e-004	0.0385	0.0102	2.0000e-004	0.0104		31.1092	31.1092	6.8000e-004		31.1263
Total	**0.0128**	**6.7100e-003**	**0.0945**	**3.1000e-004**	**0.0383**	**2.1000e-004**	**0.0385**	**0.0102**	**2.0000e-004**	**0.0104**		**31.1092**	**31.1092**	**6.8000e-004**		**31.1263**

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

Hamilton High School Expansion Phase 1 Construction

Glenn County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High School	35.00	1000sqft	0.80	35,000.00	0
Other Asphalt Surfaces	42.50	1000sqft	0.98	42,500.00	0
Other Non-Asphalt Surfaces	432.72	1000sqft	9.93	432,720.00	0
Parking Lot	12.50	1000sqft	0.29	12,500.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	61
Climate Zone	3			**Operational Year**	2027
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - BSF is conservative based on data provided by applicant

Construction Phase - Normalized CalEEMod schedule based on construction duration provided by applicant

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - assuming 1 excavator for finishing/landscaping phase

Off-road Equipment -

Off-road Equipment - assuming 1 excavator/day for utility trenching

Off-road Equipment - assuming shared equipment with building construction phase

Trips and VMT - Assuming 2 VT/water truck/day, assuming 3 WT and 1 VT for woodshop modernization and one additional WT under arch coat for woodshop

Grading -

Architectural Coating - MM: 25g/L VOC content interior coating, assuming 90% of interior and exterior would be painted, assuming woodshop would be painted, accounting for parking area only

Construction Off-road Equipment Mitigation - MM: use equipment that meets EPA Tier 4 (interim) emissions standards for equipment over 50 hp

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	17,500.00	19,350.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	52,500.00	58,050.00
tblArchitecturalCoating	ConstArea_Parking	29,263.00	2,550.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	25.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	30.00	42.00
tblConstructionPhase	NumDays	30.00	42.00
tblConstructionPhase	NumDays	300.00	419.00
tblConstructionPhase	NumDays	300.00	42.00
tblConstructionPhase	NumDays	20.00	28.00
tblConstructionPhase	NumDays	20.00	28.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	86.00	1.00
tblTripsAndVMT	WorkerTripNumber	220.00	3.00
tblTripsAndVMT	WorkerTripNumber	44.00	45.00

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					
2025	3.0014	28.1682	26.9701	0.0704	8.9411	1.1327	10.0737	3.6678	1.0421	4.7098	0.0000	6,990.4959	6,990.4959	1.9511	0.0000	7,010.1927
2026	2.5812	19.8133	23.8657	0.0695	3.3375	0.5526	3.8902	0.8971	0.5196	1.4168	0.0000	6,897.7114	6,897.7114	0.7800	0.0000	6,917.2123
2027	11.8278	19.7243	23.4151	0.0692	3.3820	0.5516	3.9336	0.9091	0.5187	1.4278	0.0000	6,868.8374	6,868.8374	0.7759	0.0000	6,888.2343
Maximum	**11.8278**	**28.1682**	**26.9701**	**0.0704**	**8.9411**	**1.1327**	**10.0737**	**3.6678**	**1.0421**	**4.7098**	**0.0000**	**6,990.4959**	**6,990.4959**	**1.9511**	**0.0000**	**7,010.1927**

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					
2025	1.8116	19.4960	37.3616	0.0704	8.9411	0.1108	9.0444	3.6678	0.1091	3.7710	0.0000	6,990.4959	6,990.4959	1.9511	0.0000	7,010.1927
2026	1.7473	18.2558	25.6548	0.0695	3.3375	0.1097	3.4472	0.8971	0.1080	1.0051	0.0000	6,897.7114	6,897.7114	0.7800	0.0000	6,917.2123
2027	11.8278	18.1668	25.2042	0.0692	3.3820	0.1087	3.4907	0.9091	0.1070	1.0161	0.0000	6,868.8374	6,868.8374	0.7759	0.0000	6,888.2343
Maximum	**11.8278**	**19.4960**	**37.3616**	**0.0704**	**8.9411**	**0.1108**	**9.0444**	**3.6678**	**0.1091**	**3.7710**	**0.0000**	**6,990.4959**	**6,990.4959**	**1.9511**	**0.0000**	**7,010.1927**

	ROG	**NOx**	**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	**11.62**	**17.41**	**-18.81**	**0.00**	**0.00**	**85.28**	**10.70**	**0.00**	**84.42**	**23.33**	**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	Rough Grading	Grading	5/1/2025	6/28/2025	5	42	
2	Utility Trenching	Trenching	6/29/2025	7/18/2025	5	15	
3	Fine Grading	Grading	7/19/2025	9/16/2025	5	42	
4	Building Construction	Building Construction	9/17/2025	4/26/2027	5	419	
5	Wood Shop Building Modernization	Building Construction	2/26/2027	4/26/2027	5	42	
6	Paving	Paving	4/27/2027	6/3/2027	5	28	
7	Architectural Coating	Architectural Coating	6/4/2027	7/13/2027	5	28	
8	Finishing/Landscaping	Trenching	7/14/2027	7/31/2027	5	13	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 11.2

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 58,050; Non-Residential Outdoor: 19,350; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Rough Grading	Excavators	2	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	Scrapers	2	8.00	367	0.48
Rough Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Utility Trenching	Excavators	1	8.00	158	0.38
Fine Grading	Excavators	2	8.00	158	0.38
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Fine Grading	Scrapers	2	8.00	367	0.48
Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	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
Wood Shop Building Modernization	Cranes	0	7.00	231	0.29
Wood Shop Building Modernization	Forklifts	0	8.00	89	0.20
Wood Shop Building Modernization	Generator Sets	0	8.00	84	0.74
Wood Shop Building Modernization	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Wood Shop Building Modernization	Welders	0	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Finishing/Landscaping	Excavators	1	8.00	158	0.38

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
Rough Grading	8	20.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Utility Trenching	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	8	20.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	220.00	86.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Wood Shop Building Modernization	0	3.00	1.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	45.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Rough Grading - 2025

Unmitigated 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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**8.6733**	**1.1309**	**9.8042**	**3.5965**	**1.0404**	**4.6369**		**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

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	5.5100e-003	0.1583	0.0425	5.1000e-004	0.0123	2.1000e-004	0.0125	3.5300e-003	2.0000e-004	3.7400e-003		53.2816	53.2816	3.1300e-003		53.3598
Worker	0.0947	0.0670	0.5965	1.9500e-003	0.2555	1.5500e-003	0.2570	0.0678	1.4300e-003	0.0692		194.8103	194.8103	4.7600e-003		194.9293
Total	**0.1002**	**0.2253**	**0.6390**	**2.4600e-003**	**0.2677**	**1.7600e-003**	**0.2695**	**0.0713**	**1.6300e-003**	**0.0729**		**248.0919**	**248.0919**	**7.8900e-003**		**248.2891**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	1.0110	19.2707	36.7226	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**1.0110**	**19.2707**	**36.7226**	**0.0621**	**8.6733**	**0.1015**	**8.7749**	**3.5965**	**0.1015**	**3.6980**	**0.0000**	**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

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	5.5100e-003	0.1583	0.0425	5.1000e-004	0.0123	2.1000e-004	0.0125	3.5300e-003	2.0000e-004	3.7400e-003		53.2816	53.2816	3.1300e-003		53.3598
Worker	0.0947	0.0670	0.5965	1.9500e-003	0.2555	1.5500e-003	0.2570	0.0678	1.4300e-003	0.0692		194.8103	194.8103	4.7600e-003		194.9293
Total	**0.1002**	**0.2253**	**0.6390**	**2.4600e-003**	**0.2677**	**1.7600e-003**	**0.2695**	**0.0713**	**1.6300e-003**	**0.0729**		**248.0919**	**248.0919**	**7.8900e-003**		**248.2891**

3.3 Utility Trenching - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1671	1.2217	3.2594	5.1700e-003		0.0599	0.0599		0.0551	0.0551		500.3379	500.3379	0.1618		504.3834
Total	**0.1671**	**1.2217**	**3.2594**	**5.1700e-003**		**0.0599**	**0.0599**		**0.0551**	**0.0551**		**500.3379**	**500.3379**	**0.1618**		**504.3834**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0142	0.0101	0.0895	2.9000e-004	0.0383	2.3000e-004	0.0386	0.0102	2.1000e-004	0.0104		29.2216	29.2216	7.1000e-004		29.2394
Total	**0.0142**	**0.0101**	**0.0895**	**2.9000e-004**	**0.0383**	**2.3000e-004**	**0.0386**	**0.0102**	**2.1000e-004**	**0.0104**		**29.2216**	**29.2216**	**7.1000e-004**		**29.2394**

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	0.0635	2.2767	3.9180	5.1700e-003		8.4700e-003	8.4700e-003		8.4700e-003	8.4700e-003	0.0000	500.3379	500.3379	0.1618		504.3834
Total	**0.0635**	**2.2767**	**3.9180**	**5.1700e-003**		**8.4700e-003**	**8.4700e-003**		**8.4700e-003**	**8.4700e-003**	**0.0000**	**500.3379**	**500.3379**	**0.1618**		**504.3834**

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	0.0000	0.0000	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	0.0142	0.0101	0.0895	2.9000e-004	0.0383	2.3000e-004	0.0386	0.0102	2.1000e-004	0.0104		29.2216	29.2216	7.1000e-004		29.2394
Total	**0.0142**	**0.0101**	**0.0895**	**2.9000e-004**	**0.0383**	**2.3000e-004**	**0.0386**	**0.0102**	**2.1000e-004**	**0.0104**		**29.2216**	**29.2216**	**7.1000e-004**		**29.2394**

3.4 Fine Grading - 2025

Unmitigated 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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**8.6733**	**1.1309**	**9.8042**	**3.5965**	**1.0404**	**4.6369**		**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

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	5.5100e-003	0.1583	0.0425	5.1000e-004	0.0123	2.1000e-004	0.0125	3.5300e-003	2.0000e-004	3.7400e-003		53.2816	53.2816	3.1300e-003		53.3598
Worker	0.0947	0.0670	0.5965	1.9500e-003	0.2555	1.5500e-003	0.2570	0.0678	1.4300e-003	0.0692		194.8103	194.8103	4.7600e-003		194.9293
Total	**0.1002**	**0.2253**	**0.6390**	**2.4600e-003**	**0.2677**	**1.7600e-003**	**0.2695**	**0.0713**	**1.6300e-003**	**0.0729**		**248.0919**	**248.0919**	**7.8900e-003**		**248.2891**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	1.0110	19.2707	36.7226	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**1.0110**	**19.2707**	**36.7226**	**0.0621**	**8.6733**	**0.1015**	**8.7749**	**3.5965**	**0.1015**	**3.6980**	**0.0000**	**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

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	5.5100e-003	0.1583	0.0425	5.1000e-004	0.0123	2.1000e-004	0.0125	3.5300e-003	2.0000e-004	3.7400e-003		53.2816	53.2816	3.1300e-003		53.3598
Worker	0.0947	0.0670	0.5965	1.9500e-003	0.2555	1.5500e-003	0.2570	0.0678	1.4300e-003	0.0692		194.8103	194.8103	4.7600e-003		194.9293
Total	**0.1002**	**0.2253**	**0.6390**	**2.4600e-003**	**0.2677**	**1.7600e-003**	**0.2695**	**0.0713**	**1.6300e-003**	**0.0729**		**248.0919**	**248.0919**	**7.8900e-003**		**248.2891**

3.5 Building Construction - 2025

Unmitigated 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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2368	6.8070	1.8267	0.0219	0.5275	9.1500e-003	0.5366	0.1519	8.7500e-003	0.1607		2,291.1079	2,291.1079	0.1346		2,294.4727
Worker	1.0413	0.7367	6.5617	0.0215	2.8101	0.0171	2.8272	0.7452	0.0157	0.7609		2,142.9137	2,142.9137	0.0523		2,144.2220
Total	**1.2781**	**7.5437**	**8.3884**	**0.0434**	**3.3375**	**0.0262**	**3.3638**	**0.8971**	**0.0245**	**0.9216**		**4,434.0216**	**4,434.0216**	**0.1869**		**4,438.6947**

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	0.5335	10.9122	17.8738	0.0270		0.0846	0.0846		0.0846	0.0846	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**0.5335**	**10.9122**	**17.8738**	**0.0270**		**0.0846**	**0.0846**		**0.0846**	**0.0846**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2368	6.8070	1.8267	0.0219	0.5275	9.1500e-003	0.5366	0.1519	8.7500e-003	0.1607		2,291.1079	2,291.1079	0.1346		2,294.4727
Worker	1.0413	0.7367	6.5617	0.0215	2.8101	0.0171	2.8272	0.7452	0.0157	0.7609		2,142.9137	2,142.9137	0.0523		2,144.2220
Total	**1.2781**	**7.5437**	**8.3884**	**0.0434**	**3.3375**	**0.0262**	**3.3638**	**0.8971**	**0.0245**	**0.9216**		**4,434.0216**	**4,434.0216**	**0.1869**		**4,438.6947**

3.5 Building Construction - 2026

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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2257	6.6740	1.7146	0.0218	0.5275	8.5400e-003	0.5360	0.1519	8.1600e-003	0.1601		2,276.2146	2,276.2146	0.1320		2,279.5133
Worker	0.9882	0.6696	6.0665	0.0207	2.8101	0.0165	2.8266	0.7452	0.0152	0.7604		2,065.0224	2,065.0224	0.0471		2,066.2009
Total	**1.2138**	**7.3436**	**7.7810**	**0.0425**	**3.3375**	**0.0251**	**3.3626**	**0.8971**	**0.0234**	**0.9205**		**4,341.2370**	**4,341.2370**	**0.1791**		**4,345.7142**

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	0.5335	10.9122	17.8738	0.0270		0.0846	0.0846		0.0846	0.0846	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**0.5335**	**10.9122**	**17.8738**	**0.0270**		**0.0846**	**0.0846**		**0.0846**	**0.0846**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2257	6.6740	1.7146	0.0218	0.5275	8.5400e-003	0.5360	0.1519	8.1600e-003	0.1601		2,276.2146	2,276.2146	0.1320		2,279.5133
Worker	0.9882	0.6696	6.0665	0.0207	2.8101	0.0165	2.8266	0.7452	0.0152	0.7604		2,065.0224	2,065.0224	0.0471		2,066.2009
Total	**1.2138**	**7.3436**	**7.7810**	**0.0425**	**3.3375**	**0.0251**	**3.3626**	**0.8971**	**0.0234**	**0.9205**		**4,341.2370**	**4,341.2370**	**0.1791**		**4,345.7142**

3.5 Building Construction - 2027

Unmitigated 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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2154	6.5600	1.6082	0.0217	0.5275	8.0800e-003	0.5356	0.1519	7.7200e-003	0.1597		2,263.1139	2,263.1139	0.1303		2,266.3712
Worker	0.9365	0.6101	5.6268	0.0200	2.8101	0.0157	2.8258	0.7452	0.0144	0.7596		1,995.7195	1,995.7195	0.0425		1,996.7831
Total	**1.1519**	**7.1700**	**7.2350**	**0.0417**	**3.3376**	**0.0238**	**3.3613**	**0.8971**	**0.0222**	**0.9193**		**4,258.8334**	**4,258.8334**	**0.1728**		**4,263.1543**

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	0.5335	10.9122	17.8738	0.0270		0.0846	0.0846		0.0846	0.0846	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**0.5335**	**10.9122**	**17.8738**	**0.0270**		**0.0846**	**0.0846**		**0.0846**	**0.0846**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.2154	6.5600	1.6082	0.0217	0.5275	8.0800e-003	0.5356	0.1519	7.7200e-003	0.1597		2,263.1139	2,263.1139	0.1303		2,266.3712
Worker	0.9365	0.6101	5.6268	0.0200	2.8101	0.0157	2.8258	0.7452	0.0144	0.7596		1,995.7195	1,995.7195	0.0425		1,996.7831
Total	**1.1519**	**7.1700**	**7.2350**	**0.0417**	**3.3376**	**0.0238**	**3.3613**	**0.8971**	**0.0222**	**0.9193**		**4,258.8334**	**4,258.8334**	**0.1728**		**4,263.1543**

3.6 Wood Shop Building Modernization - 2027

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	0.0000	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**

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	2.5000e-003	0.0763	0.0187	2.5000e-004	6.1300e-003	9.0000e-005	6.2300e-003	1.7700e-003	9.0000e-005	1.8600e-003		26.3153	26.3153	1.5200e-003		26.3532
Worker	0.0128	8.3200e-003	0.0767	2.7000e-004	0.0383	2.1000e-004	0.0385	0.0102	2.0000e-004	0.0104		27.2144	27.2144	5.8000e-004		27.2289
Total	**0.0153**	**0.0846**	**0.0954**	**5.2000e-004**	**0.0445**	**3.0000e-004**	**0.0448**	**0.0119**	**2.9000e-004**	**0.0122**		**53.5296**	**53.5296**	**2.1000e-003**		**53.5820**

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	0.0000	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**

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	2.5000e-003	0.0763	0.0187	2.5000e-004	6.1300e-003	9.0000e-005	6.2300e-003	1.7700e-003	9.0000e-005	1.8600e-003		26.3153	26.3153	1.5200e-003		26.3532
Worker	0.0128	8.3200e-003	0.0767	2.7000e-004	0.0383	2.1000e-004	0.0385	0.0102	2.0000e-004	0.0104		27.2144	27.2144	5.8000e-004		27.2289
Total	**0.0153**	**0.0846**	**0.0954**	**5.2000e-004**	**0.0445**	**3.0000e-004**	**0.0448**	**0.0119**	**2.9000e-004**	**0.0122**		**53.5296**	**53.5296**	**2.1000e-003**		**53.5820**

3.7 Paving - 2027

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.1188					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0340**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**		**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0639	0.0416	0.3837	1.3600e-003	0.1916	1.0700e-003	0.1927	0.0508	9.8000e-004	0.0518		136.0718	136.0718	2.9000e-003		136.1443
Total	**0.0639**	**0.0416**	**0.3837**	**1.3600e-003**	**0.1916**	**1.0700e-003**	**0.1927**	**0.0508**	**9.8000e-004**	**0.0518**		**136.0718**	**136.0718**	**2.9000e-003**		**136.1443**

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	0.3341	10.0395	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.1188					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4529**	**10.0395**	**17.2957**	**0.0228**		**0.0374**	**0.0374**		**0.0374**	**0.0374**	**0.0000**	**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0639	0.0416	0.3837	1.3600e-003	0.1916	1.0700e-003	0.1927	0.0508	9.8000e-004	0.0518		136.0718	136.0718	2.9000e-003		136.1443
Total	**0.0639**	**0.0416**	**0.3837**	**1.3600e-003**	**0.1916**	**1.0700e-003**	**0.1927**	**0.0508**	**9.8000e-004**	**0.0518**		**136.0718**	**136.0718**	**2.9000e-003**		**136.1443**

3.8 Architectural Coating - 2027

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	11.4654					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**11.6363**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1916	0.1248	1.1509	4.0900e-003	0.5748	3.2100e-003	0.5780	0.1524	2.9500e-003	0.1554		408.2154	408.2154	8.7000e-003		408.4329
Total	**0.1916**	**0.1248**	**1.1509**	**4.0900e-003**	**0.5748**	**3.2100e-003**	**0.5780**	**0.1524**	**2.9500e-003**	**0.1554**		**408.2154**	**408.2154**	**8.7000e-003**		**408.4329**

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	11.4654					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**11.6363**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1916	0.1248	1.1509	4.0900e-003	0.5748	3.2100e-003	0.5780	0.1524	2.9500e-003	0.1554		408.2154	408.2154	8.7000e-003		408.4329
Total	**0.1916**	**0.1248**	**1.1509**	**4.0900e-003**	**0.5748**	**3.2100e-003**	**0.5780**	**0.1524**	**2.9500e-003**	**0.1554**		**408.2154**	**408.2154**	**8.7000e-003**		**408.4329**

3.9 Finishing/Landscaping - 2027

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	0.1671	1.2217	3.2594	5.1700e-003		0.0599	0.0599		0.0551	0.0551		500.3379	500.3379	0.1618		504.3834
Total	**0.1671**	**1.2217**	**3.2594**	**5.1700e-003**		**0.0599**	**0.0599**		**0.0551**	**0.0551**		**500.3379**	**500.3379**	**0.1618**		**504.3834**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0128	8.3200e-003	0.0767	2.7000e-004	0.0383	2.1000e-004	0.0385	0.0102	2.0000e-004	0.0104		27.2144	27.2144	5.8000e-004		27.2289
Total	**0.0128**	**8.3200e-003**	**0.0767**	**2.7000e-004**	**0.0383**	**2.1000e-004**	**0.0385**	**0.0102**	**2.0000e-004**	**0.0104**		**27.2144**	**27.2144**	**5.8000e-004**		**27.2289**

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	0.0635	2.2767	3.9180	5.1700e-003		8.4700e-003	8.4700e-003		8.4700e-003	8.4700e-003	0.0000	500.3379	500.3379	0.1618		504.3834
Total	**0.0635**	**2.2767**	**3.9180**	**5.1700e-003**		**8.4700e-003**	**8.4700e-003**		**8.4700e-003**	**8.4700e-003**	**0.0000**	**500.3379**	**500.3379**	**0.1618**		**504.3834**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0128	8.3200e-003	0.0767	2.7000e-004	0.0383	2.1000e-004	0.0385	0.0102	2.0000e-004	0.0104		27.2144	27.2144	5.8000e-004		27.2289
Total	**0.0128**	**8.3200e-003**	**0.0767**	**2.7000e-004**	**0.0383**	**2.1000e-004**	**0.0385**	**0.0102**	**2.0000e-004**	**0.0104**		**27.2144**	**27.2144**	**5.8000e-004**		**27.2289**

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

Hamilton High School Expansion Phase 1 Construction

Glenn County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High School	35.00	1000sqft	0.80	35,000.00	0
Other Asphalt Surfaces	42.50	1000sqft	0.98	42,500.00	0
Other Non-Asphalt Surfaces	432.72	1000sqft	9.93	432,720.00	0
Parking Lot	12.50	1000sqft	0.29	12,500.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	61
Climate Zone	3			**Operational Year**	2027
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - BSF is conservative based on data provided by applicant

Construction Phase - Normalized CalEEMod schedule based on construction duration provided by applicant

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - assuming 1 excavator for finishing/landscaping phase

Off-road Equipment -

Off-road Equipment - assuming 1 excavator/day for utility trenching

Off-road Equipment - assuming shared equipment with building construction phase

Trips and VMT - Assuming 2 VT/water truck/day, assuming 3 WT and 1 VT for woodshop modernization and one additional WT under arch coat for woodshop

Grading -

Architectural Coating - MM: 25g/L VOC content interior coating, assuming 90% of interior and exterior would be painted, assuming woodshop would be painted, accounting for parking area only

Construction Off-road Equipment Mitigation - MM: use equipment that meets EPA Tier 4 (interim) emissions standards for equipment over 50 hp

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	17,500.00	19,350.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	52,500.00	58,050.00
tblArchitecturalCoating	ConstArea_Parking	29,263.00	2,550.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	25.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	30.00	42.00
tblConstructionPhase	NumDays	30.00	42.00
tblConstructionPhase	NumDays	300.00	419.00
tblConstructionPhase	NumDays	300.00	42.00
tblConstructionPhase	NumDays	20.00	28.00
tblConstructionPhase	NumDays	20.00	28.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	86.00	1.00
tblTripsAndVMT	WorkerTripNumber	220.00	3.00
tblTripsAndVMT	WorkerTripNumber	44.00	45.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	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					
2025	0.2240	1.9503	2.0873	5.4800e-003	0.4978	0.0691	0.5668	0.1870	0.0640	0.2510	0.0000	487.6489	487.6489	0.1024	0.0000	490.2078
2026	0.3249	2.5791	3.1120	9.2200e-003	0.4202	0.0721	0.4923	0.1133	0.0678	0.1811	0.0000	831.2049	831.2049	0.0915	0.0000	833.4922
2027	0.2818	0.9515	1.2307	3.3500e-003	0.1435	0.0296	0.1731	0.0387	0.0278	0.0664	0.0000	300.8932	300.8932	0.0389	0.0000	301.8662
Maximum	**0.3249**	**2.5791**	**3.1120**	**9.2200e-003**	**0.4978**	**0.0721**	**0.5668**	**0.1870**	**0.0678**	**0.2510**	**0.0000**	**831.2049**	**831.2049**	**0.1024**	**0.0000**	**833.4922**

Mitigated Construction

Year	ROG	NOx	CO	SO2	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					
2025	0.1122	1.5348	2.5966	5.4800e-003	0.4978	8.6100e-003	0.5064	0.1870	8.5400e-003	0.1956	0.0000	487.6485	487.6485	0.1024	0.0000	490.2074
2026	0.2160	2.3759	3.3454	9.2200e-003	0.4202	0.0143	0.4345	0.1133	0.0141	0.1274	0.0000	831.2045	831.2045	0.0915	0.0000	833.4918
2027	0.2388	0.9149	1.3464	3.3500e-003	0.1435	5.8100e-003	0.1493	0.0387	5.7300e-003	0.0444	0.0000	300.8931	300.8931	0.0389	0.0000	301.8660
Maximum	**0.2388**	**2.3759**	**3.3454**	**9.2200e-003**	**0.4978**	**0.0143**	**0.5064**	**0.1870**	**0.0141**	**0.1956**	**0.0000**	**831.2045**	**831.2045**	**0.1024**	**0.0000**	**833.4918**

	ROG	**NOx**	**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	**31.74**	**11.96**	**-13.35**	**0.00**	**0.00**	**83.19**	**11.53**	**0.00**	**82.24**	**26.32**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	**Start Date**	**End Date**	**Maximum Unmitigated ROG + NOX (tons/quarter)**	**Maximum Mitigated ROG + NOX (tons/quarter)**
1	**5-1-2025**	**7-31-2025**	0.8112	0.5464

2	8-1-2025	10-31-2025	0.8861	0.6704
3	11-1-2025	1-31-2026	0.7416	0.6630
4	2-1-2026	4-30-2026	0.7098	0.6338
5	5-1-2026	7-31-2026	0.7297	0.6512
6	8-1-2026	10-31-2026	0.7318	0.6532
7	11-1-2026	1-31-2027	0.7332	0.6546
8	2-1-2027	4-30-2027	0.6871	0.6158
9	5-1-2027	7-31-2027	0.3138	0.3305
		Highest	0.8861	0.6704

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Rough Grading	Grading	5/1/2025	6/28/2025	5	42	
2	Utility Trenching	Trenching	6/29/2025	7/18/2025	5	15	
3	Fine Grading	Grading	7/19/2025	9/16/2025	5	42	
4	Building Construction	Building Construction	9/17/2025	4/26/2027	5	419	
5	Wood Shop Building Modernization	Building Construction	2/26/2027	4/26/2027	5	42	
6	Paving	Paving	4/27/2027	6/3/2027	5	28	
7	Architectural Coating	Architectural Coating	6/4/2027	7/13/2027	5	28	
8	Finishing/Landscaping	Trenching	7/14/2027	7/31/2027	5	13	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 11.2

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 58,050; Non-Residential Outdoor: 19,350; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Rough Grading	Excavators	2	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	Scrapers	2	8.00	367	0.48
Rough Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Utility Trenching	Excavators	1	8.00	158	0.38
Fine Grading	Excavators	2	8.00	158	0.38
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Fine Grading	Scrapers	2	8.00	367	0.48
Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	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
Wood Shop Building Modernization	Cranes	0	7.00	231	0.29
Wood Shop Building Modernization	Forklifts	0	8.00	89	0.20
Wood Shop Building Modernization	Generator Sets	0	8.00	84	0.74
Wood Shop Building Modernization	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Wood Shop Building Modernization	Welders	0	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Finishing/Landscaping	Excavators	1	8.00	158	0.38

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
Rough Grading	8	20.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Utility Trenching	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

Fine Grading	8	20.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	220.00	86.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Wood Shop Building Modernization	0	3.00	1.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	45.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Rough Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1821	0.0000	0.1821	0.0755	0.0000	0.0755	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0609	0.5868	0.5530	1.3000e-003		0.0238	0.0238		0.0219	0.0219	0.0000	114.4631	114.4631	0.0370	0.0000	115.3885
Total	**0.0609**	**0.5868**	**0.5530**	**1.3000e-003**	**0.1821**	**0.0238**	**0.2059**	**0.0755**	**0.0219**	**0.0974**	**0.0000**	**114.4631**	**114.4631**	**0.0370**	**0.0000**	**115.3885**

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	3.3400e-003	8.1000e-004	1.0000e-005	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	1.0378	1.0378	6.0000e-005	0.0000	1.0391
Worker	1.8300e-003	1.2500e-003	0.0128	4.0000e-005	5.1700e-003	3.0000e-005	5.2000e-003	1.3700e-003	3.0000e-005	1.4000e-003	0.0000	3.8421	3.8421	9.0000e-005	0.0000	3.8445
Total	**1.9400e-003**	**4.5900e-003**	**0.0136**	**5.0000e-005**	**5.4200e-003**	**3.0000e-005**	**5.4500e-003**	**1.4400e-003**	**3.0000e-005**	**1.4800e-003**	**0.0000**	**4.8799**	**4.8799**	**1.5000e-004**	**0.0000**	**4.8836**

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					0.1821	0.0000	0.1821	0.0755	0.0000	0.0755	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0212	0.4047	0.7712	1.3000e-003		2.1300e-003	2.1300e-003		2.1300e-003	2.1300e-003	0.0000	114.4629	114.4629	0.0370	0.0000	115.3884
Total	**0.0212**	**0.4047**	**0.7712**	**1.3000e-003**	**0.1821**	**2.1300e-003**	**0.1843**	**0.0755**	**2.1300e-003**	**0.0777**	**0.0000**	**114.4629**	**114.4629**	**0.0370**	**0.0000**	**115.3884**

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	3.3400e-003	8.1000e-004	1.0000e-005	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	1.0378	1.0378	6.0000e-005	0.0000	1.0391
Worker	1.8300e-003	1.2500e-003	0.0128	4.0000e-005	5.1700e-003	3.0000e-005	5.2000e-003	1.3700e-003	3.0000e-005	1.4000e-003	0.0000	3.8421	3.8421	9.0000e-005	0.0000	3.8445
Total	**1.9400e-003**	**4.5900e-003**	**0.0136**	**5.0000e-005**	**5.4200e-003**	**3.0000e-005**	**5.4500e-003**	**1.4400e-003**	**3.0000e-005**	**1.4800e-003**	**0.0000**	**4.8799**	**4.8799**	**1.5000e-004**	**0.0000**	**4.8836**

3.3 Utility Trenching - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.2500e-003	9.1600e-003	0.0245	4.0000e-005		4.5000e-004	4.5000e-004		4.1000e-004	4.1000e-004	0.0000	3.4042	3.4042	1.1000e-003	0.0000	3.4318
Total	**1.2500e-003**	**9.1600e-003**	**0.0245**	**4.0000e-005**		**4.5000e-004**	**4.5000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**3.4042**	**3.4042**	**1.1000e-003**	**0.0000**	**3.4318**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	7.0000e-005	6.9000e-004	0.0000	2.8000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	0.2058	0.2058	1.0000e-005	0.0000	0.2060
Total	**1.0000e-004**	**7.0000e-005**	**6.9000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2058**	**0.2058**	**1.0000e-005**	**0.0000**	**0.2060**

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	4.8000e-004	0.0171	0.0294	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.4042	3.4042	1.1000e-003	0.0000	3.4318
Total	**4.8000e-004**	**0.0171**	**0.0294**	**4.0000e-005**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**3.4042**	**3.4042**	**1.1000e-003**	**0.0000**	**3.4318**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	7.0000e-005	6.9000e-004	0.0000	2.8000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	0.2058	0.2058	1.0000e-005	0.0000	0.2060
Total	**1.0000e-004**	**7.0000e-005**	**6.9000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2058**	**0.2058**	**1.0000e-005**	**0.0000**	**0.2060**

3.4 Fine Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1821	0.0000	0.1821	0.0755	0.0000	0.0755	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0609	0.5868	0.5530	1.3000e-003		0.0238	0.0238		0.0219	0.0219	0.0000	114.4631	114.4631	0.0370	0.0000	115.3885
Total	**0.0609**	**0.5868**	**0.5530**	**1.3000e-003**	**0.1821**	**0.0238**	**0.2059**	**0.0755**	**0.0219**	**0.0974**	**0.0000**	**114.4631**	**114.4631**	**0.0370**	**0.0000**	**115.3885**

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	3.3400e-003	8.1000e-004	1.0000e-005	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	1.0378	1.0378	6.0000e-005	0.0000	1.0391
Worker	1.8300e-003	1.2500e-003	0.0128	4.0000e-005	5.1700e-003	3.0000e-005	5.2000e-003	1.3700e-003	3.0000e-005	1.4000e-003	0.0000	3.8421	3.8421	9.0000e-005	0.0000	3.8445
Total	**1.9400e-003**	**4.5900e-003**	**0.0136**	**5.0000e-005**	**5.4200e-003**	**3.0000e-005**	**5.4500e-003**	**1.4400e-003**	**3.0000e-005**	**1.4800e-003**	**0.0000**	**4.8799**	**4.8799**	**1.5000e-004**	**0.0000**	**4.8836**

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					0.1821	0.0000	0.1821	0.0755	0.0000	0.0755	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0212	0.4047	0.7712	1.3000e-003		2.1300e-003	2.1300e-003		2.1300e-003	2.1300e-003	0.0000	114.4629	114.4629	0.0370	0.0000	115.3884
Total	**0.0212**	**0.4047**	**0.7712**	**1.3000e-003**	**0.1821**	**2.1300e-003**	**0.1843**	**0.0755**	**2.1300e-003**	**0.0777**	**0.0000**	**114.4629**	**114.4629**	**0.0370**	**0.0000**	**115.3884**

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	3.3400e-003	8.1000e-004	1.0000e-005	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	1.0378	1.0378	6.0000e-005	0.0000	1.0391
Worker	1.8300e-003	1.2500e-003	0.0128	4.0000e-005	5.1700e-003	3.0000e-005	5.2000e-003	1.3700e-003	3.0000e-005	1.4000e-003	0.0000	3.8421	3.8421	9.0000e-005	0.0000	3.8445
Total	**1.9400e-003**	**4.5900e-003**	**0.0136**	**5.0000e-005**	**5.4200e-003**	**3.0000e-005**	**5.4500e-003**	**1.4400e-003**	**3.0000e-005**	**1.4800e-003**	**0.0000**	**4.8799**	**4.8799**	**1.5000e-004**	**0.0000**	**4.8836**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0520	0.4739	0.6112	1.0200e-003		0.0201	0.0201		0.0189	0.0189	0.0000	88.1294	88.1294	0.0207	0.0000	88.6473
Total	**0.0520**	**0.4739**	**0.6112**	**1.0200e-003**		**0.0201**	**0.0201**		**0.0189**	**0.0189**	**0.0000**	**88.1294**	**88.1294**	**0.0207**	**0.0000**	**88.6473**

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	8.5800e-003	0.2595	0.0629	8.5000e-004	0.0195	3.4000e-004	0.0198	5.6300e-003	3.3000e-004	5.9500e-003	0.0000	80.7470	80.7470	4.3200e-003	0.0000	80.8550
Worker	0.0364	0.0249	0.2549	8.5000e-004	0.1029	6.5000e-004	0.1036	0.0274	6.0000e-004	0.0280	0.0000	76.4767	76.4767	1.8700e-003	0.0000	76.5235
Total	**0.0450**	**0.2844**	**0.3178**	**1.7000e-003**	**0.1224**	**9.9000e-004**	**0.1233**	**0.0330**	**9.3000e-004**	**0.0339**	**0.0000**	**157.2236**	**157.2236**	**6.1900e-003**	**0.0000**	**157.3785**

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	0.0203	0.4147	0.6792	1.0200e-003		3.2100e-003	3.2100e-003		3.2100e-003	3.2100e-003	0.0000	88.1293	88.1293	0.0207	0.0000	88.6472
Total	**0.0203**	**0.4147**	**0.6792**	**1.0200e-003**		**3.2100e-003**	**3.2100e-003**		**3.2100e-003**	**3.2100e-003**	**0.0000**	**88.1293**	**88.1293**	**0.0207**	**0.0000**	**88.6472**

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	8.5800e-003	0.2595	0.0629	8.5000e-004	0.0195	3.4000e-004	0.0198	5.6300e-003	3.3000e-004	5.9500e-003	0.0000	80.7470	80.7470	4.3200e-003	0.0000	80.8550
Worker	0.0364	0.0249	0.2549	8.5000e-004	0.1029	6.5000e-004	0.1036	0.0274	6.0000e-004	0.0280	0.0000	76.4767	76.4767	1.8700e-003	0.0000	76.5235
Total	**0.0450**	**0.2844**	**0.3178**	**1.7000e-003**	**0.1224**	**9.9000e-004**	**0.1233**	**0.0330**	**9.3000e-004**	**0.0339**	**0.0000**	**157.2236**	**157.2236**	**6.1900e-003**	**0.0000**	**157.3785**

3.5 Building Construction - 2026

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	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0281	0.8740	0.2024	2.9100e-003	0.0668	1.1000e-003	0.0679	0.0193	1.0500e-003	0.0204	0.0000	275.4612	275.4612	0.0145	0.0000	275.8248
Worker	0.1183	0.0778	0.8105	2.8000e-003	0.3534	2.1600e-003	0.3556	0.0940	1.9800e-003	0.0960	0.0000	253.0888	253.0888	5.8000e-003	0.0000	253.2338
Total	**0.1464**	**0.9518**	**1.0129**	**5.7100e-003**	**0.4202**	**3.2600e-003**	**0.4234**	**0.1133**	**3.0300e-003**	**0.1163**	**0.0000**	**528.5500**	**528.5500**	**0.0203**	**0.0000**	**529.0587**

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	0.0696	1.4240	2.3325	3.5200e-003		0.0110	0.0110		0.0110	0.0110	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.0696**	**1.4240**	**2.3325**	**3.5200e-003**		**0.0110**	**0.0110**		**0.0110**	**0.0110**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0281	0.8740	0.2024	2.9100e-003	0.0668	1.1000e-003	0.0679	0.0193	1.0500e-003	0.0204	0.0000	275.4612	275.4612	0.0145	0.0000	275.8248
Worker	0.1183	0.0778	0.8105	2.8000e-003	0.3534	2.1600e-003	0.3556	0.0940	1.9800e-003	0.0960	0.0000	253.0888	253.0888	5.8000e-003	0.0000	253.2338
Total	**0.1464**	**0.9518**	**1.0129**	**5.7100e-003**	**0.4202**	**3.2600e-003**	**0.4234**	**0.1133**	**3.0300e-003**	**0.1163**	**0.0000**	**528.5500**	**528.5500**	**0.0203**	**0.0000**	**529.0587**

3.5 Building Construction - 2027

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	0.0561	0.5113	0.6595	1.1100e-003		0.0216	0.0216		0.0204	0.0204	0.0000	95.0870	95.0870	0.0224	0.0000	95.6458
Total	**0.0561**	**0.5113**	**0.6595**	**1.1100e-003**		**0.0216**	**0.0216**		**0.0204**	**0.0204**	**0.0000**	**95.0870**	**95.0870**	**0.0224**	**0.0000**	**95.6458**

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	8.4300e-003	0.2700	0.0596	9.1000e-004	0.0210	3.3000e-004	0.0213	6.0700e-003	3.1000e-004	6.3800e-003	0.0000	86.0360	86.0360	4.5100e-003	0.0000	86.1488
Worker	0.0352	0.0223	0.2365	8.5000e-004	0.1110	6.4000e-004	0.1117	0.0295	5.9000e-004	0.0301	0.0000	76.8466	76.8466	1.6500e-003	0.0000	76.8878
Total	**0.0436**	**0.2923**	**0.2961**	**1.7600e-003**	**0.1320**	**9.7000e-004**	**0.1330**	**0.0356**	**9.0000e-004**	**0.0365**	**0.0000**	**162.8827**	**162.8827**	**6.1600e-003**	**0.0000**	**163.0366**

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	0.0219	0.4474	0.7328	1.1100e-003		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	95.0869	95.0869	0.0224	0.0000	95.6457
Total	**0.0219**	**0.4474**	**0.7328**	**1.1100e-003**		**3.4700e-003**	**3.4700e-003**		**3.4700e-003**	**3.4700e-003**	**0.0000**	**95.0869**	**95.0869**	**0.0224**	**0.0000**	**95.6457**

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	8.4300e-003	0.2700	0.0596	9.1000e-004	0.0210	3.3000e-004	0.0213	6.0700e-003	3.1000e-004	6.3800e-003	0.0000	86.0360	86.0360	4.5100e-003	0.0000	86.1488
Worker	0.0352	0.0223	0.2365	8.5000e-004	0.1110	6.4000e-004	0.1117	0.0295	5.9000e-004	0.0301	0.0000	76.8466	76.8466	1.6500e-003	0.0000	76.8878
Total	**0.0436**	**0.2923**	**0.2961**	**1.7600e-003**	**0.1320**	**9.7000e-004**	**0.1330**	**0.0356**	**9.0000e-004**	**0.0365**	**0.0000**	**162.8827**	**162.8827**	**6.1600e-003**	**0.0000**	**163.0366**

3.6 Wood Shop Building Modernization - 2027

Unmitigated 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	0.0000	0.0000	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**

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	5.0000e-005	1.6100e-003	3.5000e-004	1.0000e-005	1.2000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.5124	0.5124	3.0000e-005	0.0000	0.5131
Worker	2.5000e-004	1.6000e-004	1.6500e-003	1.0000e-005	7.8000e-004	0.0000	7.8000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.5367	0.5367	1.0000e-005	0.0000	0.5370
Total	**3.0000e-004**	**1.7700e-003**	**2.0000e-003**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**9.1000e-004**	**2.5000e-004**	**0.0000**	**2.5000e-004**	**0.0000**	**1.0491**	**1.0491**	**4.0000e-005**	**0.0000**	**1.0501**

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	0.0000	0.0000	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**

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	5.0000e-005	1.6100e-003	3.5000e-004	1.0000e-005	1.2000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.5124	0.5124	3.0000e-005	0.0000	0.5131
Worker	2.5000e-004	1.6000e-004	1.6500e-003	1.0000e-005	7.8000e-004	0.0000	7.8000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.5367	0.5367	1.0000e-005	0.0000	0.5370
Total	**3.0000e-004**	**1.7700e-003**	**2.0000e-003**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**9.1000e-004**	**2.5000e-004**	**0.0000**	**2.5000e-004**	**0.0000**	**1.0491**	**1.0491**	**4.0000e-005**	**0.0000**	**1.0501**

3.7 Paving - 2027

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	0.0128	0.1201	0.2041	3.2000e-004		5.8600e-003	5.8600e-003		5.3900e-003	5.3900e-003	0.0000	28.0270	28.0270	9.0600e-003	0.0000	28.2536
Paving	1.6600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0145**	**0.1201**	**0.2041**	**3.2000e-004**		**5.8600e-003**	**5.8600e-003**		**5.3900e-003**	**5.3900e-003**	**0.0000**	**28.0270**	**28.0270**	**9.0600e-003**	**0.0000**	**28.2536**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.2000e-004	5.5100e-003	2.0000e-005	2.5800e-003	1.0000e-005	2.6000e-003	6.9000e-004	1.0000e-005	7.0000e-004	0.0000	1.7891	1.7891	4.0000e-005	0.0000	1.7901
Total	**8.2000e-004**	**5.2000e-004**	**5.5100e-003**	**2.0000e-005**	**2.5800e-003**	**1.0000e-005**	**2.6000e-003**	**6.9000e-004**	**1.0000e-005**	**7.0000e-004**	**0.0000**	**1.7891**	**1.7891**	**4.0000e-005**	**0.0000**	**1.7901**

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	4.6800e-003	0.1406	0.2421	3.2000e-004		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	28.0269	28.0269	9.0600e-003	0.0000	28.2535
Paving	1.6600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.3400e-003**	**0.1406**	**0.2421**	**3.2000e-004**		**5.2000e-004**	**5.2000e-004**		**5.2000e-004**	**5.2000e-004**	**0.0000**	**28.0269**	**28.0269**	**9.0600e-003**	**0.0000**	**28.2535**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.2000e-004	5.5100e-003	2.0000e-005	2.5800e-003	1.0000e-005	2.6000e-003	6.9000e-004	1.0000e-005	7.0000e-004	0.0000	1.7891	1.7891	4.0000e-005	0.0000	1.7901
Total	**8.2000e-004**	**5.2000e-004**	**5.5100e-003**	**2.0000e-005**	**2.5800e-003**	**1.0000e-005**	**2.6000e-003**	**6.9000e-004**	**1.0000e-005**	**7.0000e-004**	**0.0000**	**1.7891**	**1.7891**	**4.0000e-005**	**0.0000**	**1.7901**

3.8 Architectural Coating - 2027

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	0.1605					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3900e-003	0.0160	0.0253	4.0000e-005		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	3.5746	3.5746	1.9000e-004	0.0000	3.5794
Total	**0.1629**	**0.0160**	**0.0253**	**4.0000e-005**		**7.2000e-004**	**7.2000e-004**		**7.2000e-004**	**7.2000e-004**	**0.0000**	**3.5746**	**3.5746**	**1.9000e-004**	**0.0000**	**3.5794**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4600e-003	1.5600e-003	0.0165	6.0000e-005	7.7500e-003	4.0000e-005	7.8000e-003	2.0600e-003	4.0000e-005	2.1000e-003	0.0000	5.3673	5.3673	1.2000e-004	0.0000	5.3702
Total	**2.4600e-003**	**1.5600e-003**	**0.0165**	**6.0000e-005**	**7.7500e-003**	**4.0000e-005**	**7.8000e-003**	**2.0600e-003**	**4.0000e-005**	**2.1000e-003**	**0.0000**	**5.3673**	**5.3673**	**1.2000e-004**	**0.0000**	**5.3702**

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	0.1605					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3900e-003	0.0160	0.0253	4.0000e-005		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	3.5746	3.5746	1.9000e-004	0.0000	3.5794
Total	**0.1629**	**0.0160**	**0.0253**	**4.0000e-005**		**7.2000e-004**	**7.2000e-004**		**7.2000e-004**	**7.2000e-004**	**0.0000**	**3.5746**	**3.5746**	**1.9000e-004**	**0.0000**	**3.5794**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4600e-003	1.5600e-003	0.0165	6.0000e-005	7.7500e-003	4.0000e-005	7.8000e-003	2.0600e-003	4.0000e-005	2.1000e-003	0.0000	5.3673	5.3673	1.2000e-004	0.0000	5.3702
Total	**2.4600e-003**	**1.5600e-003**	**0.0165**	**6.0000e-005**	**7.7500e-003**	**4.0000e-005**	**7.8000e-003**	**2.0600e-003**	**4.0000e-005**	**2.1000e-003**	**0.0000**	**5.3673**	**5.3673**	**1.2000e-004**	**0.0000**	**5.3702**

3.9 Finishing/Landscaping - 2027

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	1.0900e-003	7.9400e-003	0.0212	3.0000e-005		3.9000e-004	3.9000e-004		3.6000e-004	3.6000e-004	0.0000	2.9503	2.9503	9.5000e-004	0.0000	2.9742
Total	**1.0900e-003**	**7.9400e-003**	**0.0212**	**3.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.6000e-004**	**3.6000e-004**	**0.0000**	**2.9503**	**2.9503**	**9.5000e-004**	**0.0000**	**2.9742**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	5.0000e-005	5.1000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.1661	0.1661	0.0000	0.0000	0.1662
Total	**8.0000e-005**	**5.0000e-005**	**5.1000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.1661**	**0.1661**	**0.0000**	**0.0000**	**0.1662**

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	4.1000e-004	0.0148	0.0255	3.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	2.9503	2.9503	9.5000e-004	0.0000	2.9742
Total	**4.1000e-004**	**0.0148**	**0.0255**	**3.0000e-005**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**2.9503**	**2.9503**	**9.5000e-004**	**0.0000**	**2.9742**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	5.0000e-005	5.1000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.1661	0.1661	0.0000	0.0000	0.1662
Total	**8.0000e-005**	**5.0000e-005**	**5.1000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.1661**	**0.1661**	**0.0000**	**0.0000**	**0.1662**

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

Hamilton High School Expansion Phase 2 Mitigated Construction

Glenn County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High School	82.00	1000sqft	1.88	82,000.00	0
Other Asphalt Surfaces	18.00	1000sqft	0.41	18,000.00	0
Other Non-Asphalt Surfaces	1,293.92	1000sqft	29.70	1,293,920.00	0

1.2 Other Project Characteristics

Urbanization Rural | **Wind Speed (m/s)** 2.2 | **Precipitation Freq (Days)** 61

Climate Zone 3 | **Operational Year** 2032

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MWhr) 641.35 | **CH4 Intensity (lb/MWhr)** 0.029 | **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - BSF is conservative based on data provided by applicant

Construction Phase - schedule normalized based on CalEEMod defaults and data provided by applicant

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - assuming 1 excavator for finishing/landscaping

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - assuming 1 excavator for utility trenching phase

Trips and VMT - Assuming 2 vendor trips/water truck/day

Grading -

Architectural Coating - MM: use less than 25g/L VOC content paint for interior coatings.
Assuming 90% of interior and exterior would be painted based on data from applicant, accounts for area of parking lot only

Construction Off-road Equipment Mitigation - MM: use building construction equipment that meets the Tier 4 (interim) emissions standards for off-road diesel-powered construction equipment with more than 50 horsepower

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	41,000.00	36,900.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	123,000.00	110,700.00
tblArchitecturalCoating	ConstArea_Parking	78,715.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	25.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	35.00	31.00
tblConstructionPhase	NumDays	500.00	448.00
tblConstructionPhase	NumDays	45.00	40.00
tblConstructionPhase	NumDays	35.00	31.00
tblConstructionPhase	NumDays	20.00	18.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

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					
2030	3.8021	25.5630	34.3417	0.1457	18.3084	0.4892	18.7463	9.9952	0.4891	10.4329	0.0000	14,620.9213	14,620.9213	0.5064	0.0000	14,633.5806
2031	3.6094	25.3133	33.2446	0.1443	8.8708	0.1967	9.0675	2.3844	0.1935	2.5779	0.0000	14,477.8637	14,477.8637	0.4945	0.0000	14,490.2263
2032	18.3958	25.0977	32.3147	0.1430	8.8708	0.3314	9.0649	2.3844	0.3313	2.5754	0.0000	14,355.8677	14,355.8677	0.4830	0.0000	14,367.9431
Maximum	**18.3958**	**25.5630**	**34.3417**	**0.1457**	**18.3084**	**0.4892**	**18.7463**	**9.9952**	**0.4891**	**10.4329**	**0.0000**	**14,620.9213**	**14,620.9213**	**0.5064**	**0.0000**	**14,633.5806**

Mitigated Construction

Year	ROG	NOx	CO	SO2	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					
2030	2.8208	19.8631	35.6450	0.1457	18.3084	0.1028	18.3717	9.9952	0.1027	10.0584	0.0000	14,620.9213	14,620.9213	0.5064	0.0000	14,633.5806
2031	2.6281	19.6134	34.5479	0.1443	8.8708	0.0894	8.9602	2.3844	0.0861	2.4705	0.0000	14,477.8637	14,477.8637	0.4945	0.0000	14,490.2263
2032	18.3958	19.3978	33.6180	0.1430	8.8708	0.0868	8.9576	2.3844	0.0837	2.4681	0.0000	14,355.8677	14,355.8677	0.4830	0.0000	14,367.9431
Maximum	**18.3958**	**19.8631**	**35.6450**	**0.1457**	**18.3084**	**0.1028**	**18.3717**	**9.9952**	**0.1027**	**10.0584**	**0.0000**	**14,620.9213**	**14,620.9213**	**0.5064**	**0.0000**	**14,633.5806**

	ROG	**NOx**	**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	**7.60**	**22.51**	**-3.91**	**0.00**	**0.00**	**72.58**	**1.60**	**0.00**	**73.12**	**3.78**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2030	5/25/2030	5	18	
2	Fine Grading	Grading	5/26/2030	7/19/2030	5	40	
3	Utility Trenching	Trenching	7/20/2030	8/2/2030	5	10	
4	Building Construction	Building Construction	8/3/2030	4/21/2032	5	448	
5	Paving	Paving	4/22/2032	6/3/2032	5	31	
6	Architectural Coating	Architectural Coating	6/4/2032	7/16/2032	5	31	
7	Finishing/Landscaping	Trenching	7/17/2032	7/31/2032	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 30.11

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 110,700; Non-Residential Outdoor: 36,900; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Fine Grading	Excavators	2	8.00	158	0.38
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Fine Grading	Scrapers	2	8.00	367	0.48
Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Utility Trenching	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	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	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Finishing/Landscaping	Excavators	1	8.00	158	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	8	20.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Utility Trenching	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	585.00	228.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	117.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Site Preparation - 2030

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4399	13.6680	16.2918	0.0466		0.4367	0.4367		0.4367	0.4367		4,409.7537	4,409.7537	0.2176		4,415.1936
Total	**2.4399**	**13.6680**	**16.2918**	**0.0466**	**18.0663**	**0.4367**	**18.5029**	**9.9307**	**0.4367**	**10.3673**		**4,409.7537**	**4,409.7537**	**0.2176**		**4,415.1936**

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	4.2400e-003	0.1459	0.0274	5.2000e-004	0.0123	1.6000e-004	0.0124	3.5300e-003	1.5000e-004	3.6800e-003		53.9776	53.9776	2.5500e-003		54.0414
Worker	0.0618	0.0305	0.4633	1.7200e-003	0.2299	1.0300e-003	0.2309	0.0610	9.5000e-004	0.0619		171.3824	171.3824	3.0600e-003		171.4588
Total	**0.0661**	**0.1765**	**0.4908**	**2.2400e-003**	**0.2422**	**1.1900e-003**	**0.2434**	**0.0645**	**1.1000e-003**	**0.0656**		**225.3600**	**225.3600**	**5.6100e-003**		**225.5002**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	0.4656	2.0175	20.8690	0.0466		0.0621	0.0621		0.0621	0.0621	0.0000	4,409.7537	4,409.7537	0.2176		4,415.1936
Total	**0.4656**	**2.0175**	**20.8690**	**0.0466**	**18.0663**	**0.0621**	**18.1283**	**9.9307**	**0.0621**	**9.9928**	**0.0000**	**4,409.7537**	**4,409.7537**	**0.2176**		**4,415.1936**

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	4.2400e-003	0.1459	0.0274	5.2000e-004	0.0123	1.6000e-004	0.0124	3.5300e-003	1.5000e-004	3.6800e-003		53.9776	53.9776	2.5500e-003		54.0414
Worker	0.0618	0.0305	0.4633	1.7200e-003	0.2299	1.0300e-003	0.2309	0.0610	9.5000e-004	0.0619		171.3824	171.3824	3.0600e-003		171.4588
Total	**0.0661**	**0.1765**	**0.4908**	**2.2400e-003**	**0.2422**	**1.1900e-003**	**0.2434**	**0.0645**	**1.1000e-003**	**0.0656**		**225.3600**	**225.3600**	**5.6100e-003**		**225.5002**

3.3 Fine Grading - 2030

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.2807	13.8462	23.0239	0.0699		0.4879	0.4879		0.4879	0.4879		7,213.1086	7,213.1086	0.2915		7,220.3963
Total	**3.2807**	**13.8462**	**23.0239**	**0.0699**	**8.6733**	**0.4879**	**9.1613**	**3.5965**	**0.4879**	**4.0844**		**7,213.1086**	**7,213.1086**	**0.2915**		**7,220.3963**

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	4.2400e-003	0.1459	0.0274	5.2000e-004	0.0123	1.6000e-004	0.0124	3.5300e-003	1.5000e-004	3.6800e-003		53.9776	53.9776	2.5500e-003		54.0414
Worker	0.0687	0.0339	0.5148	1.9100e-003	0.2555	1.1400e-003	0.2566	0.0678	1.0500e-003	0.0688		190.4248	190.4248	3.4000e-003		190.5098
Total	**0.0729**	**0.1799**	**0.5422**	**2.4300e-003**	**0.2677**	**1.3000e-003**	**0.2690**	**0.0713**	**1.2000e-003**	**0.0725**		**244.4025**	**244.4025**	**5.9500e-003**		**244.5511**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0699		0.1015	0.1015		0.1015	0.1015	0.0000	7,213.1086	7,213.1086	0.2915		7,220.3963
Total	**0.7616**	**3.3000**	**32.9991**	**0.0699**	**8.6733**	**0.1015**	**8.7749**	**3.5965**	**0.1015**	**3.6980**	**0.0000**	**7,213.1086**	**7,213.1086**	**0.2915**		**7,220.3963**

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	4.2400e-003	0.1459	0.0274	5.2000e-004	0.0123	1.6000e-004	0.0124	3.5300e-003	1.5000e-004	3.6800e-003		53.9776	53.9776	2.5500e-003		54.0414
Worker	0.0687	0.0339	0.5148	1.9100e-003	0.2555	1.1400e-003	0.2566	0.0678	1.0500e-003	0.0688		190.4248	190.4248	3.4000e-003		190.5098
Total	**0.0729**	**0.1799**	**0.5422**	**2.4300e-003**	**0.2677**	**1.3000e-003**	**0.2690**	**0.0713**	**1.2000e-003**	**0.0725**		**244.4025**	**244.4025**	**5.9500e-003**		**244.5511**

3.4 Utility Trenching - 2030

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	0.2256	0.5559	3.5601	6.3500e-003		0.0244	0.0244		0.0244	0.0244		601.7856	601.7856	0.0201		602.2886
Total	**0.2256**	**0.5559**	**3.5601**	**6.3500e-003**		**0.0244**	**0.0244**		**0.0244**	**0.0244**		**601.7856**	**601.7856**	**0.0201**		**602.2886**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0103	5.0900e-003	0.0772	2.9000e-004	0.0383	1.7000e-004	0.0385	0.0102	1.6000e-004	0.0103		28.5637	28.5637	5.1000e-004		28.5765
Total	**0.0103**	**5.0900e-003**	**0.0772**	**2.9000e-004**	**0.0383**	**1.7000e-004**	**0.0385**	**0.0102**	**1.6000e-004**	**0.0103**		**28.5637**	**28.5637**	**5.1000e-004**		**28.5765**

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	0.0635	0.2753	3.9180	6.3500e-003		8.4700e-003	8.4700e-003		8.4700e-003	8.4700e-003	0.0000	601.7856	601.7856	0.0201		602.2886
Total	**0.0635**	**0.2753**	**3.9180**	**6.3500e-003**		**8.4700e-003**	**8.4700e-003**		**8.4700e-003**	**8.4700e-003**	**0.0000**	**601.7856**	**601.7856**	**0.0201**		**602.2886**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0103	5.0900e-003	0.0772	2.9000e-004	0.0383	1.7000e-004	0.0385	0.0102	1.6000e-004	0.0103		28.5637	28.5637	5.1000e-004		28.5765
Total	**0.0103**	**5.0900e-003**	**0.0772**	**2.9000e-004**	**0.0383**	**1.7000e-004**	**0.0385**	**0.0102**	**1.6000e-004**	**0.0103**		**28.5637**	**28.5637**	**5.1000e-004**		**28.5765**

3.5 Building Construction - 2030

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	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

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	0.4838	16.6357	3.1263	0.0589	1.3985	0.0181	1.4166	0.4028	0.0173	0.4201		6,153.4482	6,153.4482	0.2908		6,160.7175
Worker	2.0093	0.9927	15.0584	0.0558	7.4722	0.0335	7.5057	1.9816	0.0308	2.0124		5,569.9264	5,569.9264	0.0994		5,572.4103
Total	**2.4930**	**17.6284**	**18.1847**	**0.1147**	**8.8708**	**0.0516**	**8.9223**	**2.3844**	**0.0481**	**2.4324**		**11,723.3746**	**11,723.3746**	**0.3901**		**11,733.1277**

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	0.3278	2.2347	17.4603	0.0310		0.0408	0.0408		0.0408	0.0408	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**0.3278**	**2.2347**	**17.4603**	**0.0310**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

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	0.4838	16.6357	3.1263	0.0589	1.3985	0.0181	1.4166	0.4028	0.0173	0.4201		6,153.4482	6,153.4482	0.2908		6,160.7175
Worker	2.0093	0.9927	15.0584	0.0558	7.4722	0.0335	7.5057	1.9816	0.0308	2.0124		5,569.9264	5,569.9264	0.0994		5,572.4103
Total	**2.4930**	**17.6284**	**18.1847**	**0.1147**	**8.8708**	**0.0516**	**8.9223**	**2.3844**	**0.0481**	**2.4324**		**11,723.3746**	**11,723.3746**	**0.3901**		**11,733.1277**

3.5 Building Construction - 2031

Unmitigated 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	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

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	0.4716	16.4794	3.0264	0.0588	1.3986	0.0174	1.4160	0.4028	0.0166	0.4195		6,138.5351	6,138.5351	0.2887		6,145.7525
Worker	1.8287	0.8993	14.0613	0.0545	7.4722	0.0312	7.5034	1.9816	0.0287	2.0103		5,441.7818	5,441.7818	0.0896		5,444.0209
Total	**2.3003**	**17.3787**	**17.0876**	**0.1133**	**8.8708**	**0.0486**	**8.9194**	**2.3844**	**0.0453**	**2.4297**		**11,580.3169**	**11,580.3169**	**0.3783**		**11,589.7734**

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	0.3278	2.2347	17.4603	0.0310		0.0408	0.0408		0.0408	0.0408	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**0.3278**	**2.2347**	**17.4603**	**0.0310**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

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	0.4716	16.4794	3.0264	0.0588	1.3986	0.0174	1.4160	0.4028	0.0166	0.4195		6,138.5351	6,138.5351	0.2887		6,145.7525
Worker	1.8287	0.8993	14.0613	0.0545	7.4722	0.0312	7.5034	1.9816	0.0287	2.0103		5,441.7818	5,441.7818	0.0896		5,444.0209
Total	**2.3003**	**17.3787**	**17.0876**	**0.1133**	**8.8708**	**0.0486**	**8.9194**	**2.3844**	**0.0453**	**2.4297**		**11,580.3169**	**11,580.3169**	**0.3783**		**11,589.7734**

3.5 Building Construction - 2032

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	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.546 8	2,897.5468	0.1162		2,900.452 9
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.546 8**	**2,897.5468**	**0.1162**		**2,900.452 9**

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	0.4624	16.3431	2.9600	0.0587	1.3986	0.0169	1.4154	0.4028	0.0161	0.4190		6,128.579 0	6,128.5790	0.2856		6,135.717 8
Worker	1.6714	0.8199	13.1977	0.0534	7.4722	0.0291	7.5013	1.9816	0.0268	2.0083		5,329.742 0	5,329.7420	0.0812		5,331.772 4
Total	**2.1338**	**17.1631**	**16.1577**	**0.1121**	**8.8708**	**0.0460**	**8.9168**	**2.3844**	**0.0429**	**2.4273**		**11,458.32 09**	**11,458.320 9**	**0.3668**		**11,467.49 02**

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	0.3278	2.2347	17.4603	0.0310		0.0408	0.0408		0.0408	0.0408	0.0000	2,897.546 8	2,897.5468	0.1162		2,900.452 9
Total	**0.3278**	**2.2347**	**17.4603**	**0.0310**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,897.546 8**	**2,897.5468**	**0.1162**		**2,900.452 9**

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	0.4624	16.3431	2.9600	0.0587	1.3986	0.0169	1.4154	0.4028	0.0161	0.4190		6,128.5790	6,128.5790	0.2856		6,135.7178
Worker	1.6714	0.8199	13.1977	0.0534	7.4722	0.0291	7.5013	1.9816	0.0268	2.0083		5,329.7420	5,329.7420	0.0812		5,331.7724
Total	**2.1338**	**17.1631**	**16.1577**	**0.1121**	**8.8708**	**0.0460**	**8.9168**	**2.3844**	**0.0429**	**2.4273**		**11,458.3209**	**11,458.3209**	**0.3668**		**11,467.4902**

3.6 Paving - 2032

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	1.3845	7.1202	15.8495	0.0281		0.3306	0.3306		0.3306	0.3306		2,656.5168	2,656.5168	0.1245		2,659.6302
Paving	0.0347					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4192**	**7.1202**	**15.8495**	**0.0281**		**0.3306**	**0.3306**		**0.3306**	**0.3306**		**2,656.5168**	**2,656.5168**	**0.1245**		**2,659.6302**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0429	0.0210	0.3384	1.3700e-003	0.1916	7.5000e-004	0.1923	0.0508	6.9000e-004	0.0515		136.6601	136.6601	2.0800e-003		136.7121
Total	**0.0429**	**0.0210**	**0.3384**	**1.3700e-003**	**0.1916**	**7.5000e-004**	**0.1923**	**0.0508**	**6.9000e-004**	**0.0515**		**136.6601**	**136.6601**	**2.0800e-003**		**136.7121**

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	0.2805	1.2154	17.2957	0.0281		0.0374	0.0374		0.0374	0.0374	0.0000	2,656.5168	2,656.5168	0.1245		2,659.6302
Paving	0.0347					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3151**	**1.2154**	**17.2957**	**0.0281**		**0.0374**	**0.0374**		**0.0374**	**0.0374**	**0.0000**	**2,656.5168**	**2,656.5168**	**0.1245**		**2,659.6302**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0429	0.0210	0.3384	1.3700e-003	0.1916	7.5000e-004	0.1923	0.0508	6.9000e-004	0.0515		136.6601	136.6601	2.0800e-003		136.7121
Total	**0.0429**	**0.0210**	**0.3384**	**1.3700e-003**	**0.1916**	**7.5000e-004**	**0.1923**	**0.0508**	**6.9000e-004**	**0.0515**		**136.6601**	**136.6601**	**2.0800e-003**		**136.7121**

3.7 Architectural Coating - 2032

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	17.9307					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	**18.0615**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**281.4481**	**281.4481**	**0.0114**		**281.7328**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3343	0.1640	2.6395	0.0107	1.4945	5.8200e-003	1.5003	0.3963	5.3500e-003	0.4017		1,065.9484	1,065.9484	0.0162		1,066.3545
Total	**0.3343**	**0.1640**	**2.6395**	**0.0107**	**1.4945**	**5.8200e-003**	**1.5003**	**0.3963**	**5.3500e-003**	**0.4017**		**1,065.9484**	**1,065.9484**	**0.0162**		**1,066.3545**

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	17.9307					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	**18.0615**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**	**0.0000**	**281.4481**	**281.4481**	**0.0114**		**281.7328**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3343	0.1640	2.6395	0.0107	1.4945	5.8200e-003	1.5003	0.3963	5.3500e-003	0.4017		1,065.9484	1,065.9484	0.0162		1,066.3545
Total	**0.3343**	**0.1640**	**2.6395**	**0.0107**	**1.4945**	**5.8200e-003**	**1.5003**	**0.3963**	**5.3500e-003**	**0.4017**		**1,065.9484**	**1,065.9484**	**0.0162**		**1,066.3545**

3.8 Finishing/Landscaping - 2032

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	0.2256	0.5559	3.5601	6.3500e-003		0.0244	0.0244		0.0244	0.0244		601.7856	601.7856	0.0201		602.2886
Total	**0.2256**	**0.5559**	**3.5601**	**6.3500e-003**		**0.0244**	**0.0244**		**0.0244**	**0.0244**		**601.7856**	**601.7856**	**0.0201**		**602.2886**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.5700e-003	4.2000e-003	0.0677	2.7000e-004	0.0383	1.5000e-004	0.0385	0.0102	1.4000e-004	0.0103		27.3320	27.3320	4.2000e-004		27.3424
Total	**8.5700e-003**	**4.2000e-003**	**0.0677**	**2.7000e-004**	**0.0383**	**1.5000e-004**	**0.0385**	**0.0102**	**1.4000e-004**	**0.0103**		**27.3320**	**27.3320**	**4.2000e-004**		**27.3424**

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	0.0635	0.2753	3.9180	6.3500e-003		8.4700e-003	8.4700e-003		8.4700e-003	8.4700e-003	0.0000	601.7856	601.7856	0.0201		602.2886
Total	**0.0635**	**0.2753**	**3.9180**	**6.3500e-003**		**8.4700e-003**	**8.4700e-003**		**8.4700e-003**	**8.4700e-003**	**0.0000**	**601.7856**	**601.7856**	**0.0201**		**602.2886**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.5700e-003	4.2000e-003	0.0677	2.7000e-004	0.0383	1.5000e-004	0.0385	0.0102	1.4000e-004	0.0103		27.3320	27.3320	4.2000e-004		27.3424
Total	**8.5700e-003**	**4.2000e-003**	**0.0677**	**2.7000e-004**	**0.0383**	**1.5000e-004**	**0.0385**	**0.0102**	**1.4000e-004**	**0.0103**		**27.3320**	**27.3320**	**4.2000e-004**		**27.3424**

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

Hamilton High School Expansion Phase 2 Mitigated Construction
Glenn County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High School	82.00	1000sqft	1.88	82,000.00	0
Other Asphalt Surfaces	18.00	1000sqft	0.41	18,000.00	0
Other Non-Asphalt Surfaces	1,293.92	1000sqft	29.70	1,293,920.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	61
Climate Zone	3			**Operational Year**	2032
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - BSF is conservative based on data provided by applicant

Construction Phase - schedule normalized based on CalEEMod defaults and data provided by applicant

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - assuming 1 excavator for finishing/landscaping

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - assuming 1 excavator for utility trenching phase

Trips and VMT - Assuming 2 vendor trips/water truck/day

Grading -

Architectural Coating - MM: use less than 25g/L VOC content paint for interior coatings.
Assuming 90% of interior and exterior would be painted based on data from applicant, accounts for area of parking lot only

Construction Off-road Equipment Mitigation - MM: use building construction equipment that meets the Tier 4 (interim) emissions standards for off-road diesel-powered construction equipment with more than 50 horsepower

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	41,000.00	36,900.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	123,000.00	110,700.00
tblArchitecturalCoating	ConstArea_Parking	78,715.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	25.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	35.00	31.00
tblConstructionPhase	NumDays	500.00	448.00
tblConstructionPhase	NumDays	45.00	40.00
tblConstructionPhase	NumDays	35.00	31.00
tblConstructionPhase	NumDays	20.00	18.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

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					
2030	3.8431	25.8699	32.0391	0.1365	18.3084	0.4892	18.7463	9.9952	0.4891	10.4330	0.0000	13,698.2575	13,698.2575	0.5311	0.0000	13,711.5348
2031	3.6510	25.5866	31.0722	0.1353	8.8708	0.1970	9.0678	2.3844	0.1937	2.5781	0.0000	13,571.2100	13,571.2100	0.5203	0.0000	13,584.2185
2032	18.3980	25.3420	30.2612	0.1342	8.8708	0.3314	9.0652	2.3844	0.3313	2.5757	0.0000	13,462.8193	13,462.8193	0.5096	0.0000	13,475.5596
Maximum	**18.3980**	**25.8699**	**32.0391**	**0.1365**	**18.3084**	**0.4892**	**18.7463**	**9.9952**	**0.4891**	**10.4330**	**0.0000**	**13,698.2575**	**13,698.2575**	**0.5311**	**0.0000**	**13,711.5348**

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					
2030	2.8618	20.1700	33.4462	0.1365	18.3084	0.1029	18.3717	9.9952	0.1028	10.0584	0.0000	13,698.2575	13,698.2575	0.5311	0.0000	13,711.5348
2031	2.6697	19.8867	32.3754	0.1353	8.8708	0.0897	8.9604	2.3844	0.0864	2.4708	0.0000	13,571.2100	13,571.2100	0.5203	0.0000	13,584.2185
2032	18.3980	19.6421	31.5645	0.1342	8.8708	0.0870	8.9578	2.3844	0.0839	2.4683	0.0000	13,462.8193	13,462.8193	0.5096	0.0000	13,475.5596
Maximum	**18.3980**	**20.1700**	**33.4462**	**0.1365**	**18.3084**	**0.1029**	**18.3717**	**9.9952**	**0.1028**	**10.0584**	**0.0000**	**13,698.2575**	**13,698.2575**	**0.5311**	**0.0000**	**13,711.5348**

	ROG	**NOx**	**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	**7.58**	**22.27**	**-4.30**	**0.00**	**0.00**	**72.53**	**1.60**	**0.00**	**73.08**	**3.78**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2030	5/25/2030	5	18	
2	Fine Grading	Grading	5/26/2030	7/19/2030	5	40	
3	Utility Trenching	Trenching	7/20/2030	8/2/2030	5	10	
4	Building Construction	Building Construction	8/3/2030	4/21/2032	5	448	
5	Paving	Paving	4/22/2032	6/3/2032	5	31	
6	Architectural Coating	Architectural Coating	6/4/2032	7/16/2032	5	31	
7	Finishing/Landscaping	Trenching	7/17/2032	7/31/2032	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 30.11

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 110,700; Non-Residential Outdoor: 36,900; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Fine Grading	Excavators	2	8.00	158	0.38
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Fine Grading	Scrapers	2	8.00	367	0.48
Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Utility Trenching	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	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	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Finishing/Landscaping	Excavators	1	8.00	158	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	8	20.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Utility Trenching	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	585.00	228.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

Architectural Coating	1	117.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Site Preparation - 2030

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4399	13.6680	16.2918	0.0466		0.4367	0.4367		0.4367	0.4367		4,409.7537	4,409.7537	0.2176		4,415.1936
Total	**2.4399**	**13.6680**	**16.2918**	**0.0466**	**18.0663**	**0.4367**	**18.5029**	**9.9307**	**0.4367**	**10.3673**		**4,409.7537**	**4,409.7537**	**0.2176**		**4,415.1936**

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	4.5300e-003	0.1466	0.0331	5.0000e-004	0.0123	1.6000e-004	0.0124	3.5300e-003	1.5000e-004	3.6900e-003		52.0153	52.0153	2.9000e-003		52.0878
Worker	0.0621	0.0378	0.3725	1.5000e-003	0.2299	1.0300e-003	0.2309	0.0610	9.5000e-004	0.0619		149.8760	149.8760	2.5800e-003		149.9406
Total	**0.0666**	**0.1843**	**0.4056**	**2.0000e-003**	**0.2422**	**1.1900e-003**	**0.2434**	**0.0645**	**1.1000e-003**	**0.0656**		**201.8913**	**201.8913**	**5.4800e-003**		**202.0284**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	0.4656	2.0175	20.8690	0.0466		0.0621	0.0621		0.0621	0.0621	0.0000	4,409.7537	4,409.7537	0.2176		4,415.1936
Total	**0.4656**	**2.0175**	**20.8690**	**0.0466**	**18.0663**	**0.0621**	**18.1283**	**9.9307**	**0.0621**	**9.9928**	**0.0000**	**4,409.7537**	**4,409.7537**	**0.2176**		**4,415.1936**

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	4.5300e-003	0.1466	0.0331	5.0000e-004	0.0123	1.6000e-004	0.0124	3.5300e-003	1.5000e-004	3.6900e-003		52.0153	52.0153	2.9000e-003		52.0878
Worker	0.0621	0.0378	0.3725	1.5000e-003	0.2299	1.0300e-003	0.2309	0.0610	9.5000e-004	0.0619		149.8760	149.8760	2.5800e-003		149.9406
Total	**0.0666**	**0.1843**	**0.4056**	**2.0000e-003**	**0.2422**	**1.1900e-003**	**0.2434**	**0.0645**	**1.1000e-003**	**0.0656**		**201.8913**	**201.8913**	**5.4800e-003**		**202.0284**

3.3 Fine Grading - 2030

Unmitigated 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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.2807	13.8462	23.0239	0.0699		0.4879	0.4879		0.4879	0.4879		7,213.1086	7,213.1086	0.2915		7,220.3963
Total	**3.2807**	**13.8462**	**23.0239**	**0.0699**	**8.6733**	**0.4879**	**9.1613**	**3.5965**	**0.4879**	**4.0844**		**7,213.1086**	**7,213.1086**	**0.2915**		**7,220.3963**

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	4.5300e-003	0.1466	0.0331	5.0000e-004	0.0123	1.6000e-004	0.0124	3.5300e-003	1.5000e-004	3.6900e-003		52.0153	52.0153	2.9000e-003		52.0878
Worker	0.0690	0.0420	0.4139	1.6700e-003	0.2555	1.1400e-003	0.2566	0.0678	1.0500e-003	0.0688		166.5289	166.5289	2.8700e-003		166.6007
Total	**0.0735**	**0.1885**	**0.4470**	**2.1700e-003**	**0.2677**	**1.3000e-003**	**0.2690**	**0.0713**	**1.2000e-003**	**0.0725**		**218.5442**	**218.5442**	**5.7700e-003**		**218.6885**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0699		0.1015	0.1015		0.1015	0.1015	0.0000	7,213.1086	7,213.1086	0.2915		7,220.3963
Total	**0.7616**	**3.3000**	**32.9991**	**0.0699**	**8.6733**	**0.1015**	**8.7749**	**3.5965**	**0.1015**	**3.6980**	**0.0000**	**7,213.1086**	**7,213.1086**	**0.2915**		**7,220.3963**

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	4.5300e-003	0.1466	0.0331	5.0000e-004	0.0123	1.6000e-004	0.0124	3.5300e-003	1.5000e-004	3.6900e-003		52.0153	52.0153	2.9000e-003		52.0878
Worker	0.0690	0.0420	0.4139	1.6700e-003	0.2555	1.1400e-003	0.2566	0.0678	1.0500e-003	0.0688		166.5289	166.5289	2.8700e-003		166.6007
Total	**0.0735**	**0.1885**	**0.4470**	**2.1700e-003**	**0.2677**	**1.3000e-003**	**0.2690**	**0.0713**	**1.2000e-003**	**0.0725**		**218.5442**	**218.5442**	**5.7700e-003**		**218.6885**

3.4 Utility Trenching - 2030

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	0.2256	0.5559	3.5601	6.3500e-003		0.0244	0.0244		0.0244	0.0244		601.7856	601.7856	0.0201		602.2886
Total	**0.2256**	**0.5559**	**3.5601**	**6.3500e-003**		**0.0244**	**0.0244**		**0.0244**	**0.0244**		**601.7856**	**601.7856**	**0.0201**		**602.2886**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0104	6.2900e-003	0.0621	2.5000e-004	0.0383	1.7000e-004	0.0385	0.0102	1.6000e-004	0.0103		24.9793	24.9793	4.3000e-004		24.9901
Total	**0.0104**	**6.2900e-003**	**0.0621**	**2.5000e-004**	**0.0383**	**1.7000e-004**	**0.0385**	**0.0102**	**1.6000e-004**	**0.0103**		**24.9793**	**24.9793**	**4.3000e-004**		**24.9901**

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	0.0635	0.2753	3.9180	6.3500e-003		8.4700e-003	8.4700e-003		8.4700e-003	8.4700e-003	0.0000	601.7856	601.7856	0.0201		602.2886
Total	**0.0635**	**0.2753**	**3.9180**	**6.3500e-003**		**8.4700e-003**	**8.4700e-003**		**8.4700e-003**	**8.4700e-003**	**0.0000**	**601.7856**	**601.7856**	**0.0201**		**602.2886**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0104	6.2900e-003	0.0621	2.5000e-004	0.0383	1.7000e-004	0.0385	0.0102	1.6000e-004	0.0103		24.9793	24.9793	4.3000e-004		24.9901
Total	**0.0104**	**6.2900e-003**	**0.0621**	**2.5000e-004**	**0.0383**	**1.7000e-004**	**0.0385**	**0.0102**	**1.6000e-004**	**0.0103**		**24.9793**	**24.9793**	**4.3000e-004**		**24.9901**

3.5 Building Construction - 2030

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	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

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	0.5162	16.7080	3.7751	0.0568	1.3985	0.0184	1.4169	0.4028	0.0176	0.4204		5,929.7411	5,929.7411	0.3309		5,938.0123
Worker	2.0178	1.2273	12.1070	0.0488	7.4722	0.0335	7.5057	1.9816	0.0308	2.0124		4,870.9697	4,870.9697	0.0840		4,873.0697
Total	**2.5340**	**17.9353**	**15.8821**	**0.1056**	**8.8708**	**0.0519**	**8.9226**	**2.3844**	**0.0484**	**2.4327**		**10,800.7108**	**10,800.7108**	**0.4149**		**10,811.0819**

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	0.3278	2.2347	17.4603	0.0310		0.0408	0.0408		0.0408	0.0408	0.0000	2,897.546 8	2,897.5468	0.1162		2,900.452 9
Total	**0.3278**	**2.2347**	**17.4603**	**0.0310**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,897.546 8**	**2,897.5468**	**0.1162**		**2,900.452 9**

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	0.5162	16.7080	3.7751	0.0568	1.3985	0.0184	1.4169	0.4028	0.0176	0.4204		5,929.741 1	5,929.7411	0.3309		5,938.012 3
Worker	2.0178	1.2273	12.1070	0.0488	7.4722	0.0335	7.5057	1.9816	0.0308	2.0124		4,870.969 7	4,870.9697	0.0840		4,873.069 7
Total	**2.5340**	**17.9353**	**15.8821**	**0.1056**	**8.8708**	**0.0519**	**8.9226**	**2.3844**	**0.0484**	**2.4327**		**10,800.71 08**	**10,800.710 8**	**0.4149**		**10,811.08 19**

3.5 Building Construction - 2031

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	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.546 8	2,897.5468	0.1162		2,900.452 9
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.546 8**	**2,897.5468**	**0.1162**		**2,900.452 9**

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	0.5034	16.5418	3.6612	0.0566	1.3986	0.0177	1.4162	0.4028	0.0169	0.4197		5,915.5142	5,915.5142	0.3286		5,923.7289
Worker	1.8385	1.1102	11.2540	0.0477	7.4722	0.0312	7.5034	1.9816	0.0287	2.0103		4,758.1490	4,758.1490	0.0755		4,760.0368
Total	**2.3419**	**17.6520**	**14.9152**	**0.1043**	**8.8708**	**0.0489**	**8.9197**	**2.3844**	**0.0456**	**2.4300**		**10,673.6632**	**10,673.6632**	**0.4041**		**10,683.7657**

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	0.3278	2.2347	17.4603	0.0310		0.0408	0.0408		0.0408	0.0408	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**0.3278**	**2.2347**	**17.4603**	**0.0310**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

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	0.5034	16.5418	3.6612	0.0566	1.3986	0.0177	1.4162	0.4028	0.0169	0.4197		5,915.5142	5,915.5142	0.3286		5,923.7289
Worker	1.8385	1.1102	11.2540	0.0477	7.4722	0.0312	7.5034	1.9816	0.0287	2.0103		4,758.1490	4,758.1490	0.0755		4,760.0368
Total	**2.3419**	**17.6520**	**14.9152**	**0.1043**	**8.8708**	**0.0489**	**8.9197**	**2.3844**	**0.0456**	**2.4300**		**10,673.6632**	**10,673.6632**	**0.4041**		**10,683.7657**

3.5 Building Construction - 2032

Unmitigated 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	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

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	0.4937	16.3964	3.5864	0.0565	1.3986	0.0171	1.4157	0.4028	0.0164	0.4192		5,905.7851	5,905.7851	0.3251		5,913.9121
Worker	1.6828	1.0109	10.5179	0.0467	7.4722	0.0291	7.5013	1.9816	0.0268	2.0083		4,659.4874	4,659.4874	0.0683		4,661.1946
Total	**2.1765**	**17.4073**	**14.1042**	**0.1032**	**8.8708**	**0.0462**	**8.9170**	**2.3844**	**0.0431**	**2.4275**		**10,565.2725**	**10,565.2725**	**0.3934**		**10,575.1067**

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	0.3278	2.2347	17.4603	0.0310		0.0408	0.0408		0.0408	0.0408	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**0.3278**	**2.2347**	**17.4603**	**0.0310**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

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	0.4937	16.3964	3.5864	0.0565	1.3986	0.0171	1.4157	0.4028	0.0164	0.4192		5,905.7851	5,905.7851	0.3251		5,913.9121
Worker	1.6828	1.0109	10.5179	0.0467	7.4722	0.0291	7.5013	1.9816	0.0268	2.0083		4,659.4874	4,659.4874	0.0683		4,661.1946
Total	**2.1765**	**17.4073**	**14.1042**	**0.1032**	**8.8708**	**0.0462**	**8.9170**	**2.3844**	**0.0431**	**2.4275**		**10,565.2725**	**10,565.2725**	**0.3934**		**10,575.1067**

3.6 Paving - 2032

Unmitigated 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	1.3845	7.1202	15.8495	0.0281		0.3306	0.3306		0.3306	0.3306		2,656.5168	2,656.5168	0.1245		2,659.6302
Paving	0.0347					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4192**	**7.1202**	**15.8495**	**0.0281**		**0.3306**	**0.3306**		**0.3306**	**0.3306**		**2,656.5168**	**2,656.5168**	**0.1245**		**2,659.6302**

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	0.0000	0.0000	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	0.0432	0.0259	0.2697	1.2000e-003	0.1916	7.5000e-004	0.1923	0.0508	6.9000e-004	0.0515		119.4740	119.4740	1.7500e-003		119.5178
Total	**0.0432**	**0.0259**	**0.2697**	**1.2000e-003**	**0.1916**	**7.5000e-004**	**0.1923**	**0.0508**	**6.9000e-004**	**0.0515**		**119.4740**	**119.4740**	**1.7500e-003**		**119.5178**

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	0.2805	1.2154	17.2957	0.0281		0.0374	0.0374		0.0374	0.0374	0.0000	2,656.5168	2,656.5168	0.1245		2,659.6302
Paving	0.0347					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3151**	**1.2154**	**17.2957**	**0.0281**		**0.0374**	**0.0374**		**0.0374**	**0.0374**	**0.0000**	**2,656.5168**	**2,656.5168**	**0.1245**		**2,659.6302**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0432	0.0259	0.2697	1.2000e-003	0.1916	7.5000e-004	0.1923	0.0508	6.9000e-004	0.0515		119.4740	119.4740	1.7500e-003		119.5178
Total	**0.0432**	**0.0259**	**0.2697**	**1.2000e-003**	**0.1916**	**7.5000e-004**	**0.1923**	**0.0508**	**6.9000e-004**	**0.0515**		**119.4740**	**119.4740**	**1.7500e-003**		**119.5178**

3.7 Architectural Coating - 2032

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	17.9307					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	**18.0615**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**281.4481**	**281.4481**	**0.0114**		**281.7328**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3366	0.2022	2.1036	9.3300e-003	1.4945	5.8200e-003	1.5003	0.3963	5.3500e-003	0.4017		931.8975	931.8975	0.0137		932.2389
Total	**0.3366**	**0.2022**	**2.1036**	**9.3300e-003**	**1.4945**	**5.8200e-003**	**1.5003**	**0.3963**	**5.3500e-003**	**0.4017**		**931.8975**	**931.8975**	**0.0137**		**932.2389**

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	17.9307					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	**18.0615**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**	**0.0000**	**281.4481**	**281.4481**	**0.0114**		**281.7328**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3366	0.2022	2.1036	9.3300e-003	1.4945	5.8200e-003	1.5003	0.3963	5.3500e-003	0.4017		931.8975	931.8975	0.0137		932.2389
Total	**0.3366**	**0.2022**	**2.1036**	**9.3300e-003**	**1.4945**	**5.8200e-003**	**1.5003**	**0.3963**	**5.3500e-003**	**0.4017**		**931.8975**	**931.8975**	**0.0137**		**932.2389**

3.8 Finishing/Landscaping - 2032

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	0.2256	0.5559	3.5601	6.3500e-003		0.0244	0.0244		0.0244	0.0244		601.7856	601.7856	0.0201		602.2886
Total	**0.2256**	**0.5559**	**3.5601**	**6.3500e-003**		**0.0244**	**0.0244**		**0.0244**	**0.0244**		**601.7856**	**601.7856**	**0.0201**		**602.2886**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.6300e-003	5.1800e-003	0.0539	2.4000e-004	0.0383	1.5000e-004	0.0385	0.0102	1.4000e-004	0.0103		23.8948	23.8948	3.5000e-004		23.9036
Total	**8.6300e-003**	**5.1800e-003**	**0.0539**	**2.4000e-004**	**0.0383**	**1.5000e-004**	**0.0385**	**0.0102**	**1.4000e-004**	**0.0103**		**23.8948**	**23.8948**	**3.5000e-004**		**23.9036**

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	0.0635	0.2753	3.9180	6.3500e-003		8.4700e-003	8.4700e-003		8.4700e-003	8.4700e-003	0.0000	601.7856	601.7856	0.0201		602.2886
Total	**0.0635**	**0.2753**	**3.9180**	**6.3500e-003**		**8.4700e-003**	**8.4700e-003**		**8.4700e-003**	**8.4700e-003**	**0.0000**	**601.7856**	**601.7856**	**0.0201**		**602.2886**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.6300e-003	5.1800e-003	0.0539	2.4000e-004	0.0383	1.5000e-004	0.0385	0.0102	1.4000e-004	0.0103		23.8948	23.8948	3.5000e-004		23.9036
Total	**8.6300e-003**	**5.1800e-003**	**0.0539**	**2.4000e-004**	**0.0383**	**1.5000e-004**	**0.0385**	**0.0102**	**1.4000e-004**	**0.0103**		**23.8948**	**23.8948**	**3.5000e-004**		**23.9036**

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

Hamilton High School Expansion Phase 2 Mitigated Construction

Glenn County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High School	82.00	1000sqft	1.88	82,000.00	0
Other Asphalt Surfaces	18.00	1000sqft	0.41	18,000.00	0
Other Non-Asphalt Surfaces	1,293.92	1000sqft	29.70	1,293,920.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	61
Climate Zone	3			**Operational Year**	2032
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - BSF is conservative based on data provided by applicant

Construction Phase - schedule normalized based on CalEEMod defaults and data provided by applicant

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - assuming 1 excavator for finishing/landscaping

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - assuming 1 excavator for utility trenching phase

Trips and VMT - Assuming 2 vendor trips/water truck/day

Grading -

Architectural Coating - MM: use less than 25g/L VOC content paint for interior coatings.
Assuming 90% of interior and exterior would be painted based on data from applicant, accounts for area of parking lot only

Construction Off-road Equipment Mitigation - MM: use building construction equipment that meets the Tier 4 (interim) emissions standards for off-road diesel-powered construction equipment with more than 50 horsepower

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	41,000.00	36,900.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	123,000.00	110,700.00
tblArchitecturalCoating	ConstArea_Parking	78,715.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	25.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	35.00	31.00
tblConstructionPhase	NumDays	500.00	448.00
tblConstructionPhase	NumDays	45.00	40.00
tblConstructionPhase	NumDays	35.00	31.00
tblConstructionPhase	NumDays	20.00	18.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

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					
2030	0.2855	1.7890	2.3512	9.3800e-003	0.8014	0.0245	0.8259	0.2868	0.0244	0.3111	0.0000	855.0047	855.0047	0.0321	0.0000	855.8082
2031	0.4523	3.3335	4.0532	0.0180	1.1168	0.0257	1.1425	0.3011	0.0253	0.3264	0.0000	1,641.9068	1,641.9068	0.0593	0.0000	1,643.3889
2032	0.4410	1.1421	1.5396	6.1600e-003	0.3677	0.0134	0.3811	0.0991	0.0133	0.1124	0.0000	558.6701	558.6701	0.0200	0.0000	559.1704
Maximum	**0.4523**	**3.3335**	**4.0532**	**0.0180**	**1.1168**	**0.0257**	**1.1425**	**0.3011**	**0.0253**	**0.3264**	**0.0000**	**1,641.9068**	**1,641.9068**	**0.0593**	**0.0000**	**1,643.3889**

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					
2030	0.1641	1.1669	2.6634	9.3800e-003	0.8014	7.6200e-003	0.8090	0.2868	7.4300e-003	0.2942	0.0000	855.0043	855.0043	0.0321	0.0000	855.8078
2031	0.3242	2.5897	4.2233	0.0180	1.1168	0.0117	1.1285	0.3011	0.0113	0.3124	0.0000	1,641.9064	1,641.9064	0.0593	0.0000	1,643.3885
2032	0.3838	0.8212	1.6159	6.1600e-003	0.3677	4.5100e-003	0.3722	0.0991	4.3800e-003	0.1034	0.0000	558.6699	558.6699	0.0200	0.0000	559.1702
Maximum	**0.3838**	**2.5897**	**4.2233**	**0.0180**	**1.1168**	**0.0117**	**1.1285**	**0.3011**	**0.0113**	**0.3124**	**0.0000**	**1,641.9064**	**1,641.9064**	**0.0593**	**0.0000**	**1,643.3885**

	ROG	**NOx**	**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	**26.02**	**26.93**	**-7.03**	**0.00**	**0.00**	**62.60**	**1.70**	**0.00**	**63.34**	**5.31**	**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	**5-1-2030**	**7-31-2030**	0.4908	0.1106
2	**8-1-2030**	**10-31-2030**	0.9483	0.7332
3	**11-1-2030**	**1-31-2031**	0.9710	0.7515
4	**2-1-2031**	**4-30-2031**	0.9260	0.7136
5	**5-1-2031**	**7-31-2031**	0.9503	0.7308
6	**8-1-2031**	**10-31-2031**	0.9538	0.7343
7	**11-1-2031**	**1-31-2032**	0.9561	0.7366
8	**2-1-2032**	**4-30-2032**	0.8594	0.6436
9	**5-1-2032**	**7-31-2032**	0.4069	0.3194
		Highest	0.9710	0.7515

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2030	5/25/2030	5	18	

2	Fine Grading	Grading	5/26/2030	7/19/2030	5	40	
3	Utility Trenching	Trenching	7/20/2030	8/2/2030	5	10	
4	Building Construction	Building Construction	8/3/2030	4/21/2032	5	448	
5	Paving	Paving	4/22/2032	6/3/2032	5	31	
6	Architectural Coating	Architectural Coating	6/4/2032	7/16/2032	5	31	
7	Finishing/Landscaping	Trenching	7/17/2032	7/31/2032	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 30.11

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 110,700; Non-Residential Outdoor: 36,900; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Fine Grading	Excavators	2	8.00	158	0.38
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Fine Grading	Scrapers	2	8.00	367	0.48
Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Utility Trenching	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	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	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Finishing/Landscaping	Excavators	1	8.00	158	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	8	20.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Utility Trenching	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	585.00	228.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	117.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Site Preparation - 2030

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					0.1626	0.0000	0.1626	0.0894	0.0000	0.0894	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0220	0.1230	0.1466	4.2000e-004		3.9300e-003	3.9300e-003		3.9300e-003	3.9300e-003	0.0000	36.0042	36.0042	1.7800e-003	0.0000	36.0486
Total	**0.0220**	**0.1230**	**0.1466**	**4.2000e-004**	**0.1626**	**3.9300e-003**	**0.1665**	**0.0894**	**3.9300e-003**	**0.0933**	**0.0000**	**36.0042**	**36.0042**	**1.7800e-003**	**0.0000**	**36.0486**

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	4.0000e-005	1.3300e-003	2.7000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4340	0.4340	2.0000e-005	0.0000	0.4345
Worker	5.1000e-004	3.0000e-004	3.4500e-003	1.0000e-005	1.9900e-003	1.0000e-005	2.0000e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.2669	1.2669	2.0000e-005	0.0000	1.2675
Total	**5.5000e-004**	**1.6300e-003**	**3.7200e-003**	**1.0000e-005**	**2.1000e-003**	**1.0000e-005**	**2.1100e-003**	**5.6000e-004**	**1.0000e-005**	**5.7000e-004**	**0.0000**	**1.7009**	**1.7009**	**4.0000e-005**	**0.0000**	**1.7020**

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					0.1626	0.0000	0.1626	0.0894	0.0000	0.0894	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1900e-003	0.0182	0.1878	4.2000e-004		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0000	36.0041	36.0041	1.7800e-003	0.0000	36.0485
Total	**4.1900e-003**	**0.0182**	**0.1878**	**4.2000e-004**	**0.1626**	**5.6000e-004**	**0.1632**	**0.0894**	**5.6000e-004**	**0.0899**	**0.0000**	**36.0041**	**36.0041**	**1.7800e-003**	**0.0000**	**36.0485**

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	4.0000e-005	1.3300e-003	2.7000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4340	0.4340	2.0000e-005	0.0000	0.4345
Worker	5.1000e-004	3.0000e-004	3.4500e-003	1.0000e-005	1.9900e-003	1.0000e-005	2.0000e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.2669	1.2669	2.0000e-005	0.0000	1.2675
Total	**5.5000e-004**	**1.6300e-003**	**3.7200e-003**	**1.0000e-005**	**2.1000e-003**	**1.0000e-005**	**2.1100e-003**	**5.6000e-004**	**1.0000e-005**	**5.7000e-004**	**0.0000**	**1.7009**	**1.7009**	**4.0000e-005**	**0.0000**	**1.7020**

3.3 Fine Grading - 2030

Unmitigated 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					0.1735	0.0000	0.1735	0.0719	0.0000	0.0719	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0656	0.2769	0.4605	1.4000e-003		9.7600e-003	9.7600e-003		9.7600e-003	9.7600e-003	0.0000	130.8724	130.8724	5.2900e-003	0.0000	131.0047
Total	**0.0656**	**0.2769**	**0.4605**	**1.4000e-003**	**0.1735**	**9.7600e-003**	**0.1832**	**0.0719**	**9.7600e-003**	**0.0817**	**0.0000**	**130.8724**	**130.8724**	**5.2900e-003**	**0.0000**	**131.0047**

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	9.0000e-005	2.9400e-003	6.0000e-004	1.0000e-005	2.4000e-004	0.0000	2.4000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.9644	0.9644	5.0000e-005	0.0000	0.9656
Worker	1.2600e-003	7.5000e-004	8.5200e-003	3.0000e-005	4.9200e-003	2.0000e-005	4.9500e-003	1.3100e-003	2.0000e-005	1.3300e-003	0.0000	3.1282	3.1282	5.0000e-005	0.0000	3.1296
Total	**1.3500e-003**	**3.6900e-003**	**9.1200e-003**	**4.0000e-005**	**5.1600e-003**	**2.0000e-005**	**5.1900e-003**	**1.3800e-003**	**2.0000e-005**	**1.4000e-003**	**0.0000**	**4.0926**	**4.0926**	**1.0000e-004**	**0.0000**	**4.0952**

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					0.1735	0.0000	0.1735	0.0719	0.0000	0.0719	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0152	0.0660	0.6600	1.4000e-003		2.0300e-003	2.0300e-003		2.0300e-003	2.0300e-003	0.0000	130.8723	130.8723	5.2900e-003	0.0000	131.0045
Total	**0.0152**	**0.0660**	**0.6600**	**1.4000e-003**	**0.1735**	**2.0300e-003**	**0.1755**	**0.0719**	**2.0300e-003**	**0.0740**	**0.0000**	**130.8723**	**130.8723**	**5.2900e-003**	**0.0000**	**131.0045**

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	2.9400e-003	6.0000e-004	1.0000e-005	2.4000e-004	0.0000	2.4000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.9644	0.9644	5.0000e-005	0.0000	0.9656
Worker	1.2600e-003	7.5000e-004	8.5200e-003	3.0000e-005	4.9200e-003	2.0000e-005	4.9500e-003	1.3100e-003	2.0000e-005	1.3300e-003	0.0000	3.1282	3.1282	5.0000e-005	0.0000	3.1296
Total	**1.3500e-003**	**3.6900e-003**	**9.1200e-003**	**4.0000e-005**	**5.1600e-003**	**2.0000e-005**	**5.1900e-003**	**1.3800e-003**	**2.0000e-005**	**1.4000e-003**	**0.0000**	**4.0926**	**4.0926**	**1.0000e-004**	**0.0000**	**4.0952**

3.4 Utility Trenching - 2030

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	1.1300e-003	2.7800e-003	0.0178	3.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	2.7297	2.7297	9.0000e-005	0.0000	2.7319
Total	**1.1300e-003**	**2.7800e-003**	**0.0178**	**3.0000e-005**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**	**0.0000**	**2.7297**	**2.7297**	**9.0000e-005**	**0.0000**	**2.7319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	3.0000e-005	3.2000e-004	0.0000	1.8000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1173	0.1173	0.0000	0.0000	0.1174
Total	**5.0000e-005**	**3.0000e-005**	**3.2000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.9000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1173**	**0.1173**	**0.0000**	**0.0000**	**0.1174**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2000e-004	1.3800e-003	0.0196	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.7297	2.7297	9.0000e-005	0.0000	2.7319
Total	**3.2000e-004**	**1.3800e-003**	**0.0196**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.7297**	**2.7297**	**9.0000e-005**	**0.0000**	**2.7319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	3.0000e-005	3.2000e-004	0.0000	1.8000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1173	0.1173	0.0000	0.0000	0.1174
Total	**5.0000e-005**	**3.0000e-005**	**3.2000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.9000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1173**	**0.1173**	**0.0000**	**0.0000**	**0.1174**

3.5 Building Construction - 2030

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	0.0700	0.4245	0.8644	1.6600e-003		7.9300e-003	7.9300e-003		7.9300e-003	7.9300e-003	0.0000	140.6307	140.6307	5.6400e-003	0.0000	140.7717
Total	**0.0700**	**0.4245**	**0.8644**	**1.6600e-003**		**7.9300e-003**	**7.9300e-003**		**7.9300e-003**	**7.9300e-003**	**0.0000**	**140.6307**	**140.6307**	**5.6400e-003**	**0.0000**	**140.7717**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0264	0.8979	0.1819	3.1000e-003	0.0726	9.7000e-004	0.0736	0.0210	9.3000e-004	0.0219	0.0000	294.0918	294.0918	0.0149	0.0000	294.4651
Worker	0.0985	0.0585	0.6668	2.7000e-003	0.3852	1.7900e-003	0.3870	0.1025	1.6500e-003	0.1041	0.0000	244.7652	244.7652	4.2600e-003	0.0000	244.8716
Total	**0.1249**	**0.9564**	**0.8487**	**5.8000e-003**	**0.4578**	**2.7600e-003**	**0.4606**	**0.1235**	**2.5800e-003**	**0.1260**	**0.0000**	**538.8569**	**538.8569**	**0.0192**	**0.0000**	**539.3367**

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	0.0175	0.1196	0.9341	1.6600e-003		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003	0.0000	140.6305	140.6305	5.6400e-003	0.0000	140.7715
Total	**0.0175**	**0.1196**	**0.9341**	**1.6600e-003**		**2.1800e-003**	**2.1800e-003**		**2.1800e-003**	**2.1800e-003**	**0.0000**	**140.6305**	**140.6305**	**5.6400e-003**	**0.0000**	**140.7715**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0264	0.8979	0.1819	3.1000e-003	0.0726	9.7000e-004	0.0736	0.0210	9.3000e-004	0.0219	0.0000	294.0918	294.0918	0.0149	0.0000	294.4651
Worker	0.0985	0.0585	0.6668	2.7000e-003	0.3852	1.7900e-003	0.3870	0.1025	1.6500e-003	0.1041	0.0000	244.7652	244.7652	4.2600e-003	0.0000	244.8716
Total	**0.1249**	**0.9564**	**0.8487**	**5.8000e-003**	**0.4578**	**2.7600e-003**	**0.4606**	**0.1235**	**2.5800e-003**	**0.1260**	**0.0000**	**538.8569**	**538.8569**	**0.0192**	**0.0000**	**539.3367**

3.5 Building Construction - 2031

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	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0336**	**343.0336**	**0.0138**	**0.0000**	**343.3777**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0628	2.1689	0.4299	7.5500e-003	0.1771	2.2900e-003	0.1794	0.0512	2.1800e-003	0.0534	0.0000	715.6326	715.6326	0.0362	0.0000	716.5369
Worker	0.2186	0.1291	1.5148	6.4400e-003	0.9397	4.0700e-003	0.9438	0.2499	3.7400e-003	0.2536	0.0000	583.2406	583.2406	9.3500e-003	0.0000	583.4743
Total	**0.2815**	**2.2980**	**1.9447**	**0.0140**	**1.1168**	**6.3600e-003**	**1.1231**	**0.3011**	**5.9200e-003**	**0.3071**	**0.0000**	**1,298.8732**	**1,298.8732**	**0.0455**	**0.0000**	**1,300.0112**

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	0.0428	0.2916	2.2786	4.0400e-003		5.3200e-003	5.3200e-003		5.3200e-003	5.3200e-003	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
Total	**0.0428**	**0.2916**	**2.2786**	**4.0400e-003**		**5.3200e-003**	**5.3200e-003**		**5.3200e-003**	**5.3200e-003**	**0.0000**	**343.0332**	**343.0332**	**0.0138**	**0.0000**	**343.3773**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0628	2.1689	0.4299	7.5500e-003	0.1771	2.2900e-003	0.1794	0.0512	2.1800e-003	0.0534	0.0000	715.6326	715.6326	0.0362	0.0000	716.5369
Worker	0.2186	0.1291	1.5148	6.4400e-003	0.9397	4.0700e-003	0.9438	0.2499	3.7400e-003	0.2536	0.0000	583.2406	583.2406	9.3500e-003	0.0000	583.4743
Total	**0.2815**	**2.2980**	**1.9447**	**0.0140**	**1.1168**	**6.3600e-003**	**1.1231**	**0.3011**	**5.9200e-003**	**0.3071**	**0.0000**	**1,298.8732**	**1,298.8732**	**0.0455**	**0.0000**	**1,300.0112**

3.5 Building Construction - 2032

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	0.0524	0.3174	0.6463	1.2400e-003		5.9300e-003	5.9300e-003		5.9300e-003	5.9300e-003	0.0000	105.1444	105.1444	4.2200e-003	0.0000	105.2499
Total	**0.0524**	**0.3174**	**0.6463**	**1.2400e-003**		**5.9300e-003**	**5.9300e-003**		**5.9300e-003**	**5.9300e-003**	**0.0000**	**105.1444**	**105.1444**	**4.2200e-003**	**0.0000**	**105.2499**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0189	0.6591	0.1290	2.3100e-003	0.0543	6.8000e-004	0.0550	0.0157	6.5000e-004	0.0164	0.0000	218.9932	218.9932	0.0110	0.0000	219.2674
Worker	0.0613	0.0360	0.4347	1.9300e-003	0.2880	1.1600e-003	0.2892	0.0766	1.0700e-003	0.0777	0.0000	175.0713	175.0713	2.5900e-003	0.0000	175.1362
Total	**0.0802**	**0.6951**	**0.5637**	**4.2400e-003**	**0.3423**	**1.8400e-003**	**0.3442**	**0.0923**	**1.7200e-003**	**0.0940**	**0.0000**	**394.0645**	**394.0645**	**0.0136**	**0.0000**	**394.4035**

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	0.0131	0.0894	0.6984	1.2400e-003		1.6300e-003	1.6300e-003		1.6300e-003	1.6300e-003	0.0000	105.1443	105.1443	4.2200e-003	0.0000	105.2497
Total	**0.0131**	**0.0894**	**0.6984**	**1.2400e-003**		**1.6300e-003**	**1.6300e-003**		**1.6300e-003**	**1.6300e-003**	**0.0000**	**105.1443**	**105.1443**	**4.2200e-003**	**0.0000**	**105.2497**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0189	0.6591	0.1290	2.3100e-003	0.0543	6.8000e-004	0.0550	0.0157	6.5000e-004	0.0164	0.0000	218.9932	218.9932	0.0110	0.0000	219.2674
Worker	0.0613	0.0360	0.4347	1.9300e-003	0.2880	1.1600e-003	0.2892	0.0766	1.0700e-003	0.0777	0.0000	175.0713	175.0713	2.5900e-003	0.0000	175.1362
Total	**0.0802**	**0.6951**	**0.5637**	**4.2400e-003**	**0.3423**	**1.8400e-003**	**0.3442**	**0.0923**	**1.7200e-003**	**0.0940**	**0.0000**	**394.0645**	**394.0645**	**0.0136**	**0.0000**	**394.4035**

3.6 Paving - 2032

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	0.0215	0.1104	0.2457	4.3000e-004		5.1200e-003	5.1200e-003		5.1200e-003	5.1200e-003	0.0000	37.3543	37.3543	1.7500e-003	0.0000	37.3980
Paving	5.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0220**	**0.1104**	**0.2457**	**4.3000e-004**		**5.1200e-003**	**5.1200e-003**		**5.1200e-003**	**5.1200e-003**	**0.0000**	**37.3543**	**37.3543**	**1.7500e-003**	**0.0000**	**37.3980**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	3.6000e-004	4.3200e-003	2.0000e-005	2.8600e-003	1.0000e-005	2.8700e-003	7.6000e-004	1.0000e-005	7.7000e-004	0.0000	1.7395	1.7395	3.0000e-005	0.0000	1.7401
Total	**6.1000e-004**	**3.6000e-004**	**4.3200e-003**	**2.0000e-005**	**2.8600e-003**	**1.0000e-005**	**2.8700e-003**	**7.6000e-004**	**1.0000e-005**	**7.7000e-004**	**0.0000**	**1.7395**	**1.7395**	**3.0000e-005**	**0.0000**	**1.7401**

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	4.3500e-003	0.0188	0.2681	4.3000e-004		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	37.3542	37.3542	1.7500e-003	0.0000	37.3980
Paving	5.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.8900e-003**	**0.0188**	**0.2681**	**4.3000e-004**		**5.8000e-004**	**5.8000e-004**		**5.8000e-004**	**5.8000e-004**	**0.0000**	**37.3542**	**37.3542**	**1.7500e-003**	**0.0000**	**37.3980**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	3.6000e-004	4.3200e-003	2.0000e-005	2.8600e-003	1.0000e-005	2.8700e-003	7.6000e-004	1.0000e-005	7.7000e-004	0.0000	1.7395	1.7395	3.0000e-005	0.0000	1.7401
Total	**6.1000e-004**	**3.6000e-004**	**4.3200e-003**	**2.0000e-005**	**2.8600e-003**	**1.0000e-005**	**2.8700e-003**	**7.6000e-004**	**1.0000e-005**	**7.7000e-004**	**0.0000**	**1.7395**	**1.7395**	**3.0000e-005**	**0.0000**	**1.7401**

3.7 Architectural Coating - 2032

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	0.2779					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0300e-003	0.0133	0.0279	5.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	3.9575	3.9575	1.6000e-004	0.0000	3.9616
Total	**0.2800**	**0.0133**	**0.0279**	**5.0000e-005**		**3.1000e-004**	**3.1000e-004**		**3.1000e-004**	**3.1000e-004**	**0.0000**	**3.9575**	**3.9575**	**1.6000e-004**	**0.0000**	**3.9616**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7500e-003	2.7900e-003	0.0337	1.5000e-004	0.0223	9.0000e-005	0.0224	5.9400e-003	8.0000e-005	6.0200e-003	0.0000	13.5680	13.5680	2.0000e-004	0.0000	13.5731
Total	**4.7500e-003**	**2.7900e-003**	**0.0337**	**1.5000e-004**	**0.0223**	**9.0000e-005**	**0.0224**	**5.9400e-003**	**8.0000e-005**	**6.0200e-003**	**0.0000**	**13.5680**	**13.5680**	**2.0000e-004**	**0.0000**	**13.5731**

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	0.2779					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0300e-003	0.0133	0.0279	5.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	3.9575	3.9575	1.6000e-004	0.0000	3.9615
Total	**0.2800**	**0.0133**	**0.0279**	**5.0000e-005**		**3.1000e-004**	**3.1000e-004**		**3.1000e-004**	**3.1000e-004**	**0.0000**	**3.9575**	**3.9575**	**1.6000e-004**	**0.0000**	**3.9615**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7500e-003	2.7900e-003	0.0337	1.5000e-004	0.0223	9.0000e-005	0.0224	5.9400e-003	8.0000e-005	6.0200e-003	0.0000	13.5680	13.5680	2.0000e-004	0.0000	13.5731
Total	**4.7500e-003**	**2.7900e-003**	**0.0337**	**1.5000e-004**	**0.0223**	**9.0000e-005**	**0.0224**	**5.9400e-003**	**8.0000e-005**	**6.0200e-003**	**0.0000**	**13.5680**	**13.5680**	**2.0000e-004**	**0.0000**	**13.5731**

3.8 Finishing/Landscaping - 2032

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	1.1300e-003	2.7800e-003	0.0178	3.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	2.7297	2.7297	9.0000e-005	0.0000	2.7319
Total	**1.1300e-003**	**2.7800e-003**	**0.0178**	**3.0000e-005**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**	**0.0000**	**2.7297**	**2.7297**	**9.0000e-005**	**0.0000**	**2.7319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	2.0000e-005	2.8000e-004	0.0000	1.8000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1122	0.1122	0.0000	0.0000	0.1123
Total	**4.0000e-005**	**2.0000e-005**	**2.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.9000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1122**	**0.1122**	**0.0000**	**0.0000**	**0.1123**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2000e-004	1.3800e-003	0.0196	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.7297	2.7297	9.0000e-005	0.0000	2.7319
Total	**3.2000e-004**	**1.3800e-003**	**0.0196**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.7297**	**2.7297**	**9.0000e-005**	**0.0000**	**2.7319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	2.0000e-005	2.8000e-004	0.0000	1.8000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1122	0.1122	0.0000	0.0000	0.1123
Total	**4.0000e-005**	**2.0000e-005**	**2.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.9000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1122**	**0.1122**	**0.0000**	**0.0000**	**0.1123**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B

CULTURAL RESOURCES REPORT

Cultural Resources Study for the Hamilton Union High School Expansion Project Hamilton City, Glenn County, California

Taylor Alshuth, BA
and
Eileen Barrow, MA/RPA

November 20, 2019

Cultural Resources Study for the Hamilton Union High School Expansion Project Hamilton City, Glenn County, California

Prepared by:

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November 20, 2019

ABSTRACT

Tom Origer & Associates conducted a cultural resources study for the Hamilton Union High School Expansion Project, Hamilton City, Glenn County, California. The study was requested and authorized by Steve Noack, PlaceWorks. This study was conducted to meet the requirements of the Hamilton Unified School District and those of the California Environmental Quality Act. The purpose of this report is to identify potential historical resources other than Tribal Cultural Resources, as defined in Public Resources Code [PRC] 21074 (a)(1)(A)-(B) and discussed in the Regulatory Context section). Tribal Cultural Resources are defined in Public Resources Code [PRC] 21074 (a)(1)(A)-(B).

The proposed project includes the acquisition of property adjacent to Hamilton High School in order to expand and modernize program space.

This study included archival research at the Northeast Information Center, Chico State University, examination of the library and files of Tom Origer & Associates, Native American contact, and field inspection of the study area. No cultural resources were found within the study area.

This report contains information about the locations of archaeological sites. For the protection of these resources, this report, and such location information, should not be publicly circulated.

Synopsis

Project:	Hamilton Union High School Expansion Project
Location:	500 Sixth Street, Hamilton City, Glenn County
APN:	A portion of 032-230-015
Quadrangles:	Foster Island and Hamilton City 7.5’ series
Study Type:	Intensive
Scope:	Approximately 45 acres
Field Hours:	six person-hours
NEIC #:	W19-180
TOA #:	2019-069
Finds:	None

Key Personnel

Eileen Barrow conducted the records search at the Northeast Information Center, conducted the fieldwork, and coauthored the report for this study. Mrs. Barrow has been with Tom Origer & Associates since 2005. She holds a Master of Arts in cultural resources management from Sonoma State University. Mrs. Barrow's experience includes work that has been completed in compliance with local ordinances, CEQA, NEPA, and Section 106 (NHPA) requirements. Her professional affiliations include the Society for American Archaeology, the Society for California Archaeology, the Cotati Historical Society, the Sonoma County Historical Society, the Western Obsidian Focus Group, and the Register of Professional Archaeologists (#989269).

Taylor Alshuth coauthored the report for this study. Mr. Alshuth obtained a Bachelor of Arts degree in Anthropology from Humboldt State University in 2014, after obtaining an Associate of Arts degree in Anthropology at Santa Rosa Junior College in 2012. He has been affiliated with the Society for California Archaeology, the Archaeological Institute of America, and the Archaeological Conservancy. Mr. Alshuth has been a part of northern California archaeology since 2014.

CONTENTS

FIGURES

TABLES

INTRODUCTION

This report describes a cultural resources study for the Hamilton High School Expansion Project, 500 Sixth Street, Hamilton City, Glenn County, California (Figure 1). The study was requested and authorized by Steve Noack, PlaceWorks. This study was conducted to meet the requirements of the Hamilton Unified School District and those of the California Environmental Quality Act (CEQA). The proposed project includes the acquisition of property adjacent to Hamilton High School in order to expand and modernize program space. Documentation pertaining to this study is on file at Tom Origer & Associates (File No. 2019-069).

REGULATORY CONTEXT

The State of California requires that cultural resources be considered during the environmental review process. This process is outlined in CEQA and accomplished by an inventory of resources within a study area and by assessing the potential that historical resources could be affected by development. The term “Historical Resources” encompasses all forms of cultural resources including prehistoric and historical archaeological sites and built environment resources (e.g., buildings, bridges, canals), that would be eligible for inclusion on the California Register of Historical Resources (California Register). An additional category of resources is defined in CEQA under the term “Tribal Cultural Resources” (Public Resources Code Section 21074). They are not addressed in this report because Tribal Cultural Resources are resources that are of specific concern to California Native American tribes, and knowledge of such resources is limited to tribal people. Pursuant to CEQA, as revised in July 2015, such resources are to be identified by tribal people in direct, confidential consultation with the lead agency (PRC §21080.3.1).

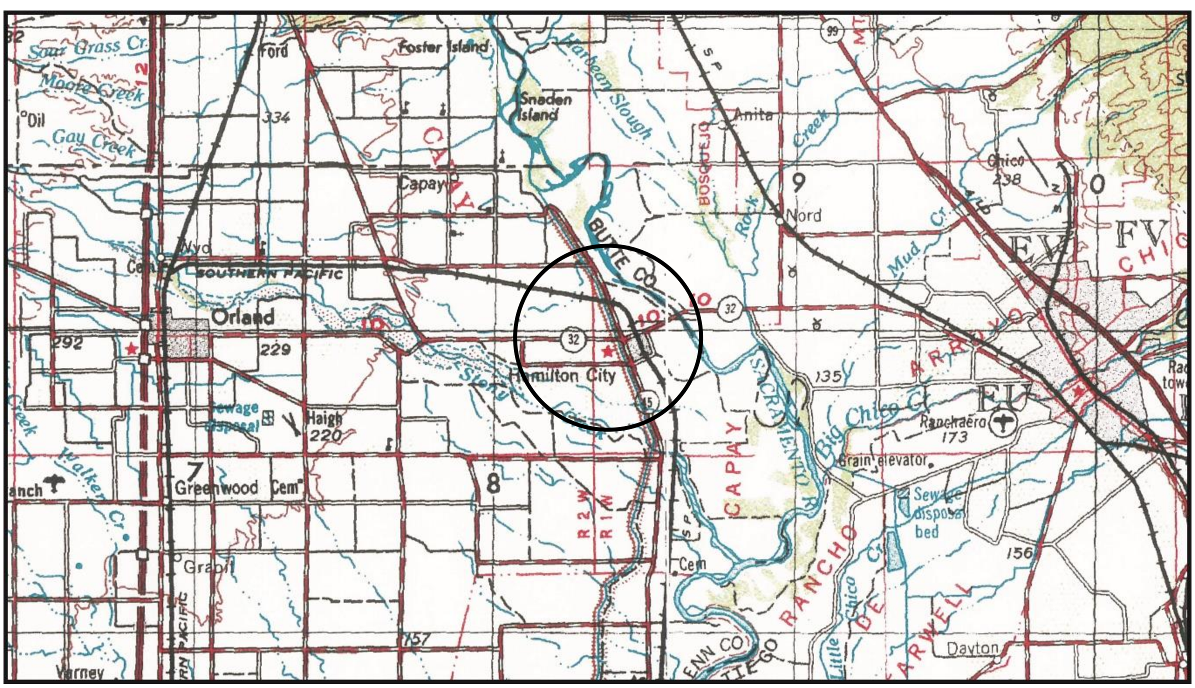

Figure 1. Project vicinity (adapted from the 1970 Chico and the 1980 Ukiah 1:250,000-scale USGS maps).

This cultural resources study was designed to satisfy environmental issues specified in the CEQA and its guidelines (Title 14 CCR §15064.5) by: (1) identifying historical resources within the project area; (2) offering a preliminary significance evaluation of the identified cultural resources; (3) assessing resource vulnerability to effects that could arise from project activities; and (4) offering suggestions designed to protect resource integrity, as warranted.

Resource Definitions

Historical resources are classified by the State Office of Historic Preservation (OHP) as sites, buildings, structures, objects and districts, and each is described by OHP (1995) as follows.

> **Site.** A site is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archaeological value regardless of the value of any existing structure.
>
> **Building.** A building, such as a house, barn, church, hotel, or similar construction, is created principally to shelter any form of human activity. "Building" may also be used to refer to a historically and functionally related unit, such as a courthouse and jail, or a house and barn.
>
> **Structure.** The term "structure" is used to distinguish from buildings those functional constructions made usually for purposes other than creating human shelter.
>
> **Object.** The term "object" is used to distinguish from buildings and structures those constructions that are primarily artistic in nature or are relatively small in scale and simply constructed. Although it may be, by nature or design, movable, an object is associated with a specific setting or environment.
>
> **District.** A district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.

Significance Criteria

When a project might impact a cultural resource, the project proponent is required to conduct an assessment to determine whether the impact may be one that is significant. Consequently, it is necessary to determine the importance of resources that could be impacted. The importance of a resource is measured in terms of criteria for inclusion on the California Register. A resource may be important if it meets any one of the criteria, or if it is already listed on the California Register or a local register (Title 14 CCR, §4852).

An important resource is one which:

1. Is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.

2. Is associated with the lives of persons important to local, California, or national history.

3. Embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of a master or possesses high artistic values.

4. Has yielded, or may be likely to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to meeting one or more of the above criteria, eligibility for the California Register requires that a resource retains sufficient integrity to convey a sense of its significance or importance. Seven elements are considered key in considering a property's integrity: location, design, setting, materials, workmanship, feeling, and association.

The OHP advocates that all resources over 45 years old be recorded for inclusion in the OHP filing system (OHP 1995:2), although the use of professional judgment is urged in determining whether a resource warrants documentation.

PROJECT SETTING

Study Area Location and Description

The study area lies within the northern portion of the Central Valley referred to as the Sacramento Valley. The Central Valley is drained by the Sacramento and San Joaquin rivers; the Sacramento River is the longest river in the state and is a little over half a mile east of the study area. Prior to European contact, the freshwater lakes, rivers, and marshes, riparian forests, and grasslands speckled with vernal pools of the Sacramento Valley provided a diverse and rich landscape that supported large populations of fish, birds, and mammals (Garone 2011:3-7). After European contact, the Sacramento Valley floor was transformed into a mosaic of irrigated agriculture, wetlands, and riparian habitats.

The study area is located at 500 Sixth Street (APN 032-230-015-000), in Hamilton City, Glenn County, as shown on the Foster Island and Hamilton City 7.5' USGS topographic maps (Figure 2). The portion of this parcel that comprises the study area fronts onto Canal Street and lies immediately northwest of Hamilton Union High School. The vicinity of the study area is comprised of large agricultural fields, as is much of Glenn County. Figure 3 provides a current overview of the study area.

The study area consists of 45 acres situated on generally level land with a percent slope of less than 1%. Review of historical maps show that the closest source of water is the Sacramento River, found 925 meters to the northwest; however, examination of the topography depicted on maps suggests that a drainage once flowed through the study area. Additionally, the Glenn-Colusa Canal is located approximately 40 meters west of the study area, across Canal Road.

The geology of the study area consists of alluvium of the Modesto Formation which dates from the late Pleistocene to early Holocene (30,000 to 5,850 years ago) (Blake *et al.* 1992).

Soils within the study area belong to the Wyo series (Begg 1968: Sheet 18). Wyo soils are moderately to very deep and well- to somewhat excessively well-draining. These soils are found on young alluvial fans and in the foothills on low benches along Stony Creek and its tributaries. In a natural state, these soils support the growth of annual grasses, forbs, stands of valley oaks. Historically, parcels containing Wyo soils were used for row, field, orchard, and truck crops, when irrigated (Begg 1968:73-74).

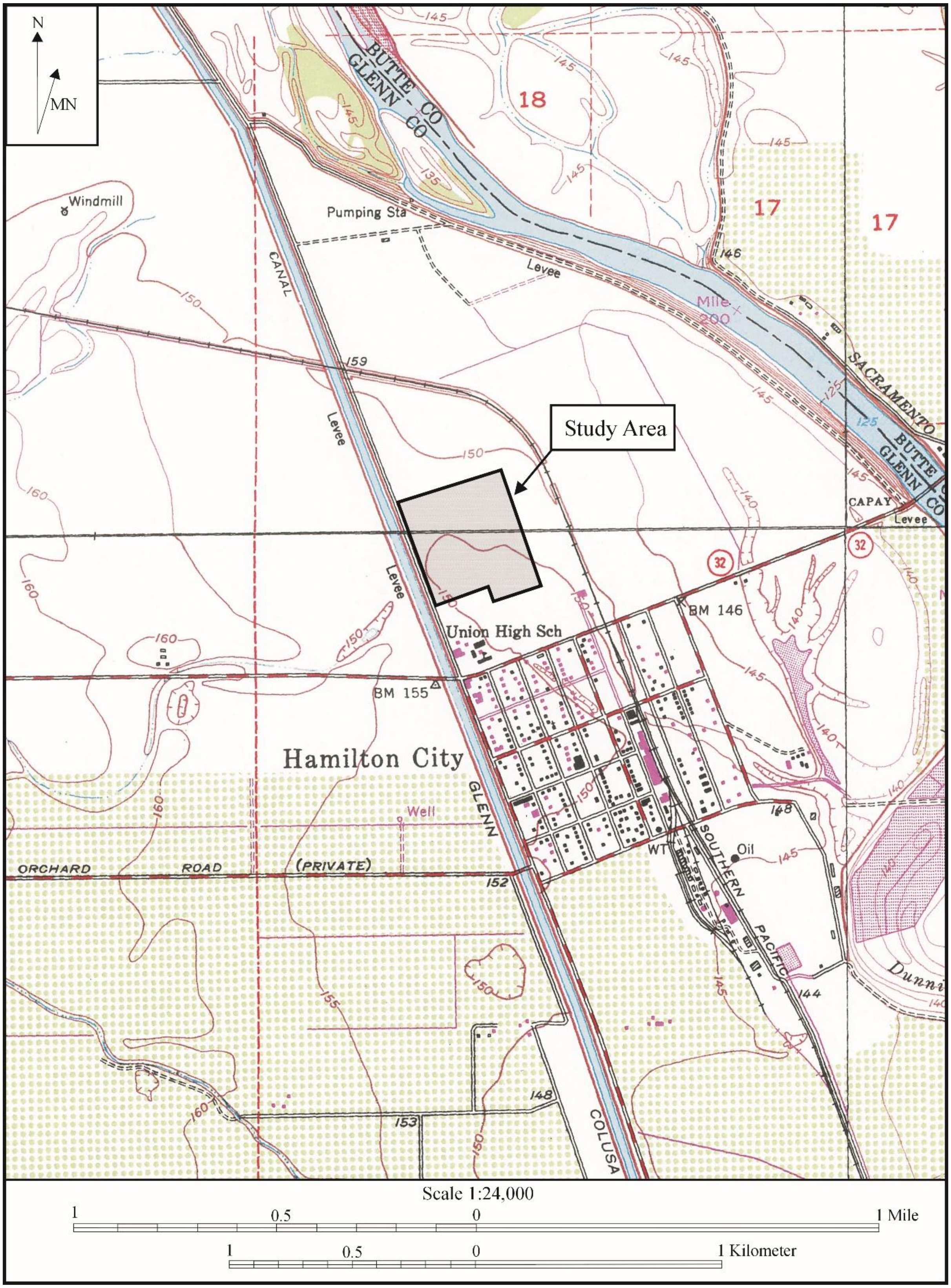

Figure 2. Study area location (adapted from the 1969 Foster Island and Hamilton City 7.5' USGS topographic maps).

Figure 3. Overview photo of the study area, facing northwest.

Cultural Setting

Prehistory

The concept of prehistory refers to the period of time before events were recorded in writing and varies worldwide. Because there is no written record, our understanding of California prehistory relies on archaeological materials and oral histories passed down through generations. Early archaeological research in central California began with the work of Max Uhle and Nels Nelson. Uhle is credited with the first scientific excavation in California with his work at the Emeryville Shellmound in 1902, and Nelson spent several years (1906 to 1908) surveying the San Francisco Bay margins and California coast for archaeological sites. In the 1930s, archaeologists from Sacramento Junior College and the University of California began piecing together a sequence of cultures primarily based on burial patterns and ornamental artifacts from sites in the lower Sacramento Valley (Lillard *et al*. 1939; Heizer and Fenenga 1939). Their cultural sequence became known as the Central California Taxonomic System (CCTS), which identified three culture periods termed the Early, Middle, and Late Horizons, but without offering date ranges. Refinement of the CCTS became a chief concern of archaeologists as the century progressed with publications by Richard Beardsley (1948, 1954) and Clement Meighan (1955) based on materials excavated by the University of California archaeological survey.

In 1973, David Fredrickson synthesized prior work, and in combination with his own research, he developed a chronology that is used to this day, albeit modified for locality-specific circumstances. Fredrickson's scheme shows that native peoples have occupied Central California for over 11,000 years (which is supported by Erlandson *et al.* 2007), and during that time, shifts took place in their social, political, and ideological regimes (Fredrickson 1973).

In addition, Fredrickson defined cultural patterns pertinent to the Central Valley (1973). Although Fredrickson's concept of a pattern has no temporal implications, the Windmiller, Berkeley, and Augustine patterns tend to be stratified (Moratto 2004: Figure 5.11). Table 1 assimilates Fredrickson's (1973) chronology and patterns and the obsidian hydration dating scheme from Origer (1987).

Prehistoric archaeological site indicators expected to be found in the region include but are not limited to: obsidian and chert flakes and chipped stone tools; grinding and mashing implements such as slabs and hand-stones, and mortars and pestles; and locally darkened midden soils containing some of the previously listed items plus fragments of bone, shellfish, and fire-affected stones.

Table 1. Sacramento Valley Chronology

Temporal Period[1]	Approximate Time Range[1]	~ Hydration Interval (μ)[2]	Patterns[3]
Historical	< AD 1800	<1.2	
Upper Emergent	AD 1800 to AD 1500	1.3 - 1.8	
Lower Emergent	AD 1500 to AD 1000	1.9 - 2.5	Augustine
Upper Archaic	AD 1000 to 500 BC	2.6 - 4.0	Berkeley
Middle Archaic	500 BC to 3000 BC	4.1 - 5.7	Windmiller
Lower Archaic	3000 BC to 6000 BC	5.8 - 7.2	
Paleo-Indian	>6000 BC	>7.2	

[1] based on Fredrickson (1994)
[2] based on Napa Glass Mountain rate by Origer (1987)
[3] based on Moratto (2004)

Ethnography

Linguists and ethnographers tracing the evolution of languages have found that most of the indigenous languages of the California region belong to one of five widespread North American language groups (the Hokan and Penutian phyla, and the Uto-Aztecan, Algic, and Athabaskan language families). The distribution and internal diversity of four of these groups suggest that their original centers of dispersal were outside, or peripheral to, the core territory of California, that is, the Central Valley, the Sierra Nevada, the Coast Range from Cape Mendocino to Point Conception, and the Southern California coast and islands. Only languages of the Hokan phylum can plausibly be traced back to populations inhabiting parts of this core region during the Archaic period, and there are hints of connections between certain branches of Hokan, such as that between Salinan and Seri, that suggest that at least some of the Hokan languages could have been brought into California by later immigrants, primarily from the Southwest and northwestern Mexico (Golla 2011).

At the time of European settlement, the study area was within the territory controlled by the Konkow (Valley Maidu) (Kroeber 1932; Riddell 1978). The Konkow were hunter-gatherers who lived in the mid-to-upper end of the Sacramento Valley and the foothills east of Chico and Oroville. The Konkow settled in a primary, central village from which trips would be made to small camps when seasonal resources were available. The central village contained a semi-subterranean earth-covered lodge which served as an assembly location as well as the house of the village leader. Central villages are typically located on river ridges. Trips to the valley floor were made in the spring to collect seeds. In the summer, hunting was done in the foothills. For more information about the Konkow, see Dixon 1905, Kroeber (1925), and Heizer and Hester (1970).

History

Historically, the study area is within the Capay Rancho, granted to Josefa Soto in 1844. The grant consisted of 44,388 acres that extended along the west side of the Sacramento River from Thomes Creek and Rancho Saucos on the north to Stony Creek on the south and encompassed Hamilton City and Monroeville (Cowan 1977:23). Hamilton City was founded in 1905 as a result of the construction of James Hamilton's Holly Sugar Beet factory (Hoover *et al.* 2002:100-101).

Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).

STUDY PROCEDURES AND FINDINGS

Native American Contact

A request was sent to the State of California's Native American Heritage Commission (NAHC) seeking information from the Sacred Lands File and the names of Native American individuals and groups that would be appropriate to contact regarding this project. Letters were also sent to the following groups:

Enterprise Rancheria of Maidu Indians
Grindstone Rancheria of Wintun-Wailaki
Mechoopda Indian Tribe
Paskenta Band of Nomlaki Indians

This contact does not constitute consultation with tribes but informs them of our involvement with the project.

Native American Contact Results

The NAHC replied via email with a letter dated September 19, 2019, which indicated that the Sacred Lands File has no information about the presence of Native American cultural resources in the immediate project area.

A response was received from Kyle McHenry, Tribal Historic Preservation Officer for the Mechoopda Indian Tribe on November 19, 2019. Mr. McHenry stated that the study area is within their ancestral lands and they believe the study area is highly sensitive. They request that a monitor from the Mechoopda Indian Tribe be present during earth moving and grading activities.

A log of contact efforts is appended to this report, along with copies of correspondence (see Appendix A).

Archival Research Procedures

Archival research included examination of the library and project files at Tom Origer & Associates. This research is meant to assess the potential to encounter archaeological sites and built environment within the study area. Research was also completed to determine the potential for buried archaeological deposits.

A review (NEIC File No. W19-180) was completed of the archaeological site base maps and records, survey reports, and other materials on file at the Northeast Information Center (NEIC), University of California, Chico by Eileen Barrow on November 4, 2019. Sources of information included but were not limited to the current listings of properties on the National Register of Historic Places, California Historical Landmarks, California Register of Historical Resources, and California Points of Historical Interest as listed in the OHP's *Historic Property Directory* (2012).

The OHP has determined that structures in excess of 45 years of age could be important historical resources, and former building and structure locations could be important archaeological sites. Archival research included an examination of 19^{th} and 20^{th}-century maps and aerial photographs to gain insight into the nature and extent of historical development in the general vicinity, and especially within the study area.

Ethnographic literature that describes appropriate Native American groups, county histories, and other primary and secondary sources were reviewed. Sources reviewed are listed in the "Materials Consulted" section of this report.

Several models for predicting a location's sensitivity for buried archaeological sites have been developed throughout the state (Byrd *et al.* 2017; Meyer and Rosenthal 2007, 2008; Rosenthal and Meyer 2004a, 2004b; Meyer *et al.* 2010). These models are based on the age of the landform, slope, and proximity to water. A location is considered to have the highest sensitivity if the landform dates to the Holocene, has a slope of five percent or less, is within 150 meters of freshwater, and 150 meters of a confluence. Note: the Holocene Epoch is the current period of geologic time, which began about 11,700 years ago, and coincides with the emergence of human occupation of the area. A basic premise of the model is that archaeological deposits will not be buried within landforms that predate human colonization of the area. Calculating these factors using the buried site model (Byrd *et al.* 2017:Tables 11 and 12), a location's sensitivity will be scored on a scale of 1-10 and classed as follows: lowest (<1); low (1-3); moderate (3-5.5); high (5.5-7.5); highest (>7.5).

Archival Research Findings

Archival research found that the no previous cultural resources study area had not been previously subjected to a cultural resources study. Five studies have been conducted within a quarter-mile of the study area (Table 2). Two resources have been recorded within a quarter-mile of the study area. The first resource is a segment of the Glenn-Colusa Canal (P-11-000605) (Melvin and Freeman 2008). The portion of the canal recorded nearest to the study area is where the canal intersects with Highway 32; however, the canal extends beyond this point and can be found immediately across Canal Street from the study area. The other resource is a lithic scatter (P-11-000724) located 970 feet away and would not extend into the study area (Rosenthal and Stillman 2010).

Table 2. Studies within a Quarter-mile of the Study Area

Author	Date	S#
Johnson and Johnson	1974	1137
Vaughan	2001	5605
Bass	1984	6931
Jensen	2006	8375
Leach-Palm *et al.*	2008	9539

There are no reported ethnographic sites within one mile of the study area (Dryer 1984; Heizer and Hester 1970; Kroeber 1925, 1932).

A review of 19th and 20th century maps shows no buildings within the study area (GLO 1858; USACE 1951a, 1951b; USGS 1904, 1906, 1914a, 1914b, 1949, 1950a, 1950b, 1951a, 1951b, 1969a, 1969b). Review of aerial photos shows that a well and power line are within the study area after 1998.

Based on landform age, our analysis of the environmental setting, and taking into account the studies conducted throughout the state, (Byrd *et al.* 2017; Meyer and Rosenthal 2007, 2008; Rosenthal and Meyer 2004a, 2004b; Meyer *et al.* 2010), there is a high potential (5.6) for buried archaeological site indicators within the study area.

Field Survey Procedures

An intensive field survey was completed Eileen Barrow on November 3, 2019. Six hours were spent in the field and field conditions were sunny and warm. Surface examination consisted of walking in 15-meter transects. Normally, a hoe would be used to clear vegetation; however, the study area had been recently disced and ground visibility was excellent.

In addition to our surface survey, five hand-dug auger borings were excavated using a 4-inch diameter barrel auger to examine subsurface soils (see Figure 4). The auger borings were excavated to depths between 120 to 150 centimeters.

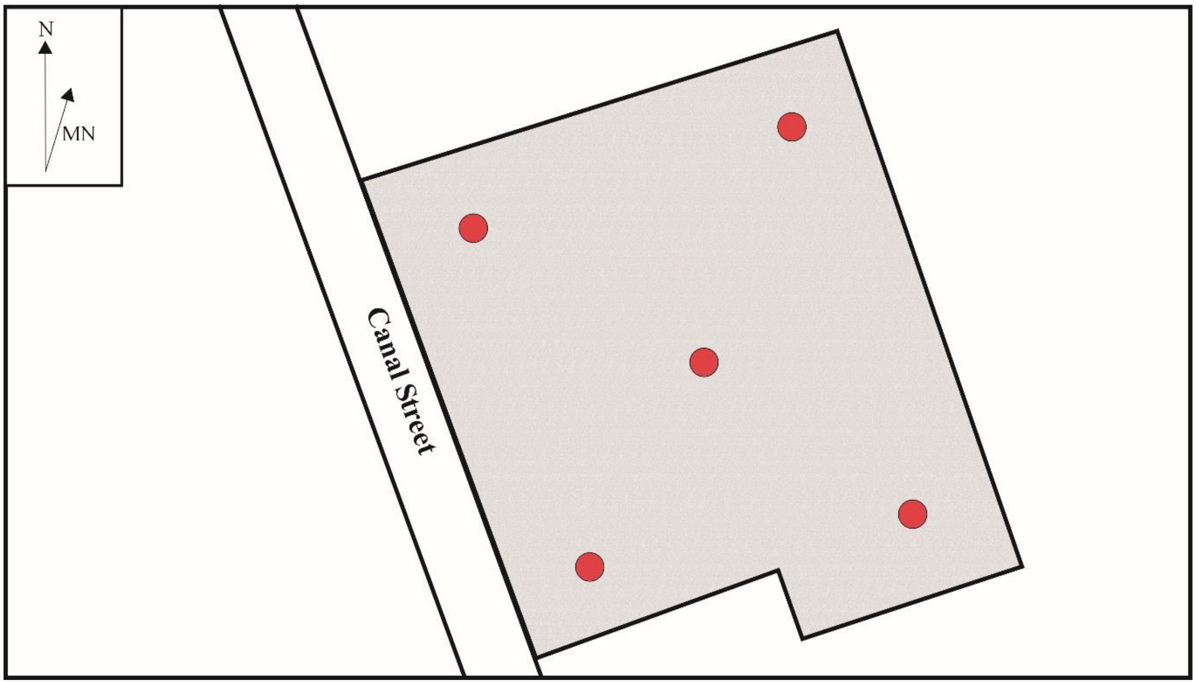

Figure 4. Location of auger borings within the study area (shown in red).

Field Survey Findings

Archaeology

No archaeological site indicators were observed during the course of the survey.

Additionally, no archaeological site indicators were found within the auger borings. Soils in all five auger holes were consistent with the soil survey description for the study area.

Built Environment

Located within the study area are a well and a power line to the well.

DISCUSSION AND RECOMMENDATIONS

Field survey found no archaeological sites within the study area. Application of buried sites model indicates a high potential for buried sites; however, no archaeological site indicators or soils were found in the five auger borings.

The well and power line are too new to be considered eligible for inclusion on the California Register.

Archaeological Recommendations

No recommendations are warranted.

Built Environment Recommendations

No recommendations are warranted.

Accidental Discovery

In keeping with the CEQA guidelines, if archaeological remains are uncovered, work at the place of discovery should be halted immediately until a qualified archaeologist can evaluate the finds (§15064.5 [f]). Prehistoric archaeological site indicators include: obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire-affected stones. Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).

The following actions are promulgated in the CEQA Guidelines Section 15064.5(d) and pertain to the discovery of human remains. If human remains are encountered, excavation or disturbance of the location must be halted in the vicinity of the find, and the county coroner contacted. If the coroner determines the remains are Native American, the coroner will contact the NAHC. The NAHC will identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations regarding the treatment of the remains with appropriate dignity.

SUMMARY

Tom Origer & Associates completed a cultural resources study for the Hamilton High School Expansion Project, Hamilton City, Glenn County, California. The study was requested and authorized by Steve Noack, PlaceWorks. This study was conducted to meet the requirements of the Hamilton Unified School District and those of CEQA. No cultural resources were found within the study area; therefore, no resource-specific recommendations are warranted. Documentation pertaining to this study is on file at the offices of Tom Origer & Associates (File No. 2019-069).

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APPENDIX A

Native American Contact

Copies of Correspondence

Native American Contact Efforts
Hamilton Union High School Expansion Project
Hamilton City, Glenn County

Organization	Contact	Action	Results
Native American Heritage Commission		Letter 8/22/19	The NAHC replied via email with a letter dated September 19, 2019, which indicated that the Sacred Lands File has no information about the presence of Native American cultural resources in the immediate project area.
Enterprise Rancheria of Maidu Indians	Glenda Nelson	Letter 8/22/19	No response received as of the date of this report.
Grindstone Rancheria of Wintun Wailaki	Ronald Kirk	Letter 8/22/19	No response received as of the date of this report.
Mechoopda Indian Tribe	Dennis Ramirez	Letter 8/22/19	A response was received from Kyle McHenry, Tribal Historic Preservation Officer for the Mechoopda Indian Tribe on November 19, 2019. Mr. McHenry stated that the study area is within their ancestral lands and they believe the study area is highly sensitive. They request that a monitor from the Mechoopda Indian Tribe be present during earth moving and grading activities.
Paskenta Band of Nomlaki Indians	Andrew Alejandre	Letter 8/22/19	No response received as of the date of this report.

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: Hamilton High School Expansion
County: Glenn

USGS Quadrangles
Name: Foster Island, Hamilton City
Township 22N Range 1W Rancho Capay MDBM

Date: August 22, 2019
Company/Firm/Agency: Tom Origer & Associates
Contact Person: Taylor Alshuth

Address: PO Box 1531
City: Rohnert Park Zip: 94927
Phone: (707) 584-8200 Fax: (707) 584-8300
Email: taylor@origer.com

Project Description:
The project proponent is in the process of purchasing property adjacent to the current High School in order to expand and modernize program space. The project area is approximately 45 acres.

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691 Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov

September 19, 2019

Taylor Alshuth
Tom Origer & Associates

VIA Email to: taylor@origer.com

RE: Hamilton High School Expansion, Glenn County.

Dear Ms. Alshuth:

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 indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed 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 or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: katy.sanchez@nahc.ca.gov.

Sincerely,

Katy Sanchez

KATY SANCHEZ
Associate Environmental Planner

Attachment

Native American Heritage Commission
Native American Contacts List
9/20/2019

Estom Yumeka Maidu Tribe of the Enterprise Rancheria Glenda Nelson, Chairperson 2133 Monte Vista Avenue Oroville ,CA 95966 info@enterpriserancheria.org (530) 532-9214 (530) 532-1768 Fax	Maidu
Grindstone Indian Rancheria of Wintun-Wailaki Ronald Kirk, Chairperson P.O. Box 63 Elk Creek ,CA 95939 (530) 968-5365 (530) 968-5366 Fax	Nomlaki Wintun (Patwin) Wailaki Muimok
Mechoopda Indian Tribe Dennis E. Ramirez, Chairperson 125 Mission Ranch Blvd Chico ,CA 95926 dramirez@mechoopda-nsn.gov (530) 899-8922 (530) 899-8517 - Fax	Mechoopda Maidu Concow
Paskenta Band of Nomlaki Indians Andrew Alejandre, Chairperson P.O. Box 709 Corning ,CA 96021 office@paskenta.org (530) 528-3538	Nomlaki Wintun

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code,Section 5097.94 of the Public Resources Code, or Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans Tribes for the proposed: Hamilton High School Expansion, Glenn County.

August 22, 2019

Glenda Nelson
Enterprise Rancheria of Maidu Indians
2133 Monte Vista Avenue
Oroville, CA 95966

Re: Hamilton High School Expansion Project, Hamilton City, Glenn County

Dear Ms. Nelson:

I write to notify you of a proposed project within Glenn County, for which our firm is conducting a cultural resources study. This notification does not constitute consultation. The Hamilton Unified School District is in the process of purchasing property adjacent to the current High School in order to expand and modernize program space. The Hamilton Unified School District is reviewing the project for CEQA compliance.

Enclosed is a portion of the Foster Island, Hamilton City, Nord, and Ord Ferry 7.5' USGS maps showing the project location.

Sincerely,

Taylor Alshuth

Taylor Alshuth
Associate
Email: taylor@origer.com

August 22, 2019

Creig Marcus
Enterprise Rancheria of Maidu Indians
2133 Monte Vista Avenue
Oroville, CA 95966

Re: Hamilton High School Expansion Project, Hamilton City, Glenn County

Dear Mr. Marcus:

I write to notify you of a proposed project within Glenn County, for which our firm is conducting a cultural resources study. This notification does not constitute consultation. The Hamilton Unified School District is in the process of purchasing property adjacent to the current High School in order to expand and modernize program space. The Hamilton Unified School District is reviewing the project for CEQA compliance.

Enclosed is a portion of the Foster Island, Hamilton City, Nord, and Ord Ferry 7.5' USGS maps showing the project location.

Sincerely,

Taylor Alshuth

Taylor Alshuth
Associate
Email: taylor@origer.com

August 22, 2019

Ronald Kirk
Grindstone Rancheria of Wintun-Wailaki
P.O. Box 63
Elk Creek, CA 95939

Re: Hamilton High School Expansion Project, Hamilton City, Glenn County

Dear Mr. Kirk:

I write to notify you of a proposed project within Glenn County, for which our firm is conducting a cultural resources study. This notification does not constitute consultation. The Hamilton Unified School District is in the process of purchasing property adjacent to the current High School in order to expand and modernize program space. The Hamilton Unified School District is reviewing the project for CEQA compliance.

Enclosed is a portion of the Foster Island, Hamilton City, Nord, and Ord Ferry 7.5' USGS maps showing the project location.

Sincerely,

Taylor Alshuth

Taylor Alshuth
Associate
Email: taylor@origer.com

Tom Origer & Associates
Archaeology / Historical Research

November 19, 2019

Dennis Ramirez
Mechoopda Indian Tribe
125 Mission Ranch Boulevard
Chico, CA 95926

Re: Hamilton High School Expansion Project, Hamilton City, Glenn County

Dear Ms. Ramirez:

I write to notify you of a proposed project within Glenn County, for which our firm is conducting a cultural resources study. The Hamilton Unified School District is in the process of purchasing the property adjacent to the current school grounds in order to expand and modernize its program space. The Hamilton Unified School District is reviewing the project for CEQA compliance. This notification does not constitute consultation.

Enclosed is a portion of the Foster Island and Hamilton City 7.5' USGS maps showing the project location.

Sincerely,

Eileen Barrow

Eileen Barrow
Senior Associate

P.O. Box 1531, Rohnert Park, California 94927 ♦ www.origer.com Phone (707) 584-8200

August 22, 2019

Andrew Alejandre
Paskenta Band of Nomlaki Indians
P.O. Box 709
Corning, CA 96021

Re: Hamilton High School Expansion Project, Hamilton City, Glenn County

Dear Mr. Alejandre:

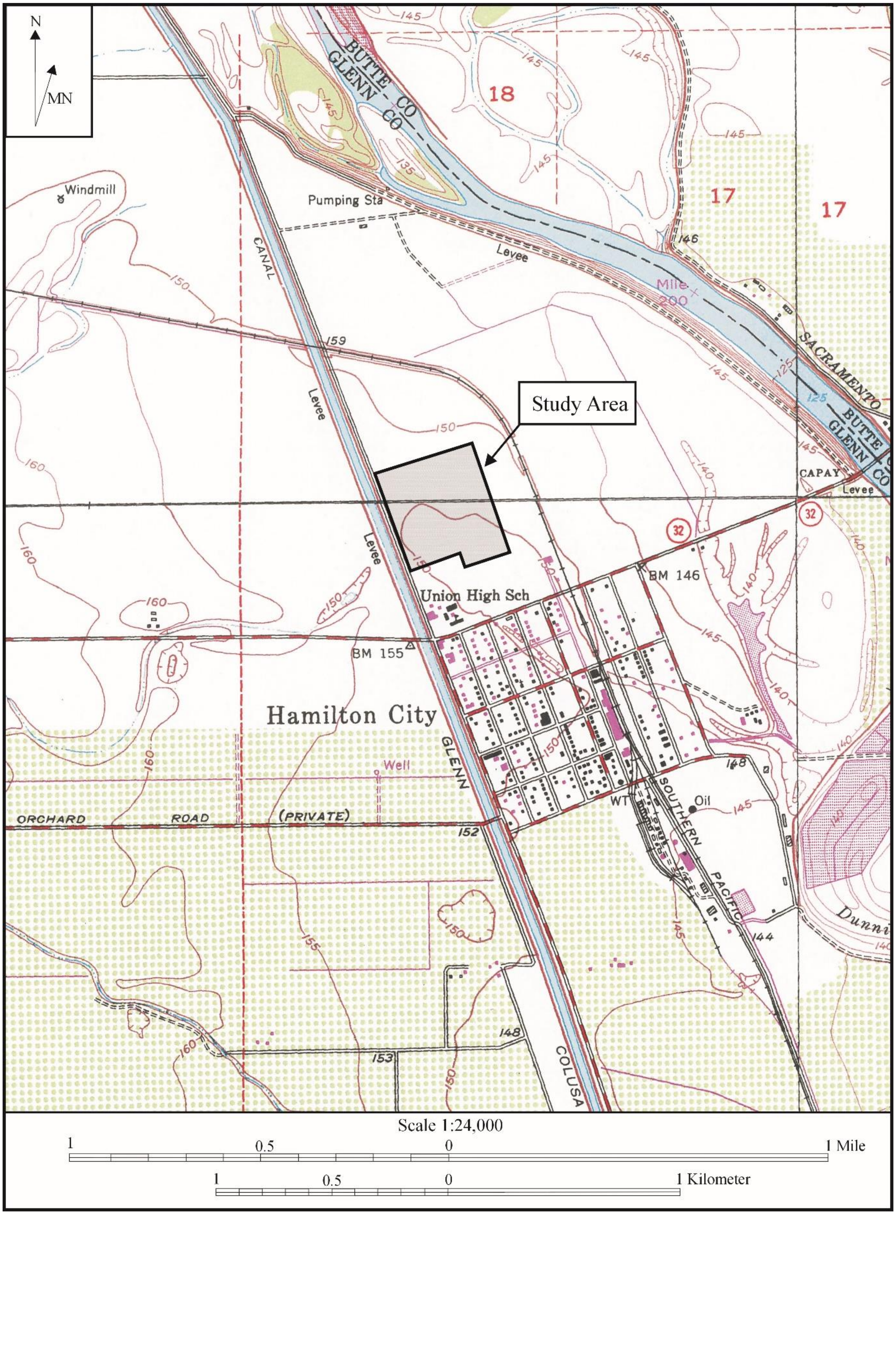
I write to notify you of a proposed project within Glenn County, for which our firm is conducting a cultural resources study. This notification does not constitute consultation. The Hamilton Unified School District is in the process of purchasing property adjacent to the current High School in order to expand and modernize program space. The Hamilton Unified School District is reviewing the project for CEQA compliance.

Enclosed is a portion of the Foster Island, Hamilton City, Nord, and Ord Ferry 7.5' USGS maps showing the project location.

Sincerely,

Taylor Alshuth

Taylor Alshuth
Associate
Email: taylor@origer.com



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Union High Sch
BM 155
Hamilton City
Well
ORCHARD ROAD (PRIVATE)
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SOUTHERN PACIFIC
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Oil
148
144
148
153
COLUSA
Dunni
Scale 1:24,000
1 0.5 0 1 Mile
1 0.5 0 1 Kilometer

Eileen

From: K McHenry <kmchenry@mechoopda-nsn.gov>
Sent: Tuesday, November 19, 2019 11:58 AM
To: eileen@origer.com
Subject: Hamilton High School Expansion Project, Hamilton City, Glenn County

Re: **Hamilton High School Expansion Project, Hamilton City, Glenn County**
Dear Eileen:

On Behalf of the Mechoopda Indian Tribe of the Chico Rancheria ("Tribe"), We hereby Submit the following comments to express the Tribe's concerns related to the impacts to sacred places, properties and features of religious, ceremonial and cultural significance to the Tribe with regard to the above-referenced project ("Project")

The Project site lies within the ancestral lands of the Tribe. The Project location and surrounding landscape have long been considered as having cultural, historical, and religious significance for the Tribe. It is undisputed that there is a high sensitivity to the Project site bases on recordings in the area and Tribal knowledge. The Tribe has a deep and abiding cultural and spiritual attachment to their ancestral landscape, which includes and extends beyond the Tribes formal boundaries, including the Project site.

We request a Mechoopda Indian monitor shall be present during all earth moving and grading activities to assure that any potential cultural resources, found during Project ground disturbance be protected.

The Tribe's goal is simple and Clear: ensure the careful and complete implementation of all statutory and regulatory mechanisms for protecting cultural and historical resources to protect tribal cultural and historical resources that may be impacted by the Project.
We look forward to working with you on this matter.
Sincerely,

Kyle McHenry, Tribal Council
Tribal Historic Preservation officer
Mechoopda Tribe
125 Mission Ranch Blvd, Chico, CA 95926
530-899-8922 ext 203

APPENDIX C

PHASE I ENVIRONMENTAL SITE ASSESSMENT

DRAFT
PRELIMINARY ENDANGERMENT ASSESSMENT
Hamilton Union High School Expansion

February 7, 2020

Prepared For:

HAMILTON UNIFIED SCHOOL DISTRICT
Attn: Mr. Jeremy Powell, Superintendent
P.O. Box 488
Hamilton City, CA 95951

530.826.3261 ext. 6005 | JPowell@husdschools.org

NV5

48 Bellarmine Court
Suite 40
Chico, CA 95929

70779.02

NV5

February 7, 2020
Project No. 70779.01

Hamilton Unified School District
Attn: Jeremy Powell, Superintendent
P.O. Box 488
Hamilton City, CA 95951
Phone: (530) 826-3261, ext. 6011
Email: jpowell@husdschools.org

Reference: **Draft Preliminary Endangerment Assessment**
Hamilton Union High School Expansion
Glenn County Assessor Parcel Number: 032-230-015
Hamilton City, Glenn County, California

Dear Mr. Powell:

NV5 prepared this draft Preliminary Endangerment Assessment (PEA) for the referenced site in Hamilton City, Glenn County, California. NV5 understands Hamilton Unified School District (HUSD) plans to develop an expansion of Hamilton Union High School on the subject property.

This report documents the results of site characterization including soil sampling, laboratory analysis and screening-level human health risk assessment. The assessment findings indicate that the site is a candidate for a no further action determination regarding the characterization of potential constituents of concern at the site.

NV5 appreciates the opportunity to provide environmental engineering services for the Hamilton Unified School District on this important project. If you have questions, comments, or require additional information, please contact the undersigned.

Sincerely,
NV5

Prepared by:

PROFESSIONAL GEOLOGIST
HEIDI CUMMINGS
No.7732
STATE OF CALIFORNIA

Heidi Cummings

Heidi J. Cummings, PG 7732
Senior Geologist

Reviewed by:

REGISTERED PROFESSIONAL ENGINEER
JASON W. MUIR
No. 60167
Exp. 06 / 20
CIVIL
STATE OF CALIFORNIA

Jason Muir, PE
Associate Engineer

cc: Ms. Elizabeth Tisdale, DTSC, 1 copy, 1 electronic copy to elizabeth.tisdale@dtsc.ca.gov

48 Bellarmine Court, Suite 40 | Chico, CA 95928 | www.NV5.com | OFFICE 530.894.2487 | FAX 530.894.2437
CONSTRUCTION QUALITY ASSURANCE - INFRASTRUCTURE - ENERGY - PROGRAM MANAGEMENT - ENVIRONMENTAL

TABLE OF CONTENTS

TABLE OF CONTENTS (CONCLUDED)

FIGURES

TABLES

APPENDICES

ABBREVIATIONS AND ACRONYMS

APN	Assessor Parcel Number
bgs	below ground surface
BTV	background threshold value
CCV	continuing calibration verification
CDHS	California Department of Health Services
CL	co-located
cm^2	square centimeters
COC	constituent of concern
CSD	Community Services District
CV	coefficient of variation
DDE	p,p'-dichloro-diphenyl-dichloro-ethylene
DRO	diesel range organics
DTSC	Department of Toxic Substances Control
EOA	Environmental Oversight Agreement
EPC	exposure point concentrations
ESA	Environmental Site Assessment
ESL	Environmental Screening Level
FR	field replicate
GRO	gasoline range organics
HAZWOPER	Hazardous Waste Operations and Emergency Response
HERO	Human and Ecological Risk Office
HHRA	human health risk assessment
HHS	Hamilton High School
HI	hazard index
HUHS	Hamilton Union High School
HUSD	Hamilton Unified School District
kg	kilogram
LCS	laboratory control samples
LCSD	LCS duplicates
m^3/day	cubic meters per day
m^3/kg	cubic meters per kilogram
MDL	method detection limit
mg/cm^2	milligrams per square centimeter
mg/day	milligrams per day
mg/kg	milligram per kilogram
MS/MSD	matrix spike and matrix spike duplicates
MORO	motor oil range organics
NOA	naturally occurring asbestos
OCP	organochlorine pesticide
OEHHA	Office of Environmental Health Hazard Assessment
OSHA	Occupational Safety and Health Administration
OSWER	Office of Solid Waste and Emergency Response
PCB	polychlorinated biphenyls
pCi/L	picoCuries per liter
PEA	Preliminary Endangerment Assessment
PEF	particulate emission factor

ABBREVIATIONS AND ACRONYMS (Concluded)

PQL	practical quantitation limit
QA/QC	quality assurance/quality control
REC	recognized environmental condition
RL	reporting limit
RSL	regional screening level
RWQCB	Regional Water Quality Control Board
SCM	site conceptual model
SL	screening level
SR	State Route
Sunstar	SunStar Laboratories
TPH	total petroleum hydrocarbons
µg/kg	microgram per kilogram
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UTL	upper tolerance level

EXECUTIVE SUMMARY

The purpose of this Preliminary Endangerment Assessment (PEA) is to investigate environmental conditions identified on a 45-acre property located adjacent and north of the existing Hamilton Union High School (HUHS) and east of California State Route (SR) 45/Canal Street in Hamilton City, Glenn County, California. The property is identified as Glenn County Assessor Parcel Number (APN) 032-230-015.

The property is to be developed by the Hamilton Unified School District (HUSD) as an extension of the current high school campus. The number of classrooms, administrative buildings and student capacity are not yet determined by the HUSD. The school will be served by municipal water supply.

Environmental conditions were identified at the property in a Phase I Environmental Site Assessment (ESA; September 13, 2018) prepared by NV5. The recognized environmental conditions (RECs) are summarized below:

- The possible presence of arsenic and organochlorine pesticides (OCPs) in soil from historical agricultural use of the property;
- The possible presence of arsenic and OCPs in groundwater from historical agricultural use of the property; and
- The possible presence of polychlorinated biphenyls (PCBs) in soil beneath electrical transformers on the property.

During the review process for the PEA Work Plan, the California Department of Toxic Substances Control (DTSC) identified the following elements to be addressed:

- The possible presence of contaminants in the drainage ditch on the southern edge of the property,
- The possible presence of lead in soil from historical agricultural use of the property, and
- Background metals concentrations on the property.

This PEA report was prepared in accordance with the PEA Work Plan (NV5, October 29, 2019). The PEA Work Plan was approved by the DTSC in a letter dated November 5, 2019. The PEA is intended to assess potential health risks associated with the RECs, address the additional elements identified by DTSC above, and to evaluate informational needs of the community related to the PEA site characterization. The PEA field investigation was conducted in November 2019 and included:

- Collection of soil samples from 56 locations within the boundary of former agricultural use on the property to investigate the presence of arsenic, lead and OCPs.
- Collection of soil samples from one location adjacent to the pole-mounted transformer on the property to assess the presence of PCBs.
- Collection of eight soil samples from the current HUHS campus to assess background concentrations of arsenic and lead.

- Collection of seven soil samples from the drainage ditch on the southern boundary of the property to evaluate total petroleum hydrocarbons (TPH), Title 22 Metals and OCPs.
- Collection of one groundwater sample from the onsite agricultural well to assess the presence of OCPs.

Arsenic was detected in 19 discrete samples (including field replicate and co-located samples) obtained from the upper 6 inches of soil at the site at concentrations ranging from 4.1 to 6.4 milligrams per kilogram (mg/kg). Arsenic was detected in 10 background soil samples (including field replicate and co-located samples) obtained from 18 to 24 inches below ground surface (bgs) on the current HUHS campus, at concentrations ranging from 3.6 to 5.7 mg/kg.

Lead was detected in 19 discrete samples (including field replicate and co-located samples) obtained from the upper 6 inches of soil at the site at concentrations ranging from 4.28 to 5.90 mg/kg. Lead was detected within 10 background soil samples (including field replicate and co-located samples) obtained from 18 to 24 inches bgs on the current HUHS campus, at concentrations ranging from 3.72 to 4.35 mg/kg.

Diesel range organics (DRO), motor oil range organics (MORO), arsenic, barium, chromium, cobalt, copper, lead, mercury, nickel, vanadium and zinc were detected in soil samples collected in the drainage ditch on the southern boundary of the site.

One OCP compound (p,p'-dichloro-diphenyl-dichloro-ethylene [4,4-DDE]) was detected in fifteen 4-point composite samples (including field replicate and co-located samples) on the agricultural property, and in eight discrete samples (including field replicate and co-located samples) in the drainage ditch on the southern boundary of the site. OCPs were not detected in samples from the onsite agricultural groundwater well.

PCBs were not detected in soil samples collected beneath the onsite pole-mounted transformer.

A screening-level human health risk assessment (HHRA) was performed pursuant to DTSC guidance to assess potential risks from routine, long-term exposure to the chemicals detected in soil. Pursuant to DTSC guidelines, human health hazard and cancer risk are calculated on a site-wide basis, considering the hazard and risk associated with exposure to all detected chemicals including those that are determined to be consistent with background or ambient concentrations. This information is intended to be useful for risk management decisions and to foster public transparency. The hazard index (hazard or HI; 1.7E+01) and excess lifetime cancer risk (risk; 6.2E-05) are driven by arsenic concentrations in soil. Excluding arsenic, which was detected at concentrations that are similar to accepted background values, the hazard is 6.6E-01 and the risk is 3.8E-08.

Based on the findings of site characterization, it is NV5's opinion that the site is a candidate for a no further action determination regarding the characterization of arsenic, lead, OCPs, PCBs, TPH and Title 22 metals. The findings and conclusions presented herein are subject to review and approval by the DTSC.

The PEA report is submitted in draft format to DTSC for review and is revised pursuant to DTSC comments. After revision, the PEA report is resubmitted in "draft final" format for DTSC review and approval. Pursuant to the California Education Code, the HUSD is required to notify the public concurrently with the submission of the PEA report to DTSC. The school district must publish a notice in a local newspaper of general circulation and post the notice in a prominent manner at the school site. The notice shall state the school district's determination to make the PEA available for public review and comment.

The HUSD must offer to receive written comments for a period of at least 30 calendar days after the assessment is submitted to the DTSC and must hold a public hearing to receive further comments. The following documents must be available for public review:

- The PEA Report;
- The changes requested by the DTSC for the PEA; and
- Any correspondence between the school district and the DTSC relating to the PEA.

If the PEA Report is revised or altered following the public hearing, then the HUSD must make those revisions or alterations available to the public. The DTSC will complete its review of the PEA Report and public comments received thereon and will either approve or disapprove the assessment within 30 calendar days of the close of the public review period.

1.0 INTRODUCTION

This Preliminary Endangerment Assessment (PEA) report presents the results of site characterization for the property located adjacent and north of the existing Hamilton Union High School (HUHS) and east of California State Route (SR) 45/Canal Street in Hamilton City, Glenn County, California. The site is referenced as Glenn County Assessor Parcel Number (APN) 032-230-015. This PEA report was prepared in accordance with the *Preliminary Endangerment Assessment Work Plan* (Work Plan; NV5, October 29, 2019). A copy of the PEA Work Plan approval letter from the California Department of Toxic Substances Control (DTSC) dated November 5, 2019 is provided in Appendix A.

The DTSC is the lead agency for oversight of site characterization, as set forth in an Environmental Oversight Agreement (EOA; Docket No. HSA-FY18/19-162; August 16, 2019) between DTSC and the Hamilton Unified School District (HUSD).

The PEA was performed pursuant to Section 17213.1 of the California Education Code, which authorizes DTSC to oversee preparation of an environmental assessment report by HUSD.

1.1 PURPOSE

The purpose of the PEA is to assess the presence of organochlorine pesticides (OCPs), arsenic and lead in soil from historical agricultural use, polychlorinated biphenyls (PCBs) in soil from historical transformers on the site, OCPs in groundwater and petroleum hydrocarbons and metals in soil at areas of surface water runoff from adjacent properties. Findings of the PEA investigation are used to assess risk and evaluate informational needs of the community related to site characterization.

1.2 SITE DESCRIPTION

The approximately 45-acre subject property is adjacent and north of the current HUHS and east of SR 45/Canal Street in Hamilton City, Glenn County, California. The property is accessed from the south via SR 32/Sixth Street or from the west via SR 45. A site location map is presented as Figure 1. The property is referenced as the southwest portion of Glenn County APN 032-230-015. A site plan is presented as Figure 2.

Referencing the *Hamilton City Quadrangle 7.5 Minute Series (Topographic)* map (United States Geological Survey [USGS], 1969), the subject property is in Township 22 North and Range 1 West, based on the Mount Diablo geodetic datum. The site is centered at about latitude 39.7493 degrees north and longitude 122.0186 degrees west. The property elevation is approximately 153 feet above mean sea level with flat lying surface topography.

1.2.1 Site Identification

Site Identification Information	
Site Name	Hamilton Union High School Expansion
Contact Person	Mr. Jeremy Powell, Hamilton Unified School District
Site Address	North of 620 Canal St. and East of SR45, Hamilton City, California

Site Identification Information	
Mailing Address of Contact Person	P.O. Box 488, Hamilton City, California 95951
Phone Number of Contact Person	(530) 826-3261, ext. 6011
Other Site Names	none
USEPA Identification Number	none
CalSites Identification Number	none
Assessor Parcel Number	032-230-015
Township	22 North
Range	1 West
Land Use	Agricultural
Zoning	AP-80 - Intensive Agriculture

Notes:
USEPA = United States Environmental Protection Agency

1.2.2 Adjacent Properties

The subject property is bounded by agricultural property to the north and east, the existing Hamilton Union High School and commercial/industrial properties to the south and State Route 45/Canal Street and the Glenn-Colusa Canal to the west.

1.2.3 Intended Use of the Property

The property is to be developed as an expansion of the HUHS campus. The number of classrooms and student capacity have not been programmed by the HUSD. The site will be served by the Hamilton City Community Services District (CSD) that includes water provided by California Water Service – Chico District, storm drain connections provided by Glenn County Planning and Public Works Agency, and sewer provided by the CSD.

The proposed expansion project will include phased construction of new playing fields, a gymnasium and parking lot on the expanded site and future new school buildings and parking areas.

2.0 PRIOR ENVIRONMENTAL STUDIES

NV5 prepared a Phase I ESA dated September 13, 2018 (NV5, 2018). No other hazardous substances assessment associated with the site beyond the Phase I ESA is known. Findings of the Phase I ESA are summarized below:

- The subject site consists of approximately 45 acres of the southwest portion of Glenn County APN 032-230-015, located north of State Route 32 and east of State Route 45 in Hamilton City, Glenn County, California.
- The subject property was used for agricultural purposes (hay type crop) from as early as 1937, then as orchards beginning as early as 1983 through 2016. The property representative indicated that the orchard was removed in 2017 and hay type crops are the current crop in cultivation.
- One pole-mounted transformer was observed at the location of the water supply well. The pole-mounted transformer was likely installed with the water well, circa 1978.
- One 2.5-gallon container of herbicide and one 2.5-gallon unlabeled container were stored on the concrete pad adjacent to the water supply well, suggesting that mixing of agricultural chemicals may take place at this location.
- The subject property receives stormwater runoff from the adjacent commercial property to the south.
- To NV5's knowledge, the subject property is not currently regulated by any federal, state or local agencies, except for the Air Pollution Control District for agricultural chemicals. No violations are noted.
- Review of federal, state and local records identified no upgradient sites within a ½-mile of the subject property that have recognized environmental conditions (RECs).
- Naturally occurring hazardous materials (i.e. naturally occurring asbestos [NOA] and radon) are not likely to be present at the subject site.

NV5's professional opinions based on the findings of the Phase I ESA are summarized below.

1. The pole-mounted electrical transformer is considered a REC because there is concern that leakage from transformers could contaminate soil with PCBs.
2. The agricultural land use identified by review of aerial photos, site reconnaissance and landowner representative interview is considered a REC because there is concern for the soil to be contaminated with residual agricultural chemicals (i.e. pesticides).
3. Groundwater from the subject property water supply well has the potential to contain agricultural chemicals based on the past agricultural land use.
4. Fill material that is sourced from the alluvial deposits of Stony Creek to the south could potentially contain NOA and should be avoided or evaluated for NOA prior to import.

The Phase I ESA identified PCBs and agricultural chemicals as potential sources of contamination at the site. NV5 recommended that soil sampling for PCBs be conducted beneath the existing transformers and that soil sampling for agricultural chemicals be conducted site-wide pursuant to guidelines set forth by DTSC (2006 and 2008).

3.0 ENVIRONMENTAL SETTING

The property is intended to be developed as a new school campus. Details associated with the number of classrooms, administrative buildings, and student capacity have not yet been determined by HUSD.

3.1 PHYSICAL SETTING

3.1.1 Regional Physiographic Conditions

The subject property is situated in the Sacramento Valley within the Great Valley geomorphic province, west of the boundary with the Cascade geomorphic province and east of the boundary of the Coast Range geomorphic province. The Great Valley geomorphic province is characterized as an asymmetrical synclinal trough composed of up to 80,000 feet of Jurassic and Eocene age sequenced marine sedimentary units deposited during periods of inundation, and Pliocene to recent Holocene age terrestrial sediments originating from the Sierra Nevada, Cascade, and Coast Mountain Ranges during sea recession and mountain uplift.

3.1.2 Geologic Conditions

The *Geologic Map of California, Ukiah Sheet* (Jennings and Strand, 1960) depicts the geology of the subject property location as Holocene aged stream channel deposits, the Holocene occurring from 11,000 years before present to the present.

3.1.3 Naturally Occurring Asbestos

NV5 reviewed geologic literature regarding the distribution and occurrence of NOA in California. The site is not in an area mapped as likely to contain NOA, and NV5's field geologist did not observe the presence of ultramafic rock outcrops (typically associated with the occurrence of NOA) at the site.

According to *A General Location Guide for Ultramafic Rocks in California - Areas Likely to Contain Naturally Occurring Asbestos* (California Department of Conservation, Division of Mines and Geology; August 2000) ultramafic rock is mapped approximately 21 miles west of the site.

The Jennings and Strand 1960 geologic map shows a Mesozoic aged ultramafic rock unit mapped approximately 21 miles west of the site and within the Upper Stony Creek Watershed. Surface water draining from the Upper Stony Creek Watershed flows into Black Butte Lake where the sediment load is likely deposited, then flows southwest across the valley and ultimately to the Sacramento River approximately 5.5 miles south of the subject property. The site is not within the Upper Stony Creek Watershed and is protected from inundation and deposition of NOA by the Glenn-Colusa Canal levee. Therefore, naturally occurring asbestos is not a REC for the subject property.

3.1.4 Radon

Radon gas concentrations are often compared to a regulatory screening level of 4 picoCuries per liter [pCi/L]). Based on review of the California Department of Health Services (CDHS) report *Geologic Controls on the Distribution of Radon in California* (Ronald Churchill, Associate Geochemist, California Geological Survey, dated January 25, 1991), Glenn County is not underlain by geologic deposits that increase the chance of elevated radon gas. Glenn County is in Radon Zone 3 as defined by the United States Environmental Protection Agency *Map of Radon Zones for California* (viewed August 21, 2018 at: http://www.city-data.com/radon-zones/California/California.html). This zone consists of counties with a predicted average indoor radon screening level less than 2 pCi/L. Furthermore, the *California Indoor Radon Test Results* (Department of Health Services, last updated February 2016) database summary indicates that, in the 95951 zip code for Glenn County, radon concentrations were less than the California Department of Health Services recommended action level of 4 pCi/L in four of four indoor air tests. Therefore, based on the published literature reviewed radon is not expected to be present at levels exceeding the screening levels. Sampling and analysis of indoor air would be required to determine actual radon levels at the site.

3.1.5 Soil Conditions

According to the United States Department of Agriculture Soil Conservation Service, National Cooperative Soil Survey, as summarized in the Phase I ESA, soil at the site is mapped as Wyo silt loam and Wyo loam. According to the Soil Conservation Service, these soils are comprised of alluvium derived from metavolcanics; are well drained; exhibit moderate infiltration rates; and have a high corrosion potential for uncoated steel.

No surface evidence of fill material was observed during NV5's Phase I ESA site reconnaissance and during the sampling effort for the PEA.

3.1.6 Groundwater

NV5 did not perform a groundwater investigation at the subject site. Based on our experience in the site vicinity, it is anticipated that the depth to groundwater fluctuates seasonally and may be encountered at a depth of approximately 10 to 15 feet below ground surface (bgs) with flow directions toward the east to southeast toward the Sacramento River.

NV5 acquired the well completion report for the onsite agricultural well, which is presented in Appendix B. The well completion report shows a total drilled depth of 223 feet bgs, with alternating layers of clay, gravel and clayey gravel of varying thickness. The well construction details indicate 16-inch blank steel casing was installed from 0 to 120 feet bgs and from 125 to 197 feet bgs, and the perforated section was installed from 84 to 104 feet and 125 to 197 feet bgs. The lower section of the well is reported as solid steel and perforated. Based on communication with the property owner representative, the perforated section of the well is expected to be both 84 to 104 and 125 to 197 feet bgs. At the time the well was installed (July 15, 1978), the depth to water in the well was reported to be approximately 28 feet bgs. At the time of sampling of the agricultural well, the well casing was not accessible to measure the water level in the well.

3.1.7 Nearest Surface Water

Nearest surface water is the Sacramento River, which is located approximately one-half mile northwest of the subject property. The Glenn-Colusa Canal is also within 150 feet toward the southwest.

4.0 IMPLEMENTATION OF PEA WORK PLAN

Field work for this project was conducted on November 11, 12, 13 and 19, 2019. Soil samples were collected from the following locations on the property, which are depicted on Figure 3.

- 56 locations within the boundary of former agricultural use on the property to investigate the presence of arsenic, lead and OCPs. 14 composite samples were prepared using the 56 discrete samples on a 4:1 ratio and analyzed for OCPs. 14 discrete samples from across the site were analyzed for arsenic and lead.
- Eight discrete samples from the current HUHS campus for background concentrations of arsenic and lead.
- Seven discrete samples from the drainage ditch on the southern boundary of the property to be analyzed for total petroleum hydrocarbons (TPH), Title 22 Metals, and OCPs.
- One location adjacent to the pole-mounted transformer on the property to assess the presence of polychlorinated biphenyls.

In addition to the soil samples listed above, one groundwater sample was collected from the onsite agricultural and was analyzed for OCPs.

4.1 PRE-FIELD ACTIVITIES

Approximately seven days prior to beginning field work, the HUSD issued a DTSC-approved Field Work Notice to neighboring residents within line of sight of the school property. The approved Field Work Notice can be found in the Work Plan (NV5, October 2019).

4.2 SOIL SAMPLING AND ANALYSIS

On November 11, 12 and 13, 2019, NV5 implemented the soil sampling and analysis plan presented in the DTSC-approved PEA Work Plan. Tables 1 through 4 present a summary of laboratory results, and sample locations are depicted on Figure 3.

4.2.1 Agricultural Area

The number of soil samples collected and analyzed for arsenic and OCPs was determined using the *Interim Guidance for Sampling Agricultural Fields for School Sites, Third Revision* (DTSC, 2008). The site is approximately 45 acres, for which DTSC requires 55 sampling locations. Because of the irregular shape of the site, however, the site was divided into 56 sampling areas, and 56 sampling locations were determined in the field within a grid superimposed on the site. The sampling grid is identified on Figure 3. Sample locations were determined in the field using a handheld GPS device. The sample locations should be considered approximate and were not determined to survey-grade accuracy. Soil samples were collected from a depth interval of 0 to 6 inches below ground surface, collecting equal amounts from the entire depth interval.

For OCP analysis, 19 composite samples (including 14 composite samples and five co-located and replicate composite samples) were prepared by the analytical laboratory using the 56 discrete samples with a 4:1 ratio (i.e. 4 discrete samples for every 1 composite sample) on a unit weight basis and were subsequently homogenized by the laboratory prior to analysis for OCPs.

For arsenic and lead, 19 discrete samples were analyzed, including fourteen discrete site samples (grid locations A1, A7, B3, C1, C5, C8, D3, D7, E2, E5, F3, F7, H6, and H8) and five co-located and replicate samples. The 14 site samples were a subset of the 56 discrete samples collected for OCP analysis.

4.2.2 Drainage Course

Nine discrete soil samples (referenced as "DD" samples) and two co-located and replicate samples were obtained from a drainage course for analysis of Title 22 metals, OCPs and TPH.

4.2.3 Background Soil

Ten discrete soil samples (including eight discrete field samples and two co-located and replicate samples) were collected from a depth of 2 feet bgs at the current HUHS site for assessing the arsenic and lead concentrations in native, undisturbed soil.

4.2.4 Transformer Location

The sampling methodology for PCBs was determined using the *Interim Guidance, Evaluation of School Sites with Potential Soil Contamination as a Result of Lead from Lead-Based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers, Revised 06/09/06* (DTSC, 2006). Two discrete soil samples were collected beneath the existing electrical transformer. One surface soil sample (0 to 6 inches bgs) and one subsurface soil sample (2 to 2.5 feet bgs) were collected.

4.2.5 Collection and Handling of Soil Samples

Soil samples were collected using individually wrapped, single-use, disposable plastic scoops. At the time of sampling, the field had been cultivated to a depth of greater than six inches, so an auger was not necessary for sampling. A hand auger was used to advance the remaining soil borings. Sample locations are depicted on Figure 3.

Soil samples were obtained from the borings and placed in 8-ounce glass jars fitted with Teflon™ lined lids. Sixty-four discrete-depth soil samples were collected from 0 to 6 inches bgs (total arsenic and lead, TPH, OCP, and PCB analysis at the site and in the drainage ditch), one from 2 to 2.5 feet bgs (PCB analysis near the onsite transformer), and eight from 1.5 to 2 feet bgs (total arsenic and lead analysis on the HUHS campus). The samples were labeled with a unique sample identification number and were placed on ice in a thermally insulated container.

Samples collected within the grid were assigned a unique identification (e.g. A4D-0) that represents the grid row letter (A), grid column number (4), sample type (composite = C; discrete = D) and depth (0 = 0 to 6 inches bgs and 2 = 1.5 to 2 feet bgs). For quality assurance/quality control (QA/QC) samples, the sample type (co-located = CL; field replicate = FR) was appended to the sample identification using a hyphen. Sample identifications for those samples collected beneath the pole-mounted transformer and from the drainage ditch were assigned a prefix (PMT- and DD-, respectively).

4.2.6 Decontamination

Personnel involved in sample processing and decontamination wore disposable, non-powdered gloves, and new gloves were donned at each new sampling location. Disposable equipment and supplies were placed in a plastic bag and disposed appropriately at an off-site location.

Decontamination of reusable field sampling equipment including augers, sampling trowels, and other hand tools was conducted prior to and following use that may have encountered potentially contaminated soil. Field sampling equipment was cleaned with a soft-bristled brush to remove soil, washed with clean tap water and detergent in a bucket, double-rinsed with clean tap water in two additional buckets, rinsed with deionized water and allowed to air dry. The final rinse from each decontamination was captured in a glass container for equipment blank analysis. One equipment blank sample was analyzed for each day of sampling, and the results of analysis of equipment blanks EB-1, EB-2 and EB-3 are presented in Appendix B.

4.2.7 Laboratory Analysis

Samples were shipped under chain-of-custody documentation to SunStar Laboratories (Sunstar) of Lake Forest, CA (ELAP Certification No. 2250). Laboratory analysis is summarized below.

- Fourteen 4-point composite samples, three co-located composite samples, and two field replicate composite samples obtained from 0 to 6 inches bgs within the former agricultural field were analyzed for OCPs by United States Environmental Protection Agency (USEPA) Method 8081A.

- Fourteen discrete samples, three field replicate samples, and two co-located samples obtained from 0 to 6 inches bgs within the former agricultural area were analyzed for arsenic by USEPA Method 6020 and lead by USEPA Method 6010B.

- Eight discrete samples, one co-located sample, and one field replicate sample obtained from 1.5 to 2 feet bgs on the HUHS campus were analyzed for arsenic by USEPA Method 6020 and lead by USEPA Method 6010B.

- Seven discrete samples, one co-located sample, and one field replicate sample obtained from 0 to 6 inches bgs within the drainage ditch were analyzed for OCPs by USEPA Method 8081A, for TPH by USEPA Method 8015B and for Title 22 Metals by USEPA Methods 6020, 6010B and 7470/7471.

- One discrete sample and one co-located sample obtained from 0 to 6 inches bgs and one discrete sample obtained from 2 to 2.5 feet bgs adjacent to the pole mounted transformer were analyzed for PCBs by USEPA Method 8082.

- Three equipment blank samples (EB-1, EB-2 and EB-3) were analyzed for Title 22 Metals by USEPA Methods 6010B and 7470/7471 and for OCPs by USEPA Method 8081A. Equipment blank sample (EB-1) was additionally analyzed for TPH by USEPA Method 8015B.

Results for arsenic, lead, OCPs, TPH and Title 22 Metals are tabulated in Tables 1 through 4. PCBs were not detected in soil at concentrations greater than the method detection limit (MDL). Therefore, PCB results were not tabulated. Additionally, no analytes were detected in the equipment blank samples.

4.3 GROUNDWATER SAMPLING AND ANALYSIS

One groundwater sample (AW-1) was collected from the onsite agricultural well as specified in the PEA Work Plan. Approximately three casing volumes of groundwater were purged from the well prior to sampling. The groundwater sample was collected from piping attached to the well head. The sample was shipped under chain-of-custody documentation to SunStar. The groundwater sample was analyzed for OCPs by USEPA Method 8081A. No OCPs were detected in sample AW-1 at concentrations exceeding their respective MDLs. Laboratory analytical results are presented in Appendix B.

4.4 DISCUSSION OF RESULTS FOR SOIL SAMPLES

Laboratory results are discussed in this section, and the analytical results for arsenic, lead, OCPs, TPH and Title 22 Metals are tabulated in Tables 1 through 4. Copies of the laboratory reports and chain-of-custody are provided in Appendix B.

4.4.1 Screening Levels

Screening levels are used to provide a general overview of site conditions. The screening levels are not intended to take the place of the human health risk assessment presented in Section 5 of this report.

Pursuant to DTSC (2019b) guidelines, screening levels related to protection of human health in the case of routine, long term exposure by direct pathways (i.e. ingestion, inhalation and dermal contact) commonly include USEPA Regional Screening Levels (RSLs) and DTSC-Screening Levels (SLs). For inorganics, background concentrations are also used as a basis for comparison.

RSLs and DTSC-SLs include inorganic constituent concentrations that are based on the protection of public health. In California, DTSC-SLs are commonly used in lieu of RSLs when DTSC uses toxicity criteria that are different than the toxicity criteria used by USEPA.

The screening levels are generally considered conservative. Under most circumstances, the presence of a chemical in media at concentrations less than the corresponding RSL or DTSC-SL can be assumed not to pose a significant, long-term (chronic) threat to human health. The presence of a chemical or inorganic constituent at a concentration in excess of a screening level does not necessarily indicate that adverse impacts to human health are occurring or will occur; however, further evaluation of potential human health concerns are generally appropriate if screening values are exceeded.

4.4.2 Background Soil Arsenic Concentrations

For the purposes of risk assessment, it is useful to distinguish between background metals concentrations occurring naturally in soil and elevated concentrations resulting from past waste disposal or releases of hazardous substances to the environment. According to the *Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note No. 3, DTSC-modified Screening Levels (DTSC-SLs)* (DTSC, 2019b), “HERO strongly recommends consideration of site-specific background concentrations of inorganic constituents.”

DTSC (1997) provides a framework in which risk assessors may identify background metals concentrations. Pursuant to DTSC (2019) risk assessment guidance “risk assessments should eliminate from consideration those whose range of concentrations falls within the range of local ambient conditions.” To do this, the local ambient data set may be defined by pooling all site data and determining ambient conditions in the presence of possible contamination.

ProUCL Version 5.1 (USEPA, 2016) was used to evaluate potentially outlying data and to prepare a box plot and normality plot (Q-Q plot) for the arsenic data set. No outliers were identified based on visual interpretation of the plots, and Rosner’s outlier test identified no outlying data at 5% and 1% significance levels. Soil arsenic data, including the site data and the subsurface samples obtained from the adjacent high school property, appear to be representative of a single population. The data set, plots and test results are presented in Appendix D.

ProUCL was used to perform background threshold value (BTV) statistics using the entire arsenic data set. ProUCL output is presented in Appendix D. Based on the small population of soil arsenic data (n = 29) the 95% upper tolerance level (UTL; 6.4 mg/kg) could be used to represent the upper range of background soil arsenic concentrations. The detected concentrations range from 3.6 to 6.4 mg/kg, the mean value is 5.2 mg/kg, and the coefficient of variation (CV) is 0.11.

4.4.3 Arsenic Analytical Methods

Total arsenic in soil was originally analyzed using EPA Method 6010B with a practical quantitation limit (PQL; also referred to as reporting limit, or RL) of 5 mg/kg. The PQL did not meet the project data quality objectives, and therefore the EPA 6010B data were rejected, and the analysis was repeated using EPA Method 6020 with a PQL of 0.25 mg/kg. Analytical reports for both analyses are presented in Appendix B.

4.4.4 Total Metals in Soil Samples

Total metals concentrations detected in soil samples do not exceed the corresponding screening levels for residential (unrestricted) land use listed in Table 4, except for arsenic. The DTSC-SL for arsenic in residential soil is 0.11 mg/kg.

Arsenic was detected in 19 discrete samples (including field replicate and co-located samples) obtained from the upper 6 inches of soil at the site at concentrations ranging from 4.1 to 6.4 mg/kg. These site samples were obtained on November 12 and 13, 2019, and are referenced by the grid location from which they were obtained (A1 through H8). Results are presented in Table 1.

Arsenic was detected in 10 background soil samples (including field replicate and co-located samples) obtained from 18-24 inches below ground surface on the adjacent current HUHS campus at concentrations ranging from 3.6 to 5.7 mg/kg. These background samples were obtained on November 11, 2019 and are referenced as “HHS” (Hamilton High School) samples. Results are presented in Table 1.

Arsenic was detected in nine samples (including field replicate and co-located samples) obtained from 0-6 inches below ground surface in the site drainage ditch at concentrations ranging from 4.3 to 6.7 mg/kg. These drainage ditch samples were obtained on November 11, 2019 and are referenced as “DD” samples. Results are presented in Table 4.

As described above in Section 4.4.2, the arsenic data were evaluated pursuant to DTSC guidance and are representative of background conditions.

4.4.5 Organochlorine Pesticides in Soil Samples

One OCP compound, 4,4-DDE, was detected in twelve 4-point composite samples, one field replicate 4-point composite, and three co-located 4-point composite samples from the onsite sample grid. 4,4-DDE also was detected in nine discrete samples (including a co-located sample and field replicate) obtained from the drainage ditch on the southern property boundary. The detected OCP concentrations were less than the USEPA RSL for residential and industrial soils.

4.4.6 Polychlorinated Biphenyls in Soil Samples

PCBs were not detected at concentrations greater than the MDL of 3.7 micrograms per kilogram (ug/kg).

4.4.7 Total Petroleum Hydrocarbons in Soil Samples

Motor oil range organics (MORO) were detected in each of the nine samples (including a co-located sample and field replicate) obtained from the drainage ditch on the southern property boundary at concentrations ranging from 16 to 48 mg/kg. Diesel range organics (DRO) were detected in two of the nine samples at concentrations of 10 and 11 mg/kg, and trace concentrations (less than the RL of 10 mg/kg) were detected in six of the samples. Gasoline range organics (GRO) were not detected. Concentrations of DRO and MORO were less than their respective Environmental Screening Levels (ESLs) as set by the San Francisco Regional Water Quality Control Board (RWQCB), which are listed in Table 3.

4.5 DATA QUALITY SUMMARY

4.5.1 Field Sampling Evaluation and Field Variance

NV5 performed the soil sampling in general accordance with the DTSC approved Work Plan (NV5, 2019). NV5 did not encounter significant variances from the PEA Work Plan except that the initial laboratory analysis of arsenic was performed with unacceptably high MDL and PQL. As described above in Section 4.4.3, total arsenic in soil was originally analyzed using EPA Method 6010B with a PQL of 5 mg/kg. The PQL did not meet the project data quality objectives, and therefore the EPA 6010B data were rejected, and the analysis was repeated using EPA Method 6020 with a PQL of 0.25 mg/kg. Analytical reports for both analyses are presented in Appendix B.

4.5.2 Chain of Custody Evaluation

The chain-of-custody documentation associated with the sample shipment was reviewed for completeness. Samples were received in good condition and were cold. Samples and requested analyses matched the sampling and analysis matrix.

4.5.3 Data Validation

Project data associated with the PEA were reviewed to assess the accuracy of data recording, processing and transmittal. Based on the validation, data generated are of acceptable quality for use in the PEA screening evaluation. None of the data were unusable based on the data evaluation, except for the original laboratory analysis of total arsenic in soil by EPA Method 6010B, as discussed in Section 4.4.3. The data evaluation is provided in Appendix C.

4.5.4 Health and Safety Procedures

Personnel conducting the site investigation were certified under Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) Standard (29 Code of Federal Regulations 1910). Prior to beginning field work, NV5 conducted a job safety analysis to identify site hazards and control measures to be implemented, reviewed potential constituents of concern (COC) and exposure routes, required the use of personal protective equipment, implemented decontamination procedures, and reviewed emergency response and hazard communications.

5.0 HUMAN HEALTH RISK ASSESSMENT

A screening-level human health risk assessment was performed in general accordance with the DTSC (2019) guidance. HHRA methodology and results are summarized below. Laboratory data for samples collected in November 2019 were used in the HHRA, as presented in Tables 1 through 4. Data evaluation worksheets and summary statistics are presented in Appendix D, and HHRA worksheets are presented in Appendix E.

5.1 SITE CONCEPTUAL MODEL

A site conceptual model (SCM) diagram is presented as Figure 4. The diagram depicts:

- Source media, release mechanisms and transport mechanisms;
- Potential points of exposure (exposure media) and exposure routes; and
- Potential receptors.

The model components are described below.

- The primary source media are inorganic and organic pesticides that were historically applied to the agricultural area. PCBs were not detected in soil and therefore are not considered constituents of concern. Bulk petroleum hydrocarbons were detected at di minimis concentrations below screening levels and are not quantitatively evaluated in the risk assessment.
- The primary release mechanism is the past application of pesticides during orchard cultivation and the aerial deposition of pesticides on surface soil. The site investigation did not identify anomalously high pesticide concentrations in soil that would indicate a spill; based on the low spatial variability of the laboratory test results it is assumed that the pesticide application resulted in a relatively uniform distribution within the cultivated area.
- The secondary source medium is shallow soil containing residual pesticide compounds.
- Potential transport mechanisms include mechanical soil disturbance, soil erosion by water and sediment transport, and soil erosion by wind and dust transport. The physical site characteristics and the results of soil sampling and analysis in a drainage ditch indicate that surface water erosion is not a significant transport mechanism. Leaching, volatilization and/or biological uptake in plant tissue are not considered significant transport mechanisms based on the relatively immobile and non-volatile nature of the constituents of concern and the physical site characteristics.
- Exposure media are soil and suspended particulates (dust). Exposure routes are incidental ingestion and dermal contact with contaminated soil, and inhalation of particulates originating from the contaminated soil. Groundwater and surface water routes are not considered complete. The contaminated soil is subject to seasonal precipitation and runoff; however, the constituents are relatively immobile, and soluble contaminants are expected only at low concentrations. Volatilization to indoor or outdoor air is not considered a complete exposure route because the COCs are not volatile.
- The site is evaluated from an unrestricted land use exposure scenario, and the potential receptors are comprised of offsite residents, construction workers, students, school staff and parents.

5.2 EXPOSURE POINT CONCENTRATIONS AND CHEMICAL GROUPS

COCs include inorganic (metals) and organic (OCP) constituents associated with historical pesticide application.

Arsenic concentrations detected in site soil range from 4.1 to 6.4 mg/kg and exceeds the DTSC-SL for residential soil (0.11 mg/kg). The detected concentrations are similar to the background values detected in subsurface soil samples obtained from the adjacent HUHS school campus and are considered to be representative of background values. Other metals were below the referenced screening levels.

One OCP compound (4,4-DDE) was detected in discrete and composite samples of site soil at concentrations ranging from 5.3 to 43 mg/kg. The detected concentrations were less than the RSL for 4,4-DDE in residential soil.

Laboratory data are presented in Tables 1 through 4. Exposure point concentrations (EPCs) are summarized below. Based on the small sample population, the maximum detected concentration is used as the EPC.

Pursuant to guidelines set forth in HERO *Human Health Risk Assessment Note No. 4* (DTSC, 2019c), risk and hazard are calculated on a site-wide basis, considering the risk and hazard associated with exposure to all detected chemicals (including those inorganic constituents that are determined to be consistent with background or ambient concentrations). Metals that were not detected (antimony, beryllium, molybdenum, selenium, silver and thallium) are not quantitatively evaluated.

5.3 EXPOSURE PARAMETERS

Exposure parameters for residential (unrestricted) land use are adopted from the HERO *Human Health Risk Assessment Note No. 1* (DTSC, 2019a), pursuant to guidance presented in *Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (RAGS Part E, Supplemental Guidance for Dermal Risk Assessment), Final* (USEPA, Office of Solid Waste and Emergency Response [OSWER] 9285.7-02EP, 2004) and *Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites* (USEPA, OSWER 9355.4-24, 2002).

- Exposure frequency is 350 days per year.
- Body weight is 15 kilograms (kg) for child and 80 kg for adult.
- The incidental soil ingestion rate is 200 milligrams per day (mg/day) for child and 100 mg/day for adult. Pica (intentional ingestion of soil and related particles) is not considered.
- The inhalation rate is 10 cubic meters per day (m^3/day) for child and 20 m^3/day for adult.
- Averaging time is 70 years for carcinogenic effects.
- Exposure duration for adults is 20 years. Averaging time for non-carcinogenic effects is equal to the exposure duration.
- Exposed skin surface area is 2,900 square centimeters (cm^2) for children and 6,032 cm^2 for adults.
- Dermal adherence factor is 0.2 milligrams per square centimeter (mg/cm^2) for children and 0.07 mg/cm^2 for adults.
- Particulate emission factor (PEF) is 1.36E+09 cubic meters per kilogram (m^3/kg).

5.4 TOXICITY VALUES

Toxicity values and sources are presented in Appendix E, Table E1. Toxicity value selection was performed pursuant to HERO HHRA Note No. 3 (DTSC, 2019b).

5.5 RISK CHARACTERIZATION

Risk and hazard calculations are performed using the following equations for non-volatile constituents. For residential land use, hazard is evaluated for child exposure. Calculations are summarized in Appendix E, Table E2.

$$Risk_{soil} = SF_o \times C_s \times [((IR_{s,child} \times EF \times ED_{child} \times 10^{-6}\ kg/mg) / (BW_{child} \times AT \times 365\ days/yr))+((SA_{child} \times AF \times ABS \times EF_{child} \times ED_{child} \times 10^{-6}\ kg/mg) / (BW_{child} \times AT \times 365\ days/yr)) +((IR_{s,adult} \times EF \times ED_{adult} \times 10^{-6}\ kg/mg)/(BW_{adult} \times AT \times 365\ days/yr)) + ((SA_{adult} \times AF \times ABS \times EF_{adult} \times ED_{adult} \times 10^{-6}\ kg/mg) / (BW_{adult} \times AT \times 365\ days/yr))]$$

$$Hazard_{soil} = (C_s / RfD_o) \times [((IR_s \times EF \times ED \times 10^{-6}\ kg/mg) / (BW \times AT \times 356\ days/yr)) + ((SA \times AF \times ABS \times EF \times ED \times 10^{-6}\ kg/mg) / (BW \times AT \times 365\ days/yr))]$$

$$Risk_{air} = SF_i \times C_a \times [((IR_{child} \times EF \times ED_{child}) / (BW_{child} \times AT \times 365\ days/yr))+ ((IR_{adult} \times EF \times ED_{adult}) / (BW_{adult} \times AT \times 365\ days/yr))]$$

$$Hazard_{air} = (C_a / RfD_i) \times (IR \times EF \times ED) / (BW \times AT \times 365\ days/yr)$$

Where:

ABS = absorption fraction of chemical from soil
AT = averaging time, years
AF = soil to skin adherence factor, mg/cm^2
BW = body weight, kg
C_a = concentration in air, mg/m^3 ($C_a = C_s$ / PEF)
C_s = concentration in soil, mg/kg
ED = exposure duration, years
EF = exposure frequency
PEF = particulate emission factor, m^3/kg
$Hazard_{air}$ = non-cancer chronic health hazard for air pathways
$Hazard_{soil}$ = non-cancer chronic health hazard for soil pathways
IR_a = inhalation rate, m^3/day
IR_s = incidental soil ingestion rate, mg/day
SA = exposed skin surface area, cm^2
SF_i = inhalation cancer slope factor, (mg/kg-day)$^{-1}$
SF_o = oral cancer slope factor, (mg/kg-day)$^{-1}$
RfD_i = inhalation reference dose, mg/kg-day
RfD_o = oral reference dose, mg/kg-day
$Risk_{air}$ = lifetime excess cancer risk for air pathways
$Risk_{soil}$ = lifetime excess cancer risk for soil pathways

5.6 UNCERTAINTY ANALYSIS

According to the California Office of Environmental Health Hazard Assessment (OEHHA, 2004), "systematic, logical and informed approaches to decision making about carcinogens in the environment call for quantitative assessments because the absence of clearly definable thresholds does not permit identification of 'safe' levels of exposure. Unfortunately, due to the frequent lack of sufficient data, assumptions have to be made in order to complete quantitative assessments of cancer risk."

There are uncertainties associated with contaminant concentrations in soil; the amount of exposure to soil; the biological uptake of contaminants from soil; and the toxicological effects of biologically available contaminants. Such uncertainty must be discussed so that the assessment does not result in a "higher degree of implied certainty in the overall assessment than is warranted" (OEHHA, 2004).

Laboratory reporting and detection limits are generally less than the corresponding screening levels and/or background levels; therefore, these laboratory analytical limitations are not expected to be a significant source of uncertainty.

Confidence in the exposure assessment is considered low to moderate. Confidence in toxicity values ranges from low to high based on the data available for specific constituents of concern. The risk assessment considers routine, long-term exposure to soil, including dermal contact, ingestion and inhalation of soil dust.

Sampling uncertainty related to contaminant concentrations in soil, as well as sampling uncertainty related to the literature-derived exposure and toxicity parameters, contribute to the overall uncertainty of the assessment. The use of maximum detected concentrations tends to overestimate risk. Confidence in sampling is considered moderate based on the relatively consistent laboratory results and the findings of field and laboratory data validation.

The literature-derived exposure factors and toxicity factors used in the assessment were obtained with the goal of reducing uncertainty; however, limitations of existing data pertaining to activity patterns for future site occupants, as well as health effects from exposure, result in model uncertainty.

5.7 SUMMARY OF EVALUATION

Pursuant to guidelines set forth in HERO HHRA Note No. 4 (DTSC, 2019c) hazard and risk are calculated on a site-wide basis, considering the hazard and risk associated with exposure to all detected chemicals including those that are determined to be consistent with background or ambient concentrations. This information is intended to be useful for risk management decisions and to foster public transparency. The hazard index (hazard or HI; 1.7E+01) and excess lifetime cancer risk (risk; 6.2E-05) are driven by ambient arsenic concentrations in soil. Excluding arsenic, which was detected at concentrations similar to accepted background values, the hazard is 6.6E-01 and the risk is 3.8E-08.

6.0 PUBLIC PARTICIPATION

The PEA report is submitted in draft format to DTSC for review and is revised pursuant to DTSC comments. After revision, the PEA report is resubmitted in “draft final” format for DTSC review and approval. Pursuant to the California Education Code Section 17213.1 (a) (6), the school district is required to notify the public concurrently with the submission of the draft PEA report to DTSC. The school district must publish a notice in a local newspaper of general circulation and post the notice in a prominent manner at the school site. The notice shall state the school district's determination to make the PEA available for public review and comment.

The code specifies two alternative methods of notification, and the school district intends to use option “A” as set forth in California Education Code Section 17213.1 (a) (6). Option “A” is outlined below, borrowing from the referenced code.

The school district shall offer to receive written comments for a period of at least 30 calendar days after the assessment is submitted to the DTSC, commencing on the date the notice is originally published, and shall hold a public hearing to receive further comments. The school district shall make all the following documents available to the public upon request through the time of the public hearing:

(i) The PEA Report,
(ii) The changes requested by the DTSC for the PEA, and
(iii) Any correspondence between the school district and the DTSC relating to the PEA.

The notice of the public hearing shall include the date and location of the public hearing, and the location where the public may review the documents described in items (i), (ii) and (iii) above. All public comments pertaining to the preliminary endangerment assessment shall be forwarded to the DTSC immediately.

If the PEA is revised or altered following the public hearing, the school district shall make those revisions or alterations available to the public. The school district shall transmit a copy of all public comments received by the school district on the PEA to the DTSC.

The DTSC shall complete its review of the PEA and public comments received thereon and shall either approve or disapprove the assessment within 30 calendar days of the close of the public review period. If the DTSC determines that it is likely to disapprove the assessment prior to its receipt of the public comments, it shall inform the school district of that determination and of any action that the school district is required to take for the DTSC to approve the assessment.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions are based on the findings of site characterization and risk assessment.

Arsenic concentrations detected in surface soil range from 4.1 to 6.7 mg/kg and have an average value of 5.3 mg/kg. These concentrations exceed the DTSC-SL for residential soil (unrestricted land use). However, the concentrations are similar to accepted background values and are considered to be representative of background conditions.

OCPs were not detected in soil within the former agricultural area in exceedance of DTSC-SLs and were not detected in groundwater sampled from the onsite agricultural well. PCBs were not detected in soil adjacent to the onsite pole mounted transformer. Except for arsenic (discussed above), Title 22 metals were not detected in soil within the former agricultural area or drainage ditch in exceedance of DTSC-SLs. Total petroleum hydrocarbons were not detected in soil in the drainage ditch in exceedance of RWQCB ESLs.

Based on the findings of site characterization presented herein, it is NV5's opinion that the site is a candidate for a no further action determination regarding the characterization of Title 22 metals (including arsenic), OCPs, TPH and PCBs. The findings and conclusions presented herein are subject to review and approval by DTSC.

8.0 LIMITATIONS

The following limitations apply to the findings, conclusions and recommendations presented in this report:

- NV5's professional services were performed consistent with the generally accepted engineering principles and practices employed in northern California. No warranty is expressed or implied.
- These services were performed per NV5's agreement with NV5's client. NV5 is not responsible for the impacts of any changes in environmental standards, practices or regulations subsequent to performance of environmental and engineering services. NV5 does not warrant the accuracy of information supplied by others, or the use of segregated portions of this report. This report is solely for the use of the client unless noted otherwise. Any reliance on this report by a third party is at the party's sole risk.
- If changes are made to the nature or design of the project as described in this report, then the conclusions and recommendations presented in this report should be considered invalid by all parties. Only NV5 can determine the validity of the conclusions and recommendations presented in this report. Therefore, NV5 should be retained to review all project changes and prepare written responses with regards to their impacts on NV5's conclusions and recommendations; however, NV5 may require additional field work and laboratory testing to develop any modifications to the report. Costs to review project changes and perform additional fieldwork and laboratory testing necessary to modify NV5's recommendations are beyond the scope of services presented in this report. Additional work will require an approved scope of services, budget and authorization to proceed.
- NV5 is not responsible for the health and safety of non-NV5 personnel, on or off the project site.
- The analyses, conclusions and recommendations presented in this report are based on site conditions as they existed at the time NV5's investigation was performed. Changes in the conditions of the property can occur with the passage of time. The changes may be due to natural processes or to the works of man, on the project site or adjacent properties. In addition, changes in applicable or appropriate standards can occur, whether they result from legislation or the broadening of knowledge, therefore, the recommendations presented in this plan may need to be revised based on site conditions or regulatory requirements.

9.0 REFERENCES

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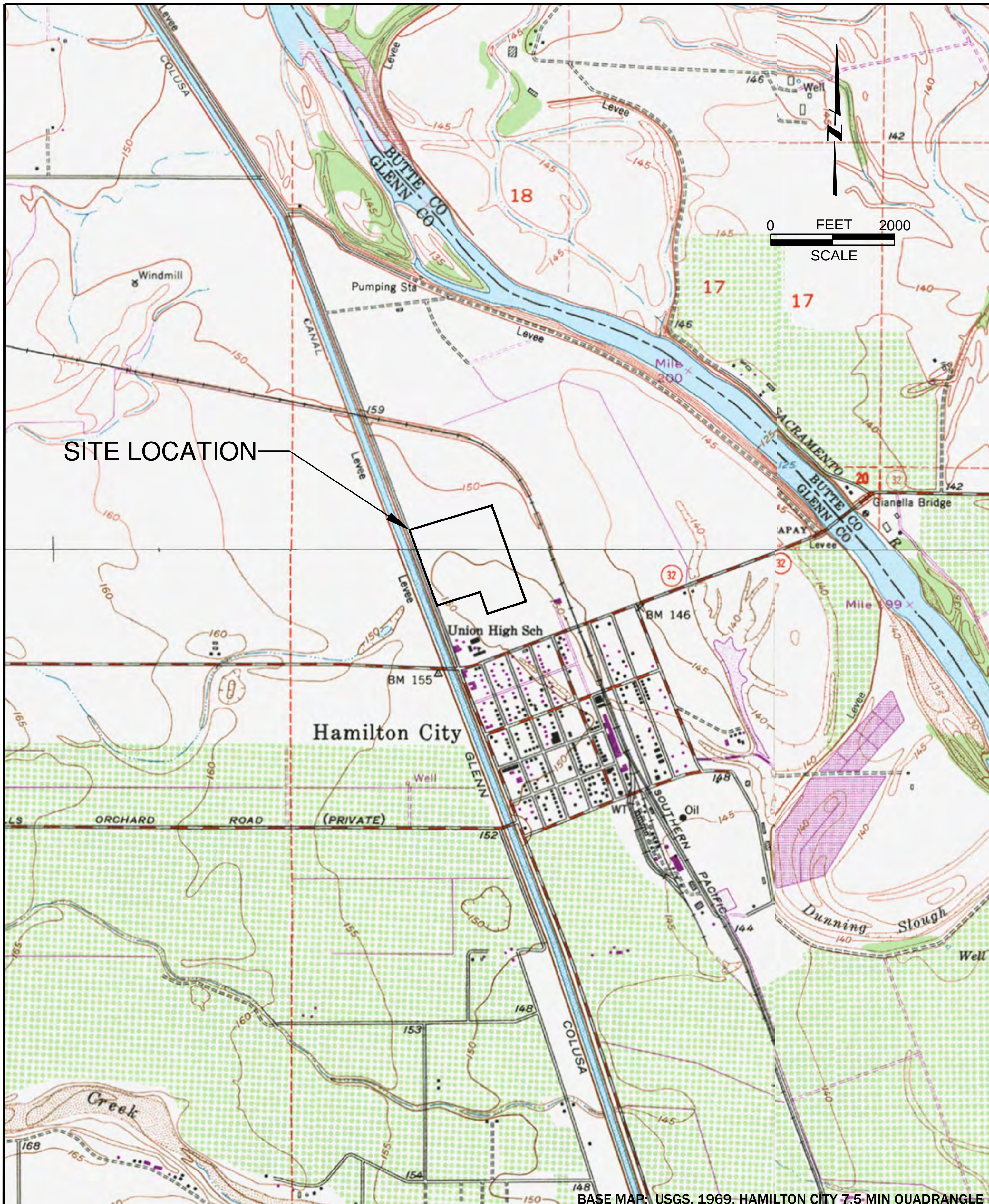
FIGURES



NV5

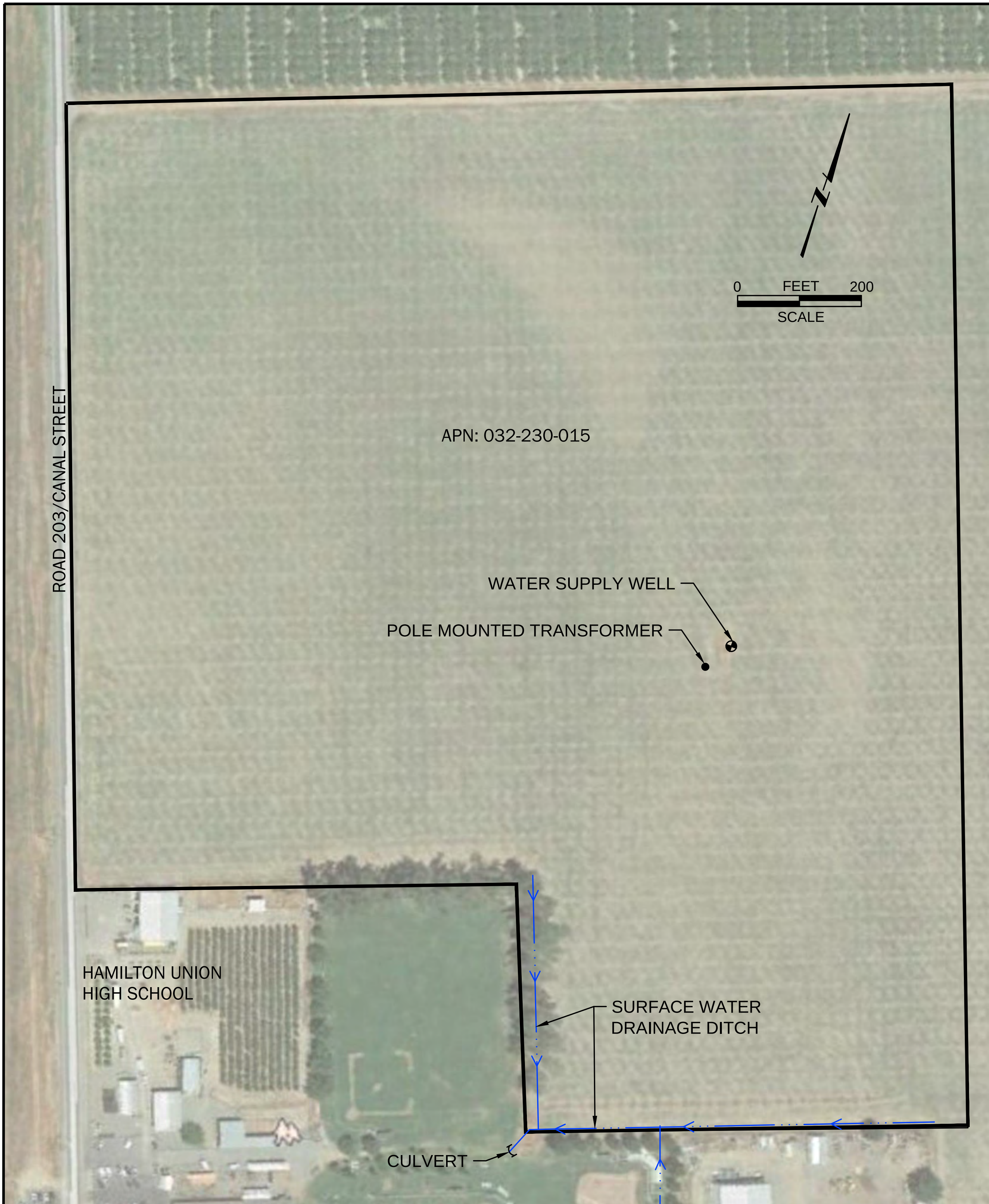
LOCATION MAP

HAMILTON UNION HIGH SCHOOL EXPANSION

HAMILTON CITY, CALIFORNIA

DRAWN BY:	HJC
CHECKED BY:	HJC
PROJECT NO:	70779.01
DATE:	JANUARY 2020

FIGURE
1



NV5

SITE PLAN

HAMILTON UNION HIGH SCHOOL EXPANSION

HAMILTON CITY, CALIFORNIA

DRAWN BY:	CWB
CHECKED BY:	HJC
PROJECT NO:	70779.01
DATE:	JANUARY 2020

FIGURE 2

NV5

SOIL AND GROUNDWATER SAMPLE LOCATIONS

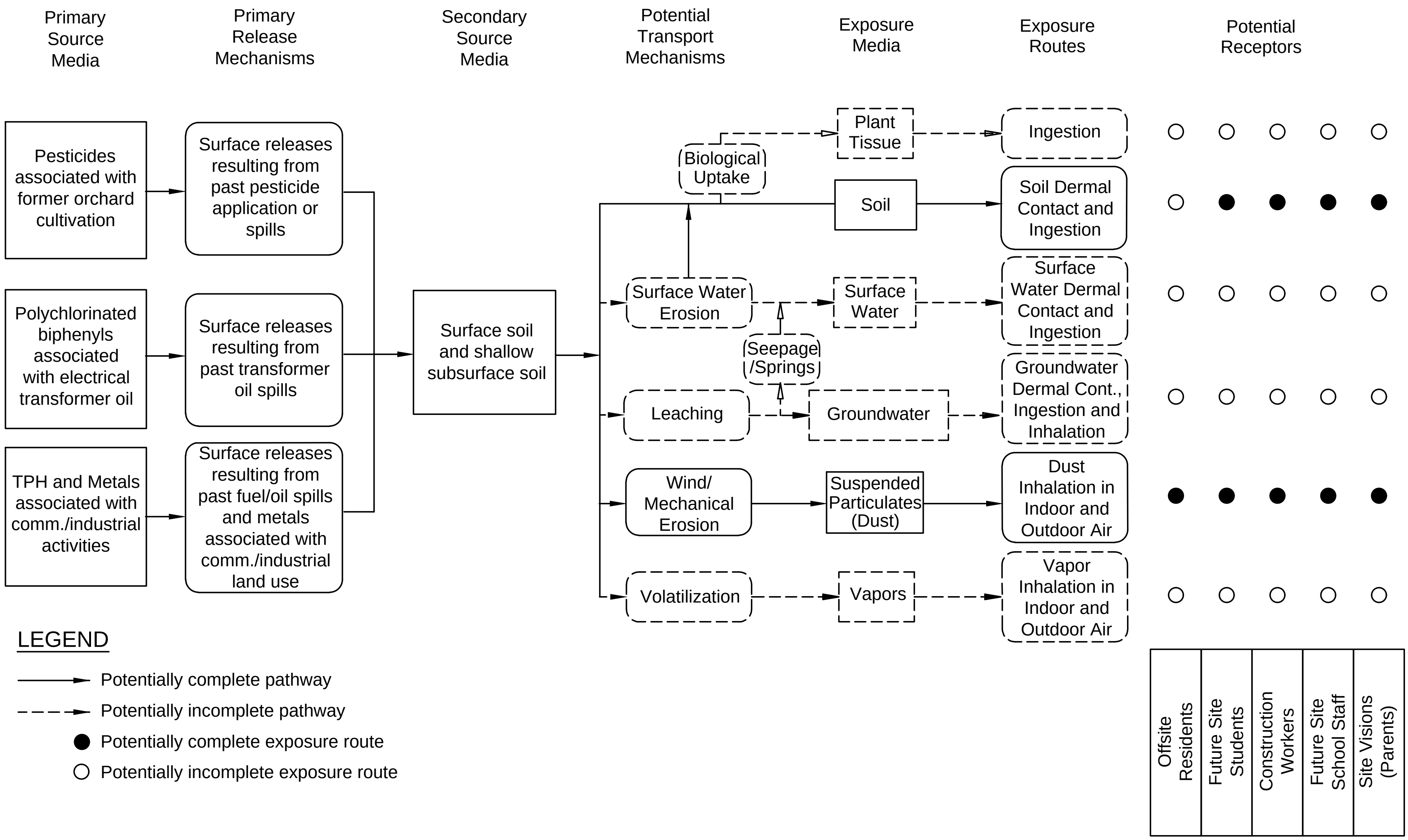
HAMILTON UNION HIGH SCHOOL EXPANSION

HAMILTON CITY, CALIFORNIA

DRAWN BY:	CWB
CHECKED BY:	HJC
PROJECT:	70779.01
DATE:	JANUARY 2020

FIGURE 3

TRANSPORT MECHANISMS AND EXPOSURE MEDIA FOR HUMAN RECEPTORS



SITE CONCEPTUAL MODEL DIAGRAM

HAMILTON UNION HIGH SCHOOL EXPANSION

HAMILTON CITY, CALIFORNIA

DRAWN BY:	CWB
CHECKED BY:	HJC
PROJECT:	70779.01
DATE:	JANUARY 2020

FIGURE 4

TABLES

Table 1. Total Arsenic and Lead in Soil

Hamilton Union High School Expansion

Hamilton City, Glenn County, California

Sample ID	Sample Date	Depth (inches bgs)	Arsenic	Lead
USEPA Method			*6020*	*6010B*
CAS No.			*7440-38-2*	*7439-92-1*
MDL			*0.0025*	*0.01*
RL			*0.25*	*3*
Unit			*mg/kg*	*mg/kg*
Screening Levels [(a)]	*DTSC-SL (Residential)*		*0.11*	*80*
	DTSC-SL (Industrial)		*0.36*	*320*
A1D-0	11/12/19	0-6	5.4	4.5
A7D-0	11/12/19	0-6	5.9	5.4
A7D-0-CL	11/12/19	0-6	5.7	5.4
B3D-0	11/12/19	0-6	5.3	4.7
B3D-0-FR	11/12/19	0-6	5.0	4.3
C1D-0	11/12/19	0-6	4.7	4.3
C1D-0-CL	11/12/19	0-6	4.8	4.7
C5D-0	11/12/19	0-6	4.1	5.1
C8D-0	11/12/19	0-6	5.5	5.0
D3D-0	11/12/19	0-6	4.7	4.5
D7D-0	11/12/19	0-6	6.4	5.8
D7D-0-FR	11/12/19	0-6	5.2	5.6
E2D-0	11/13/19	0-6	4.9	4.9
E5D-0	11/13/19	0-6	6.0	5.7
F3D-0	11/13/19	0-6	5.5	5.5
F3D-0-FR	11/13/19	0-6	5.4	5.4
F7D-0	11/13/19	0-6	4.7	5.2
H6D-0	11/13/19	0-6	5.6	5.9
H8D-0	11/13/19	0-6	5.8	5.8
HHS1D-2	11/11/19	18-24	5.0	4.3
HHS2D-2	11/11/19	18-24	5.4	4.4
HHS3D-2	11/11/19	18-24	4.7	4.1
HHS3D-2-FR	11/11/19	18-24	5.2	3.7
HHS4D-2	11/11/19	18-24	3.6	4.0
HHS5D-2	11/11/19	18-24	4.7	3.7
HHS5D-2-CL	11/11/19	18-24	4.6	4.1
HHS6D-2	11/11/19	18-24	5.1	4.1
HHS7D-2	11/11/19	18-24	4.9	3.8
HHS8D-2	11/11/19	18-24	5.7	4.2

Notes:

bgs = below ground surface

CAS = Chemical Abstracts Service registry number

DTSC = Department of Toxic Substances Control

MDL = method detection limit

mg/kg = milligrams per kilogram

ND = not detected greater than listed MDL

RL = reporting limit

SL = screening level

USEPA = United States Environmental Protection Agency

Table 2. Organochlorine Pesticides in Soil
Hamilton Union High School Expansion
Hamilton City, Glenn County, California

Sample ID	Sample Date	Depth (inches bgs)	4,4´-DDE
USEPA Method			*8081A*
CAS No.			*72-55-9*
MDL			*1.5*
RL			*5.0*
Unit			*ug/kg*
Screening Levels [(a)]	*USEPA RSL (Residential)*		*2000 (500 for 1:4 composite)*
	USEPA RSL (Industrial)		*9300 (2325 for 1:4 composite)*
ABCD1C-0	11/12/19	0-6	12
ABCD2C-0	11/12/19	0-6	11
ABCD2C-0-FR	11/12/19	0-6	8.7
ABCD3C-0	11/12/19	0-6	9.8
ABCD4C-0	11/12/19	0-6	7.6
ABCD5C-0	11/12/19	0-6	6.6
ABCD5C-0-CL	11/12/19	0-6	7.0
ABCD6C-0	11/12/19	0-6	<5.0
ABCD7C-0	11/12/19	0-6	<5.0
ABCD7C-0-FR	11/12/19	0-6	<5.0
ABCD8C-0	11/12/19	0-6	<5.0
EF1EF2C-0	11/13/19	0-6	9.0
EF3EF4C-0	11/13/19	0-6	8.2
EF3EF4C-0-CL	11/13/19	0-6	11
EFGH5C-0	11/13/19	0-6	7.7
EFGH6C-0	11/13/19	0-6	8.5
EFGH7C-0	11/13/19	0-6	8.3
EFGH8C-0	11/13/19	0-6	6.6
EFGH8C-0-CL	11/13/19	0-6	5.3
DD1D-0	11/11/19	0-6	9.3
DD2D-0	11/11/19	0-6	11
DD2D-0-CL	11/11/19	0-6	12
DD3D-0	11/11/19	0-6	21
DD4D-0	11/11/19	0-6	40
DD4D-0-FR	11/11/19	0-6	36
DD5D-0	11/11/19	0-6	<5.0
DD6D-0	11/11/19	0-6	14
DD7D-0	11/11/19	0-6	43

Notes:
bgs = below ground surface
CAS = Chemical Abstracts Service registry number
MDL = method detection limit
ND = not detected above listed MDL
RL = reporting limit
RSL = Regional Screening Level
USEPA = United States Environmental Protection Agency
ug/kg = micrograms per kilogram

[(a)] RSLs as set forth by USEPA Region 9 (USEPA, November 2019). Screening levels shown in parentheses were divided by 4 to account for potential dilution associated with the 4:1 composite sample.

Table 3. Total Petroleum Hydrocarbons in Soil
Hamilton Union High School Expansion
Hamilton City, Glenn County, California

Sample ID	Sample Date	GRO (C6-C12)	DRO (C13-C28)	MORO (C29-C40)
USEPA Method		*8015B*	*8015B*	*8015B*
MDL		*2.2*	*1.6*	*4.2*
RL		*10*	*10*	*10*
Unit		*mg/kg*	*mg/kg*	*mg/kg*
Screening Levels [(a)]	*ESL*	*100*	*260*	*1600*
DD1D-0	11/11/19	ND	ND	17
DD2D-0	11/11/19	ND	2.9J	17
DD2D-0-CL	11/11/19	ND	5.4J	25
DD3D-0	11/11/19	ND	3.0J	16
DD4D-0	11/11/19	ND	5.6J	30
DD4D-0-FR	11/11/19	ND	5.2J	33
DD5D-0	11/11/19	ND	8.0J	26
DD6D-0	11/11/19	ND	11	48
DD7D-0	11/11/19	ND	10	35

Notes:
CAS = Chemical Abstracts Service
DRO = diesel range organics
ESL = Environmental Screening Level
GRO = gasoline range organics
J = estimated value; between method detection limit and reporting limit
MDL = method detection limit
mg/kg = milligrams per kilogram
MORO = motor oil range organics
ND = not detected
RL = reporting limit
RWQCB = Regional Water Quality Control Board
USEPA = United State Environmental Protection Agency

[(a)] RWQCB, San Francisco Bay Region, 2019. Environmental Screening Levels (ESLs).

Table 4. Title 22 Metals in Soil
Hamilton Union High School Expansion
Hamilton City, Glenn County, California

Sample ID	Sample Date	Depth (inches bgs)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
USEPA Method			6010B	6020	6010B	6010B	6010B	6010B	6010B	6010B	6010B	7471A	6010B	6010B	6010B	6010B	6020	6010B	6010B
CAS No.			7440-36-0	7440-38-2	7440-39-3	7440-41-7	7440-43-9	7440-47-3	7440-48-4	7440-50-8	7439-92-1	7439-97-6	7439-98-7	7440-02-0	7782-49-2	7440-22-4	7440-28-0	7440-62-2	7440-66-6
MDL			1.4	0.0025	0.3	0.2	0.1	0.1	0.2	0.2	1.0	0.027	0.2	0.3	2.2	0.5	0.10	0.3	0.1
RL			3.0	0.25	1.0	1.0	2.0	2.0	2.0	1.0	3.0	0.10	5.0	2.0	5.0	2.0	0.25	5.0	1.0
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Screening Levels [(a, b)]	*DTSC-SL (Residential)*		NL	0.11	NL	16	71	NL	NL	NL	80	1.0	NL	820	NL	NL	NL	NL	NL
	DTSC-SL (Industrial)		NL	0.36	NL	230	780	NL	NL	NL	320	4.4	NL	11,000	NL	NL	NL	NL	NL
	RSL (Residential)		31	0.68	15,000	160	71	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
DD1D-0	11/11/19	0-6	ND	4.4	70	ND	0.53J	40	9.7	23	4.5	0.035J	ND	59	ND	ND	ND	28	52
DD2D-0	11/11/19	0-6	ND	5.3	65	ND	0.51J	40	9.2	22	4.7	ND	ND	56	ND	ND	ND	27	52
DD2D-0-CL	11/11/19	0-6	ND	4.8	65	ND	0.48J	37	8.7	21	4.5	ND	ND	54	ND	ND	ND	26	52
DD3D-0	11/11/19	0-6	ND	4.3	62	ND	0.49J	35	8.4	20	4.8	ND	ND	50	ND	ND	ND	25	51
DD4D-0	11/11/19	0-6	ND	5.8	65	ND	0.50J	35	9.1	21	5.2	ND	ND	52	ND	ND	ND	26	51
DD4D-0-FR	11/11/19	0-6	ND	5.5	64	ND	0.48J	35	8.8	21	5.5	ND	ND	51	ND	ND	ND	25	56
DD5D-0	11/11/19	0-6	ND	6.7	190	ND	0.57J	41	9.8	26	6.4	0.036J	ND	59	ND	ND	ND	30	77
DD6D-0	11/11/19	0-6	ND	5.7	200	ND	0.56J	40	9.6	25	6.5	0.029J	ND	57	ND	ND	ND	29	81
DD7D-0	11/11/19	0-6	ND	5.7	190	ND	0.53J	38	9.4	22	4.9	0.028J	ND	57	ND	ND	ND	28	58

Notes:
bgs = below ground surface
CAS = Chemical Abstracts Service registry number
DTSC-SL = California Department of Toxic Substances Control Screening Level, as set forth in Human Health Risk Assessment (HHRA) Note 3 (DTSC; April 2019)
J = estimated value; between method detection limit and reporting limit
MDL = method detection limit
mg/kg = milligrams per kilogram
ND = not detected greater than listed MDL
RL = reporting limit
RSL = Regional Screening Level
USEPA = United States Environmental Protection Agency
NL = not listed

[(a)] DTSC-SL as set forth in Human Health Risk Assessment (HHRA) Note 3 (DTSC; April 2019)
[(b)] RSLs as set forth by USEPA Region 9 (USEPA, November 2019)

APPENDIX A

Regulatory Correspondence

Jared Blumenfeld
Secretary for
Environmental Protection

Meredith Williams, Ph.D.
Acting Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Gavin Newsom
Governor

November 5, 2019

Mr. Jeremy Powell, EdD
Superintendent
Hamilton Unified School District
P.O. Box 488
Hamilton City, California 95951

PRELIMINARY ENDANGERMENT ASSESSMENT WORKPLAN – APPROVAL, HAMILTON UNIFIED SCHOOL DISTRICT, HAMILTON UNION HIGH SCHOOL EXPANSION, NORTH OF 620 CANAL STREET AND EAST OF SR 45/CANAL STREET, HAMILTON CITY, GLENN COUNTY (PROJECT CODE 104806)

Dear Dr. Powell:

The Department of Toxic Substances Control (DTSC) reviewed the revised *Preliminary Endangerment Assessment Work Plan* (PEA Workplan – NV5, October 29, 2019) received electronically on November 1, 2019. The PEA Workplan was revised in response to DTSC comments on the draft version forwarded in a letter dated October 7, 2019. The PEA Workplan includes project background information as well as proposed environmental investigation activities.

According to the PEA Workplan, the Hamilton Unified School District (District) is proposing to expand the existing Hamilton Union High School. The proposed expansion will include phased construction of a gymnasium, a parking lot, new play fields, and modernization of utilities and infrastructure. The Site will be served by the Hamilton City Community Services District (CSD) which includes water provided by California Water Service – Chico District, storm drain connections provided by Glenn County Planning and Public Works Agency and sewer provided by the CSD.

The Site is identified as an approximately 45-acre portion of the parcel identified by the Glenn County Assessor's Parcel Number 032-230-015 (125 acres). The Site is bordered to the north by agricultural land; to the east by railroad tracks followed by agricultural land and the Sacramento River; to the south by Hamilton Union High School, then 6th Street, followed by mixed commercial businesses and residences; and, to the west by Canal Road, then the Glenn-Colusa Canal followed by agricultural land.

According to the PEA Workplan, the Site has been used for agricultural purposes since at least 1937. A hay type crop was planted at the Site from at least 1937 through approximately 1983. The Site was used as an orchard from approximately 1983 through 2017. The Site has been planted with a hay type crop since 2017. One pole-mounted transformer and water supply well are present at the Site. Both were likely installed around 1978.

The PEA Workplan includes activities to investigate the Site for potential impacts from the following environmental conditions that may pose a threat to human health or the environment:

- Organochlorine pesticides (OCPs), arsenic, and lead in soils from historic agricultural use;
- Arsenic, lead, and OCPs in soil and groundwater associated with the supply well as a potential mixing area;
- Polychlorinated biphenyls in soils associated with the pole-mounted transformer; and,
- Total petroleum hydrocarbons, metals, and OCPs in soils associated with a drainage ditch that runs east to west along the southern edge of the Site.

DTSC's comments have been adequately addressed, and the revised PEA Workplan is hereby approved. If Site conditions differ from those presented in the approved PEA Workplan, additional work may be necessary. In accordance with Education Code section 17210.1(b), the District shall provide written notice to businesses and residents in the immediate area, approved in form by DTSC, at least five days in advance of field investigation activities. The intent of this requirement is to provide advance notice of fieldwork such as drilling, sampling, and other environmental data collection activities to anyone who lives or works in the line of sight of the Site. Please notify DTSC a minimum of 48 hours in advance of fieldwork or schedule changes.

The PEA Workplan states that the District intends to make the Draft PEA Report available for public review in compliance with Option A of the Education Code section 17213.1(a)(6)(A). Pursuant to Education Code section 17213.1, subdivision (a)(6), at the same time the Draft PEA Report is submitted to DTSC for review, the District shall publish a DTSC approved notice in a local newspaper of general circulation and post the notice in a prominent manner at the Site. The notice should state the District's intent of making the Draft PEA Report available for public review pursuant Option A. A copy of the notice shall be submitted to DTSC with the Draft PEA Report.

If you have any questions regarding the project, please contact me at (916) 255-6666 or via email at Elizabeth.Tisdale@dtsc.ca.gov.

Sincerely,

E. Tisdale

Elizabeth Tisdale
Project Manager
Northern California Schools Unit
Site Mitigation and Restoration Program

cc: (via e-mail)

Ms. Kristen Hamman
Chief Business Official
Hamilton Unified School District
khamman@husdschools.org

Ms. Heidi Cummings, PG
Senior Geologist
NV5
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Mr. Craig W. Bourne, PG
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Mr. José Salcedo, PE
Chief, Northern California Schools Unit
DTSC – Sacramento Office
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Ms. Valerie Hanley, PhD
Staff Toxicologist
DTSC – Human and Ecological Risk Office
Valerie.Hanley@dtsc.ca.gov

NV5

APPENDIX B

Laboratory Reports and Chain-of-Custody Documentation

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

11 December 2019

Heidi Cummings
NV5
48 Bellarmine Ct, Suite 40
Chico, CA 95928

RE: Hamilton Union High School

Enclosed are the results of analyses for samples received by the laboratory on 11/13/19 08:27. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeff Lee
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A1D-0	T193941-01	Soil	11/12/19 08:30	11/13/19 08:27
C1D-0	T193941-03	Soil	11/12/19 08:50	11/13/19 08:27
C1D-0-CL	T193941-04	Soil	11/12/19 09:00	11/13/19 08:27
ABCD1C-0	T193941-06	Soil	11/12/19 00:00	11/13/19 08:27
ABCD2C-0	T193941-15	Soil	11/12/19 00:00	11/13/19 08:27
ABCD2C-0-FR	T193941-16	Soil	11/12/19 00:00	11/13/19 08:27
B3D-0	T193941-18	Soil	11/12/19 10:25	11/13/19 08:27
B3D-0-FR	T193941-19	Soil	11/12/19 10:26	11/13/19 08:27
D3D-0	T193941-21	Soil	11/12/19 11:00	11/13/19 08:27
ABCD3C-0	T193941-22	Soil	11/12/19 00:00	11/13/19 08:27
ABCD4C-0	T193941-27	Soil	11/12/19 00:00	11/13/19 08:27
HHS1D-2	T193941-28	Soil	11/11/19 08:30	11/13/19 08:27
HHS2D-2	T193941-29	Soil	11/11/19 09:15	11/13/19 08:27
HHS3D-2	T193941-30	Soil	11/11/19 10:15	11/13/19 08:27
HHS3D-2-FR	T193941-31	Soil	11/11/19 10:18	11/13/19 08:27
HHS4D-2	T193941-32	Soil	11/11/19 10:30	11/13/19 08:27
HHS5D-2	T193941-33	Soil	11/11/19 10:45	11/13/19 08:27
HHS5D-2-CL	T193941-34	Soil	11/11/19 10:55	11/13/19 08:27
HHS6D-2	T193941-35	Soil	11/11/19 11:30	11/13/19 08:27
HHS7D-2	T193941-36	Soil	11/11/19 12:25	11/13/19 08:27
HHS8D-2	T193941-37	Soil	11/11/19 13:30	11/13/19 08:27
PMT-E6D-0	T193941-38	Soil	11/11/19 15:05	11/13/19 08:27
PMT-E6D-0-CL	T193941-39	Soil	11/11/19 15:15	11/13/19 08:27
PMT-E6D-2	T193941-40	Soil	11/11/19 15:30	11/13/19 08:27
EB-1	T193941-41	Water	11/11/19 15:00	11/13/19 08:27
DD1D-0	T193941-42	Soil	11/11/19 13:40	11/13/19 08:27
DD2D-0	T193941-43	Soil	11/11/19 13:45	11/13/19 08:27
DD2D-0-CL	T193941-44	Soil	11/11/19 13:50	11/13/19 08:27
DD3D-0	T193941-45	Soil	11/11/19 14:05	11/13/19 08:27

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DD4D-0	T193941-46	Soil	11/11/19 14:10	11/13/19 08:27
DD4D-0-FR	T193941-47	Soil	11/11/19 14:15	11/13/19 08:27
DD5D-0	T193941-48	Soil	11/11/19 14:25	11/13/19 08:27
DD6D-0	T193941-49	Soil	11/11/19 14:35	11/13/19 08:27
DD7D-0	T193941-50	Soil	11/11/19 15:00	11/13/19 08:27

This report has been revised to report Arsenic and Thallium under EPA 6020 instead of EPA 6010. JL 12/11/19

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

DETECTIONS SUMMARY

Sample ID: A1D-0 **Laboratory ID:** T193941-01

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.47**	3.00	mg/kg	EPA 6010b	
Arsenic	**5.4**	0.25	mg/kg	6020 ICP-MS	

Sample ID: C1D-0 **Laboratory ID:** T193941-03

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.33**	3.00	mg/kg	EPA 6010b	
Arsenic	**4.7**	0.25	mg/kg	6020 ICP-MS	

Sample ID: C1D-0-CL **Laboratory ID:** T193941-04

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.72**	3.00	mg/kg	EPA 6010b	
Arsenic	**4.8**	0.25	mg/kg	6020 ICP-MS	

Sample ID: ABCD1C-0 **Laboratory ID:** T193941-06

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4′-DDE	**12**	5.0	ug/kg	EPA 8081A	

Sample ID: ABCD2C-0 **Laboratory ID:** T193941-15

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4′-DDE	**11**	5.0	ug/kg	EPA 8081A	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Sample ID: ABCD2C-0-FR **Laboratory ID:** T193941-16

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**8.7**	5.0	ug/kg	EPA 8081A	

Sample ID: B3D-0 **Laboratory ID:** T193941-18

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.67**	3.00	mg/kg	EPA 6010b	
Arsenic	**5.3**	0.25	mg/kg	6020 ICP-MS	

Sample ID: B3D-0-FR **Laboratory ID:** T193941-19

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.28**	3.00	mg/kg	EPA 6010b	
Arsenic	**5.0**	0.25	mg/kg	6020 ICP-MS	

Sample ID: D3D-0 **Laboratory ID:** T193941-21

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.54**	3.00	mg/kg	EPA 6010b	
Arsenic	**4.7**	0.25	mg/kg	6020 ICP-MS	

Sample ID: ABCD3C-0 **Laboratory ID:** T193941-22

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**9.8**	5.0	ug/kg	EPA 8081A	

Sample ID: ABCD4C-0 **Laboratory ID:** T193941-27

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**7.6**	5.0	ug/kg	EPA 8081A	

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48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Sample ID: HHS1D-2 **Laboratory ID:** T193941-28

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.32**	3.00	mg/kg	EPA 6010b	
Arsenic	**5.0**	0.23	mg/kg	6020 ICP-MS	

Sample ID: HHS2D-2 **Laboratory ID:** T193941-29

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.35**	3.00	mg/kg	EPA 6010b	
Arsenic	**5.4**	0.25	mg/kg	6020 ICP-MS	

Sample ID: HHS3D-2 **Laboratory ID:** T193941-30

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.07**	3.00	mg/kg	EPA 6010b	
Arsenic	**4.7**	0.25	mg/kg	6020 ICP-MS	

Sample ID: HHS3D-2-FR **Laboratory ID:** T193941-31

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**3.74**	3.00	mg/kg	EPA 6010b	
Arsenic	**5.2**	0.25	mg/kg	6020 ICP-MS	

Sample ID: HHS4D-2 **Laboratory ID:** T193941-32

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**3.97**	3.00	mg/kg	EPA 6010b	
Arsenic	**3.6**	0.25	mg/kg	6020 ICP-MS	

Sample ID: HHS5D-2 **Laboratory ID:** T193941-33

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**3.72**	3.00	mg/kg	EPA 6010b	
Arsenic	**4.7**	0.25	mg/kg	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Sample ID: HHS5D-2-CL **Laboratory ID:** T193941-34

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.07**	3.00	mg/kg	EPA 6010b	
Arsenic	**4.6**	0.23	mg/kg	6020 ICP-MS	

Sample ID: HHS6D-2 **Laboratory ID:** T193941-35

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.08**	3.00	mg/kg	EPA 6010b	
Arsenic	**5.1**	0.25	mg/kg	6020 ICP-MS	

Sample ID: HHS7D-2 **Laboratory ID:** T193941-36

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**3.80**	3.00	mg/kg	EPA 6010b	
Arsenic	**4.9**	0.25	mg/kg	6020 ICP-MS	

Sample ID: HHS8D-2 **Laboratory ID:** T193941-37

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.22**	3.00	mg/kg	EPA 6010b	
Arsenic	**5.7**	0.25	mg/kg	6020 ICP-MS	

Sample ID: PMT-E6D-0 **Laboratory ID:** T193941-38

No Results Detected

Sample ID: PMT-E6D-0-CL **Laboratory ID:** T193941-39

No Results Detected

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Sample ID: PMT-E6D-2 **Laboratory ID:** T193941-40

No Results Detected

Sample ID: EB-1 **Laboratory ID:** T193941-41

No Results Detected

Sample ID: DD1D-0 **Laboratory ID:** T193941-42

Analyte	Result	Reporting Limit	Units	Method	Notes
C29-C40 (MORO)	**17**	10	mg/kg	EPA 8015B	
Barium	**70**	1.0	mg/kg	EPA 6010b	
Cadmium	**0.53**	2.0	mg/kg	EPA 6010b	J
Chromium	**40**	2.0	mg/kg	EPA 6010b	
Cobalt	**9.7**	2.0	mg/kg	EPA 6010b	
Copper	**23**	1.0	mg/kg	EPA 6010b	
Lead	**4.5**	3.0	mg/kg	EPA 6010b	
Nickel	**59**	2.0	mg/kg	EPA 6010b	
Vanadium	**28**	5.0	mg/kg	EPA 6010b	
Zinc	**52**	1.0	mg/kg	EPA 6010b	
Arsenic	**4.4**	0.25	mg/kg	6020 ICP-MS	
Mercury	**0.035**	0.10	mg/kg	EPA 7471A Soil	J
4,4´-DDE	**9.3**	5.0	ug/kg	EPA 8081A	

Sample ID: DD2D-0 **Laboratory ID:** T193941-43

Analyte	Result	Reporting Limit	Units	Method	Notes
C13-C28 (DRO)	**2.9**	10	mg/kg	EPA 8015B	J
C29-C40 (MORO)	**17**	10	mg/kg	EPA 8015B	
Barium	**65**	1.0	mg/kg	EPA 6010b	
Cadmium	**0.51**	2.0	mg/kg	EPA 6010b	J
Chromium	**40**	2.0	mg/kg	EPA 6010b	
Cobalt	**9.2**	2.0	mg/kg	EPA 6010b	
Copper	**22**	1.0	mg/kg	EPA 6010b	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	Reported:
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Sample ID: DD2D-0 **Laboratory ID:** T193941-43

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.7**	3.0	mg/kg	EPA 6010b	
Nickel	**56**	2.0	mg/kg	EPA 6010b	
Vanadium	**27**	5.0	mg/kg	EPA 6010b	
Zinc	**52**	1.0	mg/kg	EPA 6010b	
Arsenic	**5.3**	0.25	mg/kg	6020 ICP-MS	
4,4´-DDE	**11**	5.0	ug/kg	EPA 8081A	

Sample ID: DD2D-0-CL **Laboratory ID:** T193941-44

Analyte	Result	Reporting Limit	Units	Method	Notes
C13-C28 (DRO)	**5.4**	10	mg/kg	EPA 8015B	J
C29-C40 (MORO)	**25**	10	mg/kg	EPA 8015B	
Barium	**65**	0.91	mg/kg	EPA 6010b	
Cadmium	**0.48**	1.8	mg/kg	EPA 6010b	J
Chromium	**37**	1.8	mg/kg	EPA 6010b	
Cobalt	**8.7**	1.8	mg/kg	EPA 6010b	
Copper	**21**	0.91	mg/kg	EPA 6010b	
Lead	**4.5**	2.7	mg/kg	EPA 6010b	
Nickel	**54**	1.8	mg/kg	EPA 6010b	
Vanadium	**26**	4.5	mg/kg	EPA 6010b	
Zinc	**52**	0.91	mg/kg	EPA 6010b	
Arsenic	**4.8**	0.25	mg/kg	6020 ICP-MS	
4,4´-DDE	**12**	5.0	ug/kg	EPA 8081A	

Sample ID: DD3D-0 **Laboratory ID:** T193941-45

Analyte	Result	Reporting Limit	Units	Method	Notes
C13-C28 (DRO)	**3.0**	10	mg/kg	EPA 8015B	J
C29-C40 (MORO)	**16**	10	mg/kg	EPA 8015B	
Barium	**62**	1.0	mg/kg	EPA 6010b	
Cadmium	**0.49**	2.0	mg/kg	EPA 6010b	J
Chromium	**35**	2.0	mg/kg	EPA 6010b	
Cobalt	**8.4**	2.0	mg/kg	EPA 6010b	
Copper	**20**	1.0	mg/kg	EPA 6010b	
Lead	**4.8**	3.0	mg/kg	EPA 6010b	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Sample ID: DD3D-0 **Laboratory ID:** T193941-45

Analyte	Result	Reporting Limit	Units	Method	Notes
Nickel	**50**	2.0	mg/kg	EPA 6010b	
Vanadium	**25**	5.0	mg/kg	EPA 6010b	
Zinc	**51**	1.0	mg/kg	EPA 6010b	
Arsenic	**4.3**	0.25	mg/kg	6020 ICP-MS	
4,4´-DDE	**21**	5.0	ug/kg	EPA 8081A	

Sample ID: DD4D-0 **Laboratory ID:** T193941-46

Analyte	Result	Reporting Limit	Units	Method	Notes
C13-C28 (DRO)	**5.6**	10	mg/kg	EPA 8015B	J
C29-C40 (MORO)	**30**	10	mg/kg	EPA 8015B	
Barium	**65**	1.0	mg/kg	EPA 6010b	
Cadmium	**0.50**	2.0	mg/kg	EPA 6010b	J
Chromium	**35**	2.0	mg/kg	EPA 6010b	
Cobalt	**9.1**	2.0	mg/kg	EPA 6010b	
Copper	**21**	1.0	mg/kg	EPA 6010b	
Lead	**5.2**	3.0	mg/kg	EPA 6010b	
Nickel	**52**	2.0	mg/kg	EPA 6010b	
Vanadium	**26**	5.0	mg/kg	EPA 6010b	
Zinc	**51**	1.0	mg/kg	EPA 6010b	
Arsenic	**5.8**	0.25	mg/kg	6020 ICP-MS	
4,4´-DDE	**40**	5.0	ug/kg	EPA 8081A	

Sample ID: DD4D-0-FR **Laboratory ID:** T193941-47

Analyte	Result	Reporting Limit	Units	Method	Notes
C13-C28 (DRO)	**5.2**	10	mg/kg	EPA 8015B	J
C29-C40 (MORO)	**33**	10	mg/kg	EPA 8015B	
Barium	**64**	1.0	mg/kg	EPA 6010b	
Cadmium	**0.48**	2.0	mg/kg	EPA 6010b	J
Chromium	**35**	2.0	mg/kg	EPA 6010b	
Cobalt	**8.8**	2.0	mg/kg	EPA 6010b	
Copper	**21**	1.0	mg/kg	EPA 6010b	
Lead	**5.5**	3.0	mg/kg	EPA 6010b	
Nickel	**51**	2.0	mg/kg	EPA 6010b	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Sample ID: DD4D-0-FR **Laboratory ID:** T193941-47

Analyte	Result	Reporting Limit	Units	Method	Notes
Vanadium	**25**	5.0	mg/kg	EPA 6010b	
Zinc	**56**	1.0	mg/kg	EPA 6010b	
Arsenic	**5.5**	0.25	mg/kg	6020 ICP-MS	
4,4´-DDE	**36**	5.0	ug/kg	EPA 8081A	

Sample ID: DD5D-0 **Laboratory ID:** T193941-48

Analyte	Result	Reporting Limit	Units	Method	Notes
C13-C28 (DRO)	**8.0**	10	mg/kg	EPA 8015B	J
C29-C40 (MORO)	**26**	10	mg/kg	EPA 8015B	
Barium	**190**	4.0	mg/kg	EPA 6010b	RE-01
Cadmium	**0.57**	2.0	mg/kg	EPA 6010b	J
Chromium	**41**	2.0	mg/kg	EPA 6010b	
Cobalt	**9.8**	2.0	mg/kg	EPA 6010b	
Copper	**26**	1.0	mg/kg	EPA 6010b	
Lead	**6.4**	3.0	mg/kg	EPA 6010b	
Nickel	**59**	2.0	mg/kg	EPA 6010b	
Vanadium	**30**	5.0	mg/kg	EPA 6010b	
Zinc	**77**	1.0	mg/kg	EPA 6010b	
Arsenic	**6.7**	0.25	mg/kg	6020 ICP-MS	
Mercury	**0.036**	0.10	mg/kg	EPA 7471A Soil	J

Sample ID: DD5D-0 **Laboratory ID:** T193941-48RE1

No Results Detected

Sample ID: DD6D-0 **Laboratory ID:** T193941-49

Analyte	Result	Reporting Limit	Units	Method	Notes
C13-C28 (DRO)	**11**	10	mg/kg	EPA 8015B	
C29-C40 (MORO)	**48**	10	mg/kg	EPA 8015B	
Barium	**200**	4.0	mg/kg	EPA 6010b	RE-01
Cadmium	**0.56**	2.0	mg/kg	EPA 6010b	J

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	Reported:
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Sample ID: DD6D-0 **Laboratory ID:** T193941-49

Analyte	Result	Reporting Limit	Units	Method	Notes
Chromium	**40**	2.0	mg/kg	EPA 6010b	
Cobalt	**9.6**	2.0	mg/kg	EPA 6010b	
Copper	**25**	1.0	mg/kg	EPA 6010b	
Lead	**6.5**	3.0	mg/kg	EPA 6010b	
Nickel	**57**	2.0	mg/kg	EPA 6010b	
Vanadium	**29**	5.0	mg/kg	EPA 6010b	
Zinc	**81**	1.0	mg/kg	EPA 6010b	
Arsenic	**5.7**	0.23	mg/kg	6020 ICP-MS	
Mercury	**0.029**	0.10	mg/kg	EPA 7471A Soil	J
4,4´-DDE	**14**	5.0	ug/kg	EPA 8081A	

Sample ID: DD7D-0 **Laboratory ID:** T193941-50

Analyte	Result	Reporting Limit	Units	Method	Notes
C13-C28 (DRO)	**10**	10	mg/kg	EPA 8015B	
C29-C40 (MORO)	**35**	10	mg/kg	EPA 8015B	
Barium	**190**	4.0	mg/kg	EPA 6010b	RE-01
Cadmium	**0.53**	2.0	mg/kg	EPA 6010b	J
Chromium	**38**	2.0	mg/kg	EPA 6010b	
Cobalt	**9.4**	2.0	mg/kg	EPA 6010b	
Copper	**22**	1.0	mg/kg	EPA 6010b	
Lead	**4.9**	3.0	mg/kg	EPA 6010b	
Nickel	**57**	2.0	mg/kg	EPA 6010b	
Vanadium	**28**	5.0	mg/kg	EPA 6010b	
Zinc	**58**	1.0	mg/kg	EPA 6010b	
Arsenic	**5.7**	0.25	mg/kg	6020 ICP-MS	
Mercury	**0.028**	0.10	mg/kg	EPA 7471A Soil	J
4,4´-DDE	**43**	5.0	ug/kg	EPA 8081A	
4,4´-DDT	**2.0**	5.0	ug/kg	EPA 8081A	J

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

A1D-0

T193941-01(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Metals by EPA 6010B										
Lead	**4.47**	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**5.4**	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

C1D-0

T193941-03(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	**4.33**	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	

Metals by EPA 6020 Method

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	**4.7**	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

C1D-0-CL

T193941-04(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B										
Lead	**4.72**	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**4.8**	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
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ABCD1C-0

T193941-06(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**12**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*126 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl			*107 %*	*35-140*		"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
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ABCD2C-0

T193941-15(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Organochlorine Pesticides by EPA Method 8081A										
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**11**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*118 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*128 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

ABCD2C-0-FR
T193941-16(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**8.7**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*119 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl			*77.6 %*	*35-140*		"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

B3D-0

T193941-18(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Metals by EPA 6010B										
Lead	**4.67**	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**5.3**	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

B3D-0-FR

T193941-19(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.										
Metals by EPA 6010B										
Lead	**4.28**	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**5.0**	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

D3D-0

T193941-21(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Metals by EPA 6010B										
Lead	**4.54**	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**4.7**	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

ABCD3C-0

T193941-22(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**9.8**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*120 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*67.0 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

ABCD4C-0

T193941-27(Soil)

<u>SunStar Laboratories, Inc.</u>

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**7.6**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*116 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*74.3 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

HHS1D-2

T193941-28(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B										
Lead	**4.32**	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**5.0**	0.0023	0.23	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

HHS2D-2

T193941-29(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B										
Lead	**4.35**	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**5.4**	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

HHS3D-2

T193941-30(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B										
Lead	**4.07**	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**4.7**	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	

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48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

HHS3D-2-FR

T193941-31(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Metals by EPA 6010B										
Lead	**3.74**	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**5.2**	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
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HHS4D-2

T193941-32(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Metals by EPA 6010B										
Lead	**3.97**	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**3.6**	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

HHS5D-2

T193941-33(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	**3.72**	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	

Metals by EPA 6020 Method

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	**4.7**	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

HHS5D-2-CL

T193941-34(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Metals by EPA 6010B										
Lead	**4.07**	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**4.6**	0.0023	0.23	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
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HHS6D-2

T193941-35(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.										
Metals by EPA 6010B										
Lead	**4.08**	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**5.1**	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
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HHS7D-2

T193941-36(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B										
Lead	**3.80**	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**4.9**	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	

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48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
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HHS8D-2

T193941-37(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Metals by EPA 6010B										
Lead	**4.22**	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**5.7**	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	

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PMT-E6D-0

T193941-38(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PCB-1016	ND	2.1	10	ug/kg	1	9111415	11/14/19	11/14/19	EPA 8082	
PCB-1221	ND	2.1	10	"	"	"	"	"	"	
PCB-1232	ND	2.1	10	"	"	"	"	"	"	
PCB-1242	ND	2.1	10	"	"	"	"	"	"	
PCB-1248	ND	2.1	10	"	"	"	"	"	"	
PCB-1254	ND	2.1	10	"	"	"	"	"	"	
PCB-1260	ND	2.1	10	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*76.8 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*75.2 %*	*35-140*		*"*	*"*	*"*	*"*	

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PMT-E6D-0-CL
T193941-39(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Polychlorinated Biphenyls by EPA Method 8082										
PCB-1016	ND	2.1	10	ug/kg	1	9111415	11/14/19	11/14/19	EPA 8082	
PCB-1221	ND	2.1	10	"	"	"	"	"	"	
PCB-1232	ND	2.1	10	"	"	"	"	"	"	
PCB-1242	ND	2.1	10	"	"	"	"	"	"	
PCB-1248	ND	2.1	10	"	"	"	"	"	"	
PCB-1254	ND	2.1	10	"	"	"	"	"	"	
PCB-1260	ND	2.1	10	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*88.1 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl			*102 %*	*35-140*		"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

PMT-E6D-2

T193941-40(Soil)

<u>SunStar Laboratories, Inc.</u>

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polychlorinated Biphenyls by EPA Method 8082										
PCB-1016	ND	2.1	10	ug/kg	1	9111415	11/14/19	11/14/19	EPA 8082	
PCB-1221	ND	2.1	10	"	"	"	"	"	"	
PCB-1232	ND	2.1	10	"	"	"	"	"	"	
PCB-1242	ND	2.1	10	"	"	"	"	"	"	
PCB-1248	ND	2.1	10	"	"	"	"	"	"	
PCB-1254	ND	2.1	10	"	"	"	"	"	"	
PCB-1260	ND	2.1	10	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*87.3 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*119 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	Reported:
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

EB-1
T193941-41(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Extractable Petroleum Hydrocarbons by 8015B										
C6-C12 (GRO)	ND	0.013	0.050	mg/l	1	9111347	11/13/19	11/14/19	EPA 8015B	
C13-C28 (DRO)	ND	0.013	0.050	"	"	"	"	"	"	
C29-C40 (MORO)	ND	0.013	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl			*115 %*	*65-135*		"	"	"	"	
Metals by EPA 6010B										
Antimony	ND	17	50	ug/l	1	9111354	11/13/19	11/15/19	EPA 6010b	
Silver	ND	24	50	"	"	"	"	"	"	
Arsenic	ND	17	50	"	"	"	"	"	"	
Barium	ND	13	50	"	"	"	"	"	"	
Beryllium	ND	18	50	"	"	"	"	11/15/19	"	
Cadmium	ND	21	50	"	"	"	"	11/15/19	"	
Chromium	ND	21	50	"	"	"	"	"	"	
Cobalt	ND	14	50	"	"	"	"	"	"	
Copper	ND	20	50	"	"	"	"	"	"	
Lead	ND	17	50	"	"	"	"	"	"	
Molybdenum	ND	14	50	"	"	"	"	"	"	
Nickel	ND	14	50	"	"	"	"	"	"	
Selenium	ND	19	50	"	"	"	"	"	"	
Thallium	ND	16	50	"	"	"	"	"	"	
Vanadium	ND	20	50	"	"	"	"	"	"	
Zinc	ND	17	50	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471										
Mercury	ND	0.022	0.50	ug/l	1	9111355	11/13/19	11/15/19	EPA 7470A Water	

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48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

EB-1

T193941-41(Water)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.04	1.00	ug/l	1	9111344	11/13/19	11/13/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.03	1.00	"	"	"	"	"	"	
beta-BHC	ND	0.05	1.00	"	"	"	"	"	"	
delta-BHC	ND	0.02	1.00	"	"	"	"	"	"	
Heptachlor	ND	0.04	1.00	"	"	"	"	"	"	
Aldrin	ND	0.02	1.00	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.04	1.00	"	"	"	"	"	"	
gamma-Chlordane	ND	0.05	1.00	"	"	"	"	"	"	
alpha-Chlordane	ND	0.03	1.00	"	"	"	"	"	"	
Endosulfan I	ND	0.02	1.00	"	"	"	"	"	"	
4,4′-DDE	ND	0.04	1.00	"	"	"	"	"	"	
Dieldrin	ND	0.03	1.00	"	"	"	"	"	"	
Endrin	ND	0.04	1.00	"	"	"	"	"	"	
4,4′-DDD	ND	0.03	1.00	"	"	"	"	"	"	
Endosulfan II	ND	0.04	1.00	"	"	"	"	"	"	
4,4′-DDT	ND	0.06	1.00	"	"	"	"	"	"	
Endrin aldehyde	ND	0.02	1.00	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.05	1.00	"	"	"	"	"	"	
Methoxychlor	ND	0.03	1.00	"	"	"	"	"	"	
Endrin ketone	ND	0.05	1.00	"	"	"	"	"	"	
Chlordane (tech)	ND	1.00	10.0	"	"	"	"	"	"	
Toxaphene	ND	5.79	20.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*61.2 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*77.7 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

DD1D-0

T193941-42(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Extractable Petroleum Hydrocarbons by 8015B										
C6-C12 (GRO)	ND	2.2	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	ND	1.6	10	"	"	"	"	"	"	
C29-C40 (MORO)	**17**	4.2	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl			*106 %*	*65-135*		"	"	"	"	
Metals by EPA 6010B										
Antimony	ND	1.4	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	0.50	2.0	"	"	"	"	"	"	
Barium	**70**	0.30	1.0	"	"	"	"	"	"	
Beryllium	ND	0.20	1.0	"	"	"	"	11/15/19	"	
Cadmium	**0.53**	0.10	2.0	"	"	"	"	11/15/19	"	J
Chromium	**40**	0.10	2.0	"	"	"	"	"	"	
Cobalt	**9.7**	0.20	2.0	"	"	"	"	"	"	
Copper	**23**	0.20	1.0	"	"	"	"	"	"	
Lead	**4.5**	1.0	3.0	"	"	"	"	"	"	
Molybdenum	ND	0.20	5.0	"	"	"	"	"	"	
Nickel	**59**	0.30	2.0	"	"	"	"	"	"	
Selenium	ND	2.2	5.0	"	"	"	"	"	"	
Vanadium	**28**	0.30	5.0	"	"	"	"	"	"	
Zinc	**52**	0.10	1.0	"	"	"	"	"	"	
Metals by EPA 6020 Method										
Arsenic	**4.4**	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
Thallium	ND	0.099	0.25	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

DD1D-0

T193941-42(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Cold Vapor Extraction EPA 7470/7471										
Mercury	**0.035**	0.027	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	J
Organochlorine Pesticides by EPA Method 8081A										
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**9.3**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*120 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*96.6 %*	*35-140*		*"*	*"*	*"*	*"*	

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

DD2D-0

T193941-43(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Extractable Petroleum Hydrocarbons by 8015B										
C6-C12 (GRO)	ND	2.2	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	**2.9**	1.6	10	"	"	"	"	"	"	J
C29-C40 (MORO)	**17**	4.2	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl			*111 %*	*65-135*		"	"	"	"	
Metals by EPA 6010B										
Antimony	ND	1.4	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	0.50	2.0	"	"	"	"	"	"	
Barium	**65**	0.30	1.0	"	"	"	"	"	"	
Beryllium	ND	0.20	1.0	"	"	"	"	"	"	
Cadmium	**0.51**	0.10	2.0	"	"	"	"	"	"	J
Chromium	**40**	0.10	2.0	"	"	"	"	"	"	
Cobalt	**9.2**	0.20	2.0	"	"	"	"	"	"	
Copper	**22**	0.20	1.0	"	"	"	"	"	"	
Lead	**4.7**	1.0	3.0	"	"	"	"	"	"	
Molybdenum	ND	0.20	5.0	"	"	"	"	"	"	
Nickel	**56**	0.30	2.0	"	"	"	"	"	"	
Selenium	ND	2.2	5.0	"	"	"	"	"	"	
Vanadium	**27**	0.30	5.0	"	"	"	"	"	"	
Zinc	**52**	0.10	1.0	"	"	"	"	"	"	
Metals by EPA 6020 Method										
Arsenic	**5.3**	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
Thallium	ND	0.099	0.25	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

DD2D-0

T193941-43(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			SunStar Laboratories, Inc.							
Cold Vapor Extraction EPA 7470/7471										
Mercury	ND	0.027	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A										
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**11**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*112 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl			*69.0 %*	*35-140*		"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

DD2D-0-CL

T193941-44(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C6-C12 (GRO)	ND	2.2	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	**5.4**	1.6	10	"	"	"	"	"	"	J
C29-C40 (MORO)	**25**	4.2	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl			*111 %*	*65-135*		*"*	*"*	*"*	*"*	

Metals by EPA 6010B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Antimony	ND	1.3	2.7	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	0.45	1.8	"	"	"	"	"	"	
Barium	**65**	0.27	0.91	"	"	"	"	"	"	
Beryllium	ND	0.18	0.91	"	"	"	"	11/15/19	"	
Cadmium	**0.48**	0.091	1.8	"	"	"	"	11/15/19	"	J
Chromium	**37**	0.091	1.8	"	"	"	"	"	"	
Cobalt	**8.7**	0.18	1.8	"	"	"	"	"	"	
Copper	**21**	0.18	0.91	"	"	"	"	"	"	
Lead	**4.5**	0.91	2.7	"	"	"	"	"	"	
Molybdenum	ND	0.18	4.5	"	"	"	"	"	"	
Nickel	**54**	0.27	1.8	"	"	"	"	"	"	
Selenium	ND	2.0	4.5	"	"	"	"	"	"	
Vanadium	**26**	0.27	4.5	"	"	"	"	"	"	
Zinc	**52**	0.091	0.91	"	"	"	"	"	"	

Metals by EPA 6020 Method

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	**4.8**	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
Thallium	ND	0.099	0.25	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

DD2D-0-CL

T193941-44(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Cold Vapor Extraction EPA 7470/7471

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.027	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**12**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*106 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*57.7 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

DD3D-0

T193941-45(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B										
C6-C12 (GRO)	ND	2.2	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	**3.0**	1.6	10	"	"	"	"	"	"	J
C29-C40 (MORO)	**16**	4.2	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl			*96.0 %*	*65-135*		*"*	*"*	*"*	*"*	
Metals by EPA 6010B										
Antimony	ND	1.4	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	0.50	2.0	"	"	"	"	"	"	
Barium	**62**	0.30	1.0	"	"	"	"	"	"	
Beryllium	ND	0.20	1.0	"	"	"	"	"	"	
Cadmium	**0.49**	0.10	2.0	"	"	"	"	"	"	J
Chromium	**35**	0.10	2.0	"	"	"	"	"	"	
Cobalt	**8.4**	0.20	2.0	"	"	"	"	"	"	
Copper	**20**	0.20	1.0	"	"	"	"	"	"	
Lead	**4.8**	1.0	3.0	"	"	"	"	"	"	
Molybdenum	ND	0.20	5.0	"	"	"	"	"	"	
Nickel	**50**	0.30	2.0	"	"	"	"	"	"	
Selenium	ND	2.2	5.0	"	"	"	"	"	"	
Vanadium	**25**	0.30	5.0	"	"	"	"	"	"	
Zinc	**51**	0.10	1.0	"	"	"	"	"	"	
Metals by EPA 6020 Method										
Arsenic	**4.3**	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
Thallium	ND	0.099	0.25	"	"	"	"	"	"	

SunStar Laboratories, Inc.
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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

DD3D-0

T193941-45(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cold Vapor Extraction EPA 7470/7471										
Mercury	ND	0.027	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A										
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**21**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*117 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*112 %*	*35-140*		*"*	*"*	*"*	*"*	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

DD4D-0

T193941-46(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B										
C6-C12 (GRO)	ND	2.2	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	**5.6**	1.6	10	"	"	"	"	"	"	J
C29-C40 (MORO)	**30**	4.2	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl			*114 %*	*65-135*		*"*	*"*	*"*	*"*	
Metals by EPA 6010B										
Antimony	ND	1.4	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	0.50	2.0	"	"	"	"	"	"	
Barium	**65**	0.30	1.0	"	"	"	"	"	"	
Beryllium	ND	0.20	1.0	"	"	"	"	"	"	
Cadmium	**0.50**	0.10	2.0	"	"	"	"	"	"	J
Chromium	**35**	0.10	2.0	"	"	"	"	"	"	
Cobalt	**9.1**	0.20	2.0	"	"	"	"	"	"	
Copper	**21**	0.20	1.0	"	"	"	"	"	"	
Lead	**5.2**	1.0	3.0	"	"	"	"	"	"	
Molybdenum	ND	0.20	5.0	"	"	"	"	"	"	
Nickel	**52**	0.30	2.0	"	"	"	"	"	"	
Selenium	ND	2.2	5.0	"	"	"	"	"	"	
Vanadium	**26**	0.30	5.0	"	"	"	"	"	"	
Zinc	**51**	0.10	1.0	"	"	"	"	"	"	
Metals by EPA 6020 Method										
Arsenic	**5.8**	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
Thallium	ND	0.099	0.25	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

DD4D-0
T193941-46(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cold Vapor Extraction EPA 7470/7471										
Mercury	ND	0.027	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A										
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**40**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*116 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*89.6 %*	*35-140*		*"*	*"*	*"*	*"*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

DD4D-0-FR

T193941-47(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B										
C6-C12 (GRO)	ND	2.2	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	**5.2**	1.6	10	"	"	"	"	"	"	J
C29-C40 (MORO)	**33**	4.2	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl			*112 %*	*65-135*		*"*	*"*	*"*	*"*	
Metals by EPA 6010B										
Antimony	ND	1.4	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	0.50	2.0	"	"	"	"	"	"	
Barium	**64**	0.30	1.0	"	"	"	"	"	"	
Beryllium	ND	0.20	1.0	"	"	"	"	11/15/19	"	
Cadmium	**0.48**	0.10	2.0	"	"	"	"	11/15/19	"	J
Chromium	**35**	0.10	2.0	"	"	"	"	"	"	
Cobalt	**8.8**	0.20	2.0	"	"	"	"	"	"	
Copper	**21**	0.20	1.0	"	"	"	"	"	"	
Lead	**5.5**	1.0	3.0	"	"	"	"	"	"	
Molybdenum	ND	0.20	5.0	"	"	"	"	"	"	
Nickel	**51**	0.30	2.0	"	"	"	"	"	"	
Selenium	ND	2.2	5.0	"	"	"	"	"	"	
Vanadium	**25**	0.30	5.0	"	"	"	"	"	"	
Zinc	**56**	0.10	1.0	"	"	"	"	"	"	
Metals by EPA 6020 Method										
Arsenic	**5.5**	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
Thallium	ND	0.099	0.25	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

DD4D-0-FR

T193941-47(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cold Vapor Extraction EPA 7470/7471										
Mercury	ND	0.027	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A										
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4′-DDE	**36**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4′-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4′-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*114 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*81.8 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

DD5D-0

T193941-48(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Extractable Petroleum Hydrocarbons by 8015B										
C6-C12 (GRO)	ND	2.2	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	**8.0**	1.6	10	"	"	"	"	"	"	J
C29-C40 (MORO)	**26**	4.2	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl			*111 %*	*65-135*		*"*	*"*	*"*	*"*	
Metals by EPA 6010B										
Antimony	ND	1.4	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	0.50	2.0	"	"	"	"	"	"	
Barium	**190**	1.2	4.0	"	4	"	"	11/15/19	"	RE-01
Beryllium	ND	0.20	1.0	"	1	"	"	11/15/19	"	
Cadmium	**0.57**	0.10	2.0	"	"	"	"	"	"	J
Chromium	**41**	0.10	2.0	"	"	"	"	"	"	
Cobalt	**9.8**	0.20	2.0	"	"	"	"	"	"	
Copper	**26**	0.20	1.0	"	"	"	"	"	"	
Lead	**6.4**	1.0	3.0	"	"	"	"	"	"	
Molybdenum	ND	0.20	5.0	"	"	"	"	"	"	
Nickel	**59**	0.30	2.0	"	"	"	"	"	"	
Selenium	ND	2.2	5.0	"	"	"	"	"	"	
Vanadium	**30**	0.30	5.0	"	"	"	"	"	"	
Zinc	**77**	0.10	1.0	"	"	"	"	"	"	
Metals by EPA 6020 Method										
Arsenic	**6.7**	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
Thallium	ND	0.099	0.25	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

DD5D-0

T193941-48(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cold Vapor Extraction EPA 7470/7471										
Mercury	**0.036**	0.027	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	J
Organochlorine Pesticides by EPA Method 8081A										
alpha-BHC	ND	5.6	50	ug/kg	10	9111350	11/13/19	11/14/19	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	9.6	50	"	"	"	"	"	"	R-07
beta-BHC	ND	14	50	"	"	"	"	"	"	R-07
delta-BHC	ND	6.4	50	"	"	"	"	"	"	R-07
Heptachlor	ND	5.9	50	"	"	"	"	"	"	R-07
Aldrin	ND	6.6	50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	9.8	50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	9.3	50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	8.3	50	"	"	"	"	"	"	R-07
Endosulfan I	ND	8.1	50	"	"	"	"	"	"	R-07
4,4´-DDE	ND	7.8	50	"	"	"	"	"	"	R-07
Dieldrin	ND	11	50	"	"	"	"	"	"	R-07
Endrin	ND	11	50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	12	50	"	"	"	"	"	"	R-07
Endosulfan II	ND	11	50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	8.0	50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	17	50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	6.1	50	"	"	"	"	"	"	R-07
Methoxychlor	ND	4.0	50	"	"	"	"	"	"	R-07
Endrin ketone	ND	13	50	"	"	"	"	"	"	R-07
Toxaphene	ND	58	200	"	"	"	"	"	"	R-07
Chlordane (tech)	ND	5.0	50	"	1	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*114 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*100 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project:	Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number:	70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager:	Heidi Cummings	12/11/19 09:12

DD5D-0

T193941-48RE1(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

<u>SunStar Laboratories, Inc.</u>

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.56	5.0	ug/kg	1	9112036	11/20/19	11/26/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	ND	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*109 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*104 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

DD6D-0

T193941-49(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B										
C6-C12 (GRO)	ND	2.2	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	**11**	1.6	10	"	"	"	"	"	"	
C29-C40 (MORO)	**48**	4.2	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl			*117 %*	*65-135*		*"*	*"*	*"*	*"*	
Metals by EPA 6010B										
Antimony	ND	1.4	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	0.50	2.0	"	"	"	"	11/15/19	"	
Barium	**200**	1.2	4.0	"	4	"	"	11/15/19	"	RE-01
Beryllium	ND	0.20	1.0	"	1	"	"	11/15/19	"	
Cadmium	**0.56**	0.10	2.0	"	"	"	"	11/15/19	"	J
Chromium	**40**	0.10	2.0	"	"	"	"	11/15/19	"	
Cobalt	**9.6**	0.20	2.0	"	"	"	"	11/15/19	"	
Copper	**25**	0.20	1.0	"	"	"	"	11/15/19	"	
Lead	**6.5**	1.0	3.0	"	"	"	"	11/15/19	"	
Molybdenum	ND	0.20	5.0	"	"	"	"	"	"	
Nickel	**57**	0.30	2.0	"	"	"	"	11/15/19	"	
Selenium	ND	2.2	5.0	"	"	"	"	11/15/19	"	
Vanadium	**29**	0.30	5.0	"	"	"	"	11/15/19	"	
Zinc	**81**	0.10	1.0	"	"	"	"	"	"	
Metals by EPA 6020 Method										
Arsenic	**5.7**	0.0023	0.23	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
Thallium	ND	0.090	0.23	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

DD6D-0

T193941-49(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Cold Vapor Extraction EPA 7470/7471										
Mercury	**0.029**	0.027	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	J
Organochlorine Pesticides by EPA Method 8081A										
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**14**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*116 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl			*106 %*	*35-140*		"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

DD7D-0

T193941-50(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B										
C6-C12 (GRO)	ND	2.2	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	**10**	1.6	10	"	"	"	"	"	"	
C29-C40 (MORO)	**35**	4.2	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl			*119 %*	*65-135*		*"*	*"*	*"*	*"*	
Metals by EPA 6010B										
Antimony	ND	1.4	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	0.50	2.0	"	"	"	"	"	"	
Barium	**190**	1.2	4.0	"	4	"	"	11/15/19	"	RE-01
Beryllium	ND	0.20	1.0	"	1	"	"	11/15/19	"	
Cadmium	**0.53**	0.10	2.0	"	"	"	"	11/15/19	"	J
Chromium	**38**	0.10	2.0	"	"	"	"	"	"	
Cobalt	**9.4**	0.20	2.0	"	"	"	"	"	"	
Copper	**22**	0.20	1.0	"	"	"	"	"	"	
Lead	**4.9**	1.0	3.0	"	"	"	"	"	"	
Molybdenum	ND	0.20	5.0	"	"	"	"	"	"	
Nickel	**57**	0.30	2.0	"	"	"	"	"	"	
Selenium	ND	2.2	5.0	"	"	"	"	"	"	
Vanadium	**28**	0.30	5.0	"	"	"	"	"	"	
Zinc	**58**	0.10	1.0	"	"	"	"	"	"	
Metals by EPA 6020 Method										
Arsenic	**5.7**	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
Thallium	ND	0.099	0.25	"	"	"	"	"	"	

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

DD7D-0

T193941-50(Soil)

<u>SunStar Laboratories, Inc.</u>

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cold Vapor Extraction EPA 7470/7471										
Mercury	**0.028**	0.027	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	J
Organochlorine Pesticides by EPA Method 8081A										
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**43**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	**2.0**	0.80	5.0	"	"	"	"	"	"	J
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*126 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*96.3 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Extractable Petroleum Hydrocarbons by 8015B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111347 - EPA 3510C GC											
Blank (9111347-BLK1)					Prepared: 11/13/19 Analyzed: 11/14/19						
Surrogate: p-Terphenyl	*5.90*			*mg/l*	*4.00*		*147*	*65-135*			*S-13*
C6-C12 (GRO)	ND	0.013	0.050	"							
C13-C28 (DRO)	ND	0.013	0.050	"							
C29-C40 (MORO)	ND	0.013	0.10	"							
LCS (9111347-BS1)					Prepared: 11/13/19 Analyzed: 11/14/19						
Surrogate: p-Terphenyl	*4.67*			*mg/l*	*4.00*		*117*	*65-135*			
C13-C28 (DRO)	19.4	0.013	0.050	"	20.0		97.0	75-125			
LCS Dup (9111347-BSD1)					Prepared: 11/13/19 Analyzed: 11/14/19						
Surrogate: p-Terphenyl	*4.82*			*mg/l*	*4.00*		*121*	*65-135*			
C13-C28 (DRO)	19.1	0.013	0.050	"	20.0		95.3	75-125	1.76	20	
Batch 9111411 - EPA 3550B GC											
Blank (9111411-BLK1)					Prepared: 11/14/19 Analyzed: 11/15/19						
Surrogate: p-Terphenyl	*112*			*mg/kg*	*101*		*111*	*65-135*			
C6-C12 (GRO)	ND	2.2	10	"							
C13-C28 (DRO)	ND	1.6	10	"							
C29-C40 (MORO)	ND	4.2	10	"							
LCS (9111411-BS1)					Prepared: 11/14/19 Analyzed: 11/15/19						
Surrogate: p-Terphenyl	*114*			*mg/kg*	*101*		*113*	*65-135*			
C13-C28 (DRO)	510	1.6	10	"	505		102	75-125			
LCS Dup (9111411-BSD1)					Prepared: 11/14/19 Analyzed: 11/15/19						
Surrogate: p-Terphenyl	*110*			*mg/kg*	*101*		*109*	*65-135*			
C13-C28 (DRO)	500	1.6	10	"	505		99.7	75-125	1.88	20	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111354 - EPA 3010A											
Blank (9111354-BLK1)					Prepared: 11/13/19 Analyzed: 11/14/19						
Antimony	ND	17	50	ug/l							
Silver	ND	24	50	"							
Arsenic	ND	17	50	"							
Barium	ND	13	50	"							
Beryllium	ND	18	50	"							
Cadmium	ND	21	50	"							
Chromium	ND	21	50	"							
Cobalt	ND	14	50	"							
Copper	ND	20	50	"							
Lead	ND	17	50	"							
Molybdenum	ND	14	50	"							
Nickel	ND	14	50	"							
Selenium	ND	19	50	"							
Thallium	ND	16	50	"							
Vanadium	ND	20	50	"							
Zinc	ND	17	50	"							
LCS (9111354-BS1)					Prepared: 11/13/19 Analyzed: 11/14/19						
Arsenic	503	17	50	ug/l	500		101	75-125			
Barium	511	13	50	"	500		102	75-125			
Cadmium	512	21	50	"	500		102	75-125			
Chromium	513	21	50	"	500		103	75-125			
Lead	509	17	50	"	500		102	75-125			
Matrix Spike (9111354-MS1)		**Source: T193930-01**			Prepared: 11/13/19 Analyzed: 11/14/19						
Arsenic	528	17	50	ug/l	500	ND	106	75-125			
Barium	662	13	50	"	500	170	98.4	75-125			QM-05
Cadmium	505	21	50	"	500	ND	101	75-125			
Chromium	507	21	50	"	500	ND	101	75-125			

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NV5	Project: Hamilton Union High School	
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Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111354 - EPA 3010A											
Matrix Spike (9111354-MS1)		**Source: T193930-01**			Prepared: 11/13/19 Analyzed: 11/14/19						
Lead	494	17	50	ug/l	500	ND	98.8	75-125			
Matrix Spike Dup (9111354-MSD1)		**Source: T193930-01**			Prepared: 11/13/19 Analyzed: 11/14/19						
Arsenic	529	17	50	ug/l	500	ND	106	75-125	0.209	20	
Barium	656	13	50	"	500	170	97.3	75-125	0.860	20	QM-05
Cadmium	498	21	50	"	500	ND	99.7	75-125	1.23	20	
Chromium	501	21	50	"	500	ND	100	75-125	1.28	20	
Lead	496	17	50	"	500	ND	99.1	75-125	0.352	20	
Batch 9111360 - EPA 3050B											
Blank (9111360-BLK1)					Prepared: 11/13/19 Analyzed: 11/14/19						
Antimony	ND	0.0141	3.00	mg/kg							
Arsenic	ND	0.800	5.00	"							
Barium	ND	0.338	1.00	"							
Beryllium	ND	0.157	1.00	"							
Cadmium	ND	0.114	2.00	"							
Chromium	ND	0.121	2.00	"							
Cobalt	ND	0.239	2.00	"							
Copper	ND	0.152	1.00	"							
Lead	ND	0.967	3.00	"							
Molybdenum	ND	0.243	5.00	"							
Nickel	ND	0.263	2.00	"							
Selenium	ND	2.25	5.00	"							
Silver	ND	0.522	2.00	"							
Thallium	ND	1.74	2.00	"							
Vanadium	ND	0.306	5.00	"							
Zinc	ND	0.131	1.00	"							

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48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111360 - EPA 3050B											
LCS (9111360-BS1)					Prepared: 11/13/19 Analyzed: 11/14/19						
Arsenic	101	0.800	5.00	mg/kg	100		101	75-125			
Barium	102	0.338	1.00	"	100		102	75-125			
Cadmium	101	0.114	2.00	"	100		101	75-125			
Chromium	102	0.121	2.00	"	100		102	75-125			
Lead	101	0.967	3.00	"	100		101	75-125			
Matrix Spike (9111360-MS1)		**Source: T193921-01**			Prepared: 11/13/19 Analyzed: 11/14/19						
Arsenic	57.2	0.800	5.00	mg/kg	97.1	ND	58.9	75-125			QM-05
Barium	125	0.338	1.00	"	97.1	41.9	85.8	75-125			QM-05
Cadmium	56.6	0.114	2.00	"	97.1	0.155	58.1	75-125			QM-05
Chromium	62.6	0.121	2.00	"	97.1	3.62	60.8	75-125			QM-05
Lead	55.7	0.967	3.00	"	97.1	1.02	56.3	75-125			QM-05
Matrix Spike Dup (9111360-MSD1)		**Source: T193921-01**			Prepared: 11/13/19 Analyzed: 11/14/19						
Arsenic	62.0	0.800	5.00	mg/kg	97.1	ND	63.9	75-125	8.08	20	QM-05
Barium	133	0.338	1.00	"	97.1	41.9	93.4	75-125	5.71	20	QM-05
Cadmium	58.5	0.114	2.00	"	97.1	0.155	60.1	75-125	3.36	20	QM-05
Chromium	65.0	0.121	2.00	"	97.1	3.62	63.3	75-125	3.82	20	QM-05
Lead	59.5	0.967	3.00	"	97.1	1.02	60.3	75-125	6.65	20	QM-05
Batch 9111418 - EPA 3050B											
Blank (9111418-BLK1)					Prepared: 11/14/19 Analyzed: 11/15/19						
Antimony	ND	1.4	3.0	mg/kg							
Silver	ND	0.50	2.0	"							
Arsenic	ND	0.80	5.0	"							
Barium	ND	0.30	1.0	"							
Beryllium	ND	0.20	1.0	"							
Cadmium	ND	0.10	2.0	"							
Chromium	ND	0.10	2.0	"							

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111418 - EPA 3050B											
Blank (9111418-BLK1)					Prepared: 11/14/19 Analyzed: 11/15/19						
Cobalt	ND	0.20	2.0	mg/kg							
Copper	ND	0.20	1.0	"							
Lead	ND	1.0	3.0	"							
Molybdenum	ND	0.20	5.0	"							
Nickel	ND	0.30	2.0	"							
Selenium	ND	2.2	5.0	"							
Thallium	ND	1.7	2.0	"							
Vanadium	ND	0.30	5.0	"							
Zinc	ND	0.10	1.0	"							
LCS (9111418-BS1)					Prepared: 11/14/19 Analyzed: 11/15/19						
Arsenic	94.2	0.80	5.0	mg/kg	100		94.2	75-125			
Barium	94.4	0.30	1.0	"	100		94.4	75-125			
Cadmium	94.0	0.10	2.0	"	100		94.0	75-125			
Chromium	94.1	0.10	2.0	"	100		94.1	75-125			
Lead	94.8	1.0	3.0	"	100		94.8	75-125			
Matrix Spike (9111418-MS1)		**Source: T193941-42**			Prepared: 11/14/19 Analyzed: 11/15/19						
Arsenic	51.2	0.80	5.0	mg/kg	96.2	ND	53.2	75-125			QM-05
Barium	119	0.30	1.0	"	96.2	69.9	50.8	75-125			QM-05
Cadmium	49.8	0.10	2.0	"	96.2	0.532	51.2	75-125			QM-05
Chromium	92.4	0.10	2.0	"	96.2	40.3	54.2	75-125			QM-05
Lead	52.2	1.0	3.0	"	96.2	4.54	49.6	75-125			QM-05
Matrix Spike Dup (9111418-MSD1)		**Source: T193941-42**			Prepared: 11/14/19 Analyzed: 11/15/19						
Arsenic	55.3	0.80	5.0	mg/kg	98.0	ND	56.4	75-125	7.78	20	QM-05
Barium	121	0.30	1.0	"	98.0	69.9	52.3	75-125	2.05	20	QM-05
Cadmium	52.5	0.10	2.0	"	98.0	0.532	53.0	75-125	5.28	20	QM-05
Chromium	94.5	0.10	2.0	"	98.0	40.3	55.2	75-125	2.21	20	QM-05

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111418 - EPA 3050B											
Matrix Spike Dup (9111418-MSD1)		**Source: T193941-42**			Prepared: 11/14/19 Analyzed: 11/15/19						
Lead	55.7	1.0	3.0	mg/kg	98.0	4.54	52.1	75-125	6.34	20	QM-05

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48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Metals by EPA 6020 Method - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9121017 - EPA 3050B											
Blank (9121017-BLK1)					Prepared & Analyzed: 12/10/19						
Arsenic	ND	0.0025	0.25	mg/kg							
Thallium	ND	0.099	0.25	"							
LCS (9121017-BS1)					Prepared & Analyzed: 12/10/19						
Arsenic	24.4	0.0025	0.25	mg/kg	25.0		97.7	80-120			
Matrix Spike (9121017-MS1)		**Source: T193941-01**			Prepared & Analyzed: 12/10/19						
Arsenic	27.2	0.0025	0.25	mg/kg	23.1	5.42	93.9	75-125			
Matrix Spike Dup (9121017-MSD1)		**Source: T193941-01**			Prepared & Analyzed: 12/10/19						
Arsenic	31.9	0.0025	0.25	mg/kg	24.5	5.42	108	75-125	15.9	20	
Post Spike (9121017-PS1)		**Source: T193941-01**			Prepared & Analyzed: 12/10/19						
Arsenic	34.4			mg/kg	25.0	5.42	116	80-120			
Batch 9121019 - EPA 3050B											
Blank (9121019-BLK1)					Prepared & Analyzed: 12/10/19						
Arsenic	ND	0.0025	0.25	mg/kg							
Thallium	ND	0.099	0.25	"							
LCS (9121019-BS1)					Prepared & Analyzed: 12/10/19						
Arsenic	25.9	0.0025	0.25	mg/kg	25.0		104	80-120			
Matrix Spike (9121019-MS1)		**Source: T193941-46**			Prepared & Analyzed: 12/10/19						
Arsenic	30.7	0.0025	0.25	mg/kg	24.8	5.81	101	75-125			

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48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Metals by EPA 6020 Method - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9121019 - EPA 3050B											
Matrix Spike Dup (9121019-MSD1)		**Source: T193941-46**			Prepared & Analyzed: 12/10/19						
Arsenic	29.1	0.0025	0.25	mg/kg	24.8	5.81	94.1	75-125	5.46	20	

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48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Cold Vapor Extraction EPA 7470/7471 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111355 - EPA 7470A Water											
Blank (9111355-BLK1)					Prepared: 11/13/19 Analyzed: 11/15/19						
Mercury	ND	0.022	0.50	ug/l							
LCS (9111355-BS1)					Prepared: 11/13/19 Analyzed: 11/15/19						
Mercury	4.71	0.022	0.50	ug/l	5.00		94.2	80-120			
Matrix Spike (9111355-MS1)		**Source: T193930-01**			Prepared: 11/13/19 Analyzed: 11/15/19						
Mercury	4.60	0.022	0.50	ug/l	5.00	ND	92.0	75-125			
Matrix Spike Dup (9111355-MSD1)		**Source: T193930-01**			Prepared: 11/13/19 Analyzed: 11/15/19						
Mercury	4.56	0.022	0.50	ug/l	5.00	ND	91.1	75-125	0.939	20	
Batch 9111422 - EPA 7471A Soil											
Blank (9111422-BLK1)					Prepared: 11/14/19 Analyzed: 11/15/19						
Mercury	ND	0.027	0.10	mg/kg							
LCS (9111422-BS1)					Prepared: 11/14/19 Analyzed: 11/15/19						
Mercury	0.418	0.027	0.10	mg/kg	0.410		102	80-120			
Matrix Spike (9111422-MS1)		**Source: T193921-01**			Prepared: 11/14/19 Analyzed: 11/15/19						
Mercury	0.434	0.027	0.10	mg/kg	0.410	ND	106	75-125			
Matrix Spike Dup (9111422-MSD1)		**Source: T193921-01**			Prepared: 11/14/19 Analyzed: 11/15/19						
Mercury	0.415	0.027	0.10	mg/kg	0.397	ND	105	75-125	4.42	20	

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	Reported:
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111344 - EPA 3510C GCMS/ECD											
Blank (9111344-BLK1)					Prepared & Analyzed: 11/13/19						
Surrogate: Tetrachloro-meta-xylene	*0.690*			*ug/l*	*1.00*		*69.0*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.836*			*"*	*1.00*		*83.6*	*35-140*			
alpha-BHC	ND	0.04	1.00	"							
gamma-BHC (Lindane)	ND	0.03	1.00	"							
beta-BHC	ND	0.05	1.00	"							
delta-BHC	ND	0.02	1.00	"							
Heptachlor	ND	0.04	1.00	"							
Aldrin	ND	0.02	1.00	"							
Heptachlor epoxide	ND	0.04	1.00	"							
gamma-Chlordane	ND	0.05	1.00	"							
alpha-Chlordane	ND	0.03	1.00	"							
Endosulfan I	ND	0.02	1.00	"							
4,4´-DDE	ND	0.04	1.00	"							
Dieldrin	ND	0.03	1.00	"							
Endrin	ND	0.04	1.00	"							
4,4´-DDD	ND	0.03	1.00	"							
Endosulfan II	ND	0.04	1.00	"							
4,4´-DDT	ND	0.06	1.00	"							
Endrin aldehyde	ND	0.02	1.00	"							
Endosulfan sulfate	ND	0.05	1.00	"							
Methoxychlor	ND	0.03	1.00	"							
Endrin ketone	ND	0.05	1.00	"							
Chlordane (tech)	ND	1.00	10.0	"							
Toxaphene	ND	5.79	20.0	"							
LCS (9111344-BS1)					Prepared & Analyzed: 11/13/19						
Surrogate: Tetrachloro-meta-xylene	*0.805*			*ug/l*	*1.00*		*80.5*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.876*			*"*	*1.00*		*87.6*	*35-140*			

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	Reported:
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111344 - EPA 3510C GCMS/ECD											
LCS (9111344-BS1)					Prepared & Analyzed: 11/13/19						
gamma-BHC (Lindane)	4.01	0.03	1.00	ug/l	4.00		100	40-120			
Heptachlor	4.14	0.04	1.00	"	4.00		103	40-120			
Aldrin	3.66	0.02	1.00	"	4.00		91.4	40-120			
Dieldrin	4.03	0.03	1.00	"	4.00		101	40-120			
Endrin	4.21	0.04	1.00	"	4.00		105	40-120			
4,4´-DDT	4.15	0.06	1.00	"	4.00		104	40-120			
LCS Dup (9111344-BSD1)					Prepared & Analyzed: 11/13/19						
Surrogate: Tetrachloro-meta-xylene	*0.892*			*ug/l*	*1.00*		*89.2*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.793*			*"*	*1.00*		*79.3*	*35-140*			
gamma-BHC (Lindane)	4.49	0.03	1.00	"	4.00		112	40-120	11.3	20	
Heptachlor	4.56	0.04	1.00	"	4.00		114	40-120	9.72	20	
Aldrin	3.79	0.02	1.00	"	4.00		94.7	40-120	3.55	20	
Dieldrin	4.26	0.03	1.00	"	4.00		106	40-120	5.36	20	
Endrin	4.36	0.04	1.00	"	4.00		109	40-120	3.45	20	
4,4´-DDT	4.29	0.06	1.00	"	4.00		107	40-120	3.25	20	
Batch 9111350 - EPA 3550 ECD/GCMS											
Blank (9111350-BLK1)					Prepared: 11/13/19 Analyzed: 11/14/19						
Surrogate: Tetrachloro-meta-xylene	*12.5*			*ug/kg*	*10.1*		*124*	*35-140*			
Surrogate: Decachlorobiphenyl	*13.2*			*"*	*10.1*		*131*	*35-140*			
alpha-BHC	ND	0.56	5.0	"							
gamma-BHC (Lindane)	ND	0.96	5.0	"							
beta-BHC	ND	1.4	5.0	"							
delta-BHC	ND	0.64	5.0	"							
Heptachlor	ND	0.59	5.0	"							
Aldrin	ND	0.66	5.0	"							
Heptachlor epoxide	ND	0.98	5.0	"							

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111350 - EPA 3550 ECD/GCMS											
Blank (9111350-BLK1)					Prepared: 11/13/19 Analyzed: 11/14/19						
gamma-Chlordane	ND	0.93	5.0	ug/kg							
alpha-Chlordane	ND	0.83	5.0	"							
Endosulfan I	ND	0.81	5.0	"							
4,4´-DDE	ND	0.78	5.0	"							
Dieldrin	ND	1.1	5.0	"							
Endrin	ND	1.1	5.0	"							
4,4´-DDD	ND	1.2	5.0	"							
Endosulfan II	ND	1.1	5.0	"							
4,4´-DDT	ND	0.80	5.0	"							
Endrin aldehyde	ND	1.7	5.0	"							
Endosulfan sulfate	ND	0.61	5.0	"							
Methoxychlor	ND	0.40	5.0	"							
Endrin ketone	ND	1.3	5.0	"							
Toxaphene	ND	5.8	20	"							
Chlordane (tech)	ND	5.0	50	"							
Chlordane (Total)	ND		5.0	"							
LCS (9111350-BS1)					Prepared: 11/13/19 Analyzed: 11/14/19						
Surrogate: Tetrachloro-meta-xylene	*13.0*			*ug/kg*	*10.1*		*128*	*35-140*			
Surrogate: Decachlorobiphenyl	*10.6*			*"*	*10.1*		*105*	*35-140*			
gamma-BHC (Lindane)	59.1	0.96	5.0	"	40.4		146	40-120			QM-12
Heptachlor	61.0	0.59	5.0	"	40.4		151	40-120			QM-12
Aldrin	54.1	0.66	5.0	"	40.4		134	40-120			QM-12
Dieldrin	58.9	1.1	5.0	"	40.4		146	40-120			QM-12
Endrin	60.4	1.1	5.0	"	40.4		149	40-120			QM-12
4,4´-DDT	53.5	0.80	5.0	"	40.4		132	33-147			
LCS Dup (9111350-BSD1)					Prepared: 11/13/19 Analyzed: 11/14/19						
Surrogate: Tetrachloro-meta-xylene	*11.6*			*ug/kg*	*10.1*		*115*	*35-140*			

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111350 - EPA 3550 ECD/GCMS											
LCS Dup (9111350-BSD1)					Prepared: 11/13/19 Analyzed: 11/14/19						
Surrogate: Decachlorobiphenyl	*10.5*			*ug/kg*	*10.1*		*104*	*35-140*			
gamma-BHC (Lindane)	51.6	0.96	5.0	"	40.4		128	40-120	13.6	30	QM-12
Heptachlor	53.6	0.59	5.0	"	40.4		133	40-120	12.9	30	QM-12
Aldrin	47.1	0.66	5.0	"	40.4		117	40-120	13.8	30	QM-12
Dieldrin	52.2	1.1	5.0	"	40.4		129	40-120	12.0	30	QM-12
Endrin	53.1	1.1	5.0	"	40.4		132	40-120	12.8	30	QM-12
4,4´-DDT	48.4	0.80	5.0	"	40.4		120	33-147	9.93	30	
Batch 9112036 - EPA 3550 ECD/GCMS											
Blank (9112036-BLK1)					Prepared: 11/20/19 Analyzed: 11/26/19						
Surrogate: Tetrachloro-meta-xylene	*11.5*			*ug/kg*	*10.0*		*115*	*35-140*			
Surrogate: Decachlorobiphenyl	*11.6*			*"*	*10.0*		*116*	*35-140*			*QM-14*
alpha-BHC	ND	0.56	5.0	"							
gamma-BHC (Lindane)	ND	0.96	5.0	"							
beta-BHC	ND	1.4	5.0	"							
delta-BHC	ND	0.64	5.0	"							
Heptachlor	ND	0.59	5.0	"							
Aldrin	ND	0.66	5.0	"							
Heptachlor epoxide	ND	0.98	5.0	"							
gamma-Chlordane	ND	0.93	5.0	"							
alpha-Chlordane	ND	0.83	5.0	"							
Endosulfan I	ND	0.81	5.0	"							
4,4´-DDE	ND	0.78	5.0	"							
Dieldrin	ND	1.1	5.0	"							
Endrin	ND	1.1	5.0	"							
4,4´-DDD	ND	1.2	5.0	"							
Endosulfan II	ND	1.1	5.0	"							
4,4´-DDT	ND	0.80	5.0	"							

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9112036 - EPA 3550 ECD/GCMS											
Blank (9112036-BLK1)					Prepared: 11/20/19 Analyzed: 11/26/19						
Endrin aldehyde	ND	1.7	5.0	ug/kg							
Endosulfan sulfate	ND	0.61	5.0	"							
Methoxychlor	ND	0.40	5.0	"							
Endrin ketone	ND	1.3	5.0	"							
Toxaphene	ND	5.8	20	"							
LCS (9112036-BS1)					Prepared: 11/20/19 Analyzed: 11/26/19						
Surrogate: Tetrachloro-meta-xylene	*11.5*			*ug/kg*	*10.0*		*115*	*35-140*			
Surrogate: Decachlorobiphenyl	*11.2*			*"*	*10.0*		*112*	*35-140*			
gamma-BHC (Lindane)	48.8	0.96	5.0	"	40.0		122	40-120			QM-14
Heptachlor	53.3	0.59	5.0	"	40.0		133	40-120			QM-14
Aldrin	43.0	0.66	5.0	"	40.0		107	40-120			
Dieldrin	47.8	1.1	5.0	"	40.0		119	40-120			
Endrin	53.2	1.1	5.0	"	40.0		133	40-120			QM-14
4,4´-DDT	72.6	0.80	5.0	"	40.0		182	33-147			QM-14
LCS Dup (9112036-BSD1)					Prepared: 11/20/19 Analyzed: 11/26/19						
Surrogate: Tetrachloro-meta-xylene	*11.9*			*ug/kg*	*10.0*		*119*	*35-140*			
Surrogate: Decachlorobiphenyl	*12.1*			*"*	*10.0*		*121*	*35-140*			
gamma-BHC (Lindane)	51.1	0.96	5.0	"	40.0		128	40-120	4.69	30	QM-14
Heptachlor	54.3	0.59	5.0	"	40.0		136	40-120	1.87	30	QM-14
Aldrin	44.4	0.66	5.0	"	40.0		111	40-120	3.22	30	
Dieldrin	49.5	1.1	5.0	"	40.0		124	40-120	3.55	30	QM-14
Endrin	54.2	1.1	5.0	"	40.0		136	40-120	1.86	30	QM-14
4,4´-DDT	70.1	0.80	5.0	"	40.0		175	33-147	3.53	30	QM-14

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111415 - EPA 3550 ECD/GCMS											
Blank (9111415-BLK1)					Prepared & Analyzed: 11/14/19						
Surrogate: Tetrachloro-meta-xylene	*9.41*			*ug/kg*	*10.0*		*94.1*	*35-140*			
Surrogate: Decachlorobiphenyl	*10.1*			*"*	*10.0*		*101*	*35-140*			
PCB-1016	ND	2.1	10	"							
PCB-1221	ND	2.1	10	"							
PCB-1232	ND	2.1	10	"							
PCB-1242	ND	2.1	10	"							
PCB-1248	ND	2.1	10	"							
PCB-1254	ND	2.1	10	"							
PCB-1260	ND	2.1	10	"							
LCS (9111415-BS1)					Prepared & Analyzed: 11/14/19						
Surrogate: Tetrachloro-meta-xylene	*8.88*			*ug/kg*	*10.0*		*88.8*	*35-140*			
Surrogate: Decachlorobiphenyl	*9.93*			*"*	*10.0*		*99.3*	*35-140*			
PCB-1016	97.0	2.1	10	"	100		97.0	40-130			
PCB-1260	98.0	2.1	10	"	100		98.0	40-130			
LCS Dup (9111415-BSD1)					Prepared & Analyzed: 11/14/19						
Surrogate: Tetrachloro-meta-xylene	*8.98*			*ug/kg*	*10.0*		*89.8*	*35-140*			
Surrogate: Decachlorobiphenyl	*9.79*			*"*	*10.0*		*97.9*	*35-140*			
PCB-1016	92.6	2.1	10	"	100		92.6	40-130	4.59	30	
PCB-1260	91.2	2.1	10	"	100		91.2	40-130	7.24	30	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:12

Notes and Definitions

S-13	Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of surrogates in client samples and remaining QC including CCV.
RE-01	Sample contained analytes with concentrations above calibration limits and was rerun at a dilution.
R-07	Reporting limit for this compound(s) has been raised to account for dilution necessary due to high levels of interfering compound(s) and/or matrix affect.
QM-14	The LCS and LCSD were above acceptance criteria. The method blank and sample were ND for the analyte in question. The CCV was within acceptance criteria. No negative impact on data is expected.
QM-12	The % recovery for this analyte was above acceptance criteria in the LCS and/or LCSD. The MB and sample(s) were ND for the analyte. The CCV(s) was within acceptance criteria. No negative impact on data is expected.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.
J	Detected but below the Standard Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the Method Detection Limit (MDL)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/12/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: T193941 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers
									Ice Chest 1 of 2	
A1D-0	11/12/2019	0830	SOIL	8 oz jar	X	X		01		1
B1D-0	11/12/2019	0840	SOIL	8 oz jar				02		1
C1D-0	11/12/2019	0850	SOIL	8 oz jar	X	X		03		1
C1D-0-CL	11/12/2019	0900	SOIL	8 oz jar	X	X		04		1
D1D-0	11/12/2019	0905	SOIL	8 oz jar				05		1
ABCD1C-0	11/12/2019		SOIL	8 oz jar			X	06	Lab to prepare ABCD1C-0 as 4:1 composite of A1D-0, B1D-0, C1D-0 and D1D-0	1
A2D-0	11/12/2019	0920	SOIL	8 oz jar				07		1
A2D-0-FR	11/12/2019	0921	SOIL	8 oz jar				08		1
B2D-0	11/12/2019	0935	SOIL	8 oz jar				09		1
B-2D-0-FR	11/12/2019	0936	SOIL	8 oz jar				10		1
C2D-0	11/12/2019	0950	SOIL	8 oz jar				11		1
C-2D-0-FR	11/12/2019	0951	SOIL	8 oz jar				12		1
D2D-0	11/12/2019	1005	SOIL	8 oz jar				13		1
D-2D-0-FR	11/12/2019	1006	SOIL	8 oz jar				14		1
ABCD2C-0	11/12/2019						X	15	Lab to prepare ABCD2C-0 as 4:1 composite of A2D-0, B2D-0, C2D-0 and D2D-0	
ABCD2C-0-FR	11/12/2019						X	16	Lab to prepare ABCD2C-0-FR as 4:1 composite of A2D-0-FR, B2D-0-FR, C2D-0-FR and D2D-0-FR	

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Heidi Cummings	111219/1600	GSO	111219/1600
GSO	11-13-19 8:27	[signature]	11-13-19 8:27

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold

Turn around time: **5 day**

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests
3.7C
3.0C

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/12/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: T193941 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative Ice Chest 1 of 2	Total # of containers
A3D-0	11/12/2019	1015	SOIL	8 oz jar				17		
B3D-0	11/12/2019	1025	SOIL	8 oz jar	X	X		18		
B3D-0-FR	11/12/2019	1026	SOIL	8 oz jar	X	X		19		
C3D-0	11/12/2019	1040	SOIL	8 oz jar				20		
D3D-0	11/12/2019	1100	SOIL	8 oz jar	X	X		21		
ABCD3C-0	11/12/2019		SOIL				X	22	Lab to prepare ABCD3C-0 as 4:1 composite of A3D-0, B3D-0, C3D-0 and D3D-0	
A4D-0	11/12/2019	1110	SOIL	8 oz jar				23		
B4D-0	11/12/2019	1120	SOIL	8 oz jar				24		
C4D-0	11/12/2019	1130	SOIL	8 oz jar				25		
D4D-0	11/12/2019	1140	SOIL	8 oz jar				26		
ABCD4C-0	11/12/2019		SOIL				X	27	Lab to prepare ABCD4C-0 as 4:1 composite of A4D-0, B4D-0, C4D-0 and D4D-0	

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Heidi Cummings	111219/1600	GSO	111219/1600
GSO	11-13-19 8:27	[signature]	11-13-19 8:27

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold

Turn around time: 5 day

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests
3.7°
3.0°

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/11/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: T193941 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	PCBS EAP 8082	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	TPH CARBON CHAIN EPA 8260/8015	Title 22 Metals EPA	Laboratory ID #	Comments/Preservative	Total # of containers
												IceChest 2of2	
HHS1D-2	11/11/2019	0830	SOIL	8 oz jar		X	X				28		1
HHS2D-2	11/11/2019	0915	SOIL	8 oz jar		X	X				29		1
HHS3D-2	11/11/2019	1015	SOIL	8 oz jar		X	X				30		1
HHS3D-2-FR	11/11/2019	1018	SOIL	8 oz jar		X	X				31		1
HHS4D-2	11/11/2019	1030	SOIL	8 oz jar		X	X				32		1
HHS5D-2	11/11/2019	1045	SOIL	8 oz jar		X	X				33		1
HHS5D-2-CL	11/11/2019	1055	SOIL	8 oz jar		X	X				34		1
HHS6D-2	11/11/2019	1130	SOIL	8 oz jar		X	X				35		1
HHS7D-2	11/11/2019	1225	SOIL	8 oz jar		X	X				36		1
HHS8D-2	11/11/2019	1330	SOIL	8 oz jar		X	X				37		1
PMT-E6D-0	11/11/2019	1505	SOIL	8 oz jar	X						38		1
PMT-E6D-0-CL	11/11/2019	1515	SOIL	8 oz jar	X						39		1
PMT-E6D-2	11/11/2019	1530	SOIL	8 oz jar	X						40		1
EB-1	11/11/2019	1500	W	POLY/AMBER/VOA				X	X	X	41		5

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Heidi Cummings	11/12/19/1600	G80	11/12/19/1600
Relinquished by: (signature) GSO	Date / Time 11-13-19 8:27	Received by: (signature) [signature]	Date / Time 11-13-19 8:27
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold

Turn around time: 5 day

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests
3.7c
3.0c

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/11/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: T193941 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	PCBS EAP 8082	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	TPH CARBON CHAIN EPA 8260/8015	Title 22 Metals EPA	Laboratory ID #	Comments/Preservative Ice Chest 2 of 2	Total # of containers
DD1D-0	11/11/2019	1340	SOIL	8 oz jar				X	X	X	42		1
DD2D-0	11/11/2019	1345	SOIL	8 oz jar				X	X	X	43		1
DD2D-0-CL	11/11/2019	1350	SOIL	8 oz jar				X	X	X	44		1
DD3D-0	11/11/2019	1405	SOIL	8 oz jar				X	X	X	45		1
DD4D-0	11/11/2019	1410	SOIL	8 oz jar				X	X	X	46		1
DD4D-0-FR	11/11/2019	1415	SOIL	8 oz jar				X	X	X	47		1
DD5D-0	11/11/2019	1425	SOIL	8 oz jar				X	X	X	48		1
DD6D-0	11/11/2019	1435	SOIL	8 oz jar				X	X	X	49		1
DD7D-0	11/11/2019	1500	SOIL	8 oz jar				X	X	X	50		1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Heidi Cummings	11/12/19 / 1600	GSO	11/12/19 / 1600
GSO	11-13-19 8:27	[signature]	11-13-19 8:27

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold

Turn around time: 5 day

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests
3.7°C
3.0°C

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

Rev. 02 Date 07/19
Receiving Form 001

SunStar Laboratories

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T193941

Client Name: Holdrege & Kull - Chico   Project: Hamilton Union High School

Delivered by: ☐ Client ☐ SunStar Courier ☒ GSO ☐ FedEx ☐ Other

If Courier, Received by: ______   Date/Time Courier Received: ______

Lab Received by: Sunny   Date/Time Lab Received: 11.13.19 / 8:27

Total number of coolers received: 2   Thermometer ID: SC-1   Calibration due : 6/27/20

Temperature:	Cooler #1 2.5	°C +/- the CF (+ 1.2°C) = 3.7	°C corrected temperature	
Temperature:	Cooler #2 1.8	°C +/- the CF (+ 1.2°C) = 3.0	°C corrected temperature	
Temperature:	Cooler #3	°C +/- the CF (+ 1.2°C) =	°C corrected temperature	
Temperature criteria = ≤ 6°C (no frozen containers)		Within criteria?	☒ **Yes**	☐ **No**
If NO:				
Samples received on ice?		☐ Yes	☐ **No → Complete Non-Conformance Sheet**	
If on ice, samples received same day collected?		☐ Yes → Acceptable	☐ **No → Complete Non-Conformance Sheet**	

Custody seals intact on cooler/sample	☒ Yes	☐ No*	☐ N/A
Sample containers intact	☒ Yes	☐ No*	
Sample labels match Chain of Custody IDs	☒ Yes	☐ No*	
Total number of containers received match COC	☒ Yes	☐ No*	
Proper containers received for analyses requested on COC	☒ Yes	☐ No*	
Proper preservative indicated on COC/containers for analyses requested	☒ Yes	☐ No*	☐ N/A
Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times	☒ **Yes**	☐ **No***	

* Complete Non-Conformance Receiving Sheet if checked   Cooler/Sample Review - Initials and date: SL 11.13.19

Comments:

(949) 297-5020 ■ www.sunstarlabs.com ■ 25712 Commercentre Drive ■ Lake Forest, CA 92630

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T193941

Client:	**NV5**	**Project Manager:**	**Jeff Lee**
Project:	**Hamilton Union High School**	**Project Number:**	**70779.01.001.003**

Report To:
NV5
Heidi Cummings
48 Bellarmine Ct, Suite 40
Chico, CA 95928

Date Due:	11/20/19 17:00 (5 day TAT)		
Received By:	Sunny Lounethone	Date Received:	11/13/19 08:27
Logged In By:	Sunny Lounethone	Date Logged In:	11/13/19 09:50

Samples Received at:	**3°C**		
Custody Seals	Yes	Received On Ice	Yes
Containers Intact	Yes		
COC/Labels Agree	Yes		
Preservation Confiri	Yes		

Analysis	**Due**	**TAT**	**Expires**	**Comments**
T193941-01 A1D-0 [Soil] Sampled 11/12/19 08:30 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 08:30	As and Pb only
T193941-02 B1D-0 [Soil] Sampled 11/12/19 08:40 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-03 C1D-0 [Soil] Sampled 11/12/19 08:50 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 08:50	As and Pb only
T193941-04 C1D-0-CL [Soil] Sampled 11/12/19 09:00 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 09:00	As and Pb only
T193941-05 D1D-0 [Soil] Sampled 11/12/19 09:05 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-06 ABCD1C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A1D-0, B1D-0, C1D-0, D1D-0)**
8081 Pesticides	11/20/19 15:00	5	11/26/19 00:00	
T193941-07 A2D-0 [Soil] Sampled 11/12/19 09:20 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T193941

Client: NV5
Project: Hamilton Union High School
Project Manager: Jeff Lee
Project Number: 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
T193941-08 A2D-0FR [Soil] Sampled 11/12/19 09:21 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-09 B2D-0 [Soil] Sampled 11/12/19 09:35 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-10 B-2D-0-FR [Soil] Sampled 11/12/19 09:36 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-11 C2D-0 [Soil] Sampled 11/12/19 09:50 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-12 C-2D-0-FR [Soil] Sampled 11/12/19 09:51 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-13 D2D-0 [Soil] Sampled 11/12/19 10:05 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-14 D-2D-0-FR [Soil] Sampled 11/12/19 10:06 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-15 ABCD2C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A2D-0, B2D-0, C2D-0, D2D-0)**
8081 Pesticides	11/20/19 15:00	5	11/26/19 00:00	
T193941-16 ABCD2C-0-FR [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A2D-0-FR, B2D-0-FR, C2D-0-FR, D2D-0-FR)**
8081 Pesticides	11/20/19 15:00	5	11/26/19 00:00	
T193941-17 A3D-0 [Soil] Sampled 11/12/19 10:15 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-18 B3D-0 [Soil] Sampled 11/12/19 10:25 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 10:25	As and Pb only

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T193941

Client:	**NV5**	**Project Manager:**	**Jeff Lee**
Project:	**Hamilton Union High School**	**Project Number:**	**70779.01.001.003**

Analysis	Due	TAT	Expires	Comments
T193941-19 B3D-0-FR [Soil] Sampled 11/12/19 10:26 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 10:26	As and Pb only
T193941-20 C3D-0 [Soil] Sampled 11/12/19 10:40 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-21 D3D-0 [Soil] Sampled 11/12/19 11:00 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 11:00	As and Pb only
T193941-22 ABCD3C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A3D-0, B3D-0, C3D-0, D3D-0)**
8081 Pesticides	11/20/19 15:00	5	11/26/19 00:00	
T193941-23 A4D-0 [Soil] Sampled 11/12/19 11:10 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-24 B4D-0 [Soil] Sampled 11/12/19 11:20 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-25 C4D-0 [Soil] Sampled 11/12/19 11:30 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-26 D4D-0 [Soil] Sampled 11/12/19 11:40 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-27 ABCD4C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A4D-0, B4D-0, C4D-0, D4D-0)**
8081 Pesticides	11/20/19 15:00	5	11/26/19 00:00	
T193941-28 HHS1D-2 [Soil] Sampled 11/11/19 08:30 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 08:30	As and Pb only
T193941-29 HHS2D-2 [Soil] Sampled 11/11/19 09:15 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 09:15	As and Pb only

WORK ORDER

T193941

Client: NV5 | **Project Manager:** Jeff Lee
Project: Hamilton Union High School | **Project Number:** 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
T193941-30 HHS3D-2 [Soil] Sampled 11/11/19 10:15 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 10:15	As and Pb only
T193941-31 HHS3D-2-FR [Soil] Sampled 11/11/19 10:18 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 10:18	As and Pb only
T193941-32 HHS4D-2 [Soil] Sampled 11/11/19 10:30 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 10:30	As and Pb only
T193941-33 HHS5D-2 [Soil] Sampled 11/11/19 10:45 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 10:45	As and Pb only
T193941-34 HHS5D-2-CL [Soil] Sampled 11/11/19 10:55 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 10:55	As and Pb only
T193941-35 HHS6D-2 [Soil] Sampled 11/11/19 11:30 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 11:30	As and Pb only
T193941-36 HHS7D-2 [Soil] Sampled 11/11/19 12:25 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 12:25	As and Pb only
T193941-37 HHS8D-2 [Soil] Sampled 11/11/19 13:30 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 13:30	As and Pb only
T193941-38 PMT-E6D-0 [Soil] Sampled 11/11/19 15:05 (GMT-08:00) Pacific Time (US &				
8082 PCB	11/20/19 15:00	5	11/25/19 15:05	
T193941-39 PMT-E6D-0-CL [Soil] Sampled 11/11/19 15:15 (GMT-08:00) Pacific Time (US &				
8082 PCB	11/20/19 15:00	5	11/25/19 15:15	
T193941-40 PMT-E6D-2 [Soil] Sampled 11/11/19 15:30 (GMT-08:00) Pacific Time (US &				
8082 PCB	11/20/19 15:00	5	11/25/19 15:30	

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T193941

Client: NV5 | **Project Manager:** Jeff Lee
Project: Hamilton Union High School | **Project Number:** 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
T193941-41 EB-1 [Water] Sampled 11/11/19 15:00 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/20/19 15:00	5	05/09/20 15:00	
8015 TPH-CC LLvL	11/20/19 15:00	5	11/25/19 15:00	
8081 Pesticides	11/20/19 15:00	5	11/18/19 15:00	
T193941-42 DD1D-0 [Soil] Sampled 11/11/19 13:40 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/20/19 15:00	5	05/09/20 13:40	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 13:40	
8081 Pesticides	11/20/19 15:00	5	11/25/19 13:40	
T193941-43 DD2D-0 [Soil] Sampled 11/11/19 13:45 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/20/19 15:00	5	05/09/20 13:45	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 13:45	
8081 Pesticides	11/20/19 15:00	5	11/25/19 13:45	
T193941-44 DD2D-0-CL [Soil] Sampled 11/11/19 13:50 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/20/19 15:00	5	05/09/20 13:50	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 13:50	
8081 Pesticides	11/20/19 15:00	5	11/25/19 13:50	
T193941-45 DD3D-0 [Soil] Sampled 11/11/19 14:05 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/20/19 15:00	5	05/09/20 14:05	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 14:05	
8081 Pesticides	11/20/19 15:00	5	11/25/19 14:05	
T193941-46 DD4D-0 [Soil] Sampled 11/11/19 14:10 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/20/19 15:00	5	05/09/20 14:10	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 14:10	
8081 Pesticides	11/20/19 15:00	5	11/25/19 14:10	
T193941-47 DD4D-0-FR [Soil] Sampled 11/11/19 14:15 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/20/19 15:00	5	05/09/20 14:15	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 14:15	
8081 Pesticides	11/20/19 15:00	5	11/25/19 14:15	

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T193941

Client: NV5 | **Project Manager:** Jeff Lee
Project: Hamilton Union High School | **Project Number:** 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
T193941-48 DD5D-0 [Soil] Sampled 11/11/19 14:25 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/20/19 15:00	5	05/09/20 14:25	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 14:25	
8081 Pesticides	11/20/19 15:00	5	11/25/19 14:25	
T193941-49 DD6D-0 [Soil] Sampled 11/11/19 14:35 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/20/19 15:00	5	05/09/20 14:35	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 14:35	
8081 Pesticides	11/20/19 15:00	5	11/25/19 14:35	
T193941-50 DD7D-0 [Soil] Sampled 11/11/19 15:00 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/20/19 15:00	5	05/09/20 15:00	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 15:00	
8081 Pesticides	11/20/19 15:00	5	11/25/19 15:00	

Analysis groups included in this work order

6010 Title 22

subgroup 6010B T22 | 7470/71 Hg

Reviewed By ______________________ Date ____________

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

11 December 2019

Heidi Cummings
NV5
48 Bellarmine Ct, Suite 40
Chico, CA 95928

RE: Hamilton Union High School

Enclosed are the results of analyses for samples received by the laboratory on 11/15/19 08:34. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeff Lee
Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:27

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C5D-0	T193979-05	Soil	11/12/19 13:00	11/15/19 08:34
ABCD5C-0	T193979-09	Soil	11/12/19 00:00	11/15/19 08:34
ABCD5C-0-CL	T193979-10	Soil	11/12/19 00:00	11/15/19 08:34
ABCD6C-0	T193979-15	Soil	11/12/19 00:00	11/15/19 08:34
A7D-0	T193979-16	Soil	11/12/19 14:45	11/15/19 08:34
A7D-0-CL	T193979-18	Soil	11/12/19 14:55	11/15/19 08:34
D7D-0	T193979-23	Soil	11/12/19 15:30	11/15/19 08:34
D7D-0-FR	T193979-24	Soil	11/12/19 15:31	11/15/19 08:34
ABCD7C-0	T193979-25	Soil	11/12/19 00:00	11/15/19 08:34
ABCD7C-0-FR	T193979-26	Soil	11/12/19 00:00	11/15/19 08:34
C8D-0	T193979-29	Soil	11/12/19 16:05	11/15/19 08:34
ABCD8C-0	T193979-31	Soil	11/12/19 00:00	11/15/19 08:34

This report has been revised to report Arsenic under EPA 6020 instead of EPA 6010 to provide the lowest MDL value possible.
JL 12/11/19

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:27

DETECTIONS SUMMARY

Sample ID: C5D-0 **Laboratory ID:** T193979-05

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.10**	3.00	mg/kg	EPA 6010b	
Arsenic	**4.1**	0.25	mg/kg	6020 ICP-MS	

Sample ID: ABCD5C-0 **Laboratory ID:** T193979-09

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**6.6**	5.0	ug/kg	EPA 8081A	

Sample ID: ABCD5C-0-CL **Laboratory ID:** T193979-10

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**7.0**	5.0	ug/kg	EPA 8081A	

Sample ID: ABCD6C-0 **Laboratory ID:** T193979-15

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**4.1**	5.0	ug/kg	EPA 8081A	J

Sample ID: A7D-0 **Laboratory ID:** T193979-16

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.35**	3.00	mg/kg	EPA 6010b	
Arsenic	**5.9**	0.25	mg/kg	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:27

Sample ID: A7D-0-CL **Laboratory ID:** T193979-18

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.35**	3.00	mg/kg	EPA 6010b	
Arsenic	**5.7**	0.25	mg/kg	6020 ICP-MS	

Sample ID: D7D-0 **Laboratory ID:** T193979-23

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.75**	3.00	mg/kg	EPA 6010b	
Arsenic	**6.4**	0.25	mg/kg	6020 ICP-MS	

Sample ID: D7D-0-FR **Laboratory ID:** T193979-24

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.61**	3.00	mg/kg	EPA 6010b	
Arsenic	**5.2**	0.25	mg/kg	6020 ICP-MS	

Sample ID: ABCD7C-0 **Laboratory ID:** T193979-25

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4′-DDE	**3.6**	5.0	ug/kg	EPA 8081A	J

Sample ID: ABCD7C-0-FR **Laboratory ID:** T193979-26

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4′-DDE	**3.0**	5.0	ug/kg	EPA 8081A	J

Sample ID: C8D-0 **Laboratory ID:** T193979-29

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.95**	2.73	mg/kg	EPA 6010b	
Arsenic	**5.5**	0.25	mg/kg	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:27

Sample ID: ABCD8C-0 **Laboratory ID:** T193979-31

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**4.8**	5.0	ug/kg	EPA 8081A	J

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:27

C5D-0

T193979-05(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B										
Lead	**5.10**	0.967	3.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**4.1**	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	

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ABCD5C-0

T193979-09(Soil)

<u>SunStar Laboratories, Inc.</u>

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**6.6**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*103 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*109 %*	*35-140*		*"*	*"*	*"*	*"*	

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ABCD5C-0-CL
T193979-10(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**7.0**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*89.0 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*113 %*	*35-140*		*"*	*"*	*"*	*"*	

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ABCD6C-0

T193979-15(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**4.1**	0.78	5.0	"	"	"	"	"	"	J
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*85.9 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*93.9 %*	*35-140*		*"*	*"*	*"*	*"*	

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A7D-0

T193979-16(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Metals by EPA 6010B										
Lead	**5.35**	0.967	3.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**5.9**	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
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A7D-0-CL

T193979-18(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Metals by EPA 6010B										
Lead	**5.35**	0.967	3.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**5.7**	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:27

D7D-0

T193979-23(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Metals by EPA 6010B										
Lead	**5.75**	0.967	3.00	mg/kg	1	9112523	11/25/19	11/26/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**6.4**	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
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D7D-0-FR

T193979-24(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B										
Lead	**5.61**	0.967	3.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**5.2**	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
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ABCD7C-0

T193979-25(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**3.6**	0.78	5.0	"	"	"	"	"	"	J
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*56.1 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*95.3 %*	*35-140*		*"*	*"*	*"*	*"*	

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ABCD7C-0-FR
T193979-26(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

<u>SunStar Laboratories, Inc.</u>

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**3.0**	0.78	5.0	"	"	"	"	"	"	J
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*43.3 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl			*83.0 %*	*35-140*		"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:27

C8D-0

T193979-29(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Metals by EPA 6010B										
Lead	**4.95**	0.879	2.73	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**5.5**	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:27

ABCD8C-0

T193979-31(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**4.8**	0.78	5.0	"	"	"	"	"	"	J
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*45.3 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*84.8 %*	*35-140*		*"*	*"*	*"*	*"*	

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:27

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111532 - EPA 3050B											
Blank (9111532-BLK1)					Prepared: 11/15/19 Analyzed: 11/18/19						
Arsenic	ND	0.800	5.00	mg/kg							
Lead	ND	0.967	3.00	"							
LCS (9111532-BS1)					Prepared: 11/15/19 Analyzed: 11/18/19						
Arsenic	97.4	0.800	5.00	mg/kg	100		97.4	75-125			
Lead	99.5	0.967	3.00	"	100		99.5	75-125			
Matrix Spike (9111532-MS1)		**Source: T193974-24**			Prepared: 11/15/19 Analyzed: 11/18/19						
Arsenic	73.0	0.800	5.00	mg/kg	99.0		73.7	75-125			QM-05
Lead	76.9	0.967	3.00	"	99.0		77.7	75-125			QM-05
Matrix Spike Dup (9111532-MSD1)		**Source: T193974-24**			Prepared: 11/15/19 Analyzed: 11/18/19						
Arsenic	66.9	0.800	5.00	mg/kg	93.5		71.6	75-125	8.64	20	QM-05
Lead	68.9	0.967	3.00	"	93.5		73.8	75-125	11.0	20	QM-05
Batch 9112523 - EPA 3050B											
Blank (9112523-BLK1)					Prepared: 11/25/19 Analyzed: 11/26/19						
Arsenic	2.89	0.800	5.00	mg/kg							J
Lead	ND	0.967	3.00	"							
LCS (9112523-BS1)					Prepared: 11/25/19 Analyzed: 11/26/19						
Arsenic	95.8	0.800	5.00	mg/kg	100		95.8	75-125			
Lead	95.7	0.967	3.00	"	100		95.7	75-125			
Matrix Spike (9112523-MS1)		**Source: T193979-23**			Prepared: 11/25/19 Analyzed: 11/26/19						
Arsenic	61.3	0.800	5.00	mg/kg	93.5	ND	65.6	75-125			QM-05
Lead	59.0	0.967	3.00	"	93.5	5.75	57.0	75-125			QM-05

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:27

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9112523 - EPA 3050B											
Matrix Spike Dup (9112523-MSD1)		**Source: T193979-23**			Prepared: 11/25/19 Analyzed: 11/26/19						
Arsenic	70.4	0.800	5.00	mg/kg	100	ND	70.4	75-125	13.7	20	QM-05
Lead	68.6	0.967	3.00	"	100	5.75	62.8	75-125	14.9	20	QM-05

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:27

Metals by EPA 6020 Method - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9121019 - EPA 3050B											
Blank (9121019-BLK1)					Prepared & Analyzed: 12/10/19						
Arsenic	ND	0.0025	0.25	mg/kg							
Thallium	ND	0.099	0.25	"							
LCS (9121019-BS1)					Prepared & Analyzed: 12/10/19						
Arsenic	25.9	0.0025	0.25	mg/kg	25.0		104	80-120			
Matrix Spike (9121019-MS1)		**Source: T193941-46**			Prepared & Analyzed: 12/10/19						
Arsenic	30.7	0.0025	0.25	mg/kg	24.8	5.81	101	75-125			
Matrix Spike Dup (9121019-MSD1)		**Source: T193941-46**			Prepared & Analyzed: 12/10/19						
Arsenic	29.1	0.0025	0.25	mg/kg	24.8	5.81	94.1	75-125	5.46	20	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:27

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111517 - EPA 3550 ECD/GCMS											
Blank (9111517-BLK1)					Prepared: 11/15/19 Analyzed: 11/18/19						
Surrogate: Tetrachloro-meta-xylene	*9.16*			*ug/kg*	*10.1*		*90.6*	*35-140*			
Surrogate: Decachlorobiphenyl	*14.3*			*"*	*10.1*		*141*	*35-140*			*S-GC*
alpha-BHC	ND	0.56	5.0	"							
gamma-BHC (Lindane)	ND	0.96	5.0	"							
beta-BHC	ND	1.4	5.0	"							
delta-BHC	ND	0.64	5.0	"							
Heptachlor	ND	0.59	5.0	"							
Aldrin	ND	0.66	5.0	"							
Heptachlor epoxide	ND	0.98	5.0	"							
gamma-Chlordane	ND	0.93	5.0	"							
alpha-Chlordane	ND	0.83	5.0	"							
Endosulfan I	ND	0.81	5.0	"							
4,4´-DDE	ND	0.78	5.0	"							
Dieldrin	ND	1.1	5.0	"							
Endrin	ND	1.1	5.0	"							
4,4´-DDD	ND	1.2	5.0	"							
Endosulfan II	ND	1.1	5.0	"							
4,4´-DDT	ND	0.80	5.0	"							
Endrin aldehyde	ND	1.7	5.0	"							
Endosulfan sulfate	ND	0.61	5.0	"							
Methoxychlor	ND	0.40	5.0	"							
Endrin ketone	ND	1.3	5.0	"							
Toxaphene	ND	5.8	20	"							
Chlordane (tech)	ND	5.0	50	"							
Chlordane (Total)	ND		5.0	"							
LCS (9111517-BS1)					Prepared: 11/15/19 Analyzed: 11/19/19						
Surrogate: Tetrachloro-meta-xylene	*10.0*			*ug/kg*	*10.1*		*99.2*	*35-140*			

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:27

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111517 - EPA 3550 ECD/GCMS											
LCS (9111517-BS1)					Prepared: 11/15/19 Analyzed: 11/19/19						
Surrogate: Decachlorobiphenyl	*11.0*			*ug/kg*	*10.1*		*109*	*35-140*			
gamma-BHC (Lindane)	43.0	0.96	5.0	"	40.4		106	40-120			
Heptachlor	43.2	0.59	5.0	"	40.4		107	40-120			
Aldrin	39.1	0.66	5.0	"	40.4		96.8	40-120			
Dieldrin	43.4	1.1	5.0	"	40.4		108	40-120			
Endrin	43.8	1.1	5.0	"	40.4		109	40-120			
4,4´-DDT	41.7	0.80	5.0	"	40.4		103	33-147			
LCS Dup (9111517-BSD1)					Prepared: 11/15/19 Analyzed: 11/19/19						
Surrogate: Tetrachloro-meta-xylene	*8.92*			*ug/kg*	*10.1*		*88.4*	*35-140*			
Surrogate: Decachlorobiphenyl	*12.1*			*"*	*10.1*		*120*	*35-140*			
gamma-BHC (Lindane)	41.5	0.96	5.0	"	40.4		103	40-120	3.54	30	
Heptachlor	42.8	0.59	5.0	"	40.4		106	40-120	0.838	30	
Aldrin	40.0	0.66	5.0	"	40.4		98.9	40-120	2.19	30	
Dieldrin	46.2	1.1	5.0	"	40.4		114	40-120	6.26	30	
Endrin	46.6	1.1	5.0	"	40.4		115	40-120	6.06	30	
4,4´-DDT	45.5	0.80	5.0	"	40.4		113	33-147	8.74	30	

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NV5	Project:	Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number:	70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager:	Heidi Cummings	12/11/19 09:27

Notes and Definitions

S-GC	Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s).
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.
J	Detected but below the Standard Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the Method Detection Limit (MDL)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

T193979

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers	
A5D-0	11/12/2019	1220	SOIL	8 oz jar				01		1	
A5D-0-CL	11/12/2019	1230	SOIL	8 oz jar				02		1	
B5D-0	11/12/2019	1245	SOIL	8 oz jar				03		1	
B5D-0-CL	11/12/2019	1250	SOIL	8 oz jar				04		1	
C5D-0	11/12/2019	1300	SOIL	8 oz jar	X	X		05		1	
C5D-0-CL	11/12/2019	1310	SOIL	8 oz jar				06		1	
D5D-0	11/12/2019	1325	SOIL	8 oz jar				07		1	
D5D-0-CL	11/12/2019	1330	SOIL	8 oz jar				08		1	
							X	Lab to prepare ABCD5C-0 as 4:1 composite of A5D-0, B5D-0, C5D-0 and D5D-0			09
							X	Lab to prepare ABCD5C-0-CL as 4:1 composite of A5D-0-CL, B5D-0-CL, C5D-0-CL and D5D-0-			10
A6D-0	11/12/2019	1355	SOIL	8 oz jar				11		1	
B6D-0	11/12/2019	1410	SOIL	8 oz jar				12		1	
C6D-0	11/12/2019	1420	SOIL	8 oz jar				13		1	
D6D-0	11/12/2019	1435	SOIL	8 oz jar				14		1	
ABCD6C-0	11/12/2019		SOIL				X	Lab to prepare ABCD5C-0 as 4:1 composite of A5D-0, B5D-0, C5D-0 and D5D-0			15

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	11/14/19 1600	GSO	11/14/19 1600
GSO	11-15-19 8:34	[signature]	11-15-19 8:34

Total # of containers
Chain of Custody seals Y/N/NA: Y
Seals intact? Y/N/NA: Y
Received good condition/cold: 2.8°

Turn around time: **5 day**

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

REVISED

T193979

SunStar Laboratories
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers
A5D-0	11/12/2019	1220	SOIL	8 oz jar				~~10~~ 01		1
A5D-0-CL	11/12/2019	1230	SOIL	8 oz jar				02		1
B5D-0	11/12/2019	1245	SOIL	8 oz jar				03		1
B5D-0-CL	11/12/2019	1250	SOIL	8 oz jar				04		1
C5D-0	11/12/2019	1300	SOIL	8 oz jar	X	X		05		1
C5D-0-CL	11/12/2019	1310	SOIL	8 oz jar				06		1
D5D-0	11/12/2019	1325	SOIL	8 oz jar				07		1
D5D-0-CL	11/12/2019	1330	SOIL	8 oz jar				08		1
							X	Lab to prepare ABCD5C-0 as 4:1 composite of A5D-0, B5D-0, C5D-0 and D5D-0		09
							X	Lab to prepare ABCD5C-0-CL as 4:1 composite of A5D-0-CL, B5D-0-CL, C5D-0-CL and D5D-0-		10
A6D-0	11/12/2019	1355	SOIL	8 oz jar				11	CWB	1
B6D-0	11/12/2019	1410	SOIL	8 oz jar				12		1
C6D-0	11/12/2019	1420	SOIL	8 oz jar				13	6 6 6 6	1
D6D-0	11/12/2019	1425	SOIL	8 oz jar				14		1
ABCD6C-0	11/12/2019		SOIL				X	Lab to prepare ABCD~~5~~6C-0 as 4:1 composite of A~~5~~6D-0, B~~5~~6D-0, C~~5~~6D-0 and D~~5~~6D-0		15

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	11/14/19 1600	GSO	11/14/19 1608
GSO	11-15-19 8:34	[signature]	11-15-19 8:34

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 2.8C

Turn around time: 5 day

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

T193979

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers
A7D-0	11/12/2019	1445	SOIL	8 oz jar	X	X		16		1
A7D-0-FR	11/12/2019	1446	SOIL	8 oz jar				17		1
A7D-0-CL	11/12/2019	1455	SOIL	8 oz jar	X	X		18		1
B7D-0	11/12/2019	1505	SOIL	8 oz jar				19		1
B7D-0-FR	11/12/2019	1506	SOIL	8 oz jar				20		1
C7D-0	11/12/2019	1515	SOIL	8 oz jar				21		1
C7D-0-FR	11/12/2019	1516	SOIL	8 oz jar				22		1
D7D-0	11/12/2019	1530	SOIL	8 oz jar			cwb	23		1
D7D-0-FR	11/12/2019	1531	SOIL	8 oz jar	~~X~~	~~X~~		24		1
							X		Lab to prepare ABCD7C-0 as 4:1 composite of A7D-0, B7D-0, C7D-0 and D7D-0	25
							X		Lab to prepare ABCD7C-0-FR as 4:1 composite of A7D-0-FR, B7D-0-FR, C7D-0-FR and D7D-0	26

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	11/14/16 1600	GSO	11/14/16 1600
GSO	11-15-19 8:34	[signature]	11-15-19 8:34

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 2.8°C

Turn around time: **5 day**

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

T193979

Page ~~1~~ 3 of ~~1~~ 3

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers
A8D-0	11/12/2019	1545	SOIL	8 oz jar				27		1
B8D-0	11/12/2019	1555	SOIL	8 oz jar				28		1
C8D-0	11/12/2019	1605	SOIL	8 oz jar	X	X		29		1
D8D-0	11/12/2019	1615	SOIL	8 oz jar				30		1
							X	Lab to prepare ABCD8C-0 as 4:1 composite of A8D-0, B8D-0, C8D-0 and D8D-0		31

Relinquished by: (signature) Date / Time 11/14/16 1600
Received by: (signature) GSO Date / Time 11/14/16 1600

Relinquished by: (signature) GSO Date / Time 11-15-19 8:34
Received by: (signature) Date / Time 11-15-19 8:34

Relinquished by: (signature) Date / Time
Received by: (signature) Date / Time

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 2.8°C

Turn around time: 5 day

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories

Rev. 02 Date 07/19
Receiving Form 001

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T193979

Client Name: NV5 Project: HAMILTON UNION HIGH SCHOOL

Delivered by: ☐ Client ☐ SunStar Courier ☒ GSO ☐ FedEx ☐ Other

If Courier, Received by: Date/Time Courier Received:

Lab Received by: SUNNY Date/Time Lab Received: 11-15-19 / 8:34

Total number of coolers received: 1 Thermometer ID: SC-1 Calibration due : 6/27/20

Temperature:	Cooler #1 1.6	°C +/- the CF (+ 1.2°C)	= 2.8	°C corrected temperature
Temperature:	Cooler #2	°C +/- the CF (+ 1.2°C)	=	°C corrected temperature
Temperature:	Cooler #3	°C +/- the CF (+ 1.2°C)	=	°C corrected temperature
Temperature criteria = ≤ 6°C (no frozen containers)		Within criteria?	☒ **Yes**	☐ **No**
If NO:				
Samples received on ice?		☐ Yes	☐ **No → Complete Non-Conformance Sheet**	
If on ice, samples received same day collected?		☐ Yes → Acceptable	☐ **No → Complete Non-Conformance Sheet**	

Custody seals intact on cooler/sample	☒ Yes	☐ No*	☐ N/A
Sample containers intact	☒ Yes	☐ No*	
Sample labels match Chain of Custody IDs	☒ Yes	☐ No*	
Total number of containers received match COC	☒ Yes	☐ No*	
Proper containers received for analyses requested on COC	☒ Yes	☐ No*	
Proper preservative indicated on COC/containers for analyses requested	☐ Yes	☐ No*	☒ N/A
Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times	☒ **Yes**	☐ **No***	

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date: SL 11-15-19

Comments:

(949) 297-5020 ■ www.sunstarlabs.com ■ 25712 Commercentre Drive ■ Lake Forest, CA 92630

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T193979

Client:	**NV5**	**Project Manager:**	**Jeff Lee**
Project:	**Hamilton Union High School**	**Project Number:**	**70779.01.001.003**

Report To:
NV5
Heidi Cummings
48 Bellarmine Ct, Suite 40
Chico, CA 95928

Date Due:	11/22/19 17:00 (5 day TAT)		
Received By:	Sunny Lounethone	Date Received:	11/15/19 08:34
Logged In By:	Sunny Lounethone	Date Logged In:	11/15/19 11:17

Samples Received at:	**2.8°C**		
Custody Seals	Yes	Received On Ice	Yes
Containers Intact	Yes		
COC/Labels Agree	Yes		
Preservation Confiri	No		

Analysis	Due	TAT	Expires	Comments
T193979-01 A5D-0 [Soil] Sampled 11/12/19 12:20 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-02 A5D-0-CL [Soil] Sampled 11/12/19 12:30 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-03 B5D-0 [Soil] Sampled 11/12/19 12:45 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-04 B5D-0-CL [Soil] Sampled 11/12/19 12:50 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-05 C5D-0 [Soil] Sampled 11/12/19 13:00 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/10/20 13:00	As and Pb only
T193979-06 C5D-0-CL [Soil] Sampled 11/12/19 13:10 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-07 D5D-0 [Soil] Sampled 11/12/19 13:25 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T193979

Client:	**NV5**	**Project Manager:**	**Jeff Lee**
Project:	**Hamilton Union High School**	**Project Number:**	**70779.01.001.003**

Analysis	Due	TAT	Expires	Comments
T193979-08 D5D-0-CL [Soil] Sampled 11/12/19 13:30 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-09 ABCD5C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A5D-0, B5D-0, C5D-0, D5D-0)**
8081 Pesticides	11/22/19 15:00	5	11/26/19 00:00	Chlorodane and Technical Chlorodane
T193979-10 ABCD5C-0-CL [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A5D-0-CL, B5D-0-CL, C5D-0-CL, D5D-0-CL)**
8081 Pesticides	11/22/19 15:00	5	11/26/19 00:00	Chlorodane and Technical Chlorodane
T193979-11 A6D-0 [Soil] Sampled 11/12/19 13:55 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-12 B6D-0 [Soil] Sampled 11/12/19 14:10 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-13 C6D-0 [Soil] Sampled 11/12/19 14:20 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-14 D6D-0 [Soil] Sampled 11/12/19 14:35 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-15 ABCD6C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A6D-0, B6D-0, C6D-0, D6D-0)**
8081 Pesticides	11/22/19 15:00	5	11/26/19 00:00	Chlorodane and Technical Chlorodane
T193979-16 A7D-0 [Soil] Sampled 11/12/19 14:45 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/10/20 14:45	As and Pb only
T193979-17 A7D-0-FR [Soil] Sampled 11/12/19 14:46 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-18 A7D-0-CL [Soil] Sampled 11/12/19 14:55 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/10/20 14:55	As and Pb only

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T193979

Client: NV5 | **Project Manager:** Jeff Lee
Project: Hamilton Union High School | **Project Number:** 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
T193979-19 B7D-0 [Soil] Sampled 11/12/19 15:05 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-20 B7D-0-FR [Soil] Sampled 11/12/19 15:06 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-21 C7D-0 [Soil] Sampled 11/12/19 15:15 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-22 C7D-0-FR [Soil] Sampled 11/12/19 15:16 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-23 D7D-0 [Soil] Sampled 11/12/19 15:30 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-24 D7D-0-FR [Soil] Sampled 11/12/19 15:31 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/10/20 15:31	As and Pb only
T193979-25 ABCD7C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A7D-0, B7D-0, C7D-0, D7D-0)**
8081 Pesticides	11/22/19 15:00	5	11/26/19 00:00	Chlorodane and Technical Chlorodane
T193979-26 ABCD7C-0-FR [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A7D-0-FR, B7D-0-FR, C7D-0-FR, D7D-0-FR)**
8081 Pesticides	11/22/19 15:00	5	11/26/19 00:00	Chlorodane and Technical Chlorodane
T193979-27 A8D-0 [Soil] Sampled 11/12/19 15:45 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-28 B8D-0 [Soil] Sampled 11/12/19 15:55 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-29 C8D-0 [Soil] Sampled 11/12/19 16:05 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/10/20 16:05	As and Pb only

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T193979

Client:	**NV5**	**Project Manager:**	**Jeff Lee**
Project:	**Hamilton Union High School**	**Project Number:**	**70779.01.001.003**

Analysis	Due	TAT	Expires	Comments
T193979-30 D8D-0 [Soil] Sampled 11/12/19 16:15 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-31 ABCD8C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A8D-0, B8D-0, C8D-0, D8D-0)**
8081 Pesticides	11/22/19 15:00	5	11/26/19 00:00	Chlorodane and Technical Chlorodane

Reviewed By

Date

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

11 December 2019

Heidi Cummings
NV5
48 Bellarmine Ct, Suite 40
Chico, CA 95928

RE: Hamilton Union High School

Enclosed are the results of analyses for samples received by the laboratory on 11/15/19 08:34. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeff Lee
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
E2D-0	T193981-03	Soil	11/13/19 09:25	11/15/19 08:34
EF1EF2C-0	T193981-05	Soil	11/13/19 00:00	11/15/19 08:34
F3D-0	T193981-08	Soil	11/13/19 10:00	11/15/19 08:34
F3D-0-FR	T193981-10	Soil	11/13/19 10:01	11/15/19 08:34
EF3EF4C-0	T193981-15	Soil	11/13/19 00:00	11/15/19 08:34
EF3EF4C-0-CL	T193981-16	Soil	11/13/19 00:00	11/15/19 08:34
E5D-0	T193981-17	Soil	11/13/19 11:30	11/15/19 08:34
EFGH5C-0	T193981-21	Soil	11/13/19 00:00	11/15/19 08:34
H6D-0	T193981-25	Soil	11/13/19 13:10	11/15/19 08:34
EFGH6C-0	T193981-26	Soil	11/13/19 00:00	11/15/19 08:34
EB-2	T193981-27	Water	11/13/19 15:00	11/15/19 08:34
EB-3	T193981-28	Water	11/13/19 15:00	11/15/19 08:34
F7D-0	T193981-30	Soil	11/13/19 13:30	11/15/19 08:34
EFGH7C-0	T193981-33	Soil	11/13/19 00:00	11/15/19 08:34
H8D-0	T193981-40	Soil	11/13/19 15:25	11/15/19 08:34
EFGH8C-0	T193981-42	Soil	11/13/19 00:00	11/15/19 08:34
EFGH8C-0-CL	T193981-43	Soil	11/13/19 00:00	11/15/19 08:34

This report has been revised to report Arsenic under EPA 6020 instead of EPA 6010 to provide the lowest MDL value possible.
JL 12/11/19

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

DETECTIONS SUMMARY

Sample ID: E2D-0 **Laboratory ID:** T193981-03

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.92**	3.00	mg/kg	EPA 6010b	
Arsenic	**4.9**	0.25	mg/kg	6020 ICP-MS	

Sample ID: EF1EF2C-0 **Laboratory ID:** T193981-05

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**9.0**	5.0	ug/kg	EPA 8081A	

Sample ID: F3D-0 **Laboratory ID:** T193981-08

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.46**	3.00	mg/kg	EPA 6010b	
Arsenic	**5.5**	0.23	mg/kg	6020 ICP-MS	

Sample ID: F3D-0-FR **Laboratory ID:** T193981-10

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.42**	2.73	mg/kg	EPA 6010b	
Arsenic	**5.4**	0.23	mg/kg	6020 ICP-MS	

Sample ID: EF3EF4C-0 **Laboratory ID:** T193981-15

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**8.2**	5.0	ug/kg	EPA 8081A	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

Sample ID: EF3EF4C-0-CL **Laboratory ID:** T193981-16

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4′-DDE	**11**	5.0	ug/kg	EPA 8081A	

Sample ID: E5D-0 **Laboratory ID:** T193981-17

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.67**	3.00	mg/kg	EPA 6010b	
Arsenic	**6.0**	0.25	mg/kg	6020 ICP-MS	

Sample ID: EFGH5C-0 **Laboratory ID:** T193981-21

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4′-DDE	**7.7**	5.0	ug/kg	EPA 8081A	

Sample ID: H6D-0 **Laboratory ID:** T193981-25

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.90**	3.00	mg/kg	EPA 6010b	
Arsenic	**5.6**	0.25	mg/kg	6020 ICP-MS	

Sample ID: EFGH6C-0 **Laboratory ID:** T193981-26

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4′-DDE	**8.5**	5.0	ug/kg	EPA 8081A	

Sample ID: EB-2 **Laboratory ID:** T193981-27

Analyte	Result	Reporting Limit	Units	Method	Notes
Mercury	**0.022**	0.50	ug/l	EPA 7470A Water	J

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

Sample ID: EB-3 **Laboratory ID:** T193981-28

No Results Detected

Sample ID: F7D-0 **Laboratory ID:** T193981-30

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.17**	3.00	mg/kg	EPA 6010b	
Arsenic	**4.7**	0.25	mg/kg	6020 ICP-MS	

Sample ID: EFGH7C-0 **Laboratory ID:** T193981-33

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**8.3**	5.0	ug/kg	EPA 8081A	

Sample ID: H8D-0 **Laboratory ID:** T193981-40

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.84**	3.00	mg/kg	EPA 6010b	
Arsenic	**5.8**	0.25	mg/kg	6020 ICP-MS	

Sample ID: EFGH8C-0 **Laboratory ID:** T193981-42

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**6.6**	5.0	ug/kg	EPA 8081A	

Sample ID: EFGH8C-0-CL **Laboratory ID:** T193981-43

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**5.3**	5.0	ug/kg	EPA 8081A	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

E2D-0

T193981-03(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Metals by EPA 6010B										
Lead	**4.92**	0.967	3.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**4.9**	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

EF1EF2C-0

T193981-05(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**9.0**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*55.5 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*101 %*	*35-140*		*"*	*"*	*"*	*"*	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Lake Forest, California 92630
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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

F3D-0

T193981-08(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B										
Lead	**5.46**	0.967	3.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**5.5**	0.0023	0.23	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

F3D-0-FR

T193981-10(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B										
Lead	**5.42**	0.879	2.73	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**5.4**	0.0023	0.23	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	

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Lake Forest, California 92630
949.297.5020 Phone
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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

EF3EF4C-0

T193981-15(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**8.2**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*53.7 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*96.4 %*	*35-140*		*"*	*"*	*"*	*"*	

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

EF3EF4C-0-CL

T193981-16(Soil)

<u>SunStar Laboratories, Inc.</u>

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**11**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*82.7 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*85.1 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

E5D-0

T193981-17(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B										
Lead	**5.67**	0.967	3.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**6.0**	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

EFGH5C-0

T193981-21(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A										
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**7.7**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*68.6 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*97.8 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

H6D-0

T193981-25(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B										
Lead	**5.90**	0.967	3.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**5.6**	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

EFGH6C-0

T193981-26(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Organochlorine Pesticides by EPA Method 8081A										
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**8.5**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*65.5 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl			*93.1 %*	*35-140*		"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

EB-2

T193981-27(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Metals by EPA 6010B										
Antimony	ND	17	50	ug/l	1	9111527	11/15/19	11/19/19	EPA 6010b	
Silver	ND	24	50	"	"	"	"	"	"	
Arsenic	ND	17	50	"	"	"	"	"	"	
Barium	ND	13	50	"	"	"	"	"	"	
Beryllium	ND	18	50	"	"	"	"	"	"	
Cadmium	ND	21	50	"	"	"	"	"	"	
Chromium	ND	21	50	"	"	"	"	"	"	
Cobalt	ND	14	50	"	"	"	"	"	"	
Copper	ND	20	50	"	"	"	"	"	"	
Lead	ND	17	50	"	"	"	"	"	"	
Molybdenum	ND	14	50	"	"	"	"	"	"	
Nickel	ND	14	50	"	"	"	"	"	"	
Selenium	ND	19	50	"	"	"	"	"	"	
Thallium	ND	16	50	"	"	"	"	"	"	
Vanadium	ND	20	50	"	"	"	"	"	"	
Zinc	ND	17	50	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471										
Mercury	**0.022**	0.022	0.50	ug/l	1	9111529	11/15/19	11/20/19	EPA 7470A Water	J
Organochlorine Pesticides by EPA Method 8081A										
alpha-BHC	ND	0.04	1.00	ug/l	1	9111825	11/18/19	11/19/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.03	1.00	"	"	"	"	"	"	
beta-BHC	ND	0.05	1.00	"	"	"	"	"	"	
delta-BHC	ND	0.02	1.00	"	"	"	"	"	"	
Heptachlor	ND	0.04	1.00	"	"	"	"	"	"	
Aldrin	ND	0.02	1.00	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.04	1.00	"	"	"	"	"	"	
gamma-Chlordane	ND	0.05	1.00	"	"	"	"	"	"	
alpha-Chlordane	ND	0.03	1.00	"	"	"	"	"	"	
Endosulfan I	ND	0.02	1.00	"	"	"	"	"	"	
4,4´-DDE	ND	0.04	1.00	"	"	"	"	"	"	
Dieldrin	ND	0.03	1.00	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

EB-2

T193981-27(Water)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Endrin	ND	0.04	1.00	ug/l	1	9111825	11/18/19	11/19/19	EPA 8081A	
4,4´-DDD	ND	0.03	1.00	"	"	"	"	"	"	
Endosulfan II	ND	0.04	1.00	"	"	"	"	"	"	
4,4´-DDT	ND	0.06	1.00	"	"	"	"	"	"	
Endrin aldehyde	ND	0.02	1.00	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.05	1.00	"	"	"	"	"	"	
Methoxychlor	ND	0.03	1.00	"	"	"	"	"	"	
Endrin ketone	ND	0.05	1.00	"	"	"	"	"	"	
Chlordane (tech)	ND	1.00	10.0	"	"	"	"	"	"	
Toxaphene	ND	5.79	20.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*78.5 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*85.6 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

EB-3

T193981-28(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Metals by EPA 6010B										
Antimony	ND	17	50	ug/l	1	9111527	11/15/19	11/19/19	EPA 6010b	
Silver	ND	24	50	"	"	"	"	"	"	
Arsenic	ND	17	50	"	"	"	"	"	"	
Barium	ND	13	50	"	"	"	"	"	"	
Beryllium	ND	18	50	"	"	"	"	"	"	
Cadmium	ND	21	50	"	"	"	"	"	"	
Chromium	ND	21	50	"	"	"	"	"	"	
Cobalt	ND	14	50	"	"	"	"	"	"	
Copper	ND	20	50	"	"	"	"	"	"	
Lead	ND	17	50	"	"	"	"	"	"	
Molybdenum	ND	14	50	"	"	"	"	"	"	
Nickel	ND	14	50	"	"	"	"	"	"	
Selenium	ND	19	50	"	"	"	"	"	"	
Thallium	ND	16	50	"	"	"	"	"	"	
Vanadium	ND	20	50	"	"	"	"	"	"	
Zinc	ND	17	50	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471										
Mercury	ND	0.022	0.50	ug/l	1	9111529	11/15/19	11/20/19	EPA 7470A Water	
Organochlorine Pesticides by EPA Method 8081A										
alpha-BHC	ND	0.04	1.00	ug/l	1	9111825	11/18/19	11/19/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.03	1.00	"	"	"	"	"	"	
beta-BHC	ND	0.05	1.00	"	"	"	"	"	"	
delta-BHC	ND	0.02	1.00	"	"	"	"	"	"	
Heptachlor	ND	0.04	1.00	"	"	"	"	"	"	
Aldrin	ND	0.02	1.00	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.04	1.00	"	"	"	"	"	"	
gamma-Chlordane	ND	0.05	1.00	"	"	"	"	"	"	
alpha-Chlordane	ND	0.03	1.00	"	"	"	"	"	"	
Endosulfan I	ND	0.02	1.00	"	"	"	"	"	"	
4,4´-DDE	ND	0.04	1.00	"	"	"	"	"	"	
Dieldrin	ND	0.03	1.00	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

EB-3

T193981-28(Water)

<u>SunStar Laboratories, Inc.</u>

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Endrin	ND	0.04	1.00	ug/l	1	9111825	11/18/19	11/19/19	EPA 8081A	
4,4´-DDD	ND	0.03	1.00	"	"	"	"	"	"	
Endosulfan II	ND	0.04	1.00	"	"	"	"	"	"	
4,4´-DDT	ND	0.06	1.00	"	"	"	"	"	"	
Endrin aldehyde	ND	0.02	1.00	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.05	1.00	"	"	"	"	"	"	
Methoxychlor	ND	0.03	1.00	"	"	"	"	"	"	
Endrin ketone	ND	0.05	1.00	"	"	"	"	"	"	
Chlordane (tech)	ND	1.00	10.0	"	"	"	"	"	"	
Toxaphene	ND	5.79	20.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*75.5 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*85.8 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project:	Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number:	70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager:	Heidi Cummings	12/11/19 09:32

F7D-0

T193981-30(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			SunStar Laboratories, Inc.							
Metals by EPA 6010B										
Lead	**5.17**	0.967	3.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**4.7**	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

EFGH7C-0

T193981-33(Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**8.3**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*54.5 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*81.4 %*	*35-140*		*"*	*"*	*"*	*"*	

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

H8D-0

T193981-40(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B										
Lead	**5.84**	0.967	3.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Metals by EPA 6020 Method										
Arsenic	**5.8**	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

EFGH8C-0

T193981-42(Soil)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A										
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**6.6**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*82.1 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*104 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

EFGH8C-0-CL

T193981-43(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4´-DDE	**5.3**	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			*63.0 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl			*90.1 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111527 - EPA 3010A											
Blank (9111527-BLK1)					Prepared: 11/15/19 Analyzed: 11/19/19						
Antimony	ND	17	50	ug/l							
Silver	ND	24	50	"							
Arsenic	ND	17	50	"							
Barium	ND	13	50	"							
Beryllium	ND	18	50	"							
Cadmium	ND	21	50	"							
Chromium	ND	21	50	"							
Cobalt	ND	14	50	"							
Copper	ND	20	50	"							
Lead	ND	17	50	"							
Molybdenum	ND	14	50	"							
Nickel	ND	14	50	"							
Selenium	ND	19	50	"							
Thallium	ND	16	50	"							
Vanadium	ND	20	50	"							
Zinc	ND	17	50	"							
LCS (9111527-BS1)					Prepared: 11/15/19 Analyzed: 11/19/19						
Arsenic	525	17	50	ug/l	500		105	75-125			
Barium	538	13	50	"	500		108	75-125			
Cadmium	543	21	50	"	500		109	75-125			
Chromium	539	21	50	"	500		108	75-125			
Lead	525	17	50	"	500		105	75-125			
Batch 9111532 - EPA 3050B											
Blank (9111532-BLK1)					Prepared: 11/15/19 Analyzed: 11/18/19						
Arsenic	ND	0.800	5.00	mg/kg							
Lead	ND	0.967	3.00	"							

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111532 - EPA 3050B											
LCS (9111532-BS1)					Prepared: 11/15/19 Analyzed: 11/18/19						
Arsenic	97.4	0.800	5.00	mg/kg	100		97.4	75-125			
Lead	99.5	0.967	3.00	"	100		99.5	75-125			
Matrix Spike (9111532-MS1)		**Source: T193974-24**			Prepared: 11/15/19 Analyzed: 11/18/19						
Arsenic	73.0	0.800	5.00	mg/kg	99.0		73.7	75-125			QM-05
Lead	76.9	0.967	3.00	"	99.0		77.7	75-125			QM-05
Matrix Spike Dup (9111532-MSD1)		**Source: T193974-24**			Prepared: 11/15/19 Analyzed: 11/18/19						
Arsenic	66.9	0.800	5.00	mg/kg	93.5		71.6	75-125	8.64	20	QM-05
Lead	68.9	0.967	3.00	"	93.5		73.8	75-125	11.0	20	QM-05

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

Metals by EPA 6020 Method - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9121019 - EPA 3050B											
Blank (9121019-BLK1)					Prepared & Analyzed: 12/10/19						
Arsenic	ND	0.0025	0.25	mg/kg							
Thallium	ND	0.099	0.25	"							
LCS (9121019-BS1)					Prepared & Analyzed: 12/10/19						
Arsenic	25.9	0.0025	0.25	mg/kg	25.0		104	80-120			
Matrix Spike (9121019-MS1)		**Source: T193941-46**			Prepared & Analyzed: 12/10/19						
Arsenic	30.7	0.0025	0.25	mg/kg	24.8	5.81	101	75-125			
Matrix Spike Dup (9121019-MSD1)		**Source: T193941-46**			Prepared & Analyzed: 12/10/19						
Arsenic	29.1	0.0025	0.25	mg/kg	24.8	5.81	94.1	75-125	5.46	20	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

Cold Vapor Extraction EPA 7470/7471 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111529 - EPA 7470A Water											
Blank (9111529-BLK1)					Prepared: 11/15/19 Analyzed: 11/20/19						
Mercury	ND	0.022	0.50	ug/l							
LCS (9111529-BS1)					Prepared: 11/15/19 Analyzed: 11/20/19						
Mercury	4.42	0.022	0.50	ug/l	5.00		88.5	80-120			
Matrix Spike (9111529-MS1)		**Source: T193981-27**			Prepared: 11/15/19 Analyzed: 11/20/19						
Mercury	4.10	0.022	0.50	ug/l	5.00	ND	81.9	75-125			
Matrix Spike Dup (9111529-MSD1)		**Source: T193981-27**			Prepared: 11/15/19 Analyzed: 11/20/19						
Mercury	4.22	0.022	0.50	ug/l	5.00	ND	84.4	75-125	2.91	20	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111517 - EPA 3550 ECD/GCMS											
Blank (9111517-BLK1)					Prepared: 11/15/19 Analyzed: 11/18/19						
Surrogate: Tetrachloro-meta-xylene	*9.16*			*ug/kg*	*10.1*		*90.6*	*35-140*			
Surrogate: Decachlorobiphenyl	*14.3*			*"*	*10.1*		*141*	*35-140*			*S-GC*
alpha-BHC	ND	0.56	5.0	"							
gamma-BHC (Lindane)	ND	0.96	5.0	"							
beta-BHC	ND	1.4	5.0	"							
delta-BHC	ND	0.64	5.0	"							
Heptachlor	ND	0.59	5.0	"							
Aldrin	ND	0.66	5.0	"							
Heptachlor epoxide	ND	0.98	5.0	"							
gamma-Chlordane	ND	0.93	5.0	"							
alpha-Chlordane	ND	0.83	5.0	"							
Endosulfan I	ND	0.81	5.0	"							
4,4´-DDE	ND	0.78	5.0	"							
Dieldrin	ND	1.1	5.0	"							
Endrin	ND	1.1	5.0	"							
4,4´-DDD	ND	1.2	5.0	"							
Endosulfan II	ND	1.1	5.0	"							
4,4´-DDT	ND	0.80	5.0	"							
Endrin aldehyde	ND	1.7	5.0	"							
Endosulfan sulfate	ND	0.61	5.0	"							
Methoxychlor	ND	0.40	5.0	"							
Endrin ketone	ND	1.3	5.0	"							
Toxaphene	ND	5.8	20	"							
Chlordane (tech)	ND	5.0	50	"							
Chlordane (Total)	ND		5.0	"							
LCS (9111517-BS1)					Prepared: 11/15/19 Analyzed: 11/19/19						
Surrogate: Tetrachloro-meta-xylene	*10.0*			*ug/kg*	*10.1*		*99.2*	*35-140*			

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111517 - EPA 3550 ECD/GCMS											
LCS (9111517-BS1)					Prepared: 11/15/19 Analyzed: 11/19/19						
Surrogate: Decachlorobiphenyl	*11.0*			*ug/kg*	*10.1*		*109*	*35-140*			
gamma-BHC (Lindane)	43.0	0.96	5.0	"	40.4		106	40-120			
Heptachlor	43.2	0.59	5.0	"	40.4		107	40-120			
Aldrin	39.1	0.66	5.0	"	40.4		96.8	40-120			
Dieldrin	43.4	1.1	5.0	"	40.4		108	40-120			
Endrin	43.8	1.1	5.0	"	40.4		109	40-120			
4,4´-DDT	41.7	0.80	5.0	"	40.4		103	33-147			
LCS Dup (9111517-BSD1)					Prepared: 11/15/19 Analyzed: 11/19/19						
Surrogate: Tetrachloro-meta-xylene	*8.92*			*ug/kg*	*10.1*		*88.4*	*35-140*			
Surrogate: Decachlorobiphenyl	*12.1*			*"*	*10.1*		*120*	*35-140*			
gamma-BHC (Lindane)	41.5	0.96	5.0	"	40.4		103	40-120	3.54	30	
Heptachlor	42.8	0.59	5.0	"	40.4		106	40-120	0.838	30	
Aldrin	40.0	0.66	5.0	"	40.4		98.9	40-120	2.19	30	
Dieldrin	46.2	1.1	5.0	"	40.4		114	40-120	6.26	30	
Endrin	46.6	1.1	5.0	"	40.4		115	40-120	6.06	30	
4,4´-DDT	45.5	0.80	5.0	"	40.4		113	33-147	8.74	30	
Batch 9111825 - EPA 3510C GCMS/ECD											
Blank (9111825-BLK1)					Prepared: 11/18/19 Analyzed: 11/19/19						
Surrogate: Tetrachloro-meta-xylene	*0.823*			*ug/l*	*1.00*		*82.3*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.965*			*"*	*1.00*		*96.5*	*35-140*			
alpha-BHC	ND	0.04	1.00	"							
gamma-BHC (Lindane)	ND	0.03	1.00	"							
beta-BHC	ND	0.05	1.00	"							
delta-BHC	ND	0.02	1.00	"							
Heptachlor	ND	0.04	1.00	"							
Aldrin	ND	0.02	1.00	"							

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	Reported:
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111825 - EPA 3510C GCMS/ECD											
Blank (9111825-BLK1)					Prepared: 11/18/19 Analyzed: 11/19/19						
Heptachlor epoxide	ND	0.04	1.00	ug/l							
gamma-Chlordane	ND	0.05	1.00	"							
alpha-Chlordane	ND	0.03	1.00	"							
Endosulfan I	ND	0.02	1.00	"							
4,4´-DDE	ND	0.04	1.00	"							
Dieldrin	ND	0.03	1.00	"							
Endrin	ND	0.04	1.00	"							
4,4´-DDD	ND	0.03	1.00	"							
Endosulfan II	ND	0.04	1.00	"							
4,4´-DDT	ND	0.06	1.00	"							
Endrin aldehyde	ND	0.02	1.00	"							
Endosulfan sulfate	ND	0.05	1.00	"							
Methoxychlor	ND	0.03	1.00	"							
Endrin ketone	ND	0.05	1.00	"							
Chlordane (tech)	ND	1.00	10.0	"							
Toxaphene	ND	5.79	20.0	"							
LCS (9111825-BS1)					Prepared: 11/18/19 Analyzed: 11/19/19						
Surrogate: Tetrachloro-meta-xylene	*0.737*			*ug/l*	*1.00*		*73.7*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.928*			*"*	*1.00*		*92.8*	*35-140*			
gamma-BHC (Lindane)	3.79	0.03	1.00	"	4.00		94.6	40-120			
Heptachlor	3.79	0.04	1.00	"	4.00		94.7	40-120			
Aldrin	3.41	0.02	1.00	"	4.00		85.2	40-120			
Dieldrin	4.05	0.03	1.00	"	4.00		101	40-120			
Endrin	4.24	0.04	1.00	"	4.00		106	40-120			
4,4´-DDT	4.15	0.06	1.00	"	4.00		104	40-120			
LCS Dup (9111825-BSD1)					Prepared: 11/18/19 Analyzed: 11/19/19						
Surrogate: Tetrachloro-meta-xylene	*0.866*			*ug/l*	*1.00*		*86.6*	*35-140*			

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111825 - EPA 3510C GCMS/ECD											
LCS Dup (9111825-BSD1)					Prepared: 11/18/19 Analyzed: 11/19/19						
Surrogate: Decachlorobiphenyl	*0.978*			*ug/l*	*1.00*		*97.8*	*35-140*			
gamma-BHC (Lindane)	4.28	0.03	1.00	"	4.00		107	40-120	12.2	20	
Heptachlor	4.26	0.04	1.00	"	4.00		106	40-120	11.7	20	
Aldrin	3.96	0.02	1.00	"	4.00		99.0	40-120	15.0	20	
Dieldrin	4.45	0.03	1.00	"	4.00		111	40-120	9.33	20	
Endrin	4.59	0.04	1.00	"	4.00		115	40-120	7.84	20	
4,4´-DDT	4.42	0.06	1.00	"	4.00		110	40-120	6.31	20	

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	12/11/19 09:32

Notes and Definitions

S-GC	Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s).
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.
J	Detected but below the Standard Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the Method Detection Limit (MDL)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Chain of Custody Record

SunStar Laboratories
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: T193981 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers
E1D-0	11/13/2019	0850	SOIL	8 oz jar				01		1
F1D-0	11/13/2019	0900	SOIL	8 oz jar				02		1
E2D-0	11/13/2019	0925	SOIL	8 oz jar	X	X		03		1
F2D-0	11/13/2019	0915	SOIL	8 oz jar				04		1
							X	Lab to prepare EF1EF2C-0 as 4:1 composite of E1D-0, F1D-0, E2D-0 and F2D-0	05	
E3D-0	11/13/2019	0940	SOIL	8 oz jar				06		1
E3D-0-CL	11/13/2019	0945	SOIL	8 oz jar				07		1
F3D-0	11/13/2019	1000	SOIL	8 oz jar	X	X		08		1
F3D-0-CL	11/13/2019	1005	SOIL	8 oz jar				09		1
F3D-0-FR	11/13/2019	1001	SOIL	8 oz jar	X	X		10		1
E4D-0	11/13/2019	1050	SOIL	8 oz jar				11		1
E4D-0-CL	11/13/2019	1105	SOIL	8 oz jar				12		1
F4D-0	11/13/2019	1025	SOIL	8 oz jar				13		1
F4D-0-CL	11/13/2019	1035	SOIL	8 oz jar				14		1
							X	Lab to prepare EF3EF4C-0 as 4:1 composite of E3D-0, F3D-0, E4D-0 and F4D-0	~~0~~15	

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	11/14/19 1600	GSO	11/14/19 1600
GSO	11-15-19 8:34	[signature]	11-15-19 8:34

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 2.5°

Turn around time: 5 day

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: ~~T1938~~ T19398 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Title 22 Metals	Laboratory ID #	Comments/Preservative	Total # of containers	
							X			Lab to prepare EF3EF4C-0-CL as 4:1 composite of E3D-0-CL, F3D-0-CL, E4D-0-CL and F4D-0		16
E5D-0	11/13/2019	1130	SOIL	8 oz jar	X	X			17		1	
F5D-0	11/13/2019	1140	SOIL	8 oz jar					18		1	
G5D-0	11/13/2019	1155	SOIL	8 oz jar					19		1	
H5D-0	11/13/2019	1210	SOIL	8 oz jar					20		1	
							X			Lab to prepare EFGH5C-0 as 4:1 composite of E5D-0, F5D-0, G5D-0 and H5D-0	1	21
E6D-0	11/13/2019	1230	SOIL	8 oz jar					22		1	
F6D-0	11/13/2019	1240	SOIL	8 oz jar					23		1	
G6D-0	11/13/2019	1255	SOIL	8 oz jar					24		1	
H6D-0	11/13/2019	1310	SOIL	8 oz jar	X	X			25		1	
							X			Lab to prepare EFGH6C-0 as 4:1 composite of E6D-0, F6D-0, G6D-0 and H6D-0	1	26
EB-2	11/12/2019	1500	Water	Amber, plastic			X	X	27		2	
EB-3	11/13/2019	1500	Water	Amber, plastic			X	X	28		2	

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	11/14/19 1600	GSO	11/14/19 1600
GSO	11-15-19 8:34	[signature]	11-15-19 8:34

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 2.5°

Turn around time: **5 day**

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

Chain of Custody Record

SunStar Laboratories
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: T193981 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers
E7D-0	11/13/2019	1320	SOIL	8 oz jar				29		1
F7D-0	11/13/2019	1330	SOIL	8 oz jar	X	X		30		1
G7D-0	11/13/2019	1345	SOIL	8 oz jar				31		1
H7D-0	11/13/2019	1400	SOIL	8 oz jar				32		1
							X	Lab to prepare EFGH7C-0 as 4:1 composite of E7D-0, F7D-0, G7D-0 and H7D-0	33	
E8D-0	11/13/2019	1415	SOIL	8 oz jar				34		1
E8D-0-CL	11/13/2019	1425	SOIL	8 oz jar				35		1
F8D-0	11/13/2019	1435	SOIL	8 oz jar				36		1
F8D-0-CL	11/13/2019	1445	SOIL	8 oz jar				37		1
G8D-0	11/13/2019	1500	SOIL	8 oz jar				38		1
G8D-0-CL	11/13/2019	1510	SOIL	8 oz jar				39		1
H8D-0	11/13/2019	1525	SOIL	8 oz jar	X	X		40		1
H8D-0-CL	11/13/2019	1535	SOIL	8 oz jar				41		1
							X	Lab to prepare EFGH8C-0 as 4:1 composite of E8D-0, F8D-0, G8D-0 and H8D-0	42	
							X	Lab to prepare EFGH8C-0-CL as 4:1 composite of E8D-0-CL, F8D-0-CL, G8D-0-CL and H8D-0-CL	43	

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	11/14/19 1600	GSO	11/14/19 1600
GSO	11-15-19 8:34	[signature]	11-15-19 8:34

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 2.5°C

Turn around time: 5 day

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T193981

Client Name: NV5 Project: Hamilton Union High School

Delivered by: ☐ Client ☐ SunStar Courier ☒ GSO ☐ FedEx ☐ Other

If Courier, Received by: Date/Time Courier Received:

Lab Received by: Sunny Date/Time Lab Received: 11-15-19 / 8:34

Total number of coolers received: 1 Thermometer ID: SC-1 Calibration due : 6/27/20

Temperature:	Cooler #1 1.3	°C +/- the CF (+ 1.2°C)	= 2.5	°C corrected temperature
Temperature:	Cooler #2	°C +/- the CF (+ 1.2°C)	=	°C corrected temperature
Temperature:	Cooler #3	°C +/- the CF (+ 1.2°C)	=	°C corrected temperature

Temperature criteria = ≤ 6°C (no frozen containers) Within criteria? ☒ **Yes** ☐ **No**

If NO:

Samples received on ice? ☐ Yes ☐ **No →** **Complete Non-Conformance Sheet**

If on ice, samples received same day collected? ☐ Yes → Acceptable ☐ **No →** **Complete Non-Conformance Sheet**

Custody seals intact on cooler/sample	☒ Yes	☐ No*	☐ N/A
Sample containers intact	☒ Yes	☐ No*	
Sample labels match Chain of Custody IDs	☒ Yes	☐ No*	
Total number of containers received match COC	☒ Yes	☐ No*	
Proper containers received for analyses requested on COC	☒ Yes	☐ No*	
Proper preservative indicated on COC/containers for analyses requested	☐ Yes	☐ No*	☒ N/A
Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times	☒ **Yes**	☐ **No***	

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date: SL 11-15-19

Comments:

(949) 297-5020 ■ www.sunstarlabs.com ■ 25712 Commercentre Drive ■ Lake Forest, CA 92630

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Printed: 11/15/2019 2:08:50PM

WORK ORDER

T193981

Client: **NV5** — **Project Manager:** **Jeff Lee**
Project: **Hamilton Union High School** — **Project Number:** **70779.01.001.003**

Report To:
NV5
Heidi Cummings
48 Bellarmine Ct, Suite 40
Chico, CA 95928

Date Due: 11/22/19 17:00 (5 day TAT)
Received By: Sunny Lounethone — Date Received: 11/15/19 08:34
Logged In By: Sunny Lounethone — Date Logged In: 11/15/19 11:57

Samples Received at: **2.5°C**
Custody Seals Yes — Received On Ice Yes
Containers Intact Yes
COC/Labels Agree Yes
Preservation Confirı No

Analysis	Due	TAT	Expires	Comments
T193981-01 E1D-0 [Soil] Sampled 11/13/19 08:50 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-02 F1D-0 [Soil] Sampled 11/13/19 09:00 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-03 E2D-0 [Soil] Sampled 11/13/19 09:25 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 09:25	As and Pb only
T193981-04 F2D-0 [Soil] Sampled 11/13/19 09:15 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-05 EF1EF2C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (E1D-0, F1D-0, E2D-0, F2D-0)**
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	
T193981-06 E3D-0 [Soil] Sampled 11/13/19 09:40 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-07 E3D-0-CL [Soil] Sampled 11/13/19 09:45 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T193981

Client: NV5 **Project Manager:** Jeff Lee
Project: Hamilton Union High School **Project Number:** 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
T193981-08 F3D-0 [Soil] Sampled 11/13/19 10:00 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 10:00	As and Pb only
T193981-09 F3D-0-CL [Soil] Sampled 11/13/19 10:05 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-10 F3D-0-FR [Soil] Sampled 11/13/19 10:01 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 10:01	As and Pb only
T193981-11 E4D-0 [Soil] Sampled 11/13/19 10:50 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-12 E4D-0-CL [Soil] Sampled 11/13/19 11:05 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-13 F4D-0 [Soil] Sampled 11/13/19 10:25 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-14 F4D-0-CL [Soil] Sampled 11/13/19 10:35 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-15 EF3EF4C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (E3D-0, F3D-0, E4D-0, F4D-0)**
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	
T193981-16 EF3EF4C-0-CL [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (E3D-0-CL, F3D-0-CL, E4D-0-CL, F4D-0-CL)**
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	
T193981-17 E5D-0 [Soil] Sampled 11/13/19 11:30 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 11:30	As and Pb only
T193981-18 F5D-0 [Soil] Sampled 11/13/19 11:40 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T193981

Client:	**NV5**	**Project Manager:**	**Jeff Lee**
Project:	**Hamilton Union High School**	**Project Number:**	**70779.01.001.003**

Analysis	Due	TAT	Expires	Comments
T193981-19 G5D-0 [Soil] Sampled 11/13/19 11:55 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-20 H5D-0 [Soil] Sampled 11/13/19 12:10 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-21 EFGH5C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (E5D-0, F5D-0, G5D-0, H5D-0)**
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	
T193981-22 E6D-0 [Soil] Sampled 11/13/19 12:30 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-23 F6D-0 [Soil] Sampled 11/13/19 12:40 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-24 G6D-0 [Soil] Sampled 11/13/19 12:55 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-25 H6D-0 [Soil] Sampled 11/13/19 13:10 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 13:10	As and Pb only
T193981-26 EFGH6C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (E6D-0, F6D-0, G6D-0, H6D-0)**
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	
T193981-27 EB-2 [Water] Sampled 11/13/19 15:00 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/22/19 15:00	5	05/11/20 15:00	
8081 Pesticides	11/22/19 15:00	5	11/20/19 15:00	
T193981-28 EB-3 [Water] Sampled 11/13/19 15:00 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/22/19 15:00	5	05/11/20 15:00	
8081 Pesticides	11/22/19 15:00	5	11/20/19 15:00	

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T193981

Client: NV5 | **Project Manager:** Jeff Lee
Project: Hamilton Union High School | **Project Number:** 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
T193981-29 E7D-0 [Soil] Sampled 11/13/19 13:20 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-30 F7D-0 [Soil] Sampled 11/13/19 13:30 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 13:30	As and Pb only
T193981-31 G7D-0 [Soil] Sampled 11/13/19 13:45 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-32 H7D-0 [Soil] Sampled 11/13/19 14:00 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-33 EFGH7C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (E7D-0, F7D-0, G7D-0, H7D-0)**
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	
T193981-34 E8D-0 [Soil] Sampled 11/13/19 14:15 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-35 E8D-0-CL [Soil] Sampled 11/13/19 14:25 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-36 F8D-0 [Soil] Sampled 11/13/19 14:35 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-37 F8D-0-CL [Soil] Sampled 11/13/19 14:45 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-38 G8D-0 [Soil] Sampled 11/13/19 15:00 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-39 G8D-0-CL [Soil] Sampled 11/13/19 15:10 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				

SunStar Laboratories, Inc.
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WORK ORDER

T193981

Client: **NV5** | **Project Manager:** **Jeff Lee**
Project: **Hamilton Union High School** | **Project Number:** **70779.01.001.003**

Analysis	Due	TAT	Expires	Comments
T193981-40 H8D-0 [Soil] Sampled 11/13/19 15:25 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 15:25	As and Pb only
T193981-41 H8D-0-CL [Soil] Sampled 11/13/19 15:35 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-42 EFGH8C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (E8D-0, F8D-0, G8D-0, H8D-0)**
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	
T193981-43 EFGH8C-0-CL [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (E8D-0-CL, F8D-0-CL, G8D-0-CL, H8D-0-CL)**
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	

Analysis groups included in this work order

6010 Title 22

subgroup 6010B T22 7470/71 Hg

Reviewed By

Date

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

26 November 2019

Heidi Cummings
NV5
48 Bellarmine Ct, Suite 40
Chico, CA 95928

RE: Hamilton Union High School

Enclosed are the results of analyses for samples received by the laboratory on 11/20/19 08:42. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeff Lee
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.02	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/26/19 09:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AW-1	T194029-01	Water	11/19/19 14:40	11/20/19 08:42

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jeff Lee, Project Manager

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.02	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/26/19 09:54

DETECTIONS SUMMARY

Sample ID: AW-1 **Laboratory ID:** T194029-01

No Results Detected

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.02	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/26/19 09:54

AW-1
T194029-01 (Water)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	1.00	ug/l	1	9112032	11/20/19	11/25/19	EPA 8081A	
gamma-BHC (Lindane)	ND	1.00	"	"	"	"	"	"	
beta-BHC	ND	1.00	"	"	"	"	"	"	
delta-BHC	ND	1.00	"	"	"	"	"	"	
Heptachlor	ND	1.00	"	"	"	"	"	"	
Aldrin	ND	1.00	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.00	"	"	"	"	"	"	
gamma-Chlordane	ND	1.00	"	"	"	"	"	"	
alpha-Chlordane	ND	1.00	"	"	"	"	"	"	
Endosulfan I	ND	1.00	"	"	"	"	"	"	
4,4´-DDE	ND	1.00	"	"	"	"	"	"	
Dieldrin	ND	1.00	"	"	"	"	"	"	
Endrin	ND	1.00	"	"	"	"	"	"	
4,4´-DDD	ND	1.00	"	"	"	"	"	"	
Endosulfan II	ND	1.00	"	"	"	"	"	"	
4,4´-DDT	ND	1.00	"	"	"	"	"	"	
Endrin aldehyde	ND	1.00	"	"	"	"	"	"	
Endosulfan sulfate	ND	1.00	"	"	"	"	"	"	
Methoxychlor	ND	1.00	"	"	"	"	"	"	
Endrin ketone	ND	1.00	"	"	"	"	"	"	
Toxaphene	ND	20.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*80.3 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*99.7 %*	*35-140*		*"*	*"*	*"*	*"*	

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Jeff Lee, Project Manager

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.02	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/26/19 09:54

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9112032 - EPA 3510C GCMS/ECD										
Blank (9112032-BLK1)				Prepared: 11/20/19 Analyzed: 11/25/19						
alpha-BHC	ND	1.00	ug/l							
gamma-BHC (Lindane)	ND	1.00	"							
beta-BHC	ND	1.00	"							
delta-BHC	ND	1.00	"							
Heptachlor	ND	1.00	"							
Aldrin	ND	1.00	"							
Heptachlor epoxide	ND	1.00	"							
gamma-Chlordane	ND	1.00	"							
alpha-Chlordane	ND	1.00	"							
Endosulfan I	ND	1.00	"							
4,4´-DDE	ND	1.00	"							
Dieldrin	ND	1.00	"							
Endrin	ND	1.00	"							
4,4´-DDD	ND	1.00	"							
Endosulfan II	ND	1.00	"							
4,4´-DDT	ND	1.00	"							
Endrin aldehyde	ND	1.00	"							
Endosulfan sulfate	ND	1.00	"							
Methoxychlor	ND	1.00	"							
Endrin ketone	ND	1.00	"							
Toxaphene	ND	20.0	"							
Surrogate: Tetrachloro-meta-xylene	*ND*		*"*	*1.00*		*85.3*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.907*		*"*	*1.00*		*90.7*	*35-140*			
LCS (9112032-BS1)				Prepared: 11/20/19 Analyzed: 11/25/19						
gamma-BHC (Lindane)	3.33	1.00	ug/l	4.00		83.3	40-120			
Heptachlor	3.43	1.00	"	4.00		85.8	40-120			
Aldrin	3.11	1.00	"	4.00		77.7	40-120			
Dieldrin	3.61	1.00	"	4.00		90.2	40-120			
Endrin	3.73	1.00	"	4.00		93.2	40-120			
4,4´-DDT	3.80	1.00	"	4.00		95.1	40-120			
Surrogate: Tetrachloro-meta-xylene	*0.828*		*"*	*1.00*		*82.8*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.993*		*"*	*1.00*		*99.3*	*35-140*			

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.02	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/26/19 09:54

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9112032 - EPA 3510C GCMS/ECD										
LCS Dup (9112032-BSD1)				Prepared: 11/20/19 Analyzed: 11/25/19						
gamma-BHC (Lindane)	3.21	1.00	ug/l	4.00		80.3	40-120	3.72	20	
Heptachlor	3.23	1.00	"	4.00		80.8	40-120	5.97	20	
Aldrin	2.91	1.00	"	4.00		72.8	40-120	6.51	20	
Dieldrin	3.39	1.00	"	4.00		84.8	40-120	6.11	20	
Endrin	3.50	1.00	"	4.00		87.4	40-120	6.45	20	
4,4′-DDT	3.53	1.00	"	4.00		88.3	40-120	7.43	20	
Surrogate: Tetrachloro-meta-xylene	*0.769*		*"*	*1.00*		*76.9*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.963*		*"*	*1.00*		*96.3*	*35-140*			

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.02	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/26/19 09:54

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: NV5
Address: 48 Bellarmine Ct, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 111919 Page: 1 Of 1
Project Name: Hamilton Union High School
Collector: CWB / HJC Client Project #: 70779.02
Batch #: T19 4029 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	OCPs 8081			Laboratory ID #	Comments/Preservative	Total # of containers
AW-1	111919	1440	GW	1L AMBER											X			01		1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Heidi Cummings	111919/1600	GSO	111919/1600
GSO	11-20-19 8:42	[illegible]	11-20-19 8:42

Total # of containers
Chain of Custody seals Y/N/NA: Y
Seals intact? Y/N/NA: Y
Received good condition/cold: 2.4°C

Turn around time: 5 day

Notes: Please Return Ice Chest

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

COC 172870

Rev. 02 Date 07/19
Receiving Form 001

SunStar Laboratories

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T194029

Client Name: NVS

Project: Hamilton Union High School

Delivered by: ☐ Client ☐ SunStar Courier ☑ GSO ☐ FedEx ☐ Other

If Courier, Received by:

Date/Time Courier Received:

Lab Received by: Travis

Date/Time Lab Received: 11-20-19 8:42

Total number of coolers received: 1 Thermometer ID: SC-1 Calibration due : 6/27/20

Temperature: Cooler #1	1.2	°C +/- the CF (+ 1.2°C) =	2.4	°C corrected temperature
Temperature: Cooler #2		°C +/- the CF (+ 1.2°C) =		°C corrected temperature
Temperature: Cooler #3		°C +/- the CF (+ 1.2°C) =		°C corrected temperature

Temperature criteria = ≤ 6°C (no frozen containers) Within criteria? ☑ **Yes** ☐ **No**

If NO:

Samples received on ice? ☐ Yes ☐ **No → Complete Non-Conformance Sheet**

If on ice, samples received same day collected? ☐ Yes → Acceptable ☐ **No → Complete Non-Conformance Sheet**

Custody seals intact on cooler/sample	☑ Yes	☐ No*	☐ N/A
Sample containers intact	☑ Yes	☐ No*	
Sample labels match Chain of Custody IDs	☑ Yes	☐ No*	
Total number of containers received match COC	☑ Yes	☐ No*	
Proper containers received for analyses requested on COC	☑ Yes	☐ No*	
Proper preservative indicated on COC/containers for analyses requested	☐ Yes	☐ No*	☑ N/A
Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times	☑ **Yes**	☐ **No***	

* Complete Non-Conformance Receiving Sheet if checked

Cooler/Sample Review - Initials and date: TB 11-20-19

Comments:

(949) 297-5020 ■ www.sunstarlabs.com ■ 25712 Commercentre Drive ■ Lake Forest, CA 92630

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Printed: 11/20/2019 10:01:48AM

WORK ORDER

T194029

Client:	**NV5**	**Project Manager:**	**Jeff Lee**
Project:	**Hamilton Union High School**	**Project Number:**	**70779.02**

Report To:
NV5
Heidi Cummings
48 Bellarmine Ct, Suite 40
Chico, CA 95928

Date Due:	11/27/19 17:00 (5 day TAT)		
Received By:	Travis Berner	Date Received:	11/20/19 08:42
Logged In By:	Travis Berner	Date Logged In:	11/20/19 09:25

Samples Received at: **2.4°C**

Custody Seals	Yes	Received On Ice	Yes
Containers Intact	Yes		
COC/Labels Agree	Yes		
Preservation Confir	No		

Analysis	Due	TAT	Expires	Comments
T194029-01 AW-1 [Water] Sampled 11/19/19 14:40 (GMT-08:00) Pacific Time (US &				
8081 Pesticides	11/27/19 15:00	5	11/26/19 14:40	

Reviewed By

Date

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
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27 November 2019

Heidi Cummings
NV5
48 Bellarmine Ct, Suite 40
Chico, CA 95928

RE: Hamilton Union High School

Enclosed are the results of analyses for samples received by the laboratory on 11/13/19 08:27. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeff Lee
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A1D-0	T193941-01	Soil	11/12/19 08:30	11/13/19 08:27
C1D-0	T193941-03	Soil	11/12/19 08:50	11/13/19 08:27
C1D-0-CL	T193941-04	Soil	11/12/19 09:00	11/13/19 08:27
ABCD1C-0	T193941-06	Soil	11/12/19 00:00	11/13/19 08:27
ABCD2C-0	T193941-15	Soil	11/12/19 00:00	11/13/19 08:27
ABCD2C-0-FR	T193941-16	Soil	11/12/19 00:00	11/13/19 08:27
B3D-0	T193941-18	Soil	11/12/19 10:25	11/13/19 08:27
B3D-0-FR	T193941-19	Soil	11/12/19 10:26	11/13/19 08:27
D3D-0	T193941-21	Soil	11/12/19 11:00	11/13/19 08:27
ABCD3C-0	T193941-22	Soil	11/12/19 00:00	11/13/19 08:27
ABCD4C-0	T193941-27	Soil	11/12/19 00:00	11/13/19 08:27
HHS1D-2	T193941-28	Soil	11/11/19 08:30	11/13/19 08:27
HHS2D-2	T193941-29	Soil	11/11/19 09:15	11/13/19 08:27
HHS3D-2	T193941-30	Soil	11/11/19 10:15	11/13/19 08:27
HHS3D-2-FR	T193941-31	Soil	11/11/19 10:18	11/13/19 08:27
HHS4D-2	T193941-32	Soil	11/11/19 10:30	11/13/19 08:27
HHS5D-2	T193941-33	Soil	11/11/19 10:45	11/13/19 08:27
HHS5D-2-CL	T193941-34	Soil	11/11/19 10:55	11/13/19 08:27
HHS6D-2	T193941-35	Soil	11/11/19 11:30	11/13/19 08:27
HHS7D-2	T193941-36	Soil	11/11/19 12:25	11/13/19 08:27
HHS8D-2	T193941-37	Soil	11/11/19 13:30	11/13/19 08:27
PMT-E6D-0	T193941-38	Soil	11/11/19 15:05	11/13/19 08:27
PMT-E6D-0-CL	T193941-39	Soil	11/11/19 15:15	11/13/19 08:27
PMT-E6D-2	T193941-40	Soil	11/11/19 15:30	11/13/19 08:27
EB-1	T193941-41	Water	11/11/19 15:00	11/13/19 08:27
DD1D-0	T193941-42	Soil	11/11/19 13:40	11/13/19 08:27

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NV5	Project:	Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number:	70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager:	Heidi Cummings	11/27/19 11:23

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DD2D-0	T193941-43	Soil	11/11/19 13:45	11/13/19 08:27
DD2D-0-CL	T193941-44	Soil	11/11/19 13:50	11/13/19 08:27
DD3D-0	T193941-45	Soil	11/11/19 14:05	11/13/19 08:27
DD4D-0	T193941-46	Soil	11/11/19 14:10	11/13/19 08:27
DD4D-0-FR	T193941-47	Soil	11/11/19 14:15	11/13/19 08:27
DD5D-0	T193941-48	Soil	11/11/19 14:25	11/13/19 08:27
DD6D-0	T193941-49	Soil	11/11/19 14:35	11/13/19 08:27
DD7D-0	T193941-50	Soil	11/11/19 15:00	11/13/19 08:27

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

DETECTIONS SUMMARY

Sample ID: A1D-0 **Laboratory ID:** T193941-01

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.47**	3.00	mg/kg	EPA 6010b	

Sample ID: C1D-0 **Laboratory ID:** T193941-03

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.33**	3.00	mg/kg	EPA 6010b	

Sample ID: C1D-0-CL **Laboratory ID:** T193941-04

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.72**	3.00	mg/kg	EPA 6010b	

Sample ID: ABCD1C-0 **Laboratory ID:** T193941-06

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4′-DDE	**12**	5.0	ug/kg	EPA 8081A	

Sample ID: ABCD2C-0 **Laboratory ID:** T193941-15

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4′-DDE	**11**	5.0	ug/kg	EPA 8081A	

Sample ID: ABCD2C-0-FR **Laboratory ID:** T193941-16

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4′-DDE	**8.7**	5.0	ug/kg	EPA 8081A	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

Sample ID: B3D-0 **Laboratory ID:** T193941-18

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.67**	3.00	mg/kg	EPA 6010b	

Sample ID: B3D-0-FR **Laboratory ID:** T193941-19

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.28**	3.00	mg/kg	EPA 6010b	

Sample ID: D3D-0 **Laboratory ID:** T193941-21

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.54**	3.00	mg/kg	EPA 6010b	

Sample ID: ABCD3C-0 **Laboratory ID:** T193941-22

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4′-DDE	**9.8**	5.0	ug/kg	EPA 8081A	

Sample ID: ABCD4C-0 **Laboratory ID:** T193941-27

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4′-DDE	**7.6**	5.0	ug/kg	EPA 8081A	

Sample ID: HHS1D-2 **Laboratory ID:** T193941-28

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.32**	3.00	mg/kg	EPA 6010b	

Sample ID: HHS2D-2 **Laboratory ID:** T193941-29

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.35**	3.00	mg/kg	EPA 6010b	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

Sample ID: HHS3D-2 **Laboratory ID:** T193941-30

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.07**	3.00	mg/kg	EPA 6010b	

Sample ID: HHS3D-2-FR **Laboratory ID:** T193941-31

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**3.74**	3.00	mg/kg	EPA 6010b	

Sample ID: HHS4D-2 **Laboratory ID:** T193941-32

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**3.97**	3.00	mg/kg	EPA 6010b	

Sample ID: HHS5D-2 **Laboratory ID:** T193941-33

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**3.72**	3.00	mg/kg	EPA 6010b	

Sample ID: HHS5D-2-CL **Laboratory ID:** T193941-34

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.07**	3.00	mg/kg	EPA 6010b	

Sample ID: HHS6D-2 **Laboratory ID:** T193941-35

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.08**	3.00	mg/kg	EPA 6010b	

Sample ID: HHS7D-2 **Laboratory ID:** T193941-36

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**3.80**	3.00	mg/kg	EPA 6010b	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

Sample ID: HHS8D-2 **Laboratory ID:** T193941-37

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.22**	3.00	mg/kg	EPA 6010b	

Sample ID: PMT-E6D-0 **Laboratory ID:** T193941-38

No Results Detected

Sample ID: PMT-E6D-0-CL **Laboratory ID:** T193941-39

No Results Detected

Sample ID: PMT-E6D-2 **Laboratory ID:** T193941-40

No Results Detected

Sample ID: EB-1 **Laboratory ID:** T193941-41

No Results Detected

Sample ID: DD1D-0 **Laboratory ID:** T193941-42

Analyte	Result	Reporting Limit	Units	Method	Notes
C29-C40 (MORO)	**17**	10	mg/kg	EPA 8015B	
Barium	**70**	1.0	mg/kg	EPA 6010b	
Chromium	**40**	2.0	mg/kg	EPA 6010b	
Cobalt	**9.7**	2.0	mg/kg	EPA 6010b	
Copper	**23**	1.0	mg/kg	EPA 6010b	
Lead	**4.5**	3.0	mg/kg	EPA 6010b	
Nickel	**59**	2.0	mg/kg	EPA 6010b	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

Sample ID: DD1D-0 **Laboratory ID:** T193941-42

Analyte	Result	Reporting Limit	Units	Method	Notes
Vanadium	**28**	5.0	mg/kg	EPA 6010b	
Zinc	**52**	1.0	mg/kg	EPA 6010b	
4,4´-DDE	**9.3**	5.0	ug/kg	EPA 8081A	

Sample ID: DD2D-0 **Laboratory ID:** T193941-43

Analyte	Result	Reporting Limit	Units	Method	Notes
C29-C40 (MORO)	**17**	10	mg/kg	EPA 8015B	
Barium	**65**	1.0	mg/kg	EPA 6010b	
Chromium	**40**	2.0	mg/kg	EPA 6010b	
Cobalt	**9.2**	2.0	mg/kg	EPA 6010b	
Copper	**22**	1.0	mg/kg	EPA 6010b	
Lead	**4.7**	3.0	mg/kg	EPA 6010b	
Nickel	**56**	2.0	mg/kg	EPA 6010b	
Vanadium	**27**	5.0	mg/kg	EPA 6010b	
Zinc	**52**	1.0	mg/kg	EPA 6010b	
4,4´-DDE	**11**	5.0	ug/kg	EPA 8081A	

Sample ID: DD2D-0-CL **Laboratory ID:** T193941-44

Analyte	Result	Reporting Limit	Units	Method	Notes
C29-C40 (MORO)	**25**	10	mg/kg	EPA 8015B	
Barium	**65**	0.91	mg/kg	EPA 6010b	
Chromium	**37**	1.8	mg/kg	EPA 6010b	
Cobalt	**8.7**	1.8	mg/kg	EPA 6010b	
Copper	**21**	0.91	mg/kg	EPA 6010b	
Lead	**4.5**	2.7	mg/kg	EPA 6010b	
Nickel	**54**	1.8	mg/kg	EPA 6010b	
Vanadium	**26**	4.5	mg/kg	EPA 6010b	
Zinc	**52**	0.91	mg/kg	EPA 6010b	
4,4´-DDE	**12**	5.0	ug/kg	EPA 8081A	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

Sample ID: DD3D-0 **Laboratory ID:** T193941-45

Analyte	Result	Reporting Limit	Units	Method	Notes
C29-C40 (MORO)	**16**	10	mg/kg	EPA 8015B	
Barium	**62**	1.0	mg/kg	EPA 6010b	
Chromium	**35**	2.0	mg/kg	EPA 6010b	
Cobalt	**8.4**	2.0	mg/kg	EPA 6010b	
Copper	**20**	1.0	mg/kg	EPA 6010b	
Lead	**4.8**	3.0	mg/kg	EPA 6010b	
Nickel	**50**	2.0	mg/kg	EPA 6010b	
Vanadium	**25**	5.0	mg/kg	EPA 6010b	
Zinc	**51**	1.0	mg/kg	EPA 6010b	
4,4´-DDE	**21**	5.0	ug/kg	EPA 8081A	

Sample ID: DD4D-0 **Laboratory ID:** T193941-46

Analyte	Result	Reporting Limit	Units	Method	Notes
C29-C40 (MORO)	**30**	10	mg/kg	EPA 8015B	
Barium	**65**	1.0	mg/kg	EPA 6010b	
Chromium	**35**	2.0	mg/kg	EPA 6010b	
Cobalt	**9.1**	2.0	mg/kg	EPA 6010b	
Copper	**21**	1.0	mg/kg	EPA 6010b	
Lead	**5.2**	3.0	mg/kg	EPA 6010b	
Nickel	**52**	2.0	mg/kg	EPA 6010b	
Vanadium	**26**	5.0	mg/kg	EPA 6010b	
Zinc	**51**	1.0	mg/kg	EPA 6010b	
4,4´-DDE	**40**	5.0	ug/kg	EPA 8081A	

Sample ID: DD4D-0-FR **Laboratory ID:** T193941-47

Analyte	Result	Reporting Limit	Units	Method	Notes
C29-C40 (MORO)	**33**	10	mg/kg	EPA 8015B	
Barium	**64**	1.0	mg/kg	EPA 6010b	
Chromium	**35**	2.0	mg/kg	EPA 6010b	
Cobalt	**8.8**	2.0	mg/kg	EPA 6010b	
Copper	**21**	1.0	mg/kg	EPA 6010b	
Lead	**5.5**	3.0	mg/kg	EPA 6010b	
Nickel	**51**	2.0	mg/kg	EPA 6010b	

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Sample ID: DD4D-0-FR **Laboratory ID:** T193941-47

Analyte	Result	Reporting Limit	Units	Method	Notes
Vanadium	**25**	5.0	mg/kg	EPA 6010b	
Zinc	**56**	1.0	mg/kg	EPA 6010b	
4,4´-DDE	**36**	5.0	ug/kg	EPA 8081A	

Sample ID: DD5D-0 **Laboratory ID:** T193941-48

Analyte	Result	Reporting Limit	Units	Method	Notes
C29-C40 (MORO)	**26**	10	mg/kg	EPA 8015B	
Barium	**190**	4.0	mg/kg	EPA 6010b	RE-01
Chromium	**41**	2.0	mg/kg	EPA 6010b	
Cobalt	**9.8**	2.0	mg/kg	EPA 6010b	
Copper	**26**	1.0	mg/kg	EPA 6010b	
Lead	**6.4**	3.0	mg/kg	EPA 6010b	
Nickel	**59**	2.0	mg/kg	EPA 6010b	
Vanadium	**30**	5.0	mg/kg	EPA 6010b	
Zinc	**77**	1.0	mg/kg	EPA 6010b	

Sample ID: DD5D-0 **Laboratory ID:** T193941-48RE1

No Results Detected

Sample ID: DD6D-0 **Laboratory ID:** T193941-49

Analyte	Result	Reporting Limit	Units	Method	Notes
C13-C28 (DRO)	**11**	10	mg/kg	EPA 8015B	
C29-C40 (MORO)	**48**	10	mg/kg	EPA 8015B	
Barium	**200**	4.0	mg/kg	EPA 6010b	RE-01
Chromium	**40**	2.0	mg/kg	EPA 6010b	
Cobalt	**9.6**	2.0	mg/kg	EPA 6010b	
Copper	**25**	1.0	mg/kg	EPA 6010b	
Lead	**6.5**	3.0	mg/kg	EPA 6010b	
Nickel	**57**	2.0	mg/kg	EPA 6010b	
Vanadium	**29**	5.0	mg/kg	EPA 6010b	

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Sample ID: DD6D-0 **Laboratory ID:** T193941-49

Analyte	Result	Reporting Limit	Units	Method	Notes
Zinc	**81**	1.0	mg/kg	EPA 6010b	
4,4´-DDE	**14**	5.0	ug/kg	EPA 8081A	

Sample ID: DD7D-0 **Laboratory ID:** T193941-50

Analyte	Result	Reporting Limit	Units	Method	Notes
C13-C28 (DRO)	**10**	10	mg/kg	EPA 8015B	
C29-C40 (MORO)	**35**	10	mg/kg	EPA 8015B	
Barium	**190**	4.0	mg/kg	EPA 6010b	RE-01
Chromium	**38**	2.0	mg/kg	EPA 6010b	
Cobalt	**9.4**	2.0	mg/kg	EPA 6010b	
Copper	**22**	1.0	mg/kg	EPA 6010b	
Lead	**4.9**	3.0	mg/kg	EPA 6010b	
Nickel	**57**	2.0	mg/kg	EPA 6010b	
Vanadium	**28**	5.0	mg/kg	EPA 6010b	
Zinc	**58**	1.0	mg/kg	EPA 6010b	
4,4´-DDE	**43**	5.0	ug/kg	EPA 8081A	

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A1D-0

T193941-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Metals by EPA 6010B

Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Lead	**4.47**	3.00	"	"	"	"	"	"	

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C1D-0

T193941-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Lead	**4.33**	3.00	"	"	"	"	"	"	

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C1D-0-CL

T193941-04 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Lead	**4.72**	3.00	"	"	"	"	"	"	

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ABCD1C-0

T193941-06 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**12**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*126 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*107 %*	*35-140*		"	"	"	"	

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ABCD2C-0

T193941-15 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**11**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*118 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*128 %*	*35-140*		*"*	*"*	*"*	*"*	

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ABCD2C-0-FR

T193941-16 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**8.7**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*119 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*77.6 %*	*35-140*		*"*	*"*	*"*	*"*	

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B3D-0

T193941-18 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.					
Metals by EPA 6010B									
Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Lead	**4.67**	3.00	"	"	"	"	"	"	

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B3D-0-FR

T193941-19 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Lead	**4.28**	3.00	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

D3D-0

T193941-21 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Metals by EPA 6010B

Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Lead	**4.54**	3.00	"	"	"	"	"	"	

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ABCD3C-0

T193941-22 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**9.8**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*120 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*67.0 %*	*35-140*		*"*	*"*	*"*	*"*	

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

ABCD4C-0

T193941-27 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**7.6**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*116 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*74.3 %*	*35-140*		*"*	*"*	*"*	*"*	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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NV5	Project:	Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number:	70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager:	Heidi Cummings	11/27/19 11:23

HHS1D-2

T193941-28 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Lead	**4.32**	3.00	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

HHS2D-2

T193941-29 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.					
Metals by EPA 6010B									
Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Lead	**4.35**	3.00	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

HHS3D-2

T193941-30 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Lead	**4.07**	3.00	"	"	"	"	"	"	

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NV5	Project:	Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number:	70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager:	Heidi Cummings	11/27/19 11:23

HHS3D-2-FR

T193941-31 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Lead	**3.74**	3.00	"	"	"	"	"	"	

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48 Bellarmine Ct, Suite 40	Project Number:	70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager:	Heidi Cummings	11/27/19 11:23

HHS4D-2

T193941-32 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Lead	**3.97**	3.00	"	"	"	"	"	"	

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48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

HHS5D-2

T193941-33 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.					
Metals by EPA 6010B									
Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Lead	**3.72**	3.00	"	"	"	"	"	"	

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Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

HHS5D-2-CL

T193941-34 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Lead	**4.07**	3.00	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
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HHS6D-2

T193941-35 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			SunStar Laboratories, Inc.						
Metals by EPA 6010B									
Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Lead	**4.08**	3.00	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

HHS7D-2

T193941-36 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			SunStar Laboratories, Inc.						
Metals by EPA 6010B									
Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Lead	**3.80**	3.00	"	"	"	"	"	"	

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NV5	Project:	Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number:	70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager:	Heidi Cummings	11/27/19 11:23

HHS8D-2
T193941-37 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			SunStar Laboratories, Inc.						
Metals by EPA 6010B									
Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
Lead	**4.22**	3.00	"	"	"	"	"	"	

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PMT-E6D-0

T193941-38 (Soil)

SunStar Laboratories, Inc.

Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PCB-1016	ND	10	ug/kg	1	9111415	11/14/19	11/14/19	EPA 8082	
PCB-1221	ND	10	"	"	"	"	"	"	
PCB-1232	ND	10	"	"	"	"	"	"	
PCB-1242	ND	10	"	"	"	"	"	"	
PCB-1248	ND	10	"	"	"	"	"	"	
PCB-1254	ND	10	"	"	"	"	"	"	
PCB-1260	ND	10	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*76.8 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*75.2 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

PMT-E6D-0-CL

T193941-39 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polychlorinated Biphenyls by EPA Method 8082									
PCB-1016	ND	10	ug/kg	1	9111415	11/14/19	11/14/19	EPA 8082	
PCB-1221	ND	10	"	"	"	"	"	"	
PCB-1232	ND	10	"	"	"	"	"	"	
PCB-1242	ND	10	"	"	"	"	"	"	
PCB-1248	ND	10	"	"	"	"	"	"	
PCB-1254	ND	10	"	"	"	"	"	"	
PCB-1260	ND	10	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*88.1 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*102 %*	*35-140*		"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

PMT-E6D-2

T193941-40 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polychlorinated Biphenyls by EPA Method 8082									
PCB-1016	ND	10	ug/kg	1	9111415	11/14/19	11/14/19	EPA 8082	
PCB-1221	ND	10	"	"	"	"	"	"	
PCB-1232	ND	10	"	"	"	"	"	"	
PCB-1242	ND	10	"	"	"	"	"	"	
PCB-1248	ND	10	"	"	"	"	"	"	
PCB-1254	ND	10	"	"	"	"	"	"	
PCB-1260	ND	10	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*87.3 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*119 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

EB-1

T193941-41 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			SunStar Laboratories, Inc.						
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	50	ug/l	1	9111347	11/13/19	11/14/19	EPA 8015B	
C13-C28 (DRO)	ND	50	"	"	"	"	"	"	
C29-C40 (MORO)	ND	100	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*115 %*	*65-135*		*"*	*"*	*"*	*"*	
Metals by EPA 6010B									
Antimony	ND	50	ug/l	1	9111354	11/13/19	11/15/19	EPA 6010b	
Silver	ND	50	"	"	"	"	"	"	
Arsenic	ND	50	"	"	"	"	"	"	
Barium	ND	50	"	"	"	"	"	"	
Beryllium	ND	50	"	"	"	"	11/15/19	"	
Cadmium	ND	50	"	"	"	"	11/15/19	"	
Chromium	ND	50	"	"	"	"	"	"	
Cobalt	ND	50	"	"	"	"	"	"	
Copper	ND	50	"	"	"	"	"	"	
Lead	ND	50	"	"	"	"	"	"	
Molybdenum	ND	50	"	"	"	"	"	"	
Nickel	ND	50	"	"	"	"	"	"	
Selenium	ND	50	"	"	"	"	"	"	
Thallium	ND	50	"	"	"	"	"	"	
Vanadium	ND	50	"	"	"	"	"	"	
Zinc	ND	50	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.50	ug/l	1	9111355	11/13/19	11/15/19	EPA 7470A Water	

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EB-1

T193941-41 (Water)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	1.00	ug/l	1	9111344	11/13/19	11/13/19	EPA 8081A	
gamma-BHC (Lindane)	ND	1.00	"	"	"	"	"	"	
beta-BHC	ND	1.00	"	"	"	"	"	"	
delta-BHC	ND	1.00	"	"	"	"	"	"	
Heptachlor	ND	1.00	"	"	"	"	"	"	
Aldrin	ND	1.00	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.00	"	"	"	"	"	"	
gamma-Chlordane	ND	1.00	"	"	"	"	"	"	
alpha-Chlordane	ND	1.00	"	"	"	"	"	"	
Endosulfan I	ND	1.00	"	"	"	"	"	"	
4,4´-DDE	ND	1.00	"	"	"	"	"	"	
Dieldrin	ND	1.00	"	"	"	"	"	"	
Endrin	ND	1.00	"	"	"	"	"	"	
4,4´-DDD	ND	1.00	"	"	"	"	"	"	
Endosulfan II	ND	1.00	"	"	"	"	"	"	
4,4´-DDT	ND	1.00	"	"	"	"	"	"	
Endrin aldehyde	ND	1.00	"	"	"	"	"	"	
Endosulfan sulfate	ND	1.00	"	"	"	"	"	"	
Methoxychlor	ND	1.00	"	"	"	"	"	"	
Endrin ketone	ND	1.00	"	"	"	"	"	"	
Chlordane (tech)	ND	10.0	"	"	"	"	"	"	
Toxaphene	ND	20.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*61.2 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*77.7 %*	*35-140*		*"*	*"*	*"*	*"*	

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DD1D-0
T193941-42 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			SunStar Laboratories, Inc.						
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	**17**	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*106 %*	*65-135*		*"*	*"*	*"*	*"*	
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**70**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	11/15/19	"	
Cadmium	ND	2.0	"	"	"	"	11/15/19	"	
Chromium	**40**	2.0	"	"	"	"	"	"	
Cobalt	**9.7**	2.0	"	"	"	"	"	"	
Copper	**23**	1.0	"	"	"	"	"	"	
Lead	**4.5**	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	**59**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**28**	5.0	"	"	"	"	"	"	
Zinc	**52**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	

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Jeff Lee, Project Manager

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48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

DD1D-0

T193941-42 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**9.3**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*120 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*96.6 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

DD2D-0
T193941-43 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			SunStar Laboratories, Inc.						
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	**17**	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*111 %*	*65-135*		*"*	*"*	*"*	*"*	
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**65**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	**40**	2.0	"	"	"	"	"	"	
Cobalt	**9.2**	2.0	"	"	"	"	"	"	
Copper	**22**	1.0	"	"	"	"	"	"	
Lead	**4.7**	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	**56**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**27**	5.0	"	"	"	"	"	"	
Zinc	**52**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

DD2D-0

T193941-43 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**11**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*112 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*69.0 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	**Reported:** 11/27/19 11:23

DD2D-0-CL
T193941-44 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.					
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	**25**	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*111 %*	*65-135*		*"*	*"*	*"*	*"*	
Metals by EPA 6010B									
Antimony	ND	2.7	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	1.8	"	"	"	"	"	"	
Arsenic	ND	4.5	"	"	"	"	"	"	
Barium	**65**	0.91	"	"	"	"	"	"	
Beryllium	ND	0.91	"	"	"	"	11/15/19	"	
Cadmium	ND	1.8	"	"	"	"	11/15/19	"	
Chromium	**37**	1.8	"	"	"	"	"	"	
Cobalt	**8.7**	1.8	"	"	"	"	"	"	
Copper	**21**	0.91	"	"	"	"	"	"	
Lead	**4.5**	2.7	"	"	"	"	"	"	
Molybdenum	ND	4.5	"	"	"	"	"	"	
Nickel	**54**	1.8	"	"	"	"	"	"	
Selenium	ND	4.5	"	"	"	"	"	"	
Thallium	ND	1.8	"	"	"	"	"	"	
Vanadium	**26**	4.5	"	"	"	"	"	"	
Zinc	**52**	0.91	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

DD2D-0-CL

T193941-44 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**12**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*106 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*57.7 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

DD3D-0

T193941-45 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	**16**	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*96.0 %*	*65-135*		*"*	*"*	*"*	*"*	
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**62**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	**35**	2.0	"	"	"	"	"	"	
Cobalt	**8.4**	2.0	"	"	"	"	"	"	
Copper	**20**	1.0	"	"	"	"	"	"	
Lead	**4.8**	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	**50**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**25**	5.0	"	"	"	"	"	"	
Zinc	**51**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

DD3D-0

T193941-45 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**21**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*117 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*112 %*	*35-140*		"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

DD4D-0

T193941-46 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			SunStar Laboratories, Inc.						
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	**30**	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*114 %*	*65-135*		*"*	*"*	*"*	*"*	
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**65**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	**35**	2.0	"	"	"	"	"	"	
Cobalt	**9.1**	2.0	"	"	"	"	"	"	
Copper	**21**	1.0	"	"	"	"	"	"	
Lead	**5.2**	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	**52**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**26**	5.0	"	"	"	"	"	"	
Zinc	**51**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

DD4D-0

T193941-46 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**40**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*116 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*89.6 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

DD4D-0-FR
T193941-47 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	**33**	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*112 %*	*65-135*		"	"	"	"	
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**64**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	11/15/19	"	
Cadmium	ND	2.0	"	"	"	"	11/15/19	"	
Chromium	**35**	2.0	"	"	"	"	"	"	
Cobalt	**8.8**	2.0	"	"	"	"	"	"	
Copper	**21**	1.0	"	"	"	"	"	"	
Lead	**5.5**	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	**51**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**25**	5.0	"	"	"	"	"	"	
Zinc	**56**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

DD4D-0-FR

T193941-47 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**36**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*114 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*81.8 %*	*35-140*		"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

DD5D-0

T193941-48 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C6-C12 (GRO)	ND	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	**26**	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*111 %*	*65-135*		*"*	*"*	*"*	*"*	

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Antimony	ND	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**190**	4.0	"	4	"	"	11/15/19	"	RE-01
Beryllium	ND	1.0	"	1	"	"	11/15/19	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	**41**	2.0	"	"	"	"	"	"	
Cobalt	**9.8**	2.0	"	"	"	"	"	"	
Copper	**26**	1.0	"	"	"	"	"	"	
Lead	**6.4**	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	**59**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**30**	5.0	"	"	"	"	"	"	
Zinc	**77**	1.0	"	"	"	"	"	"	

Cold Vapor Extraction EPA 7470/7471

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

DD5D-0

T193941-48RE1 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	5.0	ug/kg	1	9112036	11/20/19	11/26/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*109 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*104 %*	*35-140*		*"*	*"*	*"*	*"*	

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48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

DD6D-0

T193941-49 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	**11**	10	"	"	"	"	"	"	
C29-C40 (MORO)	**48**	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*117 %*	*65-135*		*"*	*"*	*"*	*"*	
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	2.0	"	"	"	"	11/15/19	"	
Arsenic	ND	5.0	"	"	"	"	11/15/19	"	
Barium	**200**	4.0	"	4	"	"	11/15/19	"	RE-01
Beryllium	ND	1.0	"	1	"	"	11/15/19	"	
Cadmium	ND	2.0	"	"	"	"	11/15/19	"	
Chromium	**40**	2.0	"	"	"	"	11/15/19	"	
Cobalt	**9.6**	2.0	"	"	"	"	11/15/19	"	
Copper	**25**	1.0	"	"	"	"	11/15/19	"	
Lead	**6.5**	3.0	"	"	"	"	11/15/19	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	**57**	2.0	"	"	"	"	11/15/19	"	
Selenium	ND	5.0	"	"	"	"	11/15/19	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**29**	5.0	"	"	"	"	11/15/19	"	
Zinc	**81**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

DD6D-0

T193941-49 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**14**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*116 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*106 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

DD7D-0

T193941-50 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			SunStar Laboratories, Inc.						
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	**10**	10	"	"	"	"	"	"	
C29-C40 (MORO)	**35**	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*119 %*	*65-135*		*"*	*"*	*"*	*"*	
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**190**	4.0	"	4	"	"	11/15/19	"	RE-01
Beryllium	ND	1.0	"	1	"	"	11/15/19	"	
Cadmium	ND	2.0	"	"	"	"	11/15/19	"	
Chromium	**38**	2.0	"	"	"	"	"	"	
Cobalt	**9.4**	2.0	"	"	"	"	"	"	
Copper	**22**	1.0	"	"	"	"	"	"	
Lead	**4.9**	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	**57**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**28**	5.0	"	"	"	"	"	"	
Zinc	**58**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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NV5	Project:	Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number:	70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager:	Heidi Cummings	11/27/19 11:23

DD7D-0

T193941-50 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**43**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*126 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*96.3 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

Extractable Petroleum Hydrocarbons by 8015B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111347 - EPA 3510C GC										
Blank (9111347-BLK1)				Prepared: 11/13/19 Analyzed: 11/14/19						
C6-C12 (GRO)	ND	50	ug/l							
C13-C28 (DRO)	ND	50	"							
C29-C40 (MORO)	ND	100	"							
Surrogate: p-Terphenyl	*5900*		*"*	*4000*		*147*	*65-135*			*S-13*
LCS (9111347-BS1)				Prepared: 11/13/19 Analyzed: 11/14/19						
C13-C28 (DRO)	19400	50	ug/l	20000		97.0	75-125			
Surrogate: p-Terphenyl	*4670*		*"*	*4000*		*117*	*65-135*			
LCS Dup (9111347-BSD1)				Prepared: 11/13/19 Analyzed: 11/14/19						
C13-C28 (DRO)	19100	50	ug/l	20000		95.3	75-125	1.76	20	
Surrogate: p-Terphenyl	*4820*		*"*	*4000*		*121*	*65-135*			
Batch 9111411 - EPA 3550B GC										
Blank (9111411-BLK1)				Prepared: 11/14/19 Analyzed: 11/15/19						
C6-C12 (GRO)	ND	10	mg/kg							
C13-C28 (DRO)	ND	10	"							
C29-C40 (MORO)	ND	10	"							
Surrogate: p-Terphenyl	*112*		*"*	*101*		*111*	*65-135*			
LCS (9111411-BS1)				Prepared: 11/14/19 Analyzed: 11/15/19						
C13-C28 (DRO)	510	10	mg/kg	505		102	75-125			
Surrogate: p-Terphenyl	*114*		*"*	*101*		*113*	*65-135*			
LCS Dup (9111411-BSD1)				Prepared: 11/14/19 Analyzed: 11/15/19						
C13-C28 (DRO)	500	10	mg/kg	505		99.7	75-125	1.88	20	
Surrogate: p-Terphenyl	*110*		*"*	*101*		*109*	*65-135*			

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111354 - EPA 3010A										
Blank (9111354-BLK1)				Prepared: 11/13/19 Analyzed: 11/14/19						
Antimony	ND	50	ug/l							
Silver	ND	50	"							
Arsenic	ND	50	"							
Barium	ND	50	"							
Beryllium	ND	50	"							
Cadmium	ND	50	"							
Chromium	ND	50	"							
Cobalt	ND	50	"							
Copper	ND	50	"							
Lead	ND	50	"							
Molybdenum	ND	50	"							
Nickel	ND	50	"							
Selenium	ND	50	"							
Thallium	ND	50	"							
Vanadium	ND	50	"							
Zinc	ND	50	"							
LCS (9111354-BS1)				Prepared: 11/13/19 Analyzed: 11/14/19						
Arsenic	503	50	ug/l	500		101	75-125			
Barium	511	50	"	500		102	75-125			
Cadmium	512	50	"	500		102	75-125			
Chromium	513	50	"	500		103	75-125			
Lead	509	50	"	500		102	75-125			
Matrix Spike (9111354-MS1)	**Source: T193930-01**			Prepared: 11/13/19 Analyzed: 11/14/19						
Arsenic	528	50	ug/l	500	ND	106	75-125			
Barium	662	50	"	500	170	98.4	75-125			QM-05
Cadmium	505	50	"	500	ND	101	75-125			
Chromium	507	50	"	500	ND	101	75-125			
Lead	494	50	"	500	ND	98.8	75-125			

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111354 - EPA 3010A										
Matrix Spike Dup (9111354-MSD1)	**Source: T193930-01**			Prepared: 11/13/19 Analyzed: 11/14/19						
Arsenic	529	50	ug/l	500	ND	106	75-125	0.209	20	
Barium	656	50	"	500	170	97.3	75-125	0.860	20	QM-05
Cadmium	498	50	"	500	ND	99.7	75-125	1.23	20	
Chromium	501	50	"	500	ND	100	75-125	1.28	20	
Lead	496	50	"	500	ND	99.1	75-125	0.352	20	
Batch 9111360 - EPA 3050B										
Blank (9111360-BLK1)				Prepared: 11/13/19 Analyzed: 11/14/19						
Antimony	ND	3.00	mg/kg							
Arsenic	ND	5.00	"							
Barium	ND	1.00	"							
Beryllium	ND	1.00	"							
Cadmium	ND	2.00	"							
Chromium	ND	2.00	"							
Cobalt	ND	2.00	"							
Copper	ND	1.00	"							
Lead	ND	3.00	"							
Molybdenum	ND	5.00	"							
Nickel	ND	2.00	"							
Selenium	ND	5.00	"							
Silver	ND	2.00	"							
Thallium	ND	2.00	"							
Vanadium	ND	5.00	"							
Zinc	ND	1.00	"							
LCS (9111360-BS1)				Prepared: 11/13/19 Analyzed: 11/14/19						
Arsenic	101	5.00	mg/kg	100		101	75-125			
Barium	102	1.00	"	100		102	75-125			
Cadmium	101	2.00	"	100		101	75-125			
Chromium	102	2.00	"	100		102	75-125			
Lead	101	3.00	"	100		101	75-125			

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111360 - EPA 3050B										
Matrix Spike (9111360-MS1)		**Source: T193921-01**		Prepared: 11/13/19 Analyzed: 11/14/19						
Arsenic	57.2	5.00	mg/kg	97.1	ND	58.9	75-125			QM-05
Barium	125	1.00	"	97.1	41.9	85.8	75-125			QM-05
Cadmium	56.6	2.00	"	97.1	0.155	58.1	75-125			QM-05
Chromium	62.6	2.00	"	97.1	3.62	60.8	75-125			QM-05
Lead	55.7	3.00	"	97.1	1.02	56.3	75-125			QM-05
Matrix Spike Dup (9111360-MSD1)		**Source: T193921-01**		Prepared: 11/13/19 Analyzed: 11/14/19						
Arsenic	62.0	5.00	mg/kg	97.1	ND	63.9	75-125	8.08	20	QM-05
Barium	133	1.00	"	97.1	41.9	93.4	75-125	5.71	20	QM-05
Cadmium	58.5	2.00	"	97.1	0.155	60.1	75-125	3.36	20	QM-05
Chromium	65.0	2.00	"	97.1	3.62	63.3	75-125	3.82	20	QM-05
Lead	59.5	3.00	"	97.1	1.02	60.3	75-125	6.65	20	QM-05
Batch 9111418 - EPA 3050B										
Blank (9111418-BLK1)				Prepared: 11/14/19 Analyzed: 11/15/19						
Antimony	ND	3.0	mg/kg							
Silver	ND	2.0	"							
Arsenic	ND	5.0	"							
Barium	ND	1.0	"							
Beryllium	ND	1.0	"							
Cadmium	ND	2.0	"							
Chromium	ND	2.0	"							
Cobalt	ND	2.0	"							
Copper	ND	1.0	"							
Lead	ND	3.0	"							
Molybdenum	ND	5.0	"							
Nickel	ND	2.0	"							
Selenium	ND	5.0	"							
Thallium	ND	2.0	"							
Vanadium	ND	5.0	"							
Zinc	ND	1.0	"							

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111418 - EPA 3050B										
LCS (9111418-BS1)				Prepared: 11/14/19 Analyzed: 11/15/19						
Arsenic	94.2	5.0	mg/kg	100		94.2	75-125			
Barium	94.4	1.0	"	100		94.4	75-125			
Cadmium	94.0	2.0	"	100		94.0	75-125			
Chromium	94.1	2.0	"	100		94.1	75-125			
Lead	94.8	3.0	"	100		94.8	75-125			
Matrix Spike (9111418-MS1)	**Source: T193941-42**			Prepared: 11/14/19 Analyzed: 11/15/19						
Arsenic	51.2	5.0	mg/kg	96.2	ND	53.2	75-125			QM-05
Barium	119	1.0	"	96.2	69.9	50.8	75-125			QM-05
Cadmium	49.8	2.0	"	96.2	0.532	51.2	75-125			QM-05
Chromium	92.4	2.0	"	96.2	40.3	54.2	75-125			QM-05
Lead	52.2	3.0	"	96.2	4.54	49.6	75-125			QM-05
Matrix Spike Dup (9111418-MSD1)	**Source: T193941-42**			Prepared: 11/14/19 Analyzed: 11/15/19						
Arsenic	55.3	5.0	mg/kg	98.0	ND	56.4	75-125	7.78	20	QM-05
Barium	121	1.0	"	98.0	69.9	52.3	75-125	2.05	20	QM-05
Cadmium	52.5	2.0	"	98.0	0.532	53.0	75-125	5.28	20	QM-05
Chromium	94.5	2.0	"	98.0	40.3	55.2	75-125	2.21	20	QM-05
Lead	55.7	3.0	"	98.0	4.54	52.1	75-125	6.34	20	QM-05

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Cold Vapor Extraction EPA 7470/7471 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111355 - EPA 7470A Water										
Blank (9111355-BLK1)				Prepared: 11/13/19 Analyzed: 11/15/19						
Mercury	ND	0.50	ug/l							
LCS (9111355-BS1)				Prepared: 11/13/19 Analyzed: 11/15/19						
Mercury	4.71	0.50	ug/l	5.00		94.2	80-120			
Matrix Spike (9111355-MS1)	**Source: T193930-01**			Prepared: 11/13/19 Analyzed: 11/15/19						
Mercury	4.60	0.50	ug/l	5.00	ND	92.0	75-125			
Matrix Spike Dup (9111355-MSD1)	**Source: T193930-01**			Prepared: 11/13/19 Analyzed: 11/15/19						
Mercury	4.56	0.50	ug/l	5.00	ND	91.1	75-125	0.939	20	
Batch 9111422 - EPA 7471A Soil										
Blank (9111422-BLK1)				Prepared: 11/14/19 Analyzed: 11/15/19						
Mercury	ND	0.10	mg/kg							
LCS (9111422-BS1)				Prepared: 11/14/19 Analyzed: 11/15/19						
Mercury	0.418	0.10	mg/kg	0.410		102	80-120			
Matrix Spike (9111422-MS1)	**Source: T193921-01**			Prepared: 11/14/19 Analyzed: 11/15/19						
Mercury	0.434	0.10	mg/kg	0.410	ND	106	75-125			
Matrix Spike Dup (9111422-MSD1)	**Source: T193921-01**			Prepared: 11/14/19 Analyzed: 11/15/19						
Mercury	0.415	0.10	mg/kg	0.397	ND	105	75-125	4.42	20	

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Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111344 - EPA 3510C GCMS/ECD										
Blank (9111344-BLK1)				Prepared & Analyzed: 11/13/19						
alpha-BHC	ND	1.00	ug/l							
gamma-BHC (Lindane)	ND	1.00	"							
beta-BHC	ND	1.00	"							
delta-BHC	ND	1.00	"							
Heptachlor	ND	1.00	"							
Aldrin	ND	1.00	"							
Heptachlor epoxide	ND	1.00	"							
gamma-Chlordane	ND	1.00	"							
alpha-Chlordane	ND	1.00	"							
Endosulfan I	ND	1.00	"							
4,4′-DDE	ND	1.00	"							
Dieldrin	ND	1.00	"							
Endrin	ND	1.00	"							
4,4′-DDD	ND	1.00	"							
Endosulfan II	ND	1.00	"							
4,4′-DDT	ND	1.00	"							
Endrin aldehyde	ND	1.00	"							
Endosulfan sulfate	ND	1.00	"							
Methoxychlor	ND	1.00	"							
Endrin ketone	ND	1.00	"							
Chlordane (tech)	ND	10.0	"							
Toxaphene	ND	20.0	"							
Surrogate: Tetrachloro-meta-xylene	*ND*		*"*	*1.00*		*69.0*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.836*		*"*	*1.00*		*83.6*	*35-140*			
LCS (9111344-BS1)				Prepared & Analyzed: 11/13/19						
gamma-BHC (Lindane)	4.01	1.00	ug/l	4.00		100	40-120			
Heptachlor	4.14	1.00	"	4.00		103	40-120			
Aldrin	3.66	1.00	"	4.00		91.4	40-120			
Dieldrin	4.03	1.00	"	4.00		101	40-120			
Endrin	4.21	1.00	"	4.00		105	40-120			
4,4′-DDT	4.15	1.00	"	4.00		104	40-120			
Surrogate: Tetrachloro-meta-xylene	*0.805*		*"*	*1.00*		*80.5*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.876*		*"*	*1.00*		*87.6*	*35-140*			

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48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111344 - EPA 3510C GCMS/ECD										
LCS Dup (9111344-BSD1)				Prepared & Analyzed: 11/13/19						
gamma-BHC (Lindane)	4.49	1.00	ug/l	4.00		112	40-120	11.3	20	
Heptachlor	4.56	1.00	"	4.00		114	40-120	9.72	20	
Aldrin	3.79	1.00	"	4.00		94.7	40-120	3.55	20	
Dieldrin	4.26	1.00	"	4.00		106	40-120	5.36	20	
Endrin	4.36	1.00	"	4.00		109	40-120	3.45	20	
4,4´-DDT	4.29	1.00	"	4.00		107	40-120	3.25	20	
Surrogate: Tetrachloro-meta-xylene	*0.892*		*"*	*1.00*		*89.2*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.793*		*"*	*1.00*		*79.3*	*35-140*			
Batch 9111350 - EPA 3550 ECD/GCMS										
Blank (9111350-BLK1)				Prepared: 11/13/19 Analyzed: 11/14/19						
alpha-BHC	ND	5.0	ug/kg							
gamma-BHC (Lindane)	ND	5.0	"							
beta-BHC	ND	5.0	"							
delta-BHC	ND	5.0	"							
Heptachlor	ND	5.0	"							
Aldrin	ND	5.0	"							
Heptachlor epoxide	ND	5.0	"							
gamma-Chlordane	ND	5.0	"							
alpha-Chlordane	ND	5.0	"							
Endosulfan I	ND	5.0	"							
4,4´-DDE	ND	5.0	"							
Dieldrin	ND	5.0	"							
Endrin	ND	5.0	"							
4,4´-DDD	ND	5.0	"							
Endosulfan II	ND	5.0	"							
4,4´-DDT	ND	5.0	"							
Endrin aldehyde	ND	5.0	"							
Endosulfan sulfate	ND	5.0	"							
Methoxychlor	ND	5.0	"							
Endrin ketone	ND	5.0	"							
Toxaphene	ND	20	"							
Chlordane (tech)	ND	50	"							
Chlordane (Total)	ND	5.0	"							
Surrogate: Tetrachloro-meta-xylene	*12.5*		*"*	*10.1*		*124*	*35-140*			

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48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111350 - EPA 3550 ECD/GCMS										
Blank (9111350-BLK1)				Prepared: 11/13/19 Analyzed: 11/14/19						
Surrogate: Decachlorobiphenyl	*13.2*		*ug/kg*	*10.1*		*131*	*35-140*			
LCS (9111350-BS1)				Prepared: 11/13/19 Analyzed: 11/14/19						
gamma-BHC (Lindane)	59.1	5.0	ug/kg	40.4		146	40-120			QM-12
Heptachlor	61.0	5.0	"	40.4		151	40-120			QM-12
Aldrin	54.1	5.0	"	40.4		134	40-120			QM-12
Dieldrin	58.9	5.0	"	40.4		146	40-120			QM-12
Endrin	60.4	5.0	"	40.4		149	40-120			QM-12
4,4´-DDT	53.5	5.0	"	40.4		132	33-147			
Surrogate: Tetrachloro-meta-xylene	*13.0*		*"*	*10.1*		*128*	*35-140*			
Surrogate: Decachlorobiphenyl	*10.6*		*"*	*10.1*		*105*	*35-140*			
LCS Dup (9111350-BSD1)				Prepared: 11/13/19 Analyzed: 11/14/19						
gamma-BHC (Lindane)	51.6	5.0	ug/kg	40.4		128	40-120	13.6	30	QM-12
Heptachlor	53.6	5.0	"	40.4		133	40-120	12.9	30	QM-12
Aldrin	47.1	5.0	"	40.4		117	40-120	13.8	30	QM-12
Dieldrin	52.2	5.0	"	40.4		129	40-120	12.0	30	QM-12
Endrin	53.1	5.0	"	40.4		132	40-120	12.8	30	QM-12
4,4´-DDT	48.4	5.0	"	40.4		120	33-147	9.93	30	
Surrogate: Tetrachloro-meta-xylene	*11.6*		*"*	*10.1*		*115*	*35-140*			
Surrogate: Decachlorobiphenyl	*10.5*		*"*	*10.1*		*104*	*35-140*			
Batch 9112036 - EPA 3550 ECD/GCMS										
Blank (9112036-BLK1)				Prepared: 11/20/19 Analyzed: 11/26/19						
alpha-BHC	ND	5.0	ug/kg							
gamma-BHC (Lindane)	ND	5.0	"							
beta-BHC	ND	5.0	"							
delta-BHC	ND	5.0	"							
Heptachlor	ND	5.0	"							
Aldrin	ND	5.0	"							
Heptachlor epoxide	ND	5.0	"							
gamma-Chlordane	ND	5.0	"							
alpha-Chlordane	ND	5.0	"							
Endosulfan I	ND	5.0	"							
4,4´-DDE	ND	5.0	"							

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48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
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Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9112036 - EPA 3550 ECD/GCMS										
Blank (9112036-BLK1)				Prepared: 11/20/19 Analyzed: 11/26/19						
Dieldrin	ND	5.0	ug/kg							
Endrin	ND	5.0	"							
4,4´-DDD	ND	5.0	"							
Endosulfan II	ND	5.0	"							
4,4´-DDT	ND	5.0	"							
Endrin aldehyde	ND	5.0	"							
Endosulfan sulfate	ND	5.0	"							
Methoxychlor	ND	5.0	"							
Endrin ketone	ND	5.0	"							
Toxaphene	ND	20	"							
Surrogate: Tetrachloro-meta-xylene	*11.5*		*"*	*10.0*		*115*	*35-140*			
Surrogate: Decachlorobiphenyl	*11.6*		*"*	*10.0*		*116*	*35-140*			*QM-14*
LCS (9112036-BS1)				Prepared: 11/20/19 Analyzed: 11/26/19						
gamma-BHC (Lindane)	48.8	5.0	ug/kg	40.0		122	40-120			QM-14
Heptachlor	53.3	5.0	"	40.0		133	40-120			QM-14
Aldrin	43.0	5.0	"	40.0		107	40-120			
Dieldrin	47.8	5.0	"	40.0		119	40-120			
Endrin	53.2	5.0	"	40.0		133	40-120			QM-14
4,4´-DDT	72.6	5.0	"	40.0		182	33-147			QM-14
Surrogate: Tetrachloro-meta-xylene	*11.5*		*"*	*10.0*		*115*	*35-140*			
Surrogate: Decachlorobiphenyl	*11.2*		*"*	*10.0*		*112*	*35-140*			
LCS Dup (9112036-BSD1)				Prepared: 11/20/19 Analyzed: 11/26/19						
gamma-BHC (Lindane)	51.1	5.0	ug/kg	40.0		128	40-120	4.69	30	QM-14
Heptachlor	54.3	5.0	"	40.0		136	40-120	1.87	30	QM-14
Aldrin	44.4	5.0	"	40.0		111	40-120	3.22	30	
Dieldrin	49.5	5.0	"	40.0		124	40-120	3.55	30	QM-14
Endrin	54.2	5.0	"	40.0		136	40-120	1.86	30	QM-14
4,4´-DDT	70.1	5.0	"	40.0		175	33-147	3.53	30	QM-14
Surrogate: Tetrachloro-meta-xylene	*11.9*		*"*	*10.0*		*119*	*35-140*			
Surrogate: Decachlorobiphenyl	*12.1*		*"*	*10.0*		*121*	*35-140*			

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
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Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111415 - EPA 3550 ECD/GCMS										
Blank (9111415-BLK1)				Prepared & Analyzed: 11/14/19						
PCB-1016	ND	10	ug/kg							
PCB-1221	ND	10	"							
PCB-1232	ND	10	"							
PCB-1242	ND	10	"							
PCB-1248	ND	10	"							
PCB-1254	ND	10	"							
PCB-1260	ND	10	"							
Surrogate: Tetrachloro-meta-xylene	*9.41*		*"*	*10.0*		*94.1*	*35-140*			
Surrogate: Decachlorobiphenyl	*10.1*		*"*	*10.0*		*101*	*35-140*			
LCS (9111415-BS1)				Prepared & Analyzed: 11/14/19						
PCB-1016	97.0	10	ug/kg	100		97.0	40-130			
PCB-1260	98.0	10	"	100		98.0	40-130			
Surrogate: Tetrachloro-meta-xylene	*8.88*		*"*	*10.0*		*88.8*	*35-140*			
Surrogate: Decachlorobiphenyl	*9.93*		*"*	*10.0*		*99.3*	*35-140*			
LCS Dup (9111415-BSD1)				Prepared & Analyzed: 11/14/19						
PCB-1016	92.6	10	ug/kg	100		92.6	40-130	4.59	30	
PCB-1260	91.2	10	"	100		91.2	40-130	7.24	30	
Surrogate: Tetrachloro-meta-xylene	*8.98*		*"*	*10.0*		*89.8*	*35-140*			
Surrogate: Decachlorobiphenyl	*9.79*		*"*	*10.0*		*97.9*	*35-140*			

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jeff Lee, Project Manager

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 11:23

Notes and Definitions

S-13	Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of surrogates in client samples and remaining QC including CCV.
RE-01	Sample contained analytes with concentrations above calibration limits and was rerun at a dilution.
QM-14	The LCS and LCSD were above acceptance criteria. The method blank and sample were ND for the analyte in question. The CCV was within acceptance criteria. No negative impact on data is expected.
QM-12	The % recovery for this analyte was above acceptance criteria in the LCS and/or LCSD. The MB and sample(s) were ND for the analyte. The CCV(s) was within acceptance criteria. No negative impact on data is expected.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/12/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: T193941 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers
									Ice Chest 1 of 2	
A1D-0	11/12/2019	0830	SOIL	8 oz jar	X	X		01		1
B1D-0	11/12/2019	0840	SOIL	8 oz jar				02		1
C1D-0	11/12/2019	0850	SOIL	8 oz jar	X	X		03		1
C1D-0-CL	11/12/2019	0900	SOIL	8 oz jar	X	X		04		1
D1D-0	11/12/2019	0905	SOIL	8 oz jar				05		1
ABCD1C-0	11/12/2019		SOIL	8 oz jar			X	06	Lab to prepare ABCD1C-0 as 4:1 composite of A1D-0, B1D-0, C1D-0 and D1D-0	1
A2D-0	11/12/2019	0920	SOIL	8 oz jar				07		1
A2D-0-FR	11/12/2019	0921	SOIL	8 oz jar				08		1
B2D-0	11/12/2019	0935	SOIL	8 oz jar				09		1
B-2D-0-FR	11/12/2019	0936	SOIL	8 oz jar				10		1
C2D-0	11/12/2019	0950	SOIL	8 oz jar				11		1
C-2D-0-FR	11/12/2019	0951	SOIL	8 oz jar				12		1
D2D-0	11/12/2019	1005	SOIL	8 oz jar				13		1
D-2D-0-FR	11/12/2019	1006	SOIL	8 oz jar				14		1
ABCD2C-0	11/12/2019						X	15	Lab to prepare ABCD2C-0 as 4:1 composite of A2D-0, B2D-0, C2D-0 and D2D-0	
ABCD2C-0-FR	11/12/2019						X	16	Lab to prepare ABCD2C-0-FR as 4:1 composite of A2D-0-FR, B2D-0-FR, C2D-0-FR and D2D-0-FR	

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Heidi Cummings	111219/1600	GSO	111219/1600
GSO	11-13-19 8:27	[signature]	11-13-19 8:27

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold

Turn around time: 5 day

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests
3.7C
3.0C

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/12/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: T193941 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative Ice Chest 1 of 2	Total # of containers
A3D-0	11/12/2019	1015	SOIL	8 oz jar				17		
B3D-0	11/12/2019	1025	SOIL	8 oz jar	X	X		18		
B3D-0-FR	11/12/2019	1026	SOIL	8 oz jar	X	X		19		
C3D-0	11/12/2019	1040	SOIL	8 oz jar				20		
D3D-0	11/12/2019	1100	SOIL	8 oz jar	X	X		21		
ABCD3C-0	11/12/2019		SOIL				X	22	Lab to prepare ABCD3C-0 as 4:1 composite of A3D-0, B3D-0, C3D-0 and D3D-0	
A4D-0	11/12/2019	1110	SOIL	8 oz jar				23		
B4D-0	11/12/2019	1120	SOIL	8 oz jar				24		
C4D-0	11/12/2019	1130	SOIL	8 oz jar				25		
D4D-0	11/12/2019	1140	SOIL	8 oz jar				26		
ABCD4C-0	11/12/2019		SOIL				X	27	Lab to prepare ABCD4C-0 as 4:1 composite of A4D-0, B4D-0, C4D-0 and D4D-0	

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Heidi Cummings	11/12/19/1600	GSO	11/12/19/1600
GSO	11.13.19 8:27	[signature]	11.13.19 8:27

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold

Turn around time: 5 day

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests
3.7°
3.0°

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/11/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: T193941 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	PCBS EAP 8082	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	TPH CARBON CHAIN EPA 8260/8015	Title 22 Metals EPA	Laboratory ID #	Comments/Preservative	Total # of containers
												Ice Chest 2 of 2	
HHS1D-2	11/11/2019	0830	SOIL	8 oz jar		X	X				28		1
HHS2D-2	11/11/2019	0915	SOIL	8 oz jar		X	X				29		1
HHS3D-2	11/11/2019	1015	SOIL	8 oz jar		X	X				30		1
HHS3D-2-FR	11/11/2019	1018	SOIL	8 oz jar		X	X				31		1
HHS4D-2	11/11/2019	1030	SOIL	8 oz jar		X	X				32		1
HHS5D-2	11/11/2019	1045	SOIL	8 oz jar		X	X				33		1
HHS5D-2-CL	11/11/2019	1055	SOIL	8 oz jar		X	X				34		1
HHS6D-2	11/11/2019	1130	SOIL	8 oz jar		X	X				35		1
HHS7D-2	11/11/2019	1225	SOIL	8 oz jar		X	X				36		1
HHS8D-2	11/11/2019	1330	SOIL	8 oz jar		X	X				37		1
PMT-E6D-0	11/11/2019	1505	SOIL	8 oz jar	X						38		1
PMT-E6D-0-CL	11/11/2019	1515	SOIL	8 oz jar	X						39		1
PMT-E6D-2	11/11/2019	1530	SOIL	8 oz jar	X						40		1
EB-1	11/11/2019	1500	W	POLY/AMBER/VOA				X	X	X	41		5

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Heidi Cummings	11/12/19/1600	GSO	11/12/19/1600
	GSO 11-13-19 8:27		11-13-19 8:27

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold

Turn around time: **5 day**

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests
3.7c
3.0c

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/11/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: T193941 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	PCBS EAP 8082	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	TPH CARBON CHAIN EPA 8260/8015	Title 22 Metals EPA								Laboratory ID #	Comments/Preservative	Total # of containers
DD1D-0	11/11/2019	1340	SOIL	8 oz jar				X	X	X								42	Ice Chest 2 of 2	1
DD2D-0	11/11/2019	1345	SOIL	8 oz jar				X	X	X								43		1
DD2D-0-CL	11/11/2019	1350	SOIL	8 oz jar				X	X	X								44		1
DD3D-0	11/11/2019	1405	SOIL	8 oz jar				X	X	X								45		1
DD4D-0	11/11/2019	1410	SOIL	8 oz jar				X	X	X								46		1
DD4D-0-FR	11/11/2019	1415	SOIL	8 oz jar				X	X	X								47		1
DD5D-0	11/11/2019	1425	SOIL	8 oz jar				X	X	X								48		1
DD6D-0	11/11/2019	1435	SOIL	8 oz jar				X	X	X								49		1
DD7D-0	11/11/2019	1500	SOIL	8 oz jar				X	X	X								50		1

Relinquished by: (signature) Heidi Cummings Date / Time 11/12/19 / 1600
Received by: (signature) GSO Date / Time 11/12/19 / 1600

Relinquished by: (signature) GSO Date / Time 11.13.19 8:27
Received by: (signature) Date / Time 11.13.19 8:27

Relinquished by: (signature) Date / Time
Received by: (signature) Date / Time

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold

Turn around time: 5 day

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests
3.7°C
3.0°C

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

Rev. 02 Date 07/19
Receiving Form 001

SunStar Laboratories

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T193941

Client Name: Holdrege & Kull - Chico   Project: Hamilton Union High School

Delivered by: ☐ Client ☐ SunStar Courier ☒ GSO ☐ FedEx ☐ Other

If Courier, Received by: ____   Date/Time Courier Received: ____

Lab Received by: Sunny   Date/Time Lab Received: 11.13.19 / 8:27

Total number of coolers received: 2   Thermometer ID: SC-1   Calibration due : 6/27/20

Temperature: Cooler #1	2.5	°C +/- the CF (+ 1.2°C) =	3.7	°C corrected temperature
Temperature: Cooler #2	1.8	°C +/- the CF (+ 1.2°C) =	3.0	°C corrected temperature
Temperature: Cooler #3		°C +/- the CF (+ 1.2°C) =		°C corrected temperature

Temperature criteria = ≤ 6°C (no frozen containers)   Within criteria? ☒ **Yes** ☐ **No**

If NO:

Samples received on ice? ☐ Yes   ☐ **No →** **Complete Non-Conformance Sheet**

If on ice, samples received same day collected? ☐ Yes → Acceptable   ☐ **No →** **Complete Non-Conformance Sheet**

Custody seals intact on cooler/sample	☒ Yes	☐ No*	☐ N/A
Sample containers intact	☒ Yes	☐ No*	
Sample labels match Chain of Custody IDs	☒ Yes	☐ No*	
Total number of containers received match COC	☒ Yes	☐ No*	
Proper containers received for analyses requested on COC	☒ Yes	☐ No*	
Proper preservative indicated on COC/containers for analyses requested	☒ Yes	☐ No*	☐ N/A
Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times	☒ **Yes**	☐ **No***	

* Complete Non-Conformance Receiving Sheet if checked   Cooler/Sample Review - Initials and date: SL 11.13.19

Comments:

(949) 297-5020 ■ www.sunstarlabs.com ■ 25712 Commercentre Drive ■ Lake Forest, CA 92630

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T193941

Client:	**NV5**	**Project Manager:**	**Jeff Lee**
Project:	**Hamilton Union High School**	**Project Number:**	**70779.01.001.003**

Report To:
NV5
Heidi Cummings
48 Bellarmine Ct, Suite 40
Chico, CA 95928

Date Due:	11/20/19 17:00 (5 day TAT)		
Received By:	Sunny Lounethone	Date Received:	11/13/19 08:27
Logged In By:	Sunny Lounethone	Date Logged In:	11/13/19 09:50

Samples Received at:	**3°C**		
Custody Seals	Yes	Received On Ice	Yes
Containers Intact	Yes		
COC/Labels Agree	Yes		
Preservation Confiri	Yes		

Analysis	Due	TAT	Expires	Comments
T193941-01 A1D-0 [Soil] Sampled 11/12/19 08:30 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 08:30	As and Pb only
T193941-02 B1D-0 [Soil] Sampled 11/12/19 08:40 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-03 C1D-0 [Soil] Sampled 11/12/19 08:50 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 08:50	As and Pb only
T193941-04 C1D-0-CL [Soil] Sampled 11/12/19 09:00 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 09:00	As and Pb only
T193941-05 D1D-0 [Soil] Sampled 11/12/19 09:05 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-06 ABCD1C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A1D-0, B1D-0, C1D-0, D1D-0)**
8081 Pesticides	11/20/19 15:00	5	11/26/19 00:00	
T193941-07 A2D-0 [Soil] Sampled 11/12/19 09:20 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T193941

Client: NV5 | **Project Manager:** Jeff Lee
Project: Hamilton Union High School | **Project Number:** 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
T193941-08 A2D-0FR [Soil] Sampled 11/12/19 09:21 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-09 B2D-0 [Soil] Sampled 11/12/19 09:35 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-10 B-2D-0-FR [Soil] Sampled 11/12/19 09:36 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-11 C2D-0 [Soil] Sampled 11/12/19 09:50 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-12 C-2D-0-FR [Soil] Sampled 11/12/19 09:51 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-13 D2D-0 [Soil] Sampled 11/12/19 10:05 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-14 D-2D-0-FR [Soil] Sampled 11/12/19 10:06 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-15 ABCD2C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A2D-0, B2D-0, C2D-0, D2D-0)**
8081 Pesticides	11/20/19 15:00	5	11/26/19 00:00	
T193941-16 ABCD2C-0-FR [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A2D-0-FR, B2D-0-FR, C2D-0-FR, D2D-0-FR)**
8081 Pesticides	11/20/19 15:00	5	11/26/19 00:00	
T193941-17 A3D-0 [Soil] Sampled 11/12/19 10:15 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-18 B3D-0 [Soil] Sampled 11/12/19 10:25 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 10:25	As and Pb only

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T193941

Client: NV5 **Project Manager:** Jeff Lee
Project: Hamilton Union High School **Project Number:** 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
T193941-19 B3D-0-FR [Soil] Sampled 11/12/19 10:26 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 10:26	As and Pb only
T193941-20 C3D-0 [Soil] Sampled 11/12/19 10:40 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-21 D3D-0 [Soil] Sampled 11/12/19 11:00 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 11:00	As and Pb only
T193941-22 ABCD3C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A3D-0, B3D-0, C3D-0, D3D-0)**
8081 Pesticides	11/20/19 15:00	5	11/26/19 00:00	
T193941-23 A4D-0 [Soil] Sampled 11/12/19 11:10 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-24 B4D-0 [Soil] Sampled 11/12/19 11:20 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-25 C4D-0 [Soil] Sampled 11/12/19 11:30 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-26 D4D-0 [Soil] Sampled 11/12/19 11:40 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193941-27 ABCD4C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A4D-0, B4D-0, C4D-0, D4D-0)**
8081 Pesticides	11/20/19 15:00	5	11/26/19 00:00	
T193941-28 HHS1D-2 [Soil] Sampled 11/11/19 08:30 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 08:30	As and Pb only
T193941-29 HHS2D-2 [Soil] Sampled 11/11/19 09:15 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 09:15	As and Pb only

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T193941

Client: NV5 **Project Manager:** Jeff Lee
Project: Hamilton Union High School **Project Number:** 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
T193941-30 HHS3D-2 [Soil] Sampled 11/11/19 10:15 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 10:15	As and Pb only
T193941-31 HHS3D-2-FR [Soil] Sampled 11/11/19 10:18 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 10:18	As and Pb only
T193941-32 HHS4D-2 [Soil] Sampled 11/11/19 10:30 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 10:30	As and Pb only
T193941-33 HHS5D-2 [Soil] Sampled 11/11/19 10:45 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 10:45	As and Pb only
T193941-34 HHS5D-2-CL [Soil] Sampled 11/11/19 10:55 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 10:55	As and Pb only
T193941-35 HHS6D-2 [Soil] Sampled 11/11/19 11:30 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 11:30	As and Pb only
T193941-36 HHS7D-2 [Soil] Sampled 11/11/19 12:25 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 12:25	As and Pb only
T193941-37 HHS8D-2 [Soil] Sampled 11/11/19 13:30 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 13:30	As and Pb only
T193941-38 PMT-E6D-0 [Soil] Sampled 11/11/19 15:05 (GMT-08:00) Pacific Time (US &				
8082 PCB	11/20/19 15:00	5	11/25/19 15:05	
T193941-39 PMT-E6D-0-CL [Soil] Sampled 11/11/19 15:15 (GMT-08:00) Pacific Time (US &				
8082 PCB	11/20/19 15:00	5	11/25/19 15:15	
T193941-40 PMT-E6D-2 [Soil] Sampled 11/11/19 15:30 (GMT-08:00) Pacific Time (US &				
8082 PCB	11/20/19 15:00	5	11/25/19 15:30	

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Printed: 11/13/2019 11:11:06AM

WORK ORDER

T193941

Client: NV5 **Project Manager:** Jeff Lee

Project: Hamilton Union High School **Project Number:** 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
T193941-41 EB-1 [Water] Sampled 11/11/19 15:00 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/20/19 15:00	5	05/09/20 15:00	
8015 TPH-CC LLvL	11/20/19 15:00	5	11/25/19 15:00	
8081 Pesticides	11/20/19 15:00	5	11/18/19 15:00	
T193941-42 DD1D-0 [Soil] Sampled 11/11/19 13:40 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/20/19 15:00	5	05/09/20 13:40	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 13:40	
8081 Pesticides	11/20/19 15:00	5	11/25/19 13:40	
T193941-43 DD2D-0 [Soil] Sampled 11/11/19 13:45 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/20/19 15:00	5	05/09/20 13:45	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 13:45	
8081 Pesticides	11/20/19 15:00	5	11/25/19 13:45	
T193941-44 DD2D-0-CL [Soil] Sampled 11/11/19 13:50 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/20/19 15:00	5	05/09/20 13:50	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 13:50	
8081 Pesticides	11/20/19 15:00	5	11/25/19 13:50	
T193941-45 DD3D-0 [Soil] Sampled 11/11/19 14:05 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/20/19 15:00	5	05/09/20 14:05	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 14:05	
8081 Pesticides	11/20/19 15:00	5	11/25/19 14:05	
T193941-46 DD4D-0 [Soil] Sampled 11/11/19 14:10 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/20/19 15:00	5	05/09/20 14:10	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 14:10	
8081 Pesticides	11/20/19 15:00	5	11/25/19 14:10	
T193941-47 DD4D-0-FR [Soil] Sampled 11/11/19 14:15 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/20/19 15:00	5	05/09/20 14:15	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 14:15	
8081 Pesticides	11/20/19 15:00	5	11/25/19 14:15	

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WORK ORDER

T193941

Client: NV5 **Project Manager:** Jeff Lee
Project: Hamilton Union High School **Project Number:** 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
T193941-48 DD5D-0 [Soil] Sampled 11/11/19 14:25 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/20/19 15:00	5	05/09/20 14:25	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 14:25	
8081 Pesticides	11/20/19 15:00	5	11/25/19 14:25	
T193941-49 DD6D-0 [Soil] Sampled 11/11/19 14:35 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/20/19 15:00	5	05/09/20 14:35	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 14:35	
8081 Pesticides	11/20/19 15:00	5	11/25/19 14:35	
T193941-50 DD7D-0 [Soil] Sampled 11/11/19 15:00 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/20/19 15:00	5	05/09/20 15:00	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 15:00	
8081 Pesticides	11/20/19 15:00	5	11/25/19 15:00	

Analysis groups included in this work order

6010 Title 22

subgroup 6010B T22 7470/71 Hg

Reviewed By

Date

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
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949.297.5020 Phone
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27 November 2019

Heidi Cummings
NV5
48 Bellarmine Ct, Suite 40
Chico, CA 95928

RE: Hamilton Union High School

Enclosed are the results of analyses for samples received by the laboratory on 11/15/19 08:34. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeff Lee
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 09:57

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C5D-0	T193979-05	Soil	11/12/19 13:00	11/15/19 08:34
ABCD5C-0	T193979-09	Soil	11/12/19 00:00	11/15/19 08:34
ABCD5C-0-CL	T193979-10	Soil	11/12/19 00:00	11/15/19 08:34
ABCD6C-0	T193979-15	Soil	11/12/19 00:00	11/15/19 08:34
A7D-0	T193979-16	Soil	11/12/19 14:45	11/15/19 08:34
A7D-0-CL	T193979-18	Soil	11/12/19 14:55	11/15/19 08:34
D7D-0	T193979-23	Soil	11/12/19 15:30	11/15/19 08:34
D7D-0-FR	T193979-24	Soil	11/12/19 15:31	11/15/19 08:34
ABCD7C-0	T193979-25	Soil	11/12/19 00:00	11/15/19 08:34
ABCD7C-0-FR	T193979-26	Soil	11/12/19 00:00	11/15/19 08:34
C8D-0	T193979-29	Soil	11/12/19 16:05	11/15/19 08:34
ABCD8C-0	T193979-31	Soil	11/12/19 00:00	11/15/19 08:34

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Jeff Lee, Project Manager

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 09:57

DETECTIONS SUMMARY

Sample ID: C5D-0 **Laboratory ID:** T193979-05

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.10**	3.00	mg/kg	EPA 6010b	

Sample ID: ABCD5C-0 **Laboratory ID:** T193979-09

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.0066**	0.0050	mg/kg	EPA 8081A	

Sample ID: ABCD5C-0-CL **Laboratory ID:** T193979-10

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.0070**	0.0050	mg/kg	EPA 8081A	

Sample ID: ABCD6C-0 **Laboratory ID:** T193979-15

No Results Detected

Sample ID: A7D-0 **Laboratory ID:** T193979-16

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.35**	3.00	mg/kg	EPA 6010b	

Sample ID: A7D-0-CL **Laboratory ID:** T193979-18

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.35**	3.00	mg/kg	EPA 6010b	

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Jeff Lee, Project Manager

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 09:57

Sample ID: D7D-0 **Laboratory ID:** T193979-23

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.75**	3.00	mg/kg	EPA 6010b	

Sample ID: D7D-0-FR **Laboratory ID:** T193979-24

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.61**	3.00	mg/kg	EPA 6010b	

Sample ID: ABCD7C-0 **Laboratory ID:** T193979-25

No Results Detected

Sample ID: ABCD7C-0-FR **Laboratory ID:** T193979-26

No Results Detected

Sample ID: C8D-0 **Laboratory ID:** T193979-29

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.95**	2.73	mg/kg	EPA 6010b	

Sample ID: ABCD8C-0 **Laboratory ID:** T193979-31

No Results Detected

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 09:57

C5D-0

T193979-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			SunStar Laboratories, Inc.						
Metals by EPA 6010B									
Arsenic	ND	5.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Lead	**5.10**	3.00	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 09:57

ABCD5C-0

T193979-09 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.0050	mg/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.0066**	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Chlordane (tech)	ND	0.050	"	"	"	"	"	"	
Chlordane (Total)	ND	0.0050	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*103 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*109 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 09:57

ABCD5C-0-CL

T193979-10 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.0070**	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Chlordane (tech)	ND	0.050	"	"	"	"	"	"	
Chlordane (Total)	ND	0.0050	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*89.0 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*113 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 09:57

ABCD6C-0

T193979-15 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4′-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4′-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4′-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Chlordane (tech)	ND	0.050	"	"	"	"	"	"	
Chlordane (Total)	ND	0.0050	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*85.9 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*93.9 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 09:57

A7D-0

T193979-16 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	ND	5.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Lead	**5.35**	3.00	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 09:57

A7D-0-CL

T193979-18 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	ND	5.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Lead	**5.35**	3.00	"	"	"	"	"	"	

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NV5	Project:	Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number:	70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager:	Heidi Cummings	11/27/19 09:57

D7D-0

T193979-23 (Soil)

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	ND	5.00	mg/kg	1	9112523	11/25/19	11/26/19	EPA 6010b	
Lead	**5.75**	3.00	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 09:57

D7D-0-FR

T193979-24 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	ND	5.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Lead	**5.61**	3.00	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 09:57

ABCD7C-0

T193979-25 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Chlordane (tech)	ND	0.050	"	"	"	"	"	"	
Chlordane (Total)	ND	0.0050	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*56.1 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*95.3 %*	*35-140*		*"*	*"*	*"*	*"*	

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 09:57

ABCD7C-0-FR

T193979-26 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Chlordane (tech)	ND	0.050	"	"	"	"	"	"	
Chlordane (Total)	ND	0.0050	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*43.3 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*83.0 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 09:57

C8D-0
T193979-29 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Arsenic	ND	4.55	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Lead	**4.95**	2.73	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 09:57

ABCD8C-0

T193979-31 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Chlordane (tech)	ND	0.050	"	"	"	"	"	"	
Chlordane (Total)	ND	0.0050	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*45.3 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*84.8 %*	*35-140*		*"*	*"*	*"*	*"*	

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Jeff Lee, Project Manager

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 09:57

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111532 - EPA 3050B										
Blank (9111532-BLK1)				Prepared: 11/15/19 Analyzed: 11/18/19						
Antimony	ND	3.00	mg/kg							
Arsenic	ND	5.00	"							
Barium	ND	1.00	"							
Beryllium	ND	1.00	"							
Cadmium	ND	2.00	"							
Chromium	ND	2.00	"							
Cobalt	ND	2.00	"							
Copper	ND	1.00	"							
Lead	ND	3.00	"							
Molybdenum	ND	5.00	"							
Nickel	ND	2.00	"							
Selenium	ND	5.00	"							
Silver	ND	2.00	"							
Thallium	ND	2.00	"							
Vanadium	ND	5.00	"							
Zinc	ND	1.00	"							
LCS (9111532-BS1)				Prepared: 11/15/19 Analyzed: 11/18/19						
Arsenic	97.4	5.00	mg/kg	100		97.4	75-125			
Barium	98.5	1.00	"	100		98.5	75-125			
Cadmium	98.5	2.00	"	100		98.5	75-125			
Chromium	98.3	2.00	"	100		98.3	75-125			
Lead	99.5	3.00	"	100		99.5	75-125			
Matrix Spike (9111532-MS1)	**Source: T193974-24**			Prepared: 11/15/19 Analyzed: 11/18/19						
Arsenic	73.0	5.00	mg/kg	99.0		73.7	75-125			QM-05
Barium	114	1.00	"	99.0		115	75-125			QM-05
Cadmium	70.4	2.00	"	99.0		71.1	75-125			QM-05
Chromium	82.1	2.00	"	99.0		82.9	75-125			QM-05
Lead	76.9	3.00	"	99.0		77.7	75-125			QM-05

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 09:57

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111532 - EPA 3050B										
Matrix Spike Dup (9111532-MSD1)	**Source: T193974-24**			Prepared: 11/15/19 Analyzed: 11/18/19						
Arsenic	66.9	5.00	mg/kg	93.5		71.6	75-125	8.64	20	QM-05
Barium	96.5	1.00	"	93.5		103	75-125	16.7	20	QM-05
Cadmium	63.8	2.00	"	93.5		68.2	75-125	9.89	20	QM-05
Chromium	72.8	2.00	"	93.5		77.9	75-125	11.9	20	QM-05
Lead	68.9	3.00	"	93.5		73.8	75-125	11.0	20	QM-05
Batch 9112523 - EPA 3050B										
Blank (9112523-BLK1)				Prepared: 11/25/19 Analyzed: 11/26/19						
Antimony	ND	3.00	mg/kg							
Arsenic	ND	5.00	"							
Barium	ND	1.00	"							
Beryllium	ND	1.00	"							
Cadmium	ND	2.00	"							
Chromium	ND	2.00	"							
Cobalt	ND	2.00	"							
Copper	ND	1.00	"							
Lead	ND	3.00	"							
Molybdenum	ND	5.00	"							
Nickel	ND	2.00	"							
Selenium	ND	5.00	"							
Silver	ND	2.00	"							
Thallium	ND	2.00	"							
Vanadium	ND	5.00	"							
Zinc	ND	1.00	"							
Aluminum	ND	10.0	"							
Manganese	ND	10.0	"							
Iron	ND	10.0	"							

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 09:57

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9112523 - EPA 3050B										
LCS (9112523-BS1)				Prepared: 11/25/19 Analyzed: 11/26/19						
Arsenic	95.8	5.00	mg/kg	100		95.8	75-125			
Barium	95.8	1.00	"	100		95.8	75-125			
Cadmium	95.7	2.00	"	100		95.7	75-125			
Chromium	95.5	2.00	"	100		95.5	75-125			
Lead	95.7	3.00	"	100		95.7	75-125			
Matrix Spike (9112523-MS1)	**Source: T193979-23**			Prepared: 11/25/19 Analyzed: 11/26/19						
Arsenic	61.3	5.00	mg/kg	93.5	ND	65.6	75-125			QM-05
Barium	140	1.00	"	93.5		149	75-125			QM-05
Cadmium	57.4	2.00	"	93.5		61.5	75-125			QM-05
Chromium	106	2.00	"	93.5		113	75-125			QM-05
Lead	59.0	3.00	"	93.5	5.75	57.0	75-125			QM-05
Matrix Spike Dup (9112523-MSD1)	**Source: T193979-23**			Prepared: 11/25/19 Analyzed: 11/26/19						
Arsenic	70.4	5.00	mg/kg	100	ND	70.4	75-125	13.7	20	QM-05
Barium	156	1.00	"	100		156	75-125	11.4	20	QM-05
Cadmium	66.6	2.00	"	100		66.6	75-125	14.7	20	QM-05
Chromium	121	2.00	"	100		121	75-125	13.4	20	QM-05
Lead	68.6	3.00	"	100	5.75	62.8	75-125	14.9	20	QM-05

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NV5	Project:	Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number:	70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager:	Heidi Cummings	11/27/19 09:57

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111517 - EPA 3550 ECD/GCMS										
Blank (9111517-BLK1)				Prepared: 11/15/19 Analyzed: 11/18/19						
alpha-BHC	ND	0.0050	mg/kg							
gamma-BHC (Lindane)	ND	0.0050	"							
beta-BHC	ND	0.0050	"							
delta-BHC	ND	0.0050	"							
Heptachlor	ND	0.0050	"							
Aldrin	ND	0.0050	"							
Heptachlor epoxide	ND	0.0050	"							
gamma-Chlordane	ND	0.0050	"							
alpha-Chlordane	ND	0.0050	"							
Endosulfan I	ND	0.0050	"							
4,4´-DDE	ND	0.0050	"							
Dieldrin	ND	0.0050	"							
Endrin	ND	0.0050	"							
4,4´-DDD	ND	0.0050	"							
Endosulfan II	ND	0.0050	"							
4,4´-DDT	ND	0.0050	"							
Endrin aldehyde	ND	0.0050	"							
Endosulfan sulfate	ND	0.0050	"							
Methoxychlor	ND	0.0050	"							
Endrin ketone	ND	0.0050	"							
Toxaphene	ND	0.020	"							
Chlordane (tech)	ND	0.050	"							
Chlordane (Total)	ND	0.0050	"							
Surrogate: Tetrachloro-meta-xylene	*0.00916*		*"*	*0.0101*		*90.6*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.0143*		*"*	*0.0101*		*141*	*35-140*			*S-GC*
LCS (9111517-BS1)				Prepared: 11/15/19 Analyzed: 11/19/19						
gamma-BHC (Lindane)	0.0430	0.0050	mg/kg	0.0404		106	40-120			
Heptachlor	0.0432	0.0050	"	0.0404		107	40-120			
Aldrin	0.0391	0.0050	"	0.0404		96.8	40-120			
Dieldrin	0.0434	0.0050	"	0.0404		108	40-120			
Endrin	0.0438	0.0050	"	0.0404		109	40-120			
4,4´-DDT	0.0417	0.0050	"	0.0404		103	33-147			
Surrogate: Tetrachloro-meta-xylene	*0.0100*		*"*	*0.0101*		*99.2*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.0110*		*"*	*0.0101*		*109*	*35-140*			

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 09:57

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111517 - EPA 3550 ECD/GCMS										
LCS Dup (9111517-BSD1)				Prepared: 11/15/19 Analyzed: 11/19/19						
gamma-BHC (Lindane)	0.0415	0.0050	mg/kg	0.0404		103	40-120	3.54	30	
Heptachlor	0.0428	0.0050	"	0.0404		106	40-120	0.838	30	
Aldrin	0.0400	0.0050	"	0.0404		98.9	40-120	2.19	30	
Dieldrin	0.0462	0.0050	"	0.0404		114	40-120	6.26	30	
Endrin	0.0466	0.0050	"	0.0404		115	40-120	6.06	30	
4,4´-DDT	0.0455	0.0050	"	0.0404		113	33-147	8.74	30	
Surrogate: Tetrachloro-meta-xylene	*0.00892*		*"*	*0.0101*		*88.4*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.0121*		*"*	*0.0101*		*120*	*35-140*			

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/27/19 09:57

Notes and Definitions

S-GC	Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s).
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

T193979

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers
A5D-0	11/12/2019	1220	SOIL	8 oz jar				01		1
A5D-0-CL	11/12/2019	1230	SOIL	8 oz jar				02		1
B5D-0	11/12/2019	1245	SOIL	8 oz jar				03		1
B5D-0-CL	11/12/2019	1250	SOIL	8 oz jar				04		1
C5D-0	11/12/2019	1300	SOIL	8 oz jar	X	X		05		1
C5D-0-CL	11/12/2019	1310	SOIL	8 oz jar				06		1
D5D-0	11/12/2019	1325	SOIL	8 oz jar				07		1
D5D-0-CL	11/12/2019	1330	SOIL	8 oz jar				08		1
							X	09	Lab to prepare ABCD5C-0 as 4:1 composite of A5D-0, B5D-0, C5D-0 and D5D-0	
							X	10	Lab to prepare ABCD5C-0-CL as 4:1 composite of A5D-0-CL, B5D-0-CL, C5D-0-CL and D5D-0-	
A6D-0	11/12/2019	1355	SOIL	8 oz jar				11		1
B6D-0	11/12/2019	1410	SOIL	8 oz jar				12		1
C6D-0	11/12/2019	1420	SOIL	8 oz jar				13		1
D6D-0	11/12/2019	1435	SOIL	8 oz jar				14		1
ABCD6C-0	11/12/2019		SOIL				X	15	Lab to prepare ABCD5C-0 as 4:1 composite of A5D-0, B5D-0, C5D-0 and D5D-0	

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[illegible]	11/14/19 1600	GSO	11/14/19 1600
GSO	11-15-19 8:34	[illegible]	11-15-19 8:34

Total # of containers	
Chain of Custody seals Y/N/NA	Y
Seals intact? Y/N/NA	Y
Received good condition/cold	2.8°C
Turn around time: 5 day	

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

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Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

REVISED

T193979

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers	
A5D-0	11/12/2019	1220	SOIL	8 oz jar				~~10~~	01	1	
A5D-0-CL	11/12/2019	1230	SOIL	8 oz jar				02		1	
B5D-0	11/12/2019	1245	SOIL	8 oz jar				03		1	
B5D-0-CL	11/12/2019	1250	SOIL	8 oz jar				04		1	
C5D-0	11/12/2019	1300	SOIL	8 oz jar	X	X		05		1	
C5D-0-CL	11/12/2019	1310	SOIL	8 oz jar				06		1	
D5D-0	11/12/2019	1325	SOIL	8 oz jar				07		1	
D5D-0-CL	11/12/2019	1330	SOIL	8 oz jar				08		1	
							X	Lab to prepare ABCD5C-0 as 4:1 composite of A5D-0, B5D-0, C5D-0 and D5D-0			09
							X	Lab to prepare ABCD5C-0-CL as 4:1 composite of A5D-0-CL, B5D-0-CL, C5D-0-CL and D5D-0-			10
A6D-0	11/12/2019	1355	SOIL	8 oz jar				11	CWB	1	
B6D-0	11/12/2019	1410	SOIL	8 oz jar				12		1	
C6D-0	11/12/2019	1420	SOIL	8 oz jar				13	6 6 6 6	1	
D6D-0	11/12/2019	1425	SOIL	8 oz jar				14		1	
ABCD6C-0	11/12/2019		SOIL				X	Lab to prepare ABCD6C-0 as 4:1 composite of A6D-0, B6D-0, C6D-0 and D6D-0			15

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	11/14/19 1600	GSO	11/14/19 1608
Relinquished by: (signature) GSO	11-15-19 8:34	Received by: (signature) [signature]	11-15-19 8:34
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 2.8C

Turn around time: 5 day

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

T193979

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers
A7D-0	11/12/2019	1445	SOIL	8 oz jar	X	X		16		1
A7D-0-FR	11/12/2019	1446	SOIL	8 oz jar				17		1
A7D-0-CL	11/12/2019	1455	SOIL	8 oz jar	X	X		18		1
B7D-0	11/12/2019	1505	SOIL	8 oz jar				19		1
B7D-0-FR	11/12/2019	1506	SOIL	8 oz jar				20		1
C7D-0	11/12/2019	1515	SOIL	8 oz jar				21		1
C7D-0-FR	11/12/2019	1516	SOIL	8 oz jar				22		1
D7D-0	11/12/2019	1530	SOIL	8 oz jar			cwb	23		1
D7D-0-FR	11/12/2019	1531	SOIL	8 oz jar	~~X~~	~~X~~		24		1
							X		Lab to prepare ABCD7C-0 as 4:1 composite of A7D-0, B7D-0, C7D-0 and D7D-0	25
							X		Lab to prepare ABCD7C-0-FR as 4:1 composite of A7D-0-FR, B7D-0-FR, C7D-0-FR and D7D-0	26

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	11/14/16 1600	GSO	11/14/16 1600
GSO	11-15-19 8:34	[signature]	11-15-19 8:34

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 2.8°C

Turn around time: **5 day**

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

Page ~~1~~ 3 of ~~1~~ 3

SunStar Laboratories
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Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

T193979

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers
A8D-0	11/12/2019	1545	SOIL	8 oz jar				27		1
B8D-0	11/12/2019	1555	SOIL	8 oz jar				28		1
C8D-0	11/12/2019	1605	SOIL	8 oz jar	X	X		29		1
D8D-0	11/12/2019	1615	SOIL	8 oz jar				30		1
							X	Lab to prepare ABCD8C-0 as 4:1 composite of A8D-0, B8D-0, C8D-0 and D8D-0		31

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	11/14/16 1600	GSO	11/14/16 1600
GSO	11-15-19 8:34	[signature]	11-15-19 8:34

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 2.8°C

Turn around time: 5 day

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories

Rev. 02 Date 07/19
Receiving Form 001

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T193979

Client Name: NV5 Project: HAMILTON UNION HIGH SCHOOL

Delivered by: ☐ Client ☐ SunStar Courier ☒ GSO ☐ FedEx ☐ Other

If Courier, Received by: Date/Time Courier Received:

Lab Received by: SUNNY Date/Time Lab Received: 11-15-19 / 8:34

Total number of coolers received: 1 Thermometer ID: SC-1 Calibration due : 6/27/20

Temperature:	Cooler #1	1.6 °C +/-	the CF (+ 1.2°C)	= 2.8	°C corrected temperature
Temperature:	Cooler #2	°C +/-	the CF (+ 1.2°C)	=	°C corrected temperature
Temperature:	Cooler #3	°C +/-	the CF (+ 1.2°C)	=	°C corrected temperature

Temperature criteria = ≤ 6°C (no frozen containers) Within criteria? ☒ **Yes** ☐ **No**

If NO:

Samples received on ice? ☐ Yes ☐ **No →** **Complete Non-Conformance Sheet**

If on ice, samples received same day collected? ☐ Yes → Acceptable ☐ **No →** **Complete Non-Conformance Sheet**

Custody seals intact on cooler/sample	☒ Yes	☐ No*	☐ N/A
Sample containers intact	☒ Yes	☐ No*	
Sample labels match Chain of Custody IDs	☒ Yes	☐ No*	
Total number of containers received match COC	☒ Yes	☐ No*	
Proper containers received for analyses requested on COC	☒ Yes	☐ No*	
Proper preservative indicated on COC/containers for analyses requested	☐ Yes	☐ No*	☒ N/A
Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times	☒ **Yes**	☐ **No***	

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date: SL 11-15-19

Comments:

(949) 297-5020 ■ www.sunstarlabs.com ■ 25712 Commercentre Drive ■ Lake Forest, CA 92630

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T193979

Client:	**NV5**	**Project Manager:**	**Jeff Lee**
Project:	**Hamilton Union High School**	**Project Number:**	**70779.01.001.003**

Report To:
NV5
Heidi Cummings
48 Bellarmine Ct, Suite 40
Chico, CA 95928

Date Due:	11/22/19 17:00 (5 day TAT)		
Received By:	Sunny Lounethone	Date Received:	11/15/19 08:34
Logged In By:	Sunny Lounethone	Date Logged In:	11/15/19 11:17

Samples Received at:	**2.8°C**		
Custody Seals	Yes	Received On Ice	Yes
Containers Intact	Yes		
COC/Labels Agree	Yes		
Preservation Confir	No		

Analysis	Due	TAT	Expires	Comments
T193979-01 A5D-0 [Soil] Sampled 11/12/19 12:20 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-02 A5D-0-CL [Soil] Sampled 11/12/19 12:30 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-03 B5D-0 [Soil] Sampled 11/12/19 12:45 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-04 B5D-0-CL [Soil] Sampled 11/12/19 12:50 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-05 C5D-0 [Soil] Sampled 11/12/19 13:00 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/10/20 13:00	As and Pb only
T193979-06 C5D-0-CL [Soil] Sampled 11/12/19 13:10 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-07 D5D-0 [Soil] Sampled 11/12/19 13:25 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Printed: 11/15/2019 11:55:30AM

WORK ORDER

T193979

Client: NV5 **Project Manager:** Jeff Lee
Project: Hamilton Union High School **Project Number:** 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
T193979-08 D5D-0-CL [Soil] Sampled 11/12/19 13:30 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-09 ABCD5C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A5D-0, B5D-0, C5D-0, D5D-0)**
8081 Pesticides	11/22/19 15:00	5	11/26/19 00:00	Chlorodane and Technical Chlorodane
T193979-10 ABCD5C-0-CL [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A5D-0-CL, B5D-0-CL, C5D-0-CL, D5D-0-CL)**
8081 Pesticides	11/22/19 15:00	5	11/26/19 00:00	Chlorodane and Technical Chlorodane
T193979-11 A6D-0 [Soil] Sampled 11/12/19 13:55 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-12 B6D-0 [Soil] Sampled 11/12/19 14:10 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-13 C6D-0 [Soil] Sampled 11/12/19 14:20 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-14 D6D-0 [Soil] Sampled 11/12/19 14:35 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-15 ABCD6C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A6D-0, B6D-0, C6D-0, D6D-0)**
8081 Pesticides	11/22/19 15:00	5	11/26/19 00:00	Chlorodane and Technical Chlorodane
T193979-16 A7D-0 [Soil] Sampled 11/12/19 14:45 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/10/20 14:45	As and Pb only
T193979-17 A7D-0-FR [Soil] Sampled 11/12/19 14:46 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-18 A7D-0-CL [Soil] Sampled 11/12/19 14:55 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/10/20 14:55	As and Pb only

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T193979

Client: NV5 | **Project Manager:** Jeff Lee
Project: Hamilton Union High School | **Project Number:** 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
T193979-19 B7D-0 [Soil] Sampled 11/12/19 15:05 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-20 B7D-0-FR [Soil] Sampled 11/12/19 15:06 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-21 C7D-0 [Soil] Sampled 11/12/19 15:15 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-22 C7D-0-FR [Soil] Sampled 11/12/19 15:16 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-23 D7D-0 [Soil] Sampled 11/12/19 15:30 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-24 D7D-0-FR [Soil] Sampled 11/12/19 15:31 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/10/20 15:31	As and Pb only
T193979-25 ABCD7C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A7D-0, B7D-0, C7D-0, D7D-0)**
8081 Pesticides	11/22/19 15:00	5	11/26/19 00:00	Chlorodane and Technical Chlorodane
T193979-26 ABCD7C-0-FR [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A7D-0-FR, B7D-0-FR, C7D-0-FR, D7D-0-FR)**
8081 Pesticides	11/22/19 15:00	5	11/26/19 00:00	Chlorodane and Technical Chlorodane
T193979-27 A8D-0 [Soil] Sampled 11/12/19 15:45 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-28 B8D-0 [Soil] Sampled 11/12/19 15:55 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-29 C8D-0 [Soil] Sampled 11/12/19 16:05 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/10/20 16:05	As and Pb only

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T193979

Client:	**NV5**	**Project Manager:**	**Jeff Lee**
Project:	**Hamilton Union High School**	**Project Number:**	**70779.01.001.003**

Analysis	Due	TAT	Expires	Comments
T193979-30 D8D-0 [Soil] Sampled 11/12/19 16:15 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193979-31 ABCD8C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (A8D-0, B8D-0, C8D-0, D8D-0)**
8081 Pesticides	11/22/19 15:00	5	11/26/19 00:00	Chlorodane and Technical Chlorodane

Reviewed By

Date

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

21 November 2019

Heidi Cummings

NV5

48 Bellarmine Ct, Suite 40

Chico, CA 95928

RE: Hamilton Union High School

Enclosed are the results of analyses for samples received by the laboratory on 11/15/19 08:34. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeff Lee

Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
E2D-0	T193981-03	Soil	11/13/19 09:25	11/15/19 08:34
EF1EF2C-0	T193981-05	Soil	11/13/19 00:00	11/15/19 08:34
F3D-0	T193981-08	Soil	11/13/19 10:00	11/15/19 08:34
F3D-0-FR	T193981-10	Soil	11/13/19 10:01	11/15/19 08:34
EF3EF4C-0	T193981-15	Soil	11/13/19 00:00	11/15/19 08:34
EF3EF4C-0-CL	T193981-16	Soil	11/13/19 00:00	11/15/19 08:34
E5D-0	T193981-17	Soil	11/13/19 11:30	11/15/19 08:34
EFGH5C-0	T193981-21	Soil	11/13/19 00:00	11/15/19 08:34
H6D-0	T193981-25	Soil	11/13/19 13:10	11/15/19 08:34
EFGH6C-0	T193981-26	Soil	11/13/19 00:00	11/15/19 08:34
EB-2	T193981-27	Water	11/13/19 15:00	11/15/19 08:34
EB-3	T193981-28	Water	11/13/19 15:00	11/15/19 08:34
F7D-0	T193981-30	Soil	11/13/19 13:30	11/15/19 08:34
EFGH7C-0	T193981-33	Soil	11/13/19 00:00	11/15/19 08:34
H8D-0	T193981-40	Soil	11/13/19 15:25	11/15/19 08:34
EFGH8C-0	T193981-42	Soil	11/13/19 00:00	11/15/19 08:34
EFGH8C-0-CL	T193981-43	Soil	11/13/19 00:00	11/15/19 08:34

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jeff Lee, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

DETECTIONS SUMMARY

Sample ID: E2D-0 **Laboratory ID:** T193981-03

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.92**	3.00	mg/kg	EPA 6010b	

Sample ID: EF1EF2C-0 **Laboratory ID:** T193981-05

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**9.0**	5.0	ug/kg	EPA 8081A	

Sample ID: F3D-0 **Laboratory ID:** T193981-08

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.46**	3.00	mg/kg	EPA 6010b	

Sample ID: F3D-0-FR **Laboratory ID:** T193981-10

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.42**	2.73	mg/kg	EPA 6010b	

Sample ID: EF3EF4C-0 **Laboratory ID:** T193981-15

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**8.2**	5.0	ug/kg	EPA 8081A	

Sample ID: EF3EF4C-0-CL **Laboratory ID:** T193981-16

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**11**	5.0	ug/kg	EPA 8081A	

SunStar Laboratories, Inc.

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Jeff Lee, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

Sample ID: E5D-0 **Laboratory ID:** T193981-17

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.67**	3.00	mg/kg	EPA 6010b	

Sample ID: EFGH5C-0 **Laboratory ID:** T193981-21

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4′-DDE	**7.7**	5.0	ug/kg	EPA 8081A	

Sample ID: H6D-0 **Laboratory ID:** T193981-25

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.90**	3.00	mg/kg	EPA 6010b	

Sample ID: EFGH6C-0 **Laboratory ID:** T193981-26

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4′-DDE	**8.5**	5.0	ug/kg	EPA 8081A	

Sample ID: EB-2 **Laboratory ID:** T193981-27

No Results Detected

Sample ID: EB-3 **Laboratory ID:** T193981-28

No Results Detected

Sample ID: F7D-0 **Laboratory ID:** T193981-30

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.17**	3.00	mg/kg	EPA 6010b	

SunStar Laboratories, Inc.

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Jeff Lee, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

Sample ID: EFGH7C-0 **Laboratory ID:** T193981-33

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**8.3**	5.0	ug/kg	EPA 8081A	

Sample ID: H8D-0 **Laboratory ID:** T193981-40

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.84**	3.00	mg/kg	EPA 6010b	

Sample ID: EFGH8C-0 **Laboratory ID:** T193981-42

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**6.6**	5.0	ug/kg	EPA 8081A	

Sample ID: EFGH8C-0-CL **Laboratory ID:** T193981-43

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**5.3**	5.0	ug/kg	EPA 8081A	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jeff Lee, Project Manager

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

E2D-0

T193981-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			SunStar Laboratories, Inc.						
Metals by EPA 6010B									
Arsenic	ND	5.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Lead	**4.92**	3.00	"	"	"	"	"	"	

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

EF1EF2C-0

T193981-05 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**9.0**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*55.5 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*101 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

F3D-0

T193981-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	ND	5.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Lead	**5.46**	3.00	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

F3D-0-FR

T193981-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			SunStar Laboratories, Inc.						
Metals by EPA 6010B									
Arsenic	ND	4.55	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Lead	**5.42**	2.73	"	"	"	"	"	"	

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EF3EF4C-0

T193981-15 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**8.2**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*53.7 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*96.4 %*	*35-140*		*"*	*"*	*"*	*"*	

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48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

EF3EF4C-0-CL

T193981-16 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**11**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*82.7 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*85.1 %*	*35-140*		"	"	"	"	

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NV5	Project:	Hamilton Union High School	
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E5D-0

T193981-17 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.					
Metals by EPA 6010B									
Arsenic	ND	5.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Lead	**5.67**	3.00	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
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EFGH5C-0

T193981-21 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**7.7**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*68.6 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*97.8 %*	*35-140*		*"*	*"*	*"*	*"*	

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H6D-0

T193981-25 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.					
Metals by EPA 6010B									
Arsenic	ND	5.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Lead	**5.90**	3.00	"	"	"	"	"	"	

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EFGH6C-0

T193981-26 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**8.5**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*65.5 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*93.1 %*	*35-140*		"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

EB-2

T193981-27 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.					
Metals by EPA 6010B									
Antimony	ND	50	ug/l	1	9111527	11/15/19	11/19/19	EPA 6010b	
Silver	ND	50	"	"	"	"	"	"	
Arsenic	ND	50	"	"	"	"	"	"	
Barium	ND	50	"	"	"	"	"	"	
Beryllium	ND	50	"	"	"	"	"	"	
Cadmium	ND	50	"	"	"	"	"	"	
Chromium	ND	50	"	"	"	"	"	"	
Cobalt	ND	50	"	"	"	"	"	"	
Copper	ND	50	"	"	"	"	"	"	
Lead	ND	50	"	"	"	"	"	"	
Molybdenum	ND	50	"	"	"	"	"	"	
Nickel	ND	50	"	"	"	"	"	"	
Selenium	ND	50	"	"	"	"	"	"	
Thallium	ND	50	"	"	"	"	"	"	
Vanadium	ND	50	"	"	"	"	"	"	
Zinc	ND	50	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.50	ug/l	1	9111529	11/15/19	11/20/19	EPA 7470A Water	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	1.00	ug/l	1	9111825	11/18/19	11/19/19	EPA 8081A	
gamma-BHC (Lindane)	ND	1.00	"	"	"	"	"	"	
beta-BHC	ND	1.00	"	"	"	"	"	"	
delta-BHC	ND	1.00	"	"	"	"	"	"	
Heptachlor	ND	1.00	"	"	"	"	"	"	
Aldrin	ND	1.00	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.00	"	"	"	"	"	"	
gamma-Chlordane	ND	1.00	"	"	"	"	"	"	
alpha-Chlordane	ND	1.00	"	"	"	"	"	"	
Endosulfan I	ND	1.00	"	"	"	"	"	"	
4,4´-DDE	ND	1.00	"	"	"	"	"	"	

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EB-2

T193981-27 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Organochlorine Pesticides by EPA Method 8081A									
Dieldrin	ND	1.00	ug/l	1	9111825	11/18/19	11/19/19	EPA 8081A	
Endrin	ND	1.00	"	"	"	"	"	"	
4,4′-DDD	ND	1.00	"	"	"	"	"	"	
Endosulfan II	ND	1.00	"	"	"	"	"	"	
4,4′-DDT	ND	1.00	"	"	"	"	"	"	
Endrin aldehyde	ND	1.00	"	"	"	"	"	"	
Endosulfan sulfate	ND	1.00	"	"	"	"	"	"	
Methoxychlor	ND	1.00	"	"	"	"	"	"	
Endrin ketone	ND	1.00	"	"	"	"	"	"	
Toxaphene	ND	20.0	"	"	"	"	"	"	
Chlordane (tech)	ND	10.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*78.5 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*85.6 %*	*35-140*		"	"	"	"	

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EB-3

T193981-28 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Antimony	ND	50	ug/l	1	9111527	11/15/19	11/19/19	EPA 6010b	
Silver	ND	50	"	"	"	"	"	"	
Arsenic	ND	50	"	"	"	"	"	"	
Barium	ND	50	"	"	"	"	"	"	
Beryllium	ND	50	"	"	"	"	"	"	
Cadmium	ND	50	"	"	"	"	"	"	
Chromium	ND	50	"	"	"	"	"	"	
Cobalt	ND	50	"	"	"	"	"	"	
Copper	ND	50	"	"	"	"	"	"	
Lead	ND	50	"	"	"	"	"	"	
Molybdenum	ND	50	"	"	"	"	"	"	
Nickel	ND	50	"	"	"	"	"	"	
Selenium	ND	50	"	"	"	"	"	"	
Thallium	ND	50	"	"	"	"	"	"	
Vanadium	ND	50	"	"	"	"	"	"	
Zinc	ND	50	"	"	"	"	"	"	

Cold Vapor Extraction EPA 7470/7471

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.50	ug/l	1	9111529	11/15/19	11/20/19	EPA 7470A Water	

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	1.00	ug/l	1	9111825	11/18/19	11/19/19	EPA 8081A	
gamma-BHC (Lindane)	ND	1.00	"	"	"	"	"	"	
beta-BHC	ND	1.00	"	"	"	"	"	"	
delta-BHC	ND	1.00	"	"	"	"	"	"	
Heptachlor	ND	1.00	"	"	"	"	"	"	
Aldrin	ND	1.00	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.00	"	"	"	"	"	"	
gamma-Chlordane	ND	1.00	"	"	"	"	"	"	
alpha-Chlordane	ND	1.00	"	"	"	"	"	"	
Endosulfan I	ND	1.00	"	"	"	"	"	"	
4,4´-DDE	ND	1.00	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

EB-3

T193981-28 (Water)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Dieldrin	ND	1.00	ug/l	1	9111825	11/18/19	11/19/19	EPA 8081A	
Endrin	ND	1.00	"	"	"	"	"	"	
4,4´-DDD	ND	1.00	"	"	"	"	"	"	
Endosulfan II	ND	1.00	"	"	"	"	"	"	
4,4´-DDT	ND	1.00	"	"	"	"	"	"	
Endrin aldehyde	ND	1.00	"	"	"	"	"	"	
Endosulfan sulfate	ND	1.00	"	"	"	"	"	"	
Methoxychlor	ND	1.00	"	"	"	"	"	"	
Endrin ketone	ND	1.00	"	"	"	"	"	"	
Toxaphene	ND	20.0	"	"	"	"	"	"	
Chlordane (tech)	ND	10.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*75.5 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*85.8 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project:	Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number:	70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager:	Heidi Cummings	11/21/19 09:25

F7D-0

T193981-30 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			SunStar Laboratories, Inc.						
Metals by EPA 6010B									
Arsenic	ND	5.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Lead	**5.17**	3.00	"	"	"	"	"	"	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

EFGH7C-0

T193981-33 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**8.3**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*54.5 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*81.4 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

H8D-0
T193981-40 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			SunStar Laboratories, Inc.						
Metals by EPA 6010B									
Arsenic	ND	5.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
Lead	**5.84**	3.00	"	"	"	"	"	"	

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48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

EFGH8C-0

T193981-42 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**6.6**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*82.1 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*104 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	**Reported:** 11/21/19 09:25

EFGH8C-0-CL

T193981-43 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	**5.3**	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*63.0 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*90.1 %*	*35-140*		*"*	*"*	*"*	*"*	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111527 - EPA 3010A										
Blank (9111527-BLK1)				Prepared: 11/15/19 Analyzed: 11/19/19						
Antimony	ND	50	ug/l							
Silver	ND	50	"							
Arsenic	ND	50	"							
Barium	ND	50	"							
Beryllium	ND	50	"							
Cadmium	ND	50	"							
Chromium	ND	50	"							
Cobalt	ND	50	"							
Copper	ND	50	"							
Lead	ND	50	"							
Molybdenum	ND	50	"							
Nickel	ND	50	"							
Selenium	ND	50	"							
Thallium	ND	50	"							
Vanadium	ND	50	"							
Zinc	ND	50	"							
LCS (9111527-BS1)				Prepared: 11/15/19 Analyzed: 11/19/19						
Arsenic	525	50	ug/l	500		105	75-125			
Barium	538	50	"	500		108	75-125			
Cadmium	543	50	"	500		109	75-125			
Chromium	539	50	"	500		108	75-125			
Lead	525	50	"	500		105	75-125			
Batch 9111532 - EPA 3050B										
Blank (9111532-BLK1)				Prepared: 11/15/19 Analyzed: 11/18/19						
Antimony	ND	3.00	mg/kg							
Arsenic	ND	5.00	"							
Barium	ND	1.00	"							
Beryllium	ND	1.00	"							
Cadmium	ND	2.00	"							
Chromium	ND	2.00	"							
Cobalt	ND	2.00	"							
Copper	ND	1.00	"							
Lead	ND	3.00	"							

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111532 - EPA 3050B										
Blank (9111532-BLK1)				Prepared: 11/15/19 Analyzed: 11/18/19						
Molybdenum	ND	5.00	mg/kg							
Nickel	ND	2.00	"							
Selenium	ND	5.00	"							
Silver	ND	2.00	"							
Thallium	ND	2.00	"							
Vanadium	ND	5.00	"							
Zinc	ND	1.00	"							
LCS (9111532-BS1)				Prepared: 11/15/19 Analyzed: 11/18/19						
Arsenic	97.4	5.00	mg/kg	100		97.4	75-125			
Barium	98.5	1.00	"	100		98.5	75-125			
Cadmium	98.5	2.00	"	100		98.5	75-125			
Chromium	98.3	2.00	"	100		98.3	75-125			
Lead	99.5	3.00	"	100		99.5	75-125			
Matrix Spike (9111532-MS1)	**Source: T193974-24**			Prepared: 11/15/19 Analyzed: 11/18/19						
Arsenic	73.0	5.00	mg/kg	99.0		73.7	75-125			QM-05
Barium	114	1.00	"	99.0		115	75-125			QM-05
Cadmium	70.4	2.00	"	99.0		71.1	75-125			QM-05
Chromium	82.1	2.00	"	99.0		82.9	75-125			QM-05
Lead	76.9	3.00	"	99.0		77.7	75-125			QM-05
Matrix Spike Dup (9111532-MSD1)	**Source: T193974-24**			Prepared: 11/15/19 Analyzed: 11/18/19						
Arsenic	66.9	5.00	mg/kg	93.5		71.6	75-125	8.64	20	QM-05
Barium	96.5	1.00	"	93.5		103	75-125	16.7	20	QM-05
Cadmium	63.8	2.00	"	93.5		68.2	75-125	9.89	20	QM-05
Chromium	72.8	2.00	"	93.5		77.9	75-125	11.9	20	QM-05
Lead	68.9	3.00	"	93.5		73.8	75-125	11.0	20	QM-05

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

Cold Vapor Extraction EPA 7470/7471 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111529 - EPA 7470A Water										
Blank (9111529-BLK1)				Prepared: 11/15/19 Analyzed: 11/20/19						
Mercury	ND	0.50	ug/l							
LCS (9111529-BS1)				Prepared: 11/15/19 Analyzed: 11/20/19						
Mercury	4.42	0.50	ug/l	5.00		88.5	80-120			
Matrix Spike (9111529-MS1)	**Source: T193981-27**			Prepared: 11/15/19 Analyzed: 11/20/19						
Mercury	4.10	0.50	ug/l	5.00	ND	81.9	75-125			
Matrix Spike Dup (9111529-MSD1)	**Source: T193981-27**			Prepared: 11/15/19 Analyzed: 11/20/19						
Mercury	4.22	0.50	ug/l	5.00	ND	84.4	75-125	2.91	20	

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111517 - EPA 3550 ECD/GCMS										
Blank (9111517-BLK1)				Prepared: 11/15/19 Analyzed: 11/18/19						
alpha-BHC	ND	5.0	ug/kg							
gamma-BHC (Lindane)	ND	5.0	"							
beta-BHC	ND	5.0	"							
delta-BHC	ND	5.0	"							
Heptachlor	ND	5.0	"							
Aldrin	ND	5.0	"							
Heptachlor epoxide	ND	5.0	"							
gamma-Chlordane	ND	5.0	"							
alpha-Chlordane	ND	5.0	"							
Endosulfan I	ND	5.0	"							
4,4´-DDE	ND	5.0	"							
Dieldrin	ND	5.0	"							
Endrin	ND	5.0	"							
4,4´-DDD	ND	5.0	"							
Endosulfan II	ND	5.0	"							
4,4´-DDT	ND	5.0	"							
Endrin aldehyde	ND	5.0	"							
Endosulfan sulfate	ND	5.0	"							
Methoxychlor	ND	5.0	"							
Endrin ketone	ND	5.0	"							
Toxaphene	ND	20	"							
Chlordane (tech)	ND	50	"							
Chlordane (Total)	ND	5.0	"							
Surrogate: Tetrachloro-meta-xylene	*9.16*		*"*	*10.1*		*90.6*	*35-140*			
Surrogate: Decachlorobiphenyl	*14.3*		*"*	*10.1*		*141*	*35-140*			*S-GC*
LCS (9111517-BS1)				Prepared: 11/15/19 Analyzed: 11/19/19						
gamma-BHC (Lindane)	43.0	5.0	ug/kg	40.4		106	40-120			
Heptachlor	43.2	5.0	"	40.4		107	40-120			
Aldrin	39.1	5.0	"	40.4		96.8	40-120			
Dieldrin	43.4	5.0	"	40.4		108	40-120			
Endrin	43.8	5.0	"	40.4		109	40-120			
4,4´-DDT	41.7	5.0	"	40.4		103	33-147			
Surrogate: Tetrachloro-meta-xylene	*10.0*		*"*	*10.1*		*99.2*	*35-140*			
Surrogate: Decachlorobiphenyl	*11.0*		*"*	*10.1*		*109*	*35-140*			

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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111517 - EPA 3550 ECD/GCMS										
LCS Dup (9111517-BSD1)				Prepared: 11/15/19 Analyzed: 11/19/19						
gamma-BHC (Lindane)	41.5	5.0	ug/kg	40.4		103	40-120	3.54	30	
Heptachlor	42.8	5.0	"	40.4		106	40-120	0.838	30	
Aldrin	40.0	5.0	"	40.4		98.9	40-120	2.19	30	
Dieldrin	46.2	5.0	"	40.4		114	40-120	6.26	30	
Endrin	46.6	5.0	"	40.4		115	40-120	6.06	30	
4,4′-DDT	45.5	5.0	"	40.4		113	33-147	8.74	30	
Surrogate: Tetrachloro-meta-xylene	*8.92*		*"*	*10.1*		*88.4*	*35-140*			
Surrogate: Decachlorobiphenyl	*12.1*		*"*	*10.1*		*120*	*35-140*			
Batch 9111825 - EPA 3510C GCMS/ECD										
Blank (9111825-BLK1)				Prepared: 11/18/19 Analyzed: 11/19/19						
alpha-BHC	ND	1.00	ug/l							
gamma-BHC (Lindane)	ND	1.00	"							
beta-BHC	ND	1.00	"							
delta-BHC	ND	1.00	"							
Heptachlor	ND	1.00	"							
Aldrin	ND	1.00	"							
Heptachlor epoxide	ND	1.00	"							
gamma-Chlordane	ND	1.00	"							
alpha-Chlordane	ND	1.00	"							
Endosulfan I	ND	1.00	"							
4,4′-DDE	ND	1.00	"							
Dieldrin	ND	1.00	"							
Endrin	ND	1.00	"							
4,4′-DDD	ND	1.00	"							
Endosulfan II	ND	1.00	"							
4,4′-DDT	ND	1.00	"							
Endrin aldehyde	ND	1.00	"							
Endosulfan sulfate	ND	1.00	"							
Methoxychlor	ND	1.00	"							
Endrin ketone	ND	1.00	"							
Chlordane (tech)	ND	10.0	"							
Toxaphene	ND	20.0	"							
Surrogate: Tetrachloro-meta-xylene	*ND*		*"*	*1.00*		*82.3*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.965*		*"*	*1.00*		*96.5*	*35-140*			

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9111825 - EPA 3510C GCMS/ECD										
LCS (9111825-BS1)				Prepared: 11/18/19 Analyzed: 11/19/19						
gamma-BHC (Lindane)	3.79	1.00	ug/l	4.00		94.6	40-120			
Heptachlor	3.79	1.00	"	4.00		94.7	40-120			
Aldrin	3.41	1.00	"	4.00		85.2	40-120			
Dieldrin	4.05	1.00	"	4.00		101	40-120			
Endrin	4.24	1.00	"	4.00		106	40-120			
4,4´-DDT	4.15	1.00	"	4.00		104	40-120			
Surrogate: Tetrachloro-meta-xylene	*0.737*		*"*	*1.00*		*73.7*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.928*		*"*	*1.00*		*92.8*	*35-140*			
LCS Dup (9111825-BSD1)				Prepared: 11/18/19 Analyzed: 11/19/19						
gamma-BHC (Lindane)	4.28	1.00	ug/l	4.00		107	40-120	12.2	20	
Heptachlor	4.26	1.00	"	4.00		106	40-120	11.7	20	
Aldrin	3.96	1.00	"	4.00		99.0	40-120	15.0	20	
Dieldrin	4.45	1.00	"	4.00		111	40-120	9.33	20	
Endrin	4.59	1.00	"	4.00		115	40-120	7.84	20	
4,4´-DDT	4.42	1.00	"	4.00		110	40-120	6.31	20	
Surrogate: Tetrachloro-meta-xylene	*0.866*		*"*	*1.00*		*86.6*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.978*		*"*	*1.00*		*97.8*	*35-140*			

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Providing Quality Analytical Services Nationwide

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Lake Forest, California 92630
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NV5	Project:	Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number:	70779.01.001.003	**Reported:**
Chico CA, 95928	Project Manager:	Heidi Cummings	11/21/19 09:25

Notes and Definitions

S-GC	Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s).
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: T193981 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers
E1D-0	11/13/2019	0850	SOIL	8 oz jar				01		1
F1D-0	11/13/2019	0900	SOIL	8 oz jar				02		1
E2D-0	11/13/2019	0925	SOIL	8 oz jar	X	X		03		1
F2D-0	11/13/2019	0915	SOIL	8 oz jar				04		1
							X	05	Lab to prepare EF1EF2C-0 as 4:1 composite of E1D-0, F1D-0, E2D-0 and F2D-0	
E3D-0	11/13/2019	0940	SOIL	8 oz jar				06		1
E3D-0-CL	11/13/2019	0945	SOIL	8 oz jar				07		1
F3D-0	11/13/2019	1000	SOIL	8 oz jar	X	X		08		1
F3D-0-CL	11/13/2019	1005	SOIL	8 oz jar				09		1
F3D-0-FR	11/13/2019	1001	SOIL	8 oz jar	X	X		10		1
E4D-0	11/13/2019	1050	SOIL	8 oz jar				11		1
E4D-0-CL	11/13/2019	1105	SOIL	8 oz jar				12		1
F4D-0	11/13/2019	1025	SOIL	8 oz jar				13		1
F4D-0-CL	11/13/2019	1035	SOIL	8 oz jar				14		1
							X	15	Lab to prepare EF3EF4C-0 as 4:1 composite of E3D-0, F3D-0, E4D-0 and F4D-0	

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	11/14/19 1600	GSO	11/14/19 1600
GSO	11-15-19 8:34	[signature]	11-15-19 8:34

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 2.5°

Turn around time: 5 day

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

Chain of Custody Record

SunStar Laboratories
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: ~~T1938~~ T19381 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Title 22 Metals	Laboratory ID #	Comments/Preservative	Total # of containers	
							X			Lab to prepare EF3EF4C-0-CL as 4:1 composite of E3D-0-CL, F3D-0-CL, E4D-0-CL and F4D-0	1	16
E5D-0	11/13/2019	1130	SOIL	8 oz jar	X	X			17		1	
F5D-0	11/13/2019	1140	SOIL	8 oz jar					18		1	
G5D-0	11/13/2019	1155	SOIL	8 oz jar					19		1	
H5D-0	11/13/2019	1210	SOIL	8 oz jar					20		1	
							X			Lab to prepare EFGH5C-0 as 4:1 composite of E5D-0, F5D-0, G5D-0 and H5D-0	1	21
E6D-0	11/13/2019	1230	SOIL	8 oz jar					22		1	
F6D-0	11/13/2019	1240	SOIL	8 oz jar					23		1	
G6D-0	11/13/2019	1255	SOIL	8 oz jar					24		1	
H6D-0	11/13/2019	1310	SOIL	8 oz jar	X	X			25		1	
							X			Lab to prepare EFGH6C-0 as 4:1 composite of E6D-0, F6D-0, G6D-0 and H6D-0	1	26
EB-2	11/12/2019	1500	Water	Amber, plastic			X	X	27		2	
EB-3	11/13/2019	1500	Water	Amber, plastic			X	X	28		2	

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	11/14/19 1600	GSO	11/14/19 1600
GSO	11-15-19 8:34	[signature]	11-15-19 8:34

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 2.5°

Turn around time: 5 day

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

Chain of Custody Record

SunStar Laboratories
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Client: NV5
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928
Phone: 530-894-2487 Fax: 530-894-2437
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019
Project Name: Hamilton Union High School
Collector: HJC/CWB Client Project #: 70779.01.001.003
Batch #: T193981 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers
E7D-0	11/13/2019	1320	SOIL	8 oz jar				29		1
F7D-0	11/13/2019	1330	SOIL	8 oz jar	X	X		30		1
G7D-0	11/13/2019	1345	SOIL	8 oz jar				31		1
H7D-0	11/13/2019	1400	SOIL	8 oz jar				32		1
							X	33	Lab to prepare EFGH7C-0 as 4:1 composite of E7D-0, F7D-0, G7D-0 and H7D-0	
E8D-0	11/13/2019	1415	SOIL	8 oz jar				34		1
E8D-0-CL	11/13/2019	1425	SOIL	8 oz jar				35		1
F8D-0	11/13/2019	1435	SOIL	8 oz jar				36		1
F8D-0-CL	11/13/2019	1445	SOIL	8 oz jar				37		1
G8D-0	11/13/2019	1500	SOIL	8 oz jar				38		1
G8D-0-CL	11/13/2019	1510	SOIL	8 oz jar				39		1
H8D-0	11/13/2019	1525	SOIL	8 oz jar	X	X		40		1
H8D-0-CL	11/13/2019	1535	SOIL	8 oz jar				41		1
							X	42	Lab to prepare EFGH8C-0 as 4:1 composite of E8D-0, F8D-0, G8D-0 and H8D-0	
							X	43	Lab to prepare EFGH8C-0-CL as 4:1 composite of E8D-0-CL, F8D-0-CL, G8D-0-CL and H8D-0-	

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	11/14/19 1600	GSO	11/14/19 1600
GSO	11-15-19 8:34	[signature]	11-15-19 8:34

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 2.5°C

Turn around time: **5 day**

Notes
Method 8081 report Chlordane and Technical Chlordane
Please return H&K/NV5 ice chests

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T193981

Client Name: NV5 Project: Hamilton Union High School

Delivered by: ☐ Client ☐ SunStar Courier ☒ GSO ☐ FedEx ☐ Other

If Courier, Received by: Date/Time Courier Received:

Lab Received by: Sunny Date/Time Lab Received: 11-15-19 / 8:34

Total number of coolers received: 1 Thermometer ID: SC-1 Calibration due : 6/27/20

Temperature:	Cooler #1 1.3	°C +/- the CF (+ 1.2°C) = 2.5	°C corrected temperature	
Temperature:	Cooler #2	°C +/- the CF (+ 1.2°C) =	°C corrected temperature	
Temperature:	Cooler #3	°C +/- the CF (+ 1.2°C) =	°C corrected temperature	
Temperature criteria = ≤ 6°C (no frozen containers)		Within criteria?	☒ **Yes**	☐ **No**
If NO:				
Samples received on ice?		☐ Yes	☐ **No →** **Complete Non-Conformance Sheet**	
If on ice, samples received same day collected?		☐ Yes → Acceptable	☐ **No →** **Complete Non-Conformance Sheet**	

Custody seals intact on cooler/sample	☒ Yes	☐ No*	☐ N/A
Sample containers intact	☒ Yes	☐ No*	
Sample labels match Chain of Custody IDs	☒ Yes	☐ No*	
Total number of containers received match COC	☒ Yes	☐ No*	
Proper containers received for analyses requested on COC	☒ Yes	☐ No*	
Proper preservative indicated on COC/containers for analyses requested	☐ Yes	☐ No*	☒ N/A
Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times	☒ **Yes**	☐ **No***	

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date: SL 11-15-19

Comments:

(949) 297-5020 ■ www.sunstarlabs.com ■ 25712 Commercentre Drive ■ Lake Forest, CA 92630

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T193981

Client:	**NV5**	**Project Manager:**	**Jeff Lee**
Project:	**Hamilton Union High School**	**Project Number:**	**70779.01.001.003**

Report To:
NV5
Heidi Cummings
48 Bellarmine Ct, Suite 40
Chico, CA 95928

Date Due:	11/22/19 17:00 (5 day TAT)		
Received By:	Sunny Lounethone	Date Received:	11/15/19 08:34
Logged In By:	Sunny Lounethone	Date Logged In:	11/15/19 11:57

Samples Received at:	**2.5°C**		
Custody Seals	Yes	Received On Ice	Yes
Containers Intact	Yes		
COC/Labels Agree	Yes		
Preservation Confir	No		

Analysis	Due	TAT	Expires	Comments
T193981-01 E1D-0 [Soil] Sampled 11/13/19 08:50 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-02 F1D-0 [Soil] Sampled 11/13/19 09:00 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-03 E2D-0 [Soil] Sampled 11/13/19 09:25 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 09:25	As and Pb only
T193981-04 F2D-0 [Soil] Sampled 11/13/19 09:15 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-05 EF1EF2C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (E1D-0, F1D-0, E2D-0, F2D-0)**
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	
T193981-06 E3D-0 [Soil] Sampled 11/13/19 09:40 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-07 E3D-0-CL [Soil] Sampled 11/13/19 09:45 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				

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Printed: 11/15/2019 2:08:50PM

WORK ORDER

T193981

Client: NV5 **Project Manager:** Jeff Lee
Project: Hamilton Union High School **Project Number:** 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
T193981-08 F3D-0 [Soil] Sampled 11/13/19 10:00 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 10:00	As and Pb only
T193981-09 F3D-0-CL [Soil] Sampled 11/13/19 10:05 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-10 F3D-0-FR [Soil] Sampled 11/13/19 10:01 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 10:01	As and Pb only
T193981-11 E4D-0 [Soil] Sampled 11/13/19 10:50 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-12 E4D-0-CL [Soil] Sampled 11/13/19 11:05 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-13 F4D-0 [Soil] Sampled 11/13/19 10:25 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-14 F4D-0-CL [Soil] Sampled 11/13/19 10:35 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-15 EF3EF4C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (E3D-0, F3D-0, E4D-0, F4D-0)**
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	
T193981-16 EF3EF4C-0-CL [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (E3D-0-CL, F3D-0-CL, E4D-0-CL, F4D-0-CL)**
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	
T193981-17 E5D-0 [Soil] Sampled 11/13/19 11:30 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 11:30	As and Pb only
T193981-18 F5D-0 [Soil] Sampled 11/13/19 11:40 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				

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Printed: 11/15/2019 2:08:50PM

WORK ORDER

T193981

Client: NV5 **Project Manager:** Jeff Lee
Project: Hamilton Union High School **Project Number:** 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
T193981-19 G5D-0 [Soil] Sampled 11/13/19 11:55 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-20 H5D-0 [Soil] Sampled 11/13/19 12:10 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-21 EFGH5C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (E5D-0, F5D-0, G5D-0, H5D-0)**
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	
T193981-22 E6D-0 [Soil] Sampled 11/13/19 12:30 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-23 F6D-0 [Soil] Sampled 11/13/19 12:40 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-24 G6D-0 [Soil] Sampled 11/13/19 12:55 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-25 H6D-0 [Soil] Sampled 11/13/19 13:10 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 13:10	As and Pb only
T193981-26 EFGH6C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (E6D-0, F6D-0, G6D-0, H6D-0)**
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	
T193981-27 EB-2 [Water] Sampled 11/13/19 15:00 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/22/19 15:00	5	05/11/20 15:00	
8081 Pesticides	11/22/19 15:00	5	11/20/19 15:00	
T193981-28 EB-3 [Water] Sampled 11/13/19 15:00 (GMT-08:00) Pacific Time (US &				
6010 Title 22	11/22/19 15:00	5	05/11/20 15:00	
8081 Pesticides	11/22/19 15:00	5	11/20/19 15:00	

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WORK ORDER

T193981

Client: NV5 | **Project Manager:** Jeff Lee
Project: Hamilton Union High School | **Project Number:** 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
T193981-29 E7D-0 [Soil] Sampled 11/13/19 13:20 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-30 F7D-0 [Soil] Sampled 11/13/19 13:30 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 13:30	As and Pb only
T193981-31 G7D-0 [Soil] Sampled 11/13/19 13:45 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-32 H7D-0 [Soil] Sampled 11/13/19 14:00 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-33 EFGH7C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (E7D-0, F7D-0, G7D-0, H7D-0)**
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	
T193981-34 E8D-0 [Soil] Sampled 11/13/19 14:15 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-35 E8D-0-CL [Soil] Sampled 11/13/19 14:25 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-36 F8D-0 [Soil] Sampled 11/13/19 14:35 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-37 F8D-0-CL [Soil] Sampled 11/13/19 14:45 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-38 G8D-0 [Soil] Sampled 11/13/19 15:00 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-39 G8D-0-CL [Soil] Sampled 11/13/19 15:10 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				

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WORK ORDER

T193981

Client:	**NV5**	**Project Manager:**	**Jeff Lee**
Project:	**Hamilton Union High School**	**Project Number:**	**70779.01.001.003**

Analysis	Due	TAT	Expires	Comments
T193981-40 H8D-0 [Soil] Sampled 11/13/19 15:25 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 15:25	As and Pb only
T193981-41 H8D-0-CL [Soil] Sampled 11/13/19 15:35 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T193981-42 EFGH8C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (E8D-0, F8D-0, G8D-0, H8D-0)**
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	
T193981-43 EFGH8C-0-CL [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1 (E8D-0-CL, F8D-0-CL, G8D-0-CL, H8D-0-CL)**
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	

Analysis groups included in this work order

6010 Title 22

subgroup 6010B T22 7470/71 Hg

Reviewed By

Date

APPENDIX C

Data Quality Assessment

DATA QUALITY ASSESSMENT

Quality assurance and quality control (QA/QC) measures were incorporated into the Preliminary Endangerment Assessment (PEA) to monitor field and laboratory procedures and make sure that data of a known quality were produced. The QA/QC measures included analysis of QA/QC samples and internal laboratory QA/QC procedures and data evaluation. In addition, field standard operating procedures were followed to ensure that sample integrity was maintained.

QA/QC samples included field replicates and co-located samples. Analytical results for the PEA QA/QC samples are presented in the laboratory reports contained in Appendix B. Field and laboratory replicate analyses are discussed below in the section on Accuracy and Precision.

Internal laboratory QA/QC procedures were implemented in accordance with the requirements of each analytical method and as specified in the United States Environmental Protection Agency (USEPA) document SW-846, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*. Internal laboratory QA/QC methods included method blanks, surrogates, matrix spike and matrix spike duplicates (MS/MSD), laboratory control samples (LCS) and LCS duplicates (LCSD), and instrument calibration checks, as specified by the analytical method.

Laboratory data sets, including QA/QC samples, were evaluated to make sure that data are of an acceptable quality for use in the PEA. The data evaluation was based upon data quality indicators including accuracy, precision, method detection and reporting limits (MDLs and RLs), completeness, representativeness and comparability. The evaluation was conducted in general accordance with guidelines set forth in the USEPA National Functional Guidelines.

Results of the data evaluation indicate that the data generated are of acceptable quality for use in the PEA and screening level human health risk assessment (HHRA). None of the data were unusable based on the data evaluation, except the original data for arsenic. A summary of the data evaluation is presented below.

DATA REVIEW AND VALIDATION

Field personnel were responsible for following NV5's sampling and documentation procedures to facilitate the collection of defensible and justifiable data. Responsibilities for data review and validation are outlined below:

- Field data review and validation was performed by Craig Bourne, a qualified environmental professional, and was overseen by Heidi Cummings, the project manager.
- Laboratory data review and validation were performed by a chemist or laboratory analyst as described in the laboratory quality assurance programs, as summarized in the laboratory reports (Appendix B). Data failing to meet the laboratory acceptance criteria were flagged with a qualifier identifying the associated problem in the laboratory report.
- Secondary validation for field data and review of laboratory quality control reports was performed by the project manager.

ACCURACY AND PRECISION

Accuracy and precision were evaluated by assessing laboratory hold times, internal laboratory QA/QC results and field duplicate analyses. Results are as follows:

- SunStar Work Order 193941f: Samples DD5D-0, DD6D-0, and DD7D-0 contained analytes above calibration limits and were rerun at a dilution. Reporting limits for OCPs in sample DD5D-0 were raised to account for dilution necessary due to high levels of interfering compounds and/or matrix effect. Surrogate recovery was outside of established control limits. The data was accepted based on valid recovery of surrogates in client samples and remaining QC including continuing calibration verification (CCV).
- SunStar Work Order 193979f: Surrogate recovery was outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s).
- SunStar Work Order 193981f: Surrogate recovery was outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s).
- SunStar Work Order 194029f: No qualifiers.

These flags do not signify a negative impact on data usability.

The relative percent difference was calculated to assess the variance between the normal field samples and their corresponding field replicate and/or co-located samples. A concentration equal to one half the reporting limit was used for those samples that were reported as not detected. Only normal and replicate or co-located samples with detections were evaluated. The relative percent difference was calculated using the following formula:

$$\text{Relative Percent Difference (RPD)} = \frac{(|x-y|)}{(|x+y|/2)} \qquad (1)$$

Where:

x = concentration of normal sample
y = concentration of QA/QC sample

Sample Name	Analyte	Result	Detection Limit	Reporting Limit	Units	Sample Type	Relative Percent Difference
USEPA Method 6010B & 6020							
A7D-0	Arsenic	5.9	0.0025	0.25	mg/kg	NS	
A7D-0-CL	Arsenic	5.7	0.0025	0.25	mg/kg	CL	3.4
A7D-0	Lead	5.35	0.01	3	mg/kg	NS	
A7D-0-CL	Lead	5.35	0.01	3	mg/kg	CL	0.0
B3D-0	Arsenic	5.3	0.0025	0.25	mg/kg	NS	
B3D-0-FR	Arsenic	5.0	0.0025	0.25	mg/kg	FR	5.8
B3D-0	Lead	4.67	0.01	3	mg/kg	NS	
B3D-0-FR	Lead	4.28	0.01	3	mg/kg	FR	8.7
C1D-0	Arsenic	4.7	0.0025	0.25	mg/kg	NS	

Sample Name	Analyte	Result	Detection Limit	Reporting Limit	Units	Sample Type	Relative Percent Difference
USEPA Method 6010B & 6020 continued							
C1D-0-CL	Arsenic	4.8	0.0025	0.25	mg/kg	CL	2.1
C1D-0	Lead	4.33	0.01	3	mg/kg	NS	
C1D-0-CL	Lead	4.72	0.01	3	mg/kg	CL	8.6
D7D-0	Arsenic	6.4	0.0025	0.25	mg/kg	NS	
D7D-0-FR	Arsenic	5.2	0.0025	0.25	mg/kg	FR	20.7
D7D-0	Lead	5.75	0.01	3	mg/kg	NS	
D7D-0-FR	Lead	5.61	0.01	3	mg/kg	FR	2.5
F3D-0	Arsenic	5.5	0.0025	0.25	mg/kg	NS	
F3D-0-FR	Arsenic	5.4	0.0025	0.25	mg/kg	FR	1.8
F3D-0	Lead	5.46	0.01	3	mg/kg	NS	
F3D-0-FR	Lead	5.42	0.01	3	mg/kg	FR	0.7
HHS3D-2	Arsenic	4.7	0.0025	0.25	mg/kg	NS	
HHS3D-2-FR	Arsenic	5.2	0.0025	0.25	mg/kg	FR	10.1
HHS3D-2	Lead	4.07	0.01	3	mg/kg	NS	
HHS3D-2-FR	Lead	3.74	0.01	3	mg/kg	FR	8.5
HHS5D-2	Arsenic	4.7	0.0025	0.25	mg/kg	NS	
HHS5D-2-CL	Arsenic	4.6	0.0025	0.25	mg/kg	CL	2.2
HHS5D-2	Lead	3.72	0.01	3	mg/kg	NS	
HHS5D-2-CL	Lead	4.07	0.01	3	mg/kg	CL	9.0
DD2D-0	Arsenic	5.3	0.0025	0.25	mg/kg	NS	
DD2D-0-CL	Arsenic	4.8	0.0025	0.25	mg/kg	CL	9.9
DD2D-0	Barium	65	0.3	1	mg/kg	NS	
DD2D-0-CL	Barium	65	0.3	1	mg/kg	CL	0.0
DD2D-0	Cadmium	0.51J	0.1	2	mg/kg	NS	
DD2D-0-CL	Cadmium	0.48J	0.1	2	mg/kg	CL	6.1
DD2D-0	Chromium	40	0.1	2	mg/kg	NS	
DD2D-0-CL	Chromium	37	0.1	2	mg/kg	CL	7.8
DD2D-0	Cobalt	9.2	0.2	2	mg/kg	NS	
DD2D-0-CL	Cobalt	8.7	0.2	2	mg/kg	CL	5.6
DD2D-0	Copper	22	0.2	1	mg/kg	NS	
DD2D-0-CL	Copper	21	0.2	1	mg/kg	CL	4.7
DD2D-0	Lead	4.7	1	3	mg/kg	NS	
DD2D-0-CL	Lead	4.5	1	3	mg/kg	CL	4.3
DD2D-0	Nickel	56	0.3	2	mg/kg	NS	
DD2D-0-CL	Nickel	54	0.3	2	mg/kg	CL	3.6
DD2D-0	Vanadium	27	0.3	5	mg/kg	NS	
DD2D-0-CL	Vanadium	26	0.3	5	mg/kg	CL	3.8

Sample Name	Analyte	Result	Detection Limit	Reporting Limit	Units	Sample Type	Relative Percent Difference
USEPA Method 6010B & 6020 continued							
DD2D-0	Zinc	52	0.1	1	mg/kg	NS	
DD2D-0-CL	Zinc	52	0.1	1	mg/kg	CL	0.0
DD4D-0	Arsenic	5.8	0.0025	0.25	mg/kg	NS	
DD4D-0-FR	Arsenic	5.5	0.0025	0.25	mg/kg	FR	5.3
DD4D-0	Barium	65	0.3	1	mg/kg	NS	
DD4D-0-FR	Barium	64	0.3	1	mg/kg	FR	1.6
DD4D-0	Cadmium	0.50J	0.1	2	mg/kg	NS	
DD4D-0-FR	Cadmium	0.48J	0.1	2	mg/kg	FR	4.1
DD4D-0	Chromium	35	0.1	2	mg/kg	NS	
DD4D-0-FR	Chromium	35	0.1	2	mg/kg	FR	0.0
DD4D-0	Cobalt	9.1	0.2	2	mg/kg	NS	
DD4D-0-FR	Cobalt	8.8	0.2	2	mg/kg	FR	3.4
DD4D-0	Copper	21	0.2	1	mg/kg	NS	
DD4D-0-FR	Copper	21	0.2	1	mg/kg	FR	0.0
DD4D-0	Lead	5.2	1	3	mg/kg	NS	
DD4D-0-FR	Lead	5.5	1	3	mg/kg	FR	5.6
DD4D-0	Nickel	52	0.3	2	mg/kg	NS	
DD4D-0-FR	Nickel	51	0.3	2	mg/kg	FR	1.9
DD4D-0	Vanadium	26	0.3	5	mg/kg	NS	
DD4D-0-FR	Vanadium	25	0.3	5	mg/kg	FR	3.9
DD4D-0	Zinc	51	0.1	1	mg/kg	NS	
DD4D-0-FR	Zinc	56	0.1	1	mg/kg	FR	9.3
USEPA Method 8015B							
DD2D-0	DRO	2.9J	1.6	10	mg/kg	NS	
DD2D-0-CL	DRO	5.4J	1.6	10	mg/kg	CL	60.2
DD2D-0	MORO	17	4.2	10	mg/kg	NS	
DD2D-0-CL	MORO	25	4.2	10	mg/kg	CL	38.1
DD4D-0	DRO	5.6J	1.6	10	mg/kg	NS	
DD4D-0-FR	DRO	5.2J	1.6	10	mg/kg	FR	7.4
DD4D-0	MORO	30	4.2	10	mg/kg	NS	
DD4D-0-FR	MORO	33	4.2	10	mg/kg	FR	9.5
USEPA Method 8081A							
ABCD2C-0	4,4´-DDE	11	1.5	5	µg/kg	NS	
ABCD2C-0-FR	4,4´-DDE	8.7	1.5	5	µg/kg	FR	23.4
ABCD5C-0	4,4´-DDE	6.6	1.5	5	µg/kg	NS	
ABCD5C-0-CL	4,4´-DDE	7.0	1.5	5	µg/kg	CL	5.9
ABCD7C-0	4,4´-DDE	ND	1.5	5	µg/kg	NS	

Sample Name	Analyte	Result	Detection Limit	Reporting Limit	Units	Sample Type	Relative Percent Difference
USEPA Method 8081A (Concluded)							
ABCD7C-0-FR	4,4´-DDE	ND	1.5	5	µg/kg	FR	0.0
EF3EF4C-0	4,4´-DDE	8.2	1.5	5	µg/kg	NS	
EF3EF4C-0-CL	4,4´-DDE	11	1.5	5	µg/kg	CL	29.2
EFGH8C-0	4,4´-DDE	6.6	1.5	5	µg/kg	NS	
EFGH8C-0-CL	4,4´-DDE	5.3	1.5	5	µg/kg	CL	21.8
DD2D-0	4,4´-DDE	11	1.5	5	µg/kg	NS	
DD2D-0-CL	4,4´-DDE	12	1.5	5	µg/kg	CL	8.7
DD4D-0	4,4´-DDE	40	1.5	5	µg/kg	NS	
DD4D-0-FR	4,4´-DDE	36	1.5	5	µg/kg	FR	10.5

USEPA = United States Environmental Protection Agency
mg/kg = milligram per kilogram
ND = Not detected
µg/kg = micrograms per kilogram
J = estimated value; between method detection limit and reporting limit

Sample Type:
NS = normal sample
CL = co-located
FR = field replicate

High RPD values calculated for field replicate and co-located sample pairs are representative of the heterogeneous contaminant distribution in soil at the site.

Thus, the overall precision is generally considered acceptable, with the understanding that variability exists within small distances (co-located samples) and within small sample quantities (field replicate samples).

EVALUATION OF BLANKS

Equipment blank analysis provides an indication of whether contamination was introduced into the PEA sample set. One equipment blank sample was collected during each day of soil sampling. On November 11, 2019, the equipment blank (EB-1) was analyzed for Title 22 Metals by USEPA Methods 6010B and 7470A, OCPs by USEPA Method 8081A and TPH by USEPA Method 8015B. No analytes were detected in the sample at concentrations greater than their respective MDLs. On November 12 and 13, 2019, the equipment blanks (EB-2 and EB-3) were analyzed for Title 22 Metals by USEPA Methods 6010B and 7470A and for OCPs by USEPA Method 8081A. No analytes were detected in the samples at concentrations greater than their respective MDLs. Based on the equipment blank results there is low potential for cross contamination due to insufficient equipment decontamination.

SENSITIVITY

Laboratory analytical methods were selected so that the laboratory method detection limits were less than the applicable regulatory screening criteria (i.e. the DTSC-SLs and USEPA RSLs), and thus are acceptable for use in the PEA screening evaluation.

Total arsenic in soil was originally analyzed using EPA Method 6010B with a practical quantitation limit (PQL; also referred to as reporting limit, or RL) of 5 mg/kg. The PQL did not meet the project data quality objectives, and therefore the EPA 6010B data were rejected, and the analysis was repeated using EPA Method 6020 with a PQL of 0.25 mg/kg.

COMPLETENESS

Completeness is an evaluation of the sampling results with respect to usable versus rejected data. No data was rejected based on the data evaluation. The data set completeness is therefore considered satisfactory for all analyses.

REPRESENTATIVENESS AND COMPARABILITY

Representativeness expresses the degree to which sample data accurately and precisely represent the characteristics of a population, variations in parameters at a sampling point, or an environmental condition that they are intended to represent. NV5 and the contract laboratories addressed the representativeness of data by consistent application of established field and laboratory procedures.

Sample holding times were verified and chain-of-custody forms were checked for completeness. Temperature of samples was measured upon receipt by the laboratory, when applicable. Laboratory blank samples were evaluated for the presence of contaminants. No significant discrepancies were identified.

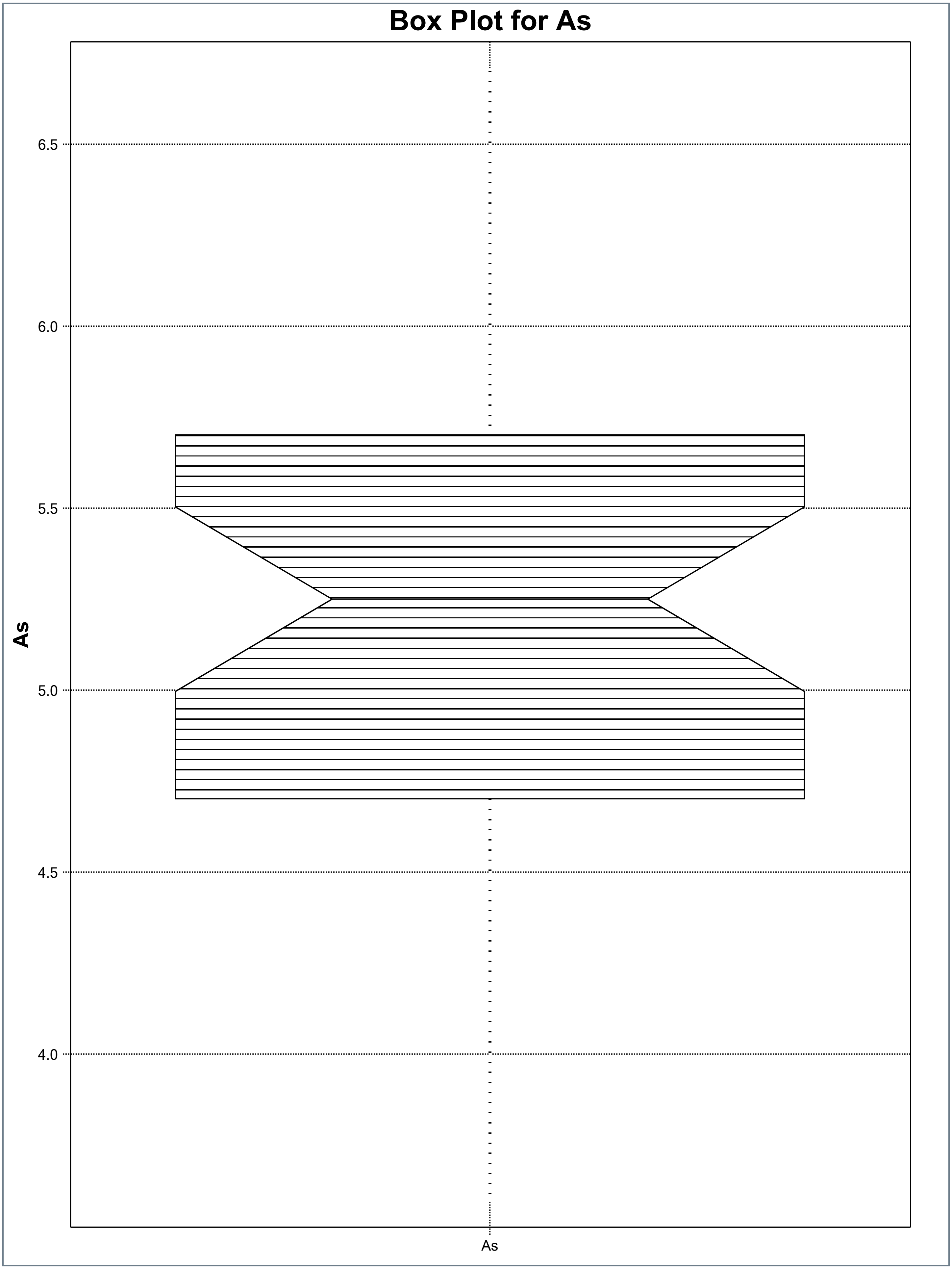
The comparability objective determines whether analytical conditions are sufficiently uniform for each analytical run to ensure that all reported data will be consistent. Comparability is addressed by using similar analytical methods from one investigation to the next.

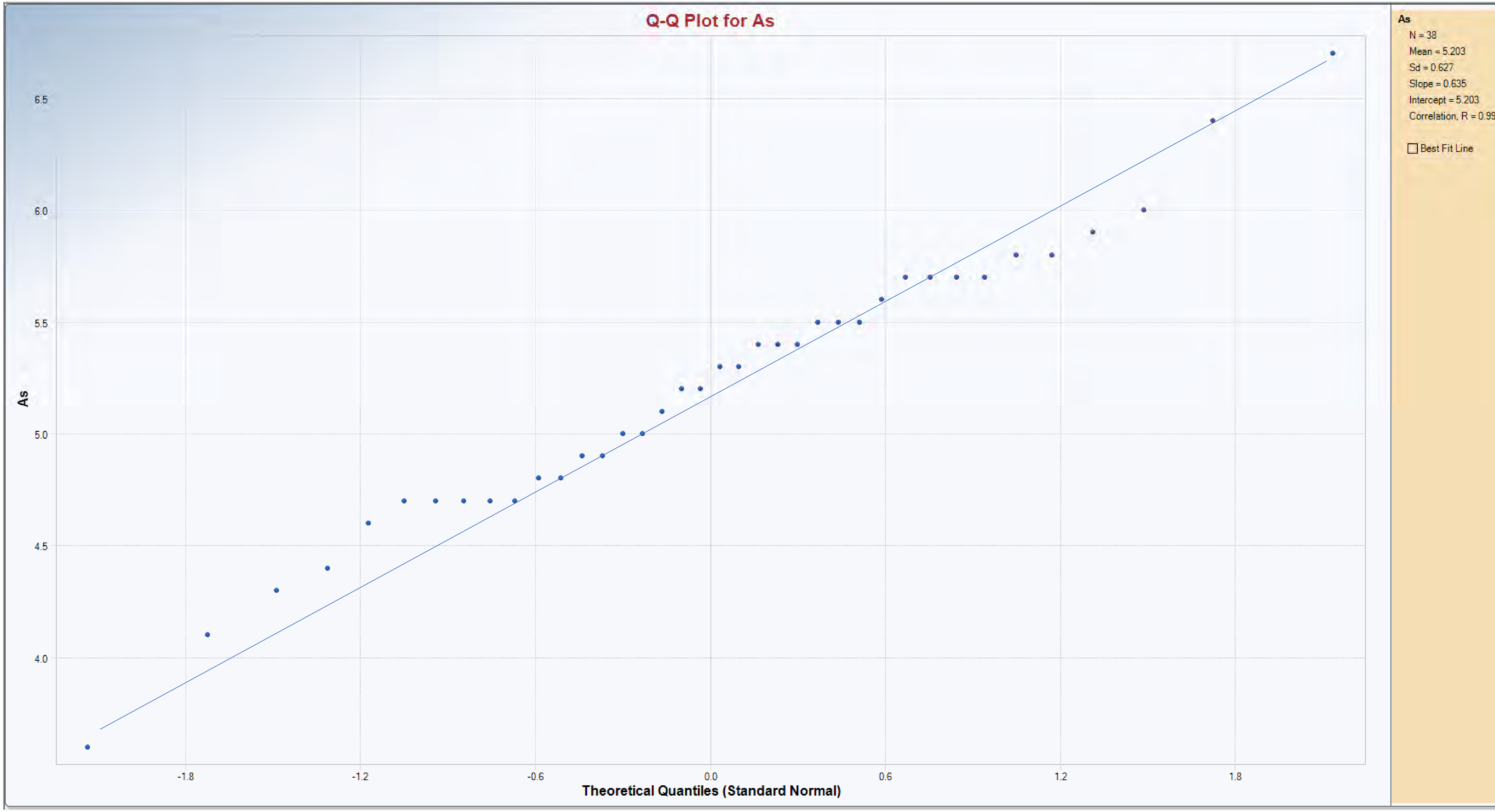
Representativeness and comparability for the samples are addressed by the correct implementation of procedures set forth in the DTSC approved Work Plan (NV5, 2019). The sampling and analysis were conducted in general accordance with the Work Plan.

APPENDIX D

Summary Statistics

	A
1	As
2	5.4
3	5.9
4	5.7
5	5.3
6	5
7	4.7
8	4.8
9	4.1
10	5.5
11	4.7
12	6.4
13	5.2
14	4.9
15	6
16	5.5
17	5.4
18	4.7
19	5.6
20	5.8
21	5
22	5.4
23	4.7
24	5.2
25	3.6
26	4.7
27	4.6
28	5.1
29	4.9
30	5.7
31	4.4
32	5.3
33	4.8
34	4.3
35	5.8
36	5.5
37	6.7
38	5.7
39	5.7


Box Plot for As
As
6.5
6.0
5.5
5.0
4.5
4.0
As


Q-Q Plot for As
As
6.5
6.0
5.5
5.0
4.5
4.0
-1.8
-1.2
-0.6
0.0
0.6
1.2
1.8
Theoretical Quantiles (Standard Normal)
As
N = 38
Mean = 5.203
Sd = 0.627
Slope = 0.635
Intercept = 5.203
Correlation, R = 0.99
Best Fit Line

	A	B	C	D	E	F	G	H	I	J	K	L
1					Outlier Tests for Selected Uncensored Variables							
2			User Selected Options									
3	Date/Time of Computation			ProUCL 5.11/29/2020 7:43:35 PM								
4				From File	WorkSheet.xls							
5				Full Precision	OFF							
6												
7												
8				Rosner's Outlier Test for As								
9												
10												
11			Mean	5.203								
12			Standard Deviation	0.627								
13			Number of data	38								
14			Number of suspected outliers	1								
15												
16				Potential	Obs.	Test	Critical	Critical				
17	#	Mean	sd	outlier	Number	value	value (5%)	value (1%)				
18	1	5.203	0.618	3.6	24	2.592	3.01	3.36				
19												
20	For 5% Significance Level, there is no Potential Outlier											
21												
22	For 1% Significance Level, there is no Potential Outlier											
23												

	Background Statistics for Uncensored Full Data Sets	
User Selected Options		
Date/Time of Computation	ProUCL 5.11/29/2020 7:44:24 PM	
From File	WorkSheet.xls	
Full Precision	OFF	
Confidence Coefficient	95%	
Coverage	95%	
New or Future K Observations	1	
Number of Bootstrap Operations	2000	

As

General Statistics

Total Number of Observations	38	Number of Distinct Observations	21
Minimum	3.6	First Quartile	4.725
Second Largest	6.4	Median	5.25
Maximum	6.7	Third Quartile	5.675
Mean	5.203	SD	0.627
Coefficient of Variation	0.12	Skewness	-0.0883
Mean of logged Data	1.642	SD of logged Data	0.124

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.132	d2max (for USL)	2.846

Normal GOF Test

Shapiro Wilk Test Statistic	0.987	Shapiro Wilk GOF Test
5% Shapiro Wilk Critical Value	0.938	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.0797	Lilliefors GOF Test
5% Lilliefors Critical Value	0.142	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	6.539	90% Percentile (z)	6.006
95% UPL (t)	6.274	95% Percentile (z)	6.233
95% USL	6.986	99% Percentile (z)	6.66

Gamma GOF Test

A-D Test Statistic	0.305	Anderson-Darling Gamma GOF Test
5% A-D Critical Value	0.746	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.0845	Kolmogorov-Smirnov Gamma GOF Test
5% K-S Critical Value	0.143	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	68.81	k star (bias corrected MLE)	63.4

Theta hat (MLE)	0.0756	Theta star (bias corrected MLE)	0.0821
nu hat (MLE)	5230	nu star (bias corrected)	4818
MLE Mean (bias corrected)	5.203	MLE Sd (bias corrected)	0.653

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	6.338	90% Percentile	6.056
95% Hawkins Wixley (HW) Approx. Gamma UPL	6.347	95% Percentile	6.322
95% WH Approx. Gamma UTL with 95% Coverage	6.649	99% Percentile	6.842
95% HW Approx. Gamma UTL with 95% Coverage	6.666		
95% WH USL	7.198	95% HW USL	7.231

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.976	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.938	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.091	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.142	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	6.721	90% Percentile (z)	6.051
95% UPL (t)	6.379	95% Percentile (z)	6.329
95% USL	7.341	99% Percentile (z)	6.885

Nonparametric Distribution Free Background Statistics

Data appear Normal at 5% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, r	38	95% UTL with 95% Coverage	6.7
Approx, f used to compute achieved CC	2	Approximate Actual Confidence Coefficient achieved by UTL	0.858
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	6.7	95% BCA Bootstrap UTL with 95% Coverage	6.7
95% UPL	6.415	90% Percentile	5.83
90% Chebyshev UPL	7.107	95% Percentile	6.06
95% Chebyshev UPL	7.97	99% Percentile	6.589
95% USL	6.7		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers
and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data
represents a background data set and when many onsite observations need to be compared with the BTV.

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options											
4	Date/Time of Computation			ProUCL 5.11/29/2020 7:44:45 PM								
5	From File			WorkSheet.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10												
11	As											
12												
13	General Statistics											
14	Total Number of Observations					38	Number of Distinct Observations					21
15							Number of Missing Observations					0
16	Minimum					3.6	Mean					5.203
17	Maximum					6.7	Median					5.25
18	SD					0.627	Std. Error of Mean					0.102
19	Coefficient of Variation					0.12	Skewness					-0.0883
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic					0.987	Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value					0.938	Data appear Normal at 5% Significance Level					
24	Lilliefors Test Statistic					0.0797	Lilliefors GOF Test					
25	5% Lilliefors Critical Value					0.142	Data appear Normal at 5% Significance Level					
26	Data appear Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL					5.374	95% Adjusted-CLT UCL (Chen-1995)					5.368
31							95% Modified-t UCL (Johnson-1978)					5.374
32												
33	Gamma GOF Test											
34	A-D Test Statistic					0.305	Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value					0.746	Detected data appear Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic					0.0845	Kolmogorov-Smirnov Gamma GOF Test					
37	5% K-S Critical Value					0.143	Detected data appear Gamma Distributed at 5% Significance Level					
38	Detected data appear Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)					68.81	k star (bias corrected MLE)					63.4
42	Theta hat (MLE)					0.0756	Theta star (bias corrected MLE)					0.0821
43	nu hat (MLE)					5230	nu star (bias corrected)					4818
44	MLE Mean (bias corrected)					5.203	MLE Sd (bias corrected)					0.653
45							Approximate Chi Square Value (0.05)					4658

46	Adjusted Level of Significance	0.0434	Adjusted Chi Square Value	4651
47				
48	**Assuming Gamma Distribution**			
49	95% Approximate Gamma UCL (use when n>=50))	5.382	95% Adjusted Gamma UCL (use when n<50)	5.389
50				
51	**Lognormal GOF Test**			
52	Shapiro Wilk Test Statistic	0.976	**Shapiro Wilk Lognormal GOF Test**	
53	5% Shapiro Wilk Critical Value	0.938	Data appear Lognormal at 5% Significance Level	
54	Lilliefors Test Statistic	0.091	**Lilliefors Lognormal GOF Test**	
55	5% Lilliefors Critical Value	0.142	Data appear Lognormal at 5% Significance Level	
56	**Data appear Lognormal at 5% Significance Level**			
57				
58	**Lognormal Statistics**			
59	Minimum of Logged Data	1.281	Mean of logged Data	1.642
60	Maximum of Logged Data	1.902	SD of logged Data	0.124
61				
62	**Assuming Lognormal Distribution**			
63	95% H-UCL	5.388	90% Chebyshev (MVUE) UCL	5.517
64	95% Chebyshev (MVUE) UCL	5.659	97.5% Chebyshev (MVUE) UCL	5.857
65	99% Chebyshev (MVUE) UCL	6.244		
66				
67	**Nonparametric Distribution Free UCL Statistics**			
68	**Data appear to follow a Discernible Distribution at 5% Significance Level**			
69				
70	**Nonparametric Distribution Free UCLs**			
71	95% CLT UCL	5.37	95% Jackknife UCL	5.374
72	95% Standard Bootstrap UCL	5.368	95% Bootstrap-t UCL	5.377
73	95% Hall's Bootstrap UCL	5.372	95% Percentile Bootstrap UCL	5.361
74	95% BCA Bootstrap UCL	5.374		
75	90% Chebyshev(Mean, Sd) UCL	5.508	95% Chebyshev(Mean, Sd) UCL	5.646
76	97.5% Chebyshev(Mean, Sd) UCL	5.837	99% Chebyshev(Mean, Sd) UCL	6.214
77				
78	**Suggested UCL to Use**			
79	95% Student's-t UCL	5.374		
80				
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.			
82	Recommendations are based upon data size, data distribution, and skewness.			
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).			
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.			
85				
86	**Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be**			
87	**reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.**			
88				

APPENDIX E

Risk Assessment

Table E1. Toxicity Values
Hamilton Union High School Expansion
Hamilton City, Glenn County, California

Analyte	CAS No.	RfDo (mg/kg-day)		RfDi (mg/kg-day)			SFo $(mg/kg\text{-}day)^{-1}$		SFi $(mg/kg\text{-}day)^{-1}$			ABS
		value	source	RfCi (mg/m^3)	source	value	value	source	IUR $(ug/m^3)^{-1}$	source	value	
Arsenic, inorganic	7440-38-2	3.5E-06	OEHHA	1.5E-05	OEHHA	3.8E-06	9.5E+00	OEHHA PHG	4.3E-03	IRIS	1.7E+01	0.03
Barium	7440-39-3	2.0E-01	IRIS	5.0E-04	HEAST	1.3E-04	--	--	--	--	--	0.01
Cadmium	7440-43-9	1.0E-03	IRIS	1.0E-05	ATSDR	2.5E-06	--	--	4.2E-03	OEHHA	1.7E+01	0.001
Chromium (III), insoluble salts	16065-83-1	1.5E+00	IRIS	--	--	--	--	--	--	--	--	0.01
Cobalt	7440-48-4	3.0E-04	PPRTV	6.0E-06	PPRTV	1.5E-06	--	--	9.0E-03	PPRTV	3.6E+01	0.01
Copper	7440-50-8	4.0E-02	HEAST	--	--	--	--	--	--	--	--	0.01
Lead and compounds	7439-92-1	Lead is evaluated using the LeadSpread 8 model (DTSC, 2011 Sept)										
Mercury, elemental	7439-97-6	1.6E-04	OEHHA	3.0E-05	OEHHA	7.5E-06	--	--	--	--	--	0.01
Nickel, soluble salts	7440-02-0	1.1E-02	OEHHA	1.4E-05	OEHHA	3.5E-06	--	--	2.6E-04	OEHHA	1.0E+00	0.01
Vanadium and compounds	7440-62-2	5.0E-03	RSL	1.0E-04	ATSDR	2.5E-05	--	--	--	--	--	0.01
Zinc and compounds	7440-66-6	3.0E-01	IRIS	--	--	--	--	--	--	--	--	0.01
4,4-DDE	72-55-9	3.0.E-04	PPRTV	1.2.E-03	R(PPRTV)	3.0E-04	3.4.E-01	IRIS	9.7.E-05	OEHHA	3.9E-01	0.05

Notes:
ABS = dermal absorption fraction (PEA Guidance Manual, Appendix A, Table 2)
ATSDR = Agency for Toxic Substances and Disease Registry
Conversions per Supplemental Guidance to RAGS: Region 4 Bulletins Human Health Risk Assessment (US EPA, November 1995), with updated body weight (DTSC, 2014)
HEAST = US EPA Office of Research and Development, Health Effects Assessment Summary Tables
IRIS = US EPA Integrated Risk Information System (http://www.epa.gov/iris/)
IUR = inhalation unit risk
OEHHA = CalEPA Office of Environmental Health Hazard Assessment
PPRTV = Provisional Peer Reviewed Toxicity Values, US EPA OSWER Office of Superfund Remediation Technology Inovation (OSRTI)
R = extrapolated from an oral toxicity value
RfCi = reference concentraton for inhalation exposure
RfDi = reference dose for chronic inhalation exposure: RfDi [mg/kg-day] = RfCi $[mg/m^3]$ * $(20\ m^3/day)$ * $(80\ kg)^{-1}$
RfDo = reference dose for chronic oral exposure
RSL = USEPA Region IX RSL user guide Section 5: Value is based on IRIS oral RfD for Vanadium Pentoxide, factoring out the molecular weight (MW) of the oxide ion.
SFi = cancer slope factor for inhalation exposure: SFi $[(mg/kg\text{-}day)^{-1}]$ = IUR $[(ug/m^3)^{-1}]$ * $(10^3 ug/mg)$ * (80 kg) * $(20m^3/day)^{-1}$.
SFo = cancer slope factor for oral exposure
* Appendix PPRTV Screen (see USEPA FAQ #27, http://www.epa.gov/region9/superfund/prg/)

Table E2 - Summary of Risk/Hazard Calculations for Standard Exposure Scenario (Unrestricted Land Use), Entire Site, All Detected Constituents
Hamilton Union High School Expansion
Hamilton City, Glenn County, California

Analyte	EPC Source	RfDo (mg/kg-day)	RfDi (mg/kg-day)	Sfo $(mg/kg\text{-}day)^{-1}$	Sfi $(mg/kg\text{-}day)^{-1}$	ABS	Cs (mg/kg)	Ca (mg/m^3)	$Hazard_{soil}$	$Hazard_{air}$	Hazard, soil + air	$Risk_{soil}$	$Risk_{air}$	Risk, soil + air
Arsenic	Max Detect	3.5E-06	3.8E-06	9.5E+00	1.7E+01	0.03	6.7	4.93E-09	1.68E+01	8.40E-04	1.68E+01	6.18E-05	1.04E-08	6.18E-05
Barium	Max Detect	2.0E-01	1.3E-04	--	--	0.01	200	1.47E-07	1.32E-02	7.52E-04	1.39E-02			0.00E+00
Cadmium	Max Detect	1.0E-03	2.5E-06	--	1.7E+01	0.00	0.57	4.19E-10	7.31E-03	1.07E-04	7.42E-03		8.68E-10	8.68E-10
Chromium	Max Detect	1.5E+00	--	--	--	0.01	41	3.01E-08	3.60E-04		3.60E-04			0.00E+00
Cobalt	Max Detect	3.0E-04	1.5E-06	--	3.6E+01	0.01	9.8	7.21E-09	4.30E-01	3.07E-03	4.33E-01		3.20E-08	3.20E-08
Copper	Max Detect	4.0E-02	--	--	--	0.01	26	1.91E-08	8.55E-03		8.55E-03			0.00E+00
Mercury	Max Detect	1.6E-04	7.5E-06	--	--	0.01	0.036	2.65E-11	2.96E-03	3.27E-02	3.56E-02			0.00E+00
Nickel	Max Detect	1.1E-02	3.5E-06	--	1.0E+00	0.01	59	4.34E-08	7.06E-02	7.92E-03	7.85E-02		5.56E-09	5.56E-09
Vanadium	Max Detect	5.0E-03	2.5E-05	--	--	0.01	30	2.21E-08	7.89E-02	5.64E-04	7.95E-02			0.00E+00
Zinc	Max Detect	3.0E-01	--	--	--	0.01	81	5.96E-08	3.55E-03		3.55E-03			0.00E+00
4,4-DDE	Max Detect	3.0E-04	3.0E-04	3.4E-01	3.9E-01	0.05	4.3E-05	3.16E-14	1.37E-06	6.74E-11	1.37E-06	1.52E-11	1.51E-15	1.52E-11
TOTAL									1.74E+01	4.59E-02	**1.7E+01**	6.18E-05	4.89E-08	**6.2E-05**

Notes:
1 Cadmium hazard evaluated per HHRA Note 3 (DTSC, 2016) considering 26-year adult exposure
ABS = dermal absorption fraction (PEA Guidance Manual, Appendix A, Table 2)
Ca $[mg/m^3]$ = air concentration = Cs [mg/kg] * (PEF $[m^3/kg])^{-1}$
Cs [mg/kg] = soil concentration
ND = not detected
NL = not listed in reviewed toxicological data sources
RfDo = reference dose for chronic oral exposure
RfDi = reference dose for chronic inhalation exposure
Sfo = standard oral slope factor
Sfi = standard inhalation slope factor
UCL = upper confidence limit

Hazard Index excluding arsenic:	6.6E-01		Risk excluding Arsenic:	3.8E-08
Arsenic Hazard Quotient:	1.7.E+01		Arsenic Risk:	6.2E-05

Parameter	Value, child	Value, adult	Units	Reference
ATc, averaging time (carcinog	70	70	yr	HERO HHRA Note No. 1 (DTSC, 2014)
ATnc, averaging time (non-car	6	20	yr	HERO HHRA Note No. 1 (DTSC, 2014)
EFs, exposure frequency (inge	350	350	days/yr	HERO HHRA Note No. 1 (DTSC, 2014)
EFd, exposure frequency (derr	350	100	days/yr	PEA Guidance Manual
EFi, exposure frequency (inhal	350	350	days/yr	HERO HHRA Note No. 1 (DTSC, 2014)
ED, exposure duration	6	20	yr	HERO HHRA Note No. 1 (DTSC, 2014)
ET, exposure time	24	24	hr/day	HERO HHRA Note No. 3 (DTSC, 2016)
IRs, soil ingestion rate	200	100	mg/day	HERO HHRA Note No. 1 (DTSC, 2014)
IRa, inhalation rate	10	20	m^3/day	HERO HHRA Note No. 1 (DTSC, 2014)
BW, body weight	15	80	kg	HERO HHRA Note No. 1 (DTSC, 2014)
SA, exposed skin surface area	2,900	6,032	cm^2	HERO HHRA Note No. 1 (DTSC, 2014)
AF, adherance factor	0.2	0.07	mg/cm^2	HERO HHRA Note No. 1 (DTSC, 2014)
PEF, particulate emission fact	1.360E+09	1.360E+09	m^3/kg	HERO HHRA Note No. 1 (DTSC, 2014)

PEA Guidance Manual = Preliminary Endangermant Assessment Guidance Manual (DTSC, June 1999)
Human-Exposure-Based Screening Numbers Developed to Aid Estimation of Cleanup Costs for Contaminated Soil (OEHHA, November 2004, revised January 2005)
HERO Human Health Risk Assessment Note No. 1, Recommended DTSC Default Exposure Factors for Use in Risk Assessment, DTSC, September 30, 2014.

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

Click here for ABBREVIATED INSTRUCTIONS FOR LEADSPREAD 8

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	5.9
Respirable Dust (ug/m^3)	1.5

OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.0	0.1	0.1	0.1	0.1
BLOOD Pb, PICA CHILD	0.1	0.2	0.2	0.2	0.2

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	7
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm^2	2900
Soil adherence	ug/cm^2	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m^3/day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
Pathway	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	5.8E-5	0.00	1%		0.00	0%
Soil Ingestion	7.0E-3	0.04	99%	1.4E-2	0.08	100%
Inhalation	2.0E-6	0.00	0%		0.00	0%

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MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELMIINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	
PbS	Soil lead concentration	ug/g or ppm	5.9
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4
GSD_i	Geometric standard deviation PbB	--	1.8
PbB_0	Baseline PbB	ug/dL	0.0
IR_S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12
$EF_{S, D}$	Exposure frequency (same for soil and dust)	days/yr	250
$AT_{S, D}$	Averaging time (same for soil and dust)	days/yr	365
PbB_{adult}	**PbB of adult worker, geometric mean**	**ug/dL**	**0.0**
$PbB_{fetal, 0.90}$	90th percentile PbB among fetuses of adult workers	ug/dL	0.0
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	**1.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**	**%**	**0.0%**

PRG90 **318**

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APPENDIX D

NOISE AND VIBRATION TECHNICAL REPORT

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).

- **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."

- **Maximum Sound Level (L_{max}).** The highest RMS sound level measured during the measurement period.

- **Root Mean Square Sound Level (RMS).** The square root of the average of the square of the sound pressure over the measurement period.

- **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.

- **Peak Particle Velocity (PPV).** The peak rate of speed at which soil particles move (e.g., inches per second) due to ground vibration.

- **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). 2013, September. Technical Noise Supplement ("TeNS").

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). 2013, September. Transportation and Construction Vibration Guidance Manual.

LOCAL REGULATIONS AND STANDARDS

Two storm drain maintenance districts and a County Service Area have been formed in Glenn County to dispose of storm waters. These entities are described below.

Storm Drain Maintenance District #1.

Storm Drain Maintenance District #1 has an independent Board of Directors and staff, and provides service to an area southeast of Orland. The District maintains a natural drain (which runs southeast through the District) as needed.

North Willows County Service Area (formerly Storm Drain Maintenance District #2).

North Willows County Service Area provides service to an area northeast of Willows. This CSA, which is administered by the County Public Works Department, maintains natural drains and a pipeline system with a pump. The CSA has three long-range plans under consideration:

- Diversion of some drainage west of I-5.
- Development of standby power for the pumps.

Storm Drain Maintenance District #3.

Storm Drain Maintenance District #3 is governed by the Board of Supervisors and provides service to an area located between the Kanawha Water District and the Willows Airport. The District is administered by the County Public Works Department, which maintains a natural drain that traverses the area. The water then drains east across the south end of the Willows Airport. The Kanawha Water District cooperates with the District to maintain the drain (Glenn County General Plan, Land Use Element, 1985).

3.6 EXISTING NOISE ENVIRONMENT

The State Noise Element Guidelines require that major noise sources within the county be identified and quantified by preparing generalized noise contours for current and projected conditions. Significant noise sources in Glenn County include traffic on major roadways and highways, railroad operations, airports, and representative industrial activities and fixed noise sources. Please refer to Appendix D for definitions of acoustical terminology used in this Section.

Noise modeling techniques and noise measurements were used to develop generalized L_{dn} noise contours for the major roadways, railroads and fixed noise sources, where practical, in Glenn County for existing (1991) conditions.

Noise modeling techniques use source-specific data including average levels of activity, hours of operation, seasonal fluctuations, and average levels of noise from source operations. Modeling methods have been developed for a number of environmental noise sources including roadways, railroad line operations, railroad yard operations, industrial plants and airports. Such methods produce reliable results as long as data inputs and assumptions are valid. The modeling methods used closely follow recommendations made by the State Office of Noise Control, and were supplemented where appropriate by field-measured noise level data to account for local conditions. The noise exposure contours are based upon annual average conditions. Because local topography, vegetation or intervening structures may significantly affect noise exposure at a particular location, the noise contours should not be considered site-specific.

A community noise survey was conducted to describe existing noise levels in noise-sensitive areas within Glenn County so that noise level performance standards could be developed to maintain an acceptable noise environment.

3.6.1 Roadways

The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) was used to develop L_{dn} contours for all highways and major roadways in the unincorporated portion of Glenn County. The FHWA Model is the analytical method presently favored for traffic noise prediction by most State and local agencies, including Caltrans. The current version of the model is based upon the California Vehicle Noise (CALVENO) noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver and the acoustical characteristics of the site. The FHWA Model predicts hourly L_{eq} values for free-flowing traffic conditions, and is generally considered to be accurate within 1.5 dB. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical 24-hour day and to adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Short-term (15-minute) traffic noise measurements and concurrent traffic counts were conducted for traffic on Interstate 5 and State Routes 162, 45 and 32 (see Figure 3-1) on May 23-24, 1991. The noise measurements were made to evaluate the noise exposure due to traffic on those roadways. The purpose of the traffic noise level measurements was to determine the accuracy of the FHWA model in describing the existing noise environment at the site. Noise measurement results were compared to the FHWA model results by entering the observed traffic volumes, speed and distance as inputs to the FHWA model.

Traffic data representing annual average traffic volumes for existing conditions were obtained from Caltrans and Dowling Associates traffic consultants as summarized in Appendix E. Day/night traffic distribution and truck mix were based upon Caltrans and file data. Using these data and the FHWA methodology, traffic noise levels as defined by L_{dn} were calculated for existing (1990) traffic volumes. Distances from the centerlines of selected roadways to the L_{dn} contours are summarized in Table 3-1. These calculations do not include consideration of shielding caused by local buildings or topographical features, so the distances reported in Table 3-1 are worst-case estimates of noise exposure along roadways in the county.

Existing traffic volumes were not available for all major county roads. However, Figure 3-2, prepared using the FHWA Model, may be used to estimate the distance to the 60 dB L_{dn} contour for projected volumes of arterial traffic. For arterial traffic, the predicted distance to the 60 dB L_{dn} contour is determined by the Average Daily Traffic Volume (ADT) and the posted speed limit. L_{dn} contours derived from Figure 3-2 are only indicators of potential noise conflicts, requiring more detailed analysis to determine traffic noise levels at any given location.

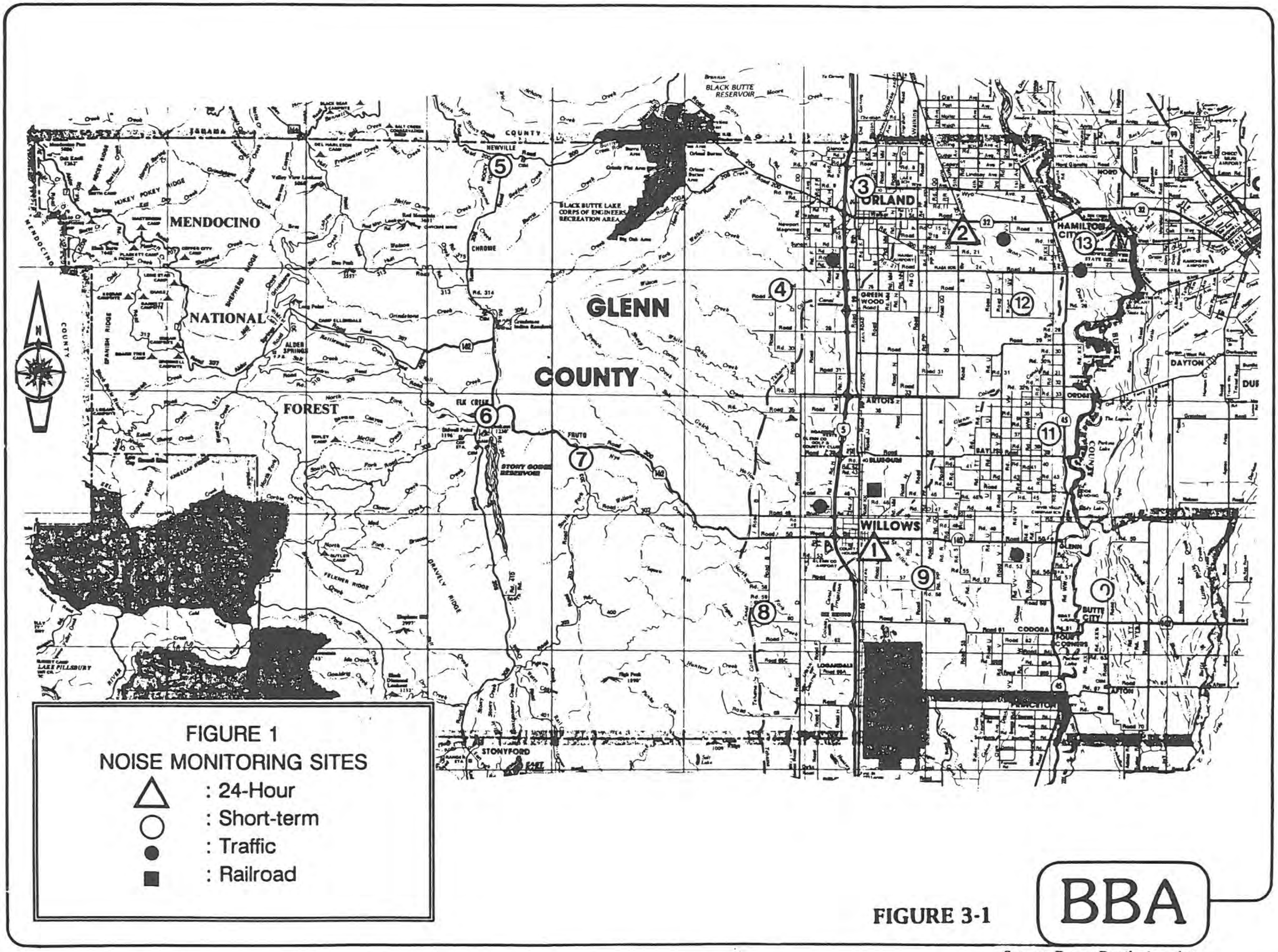


FIGURE 3-1

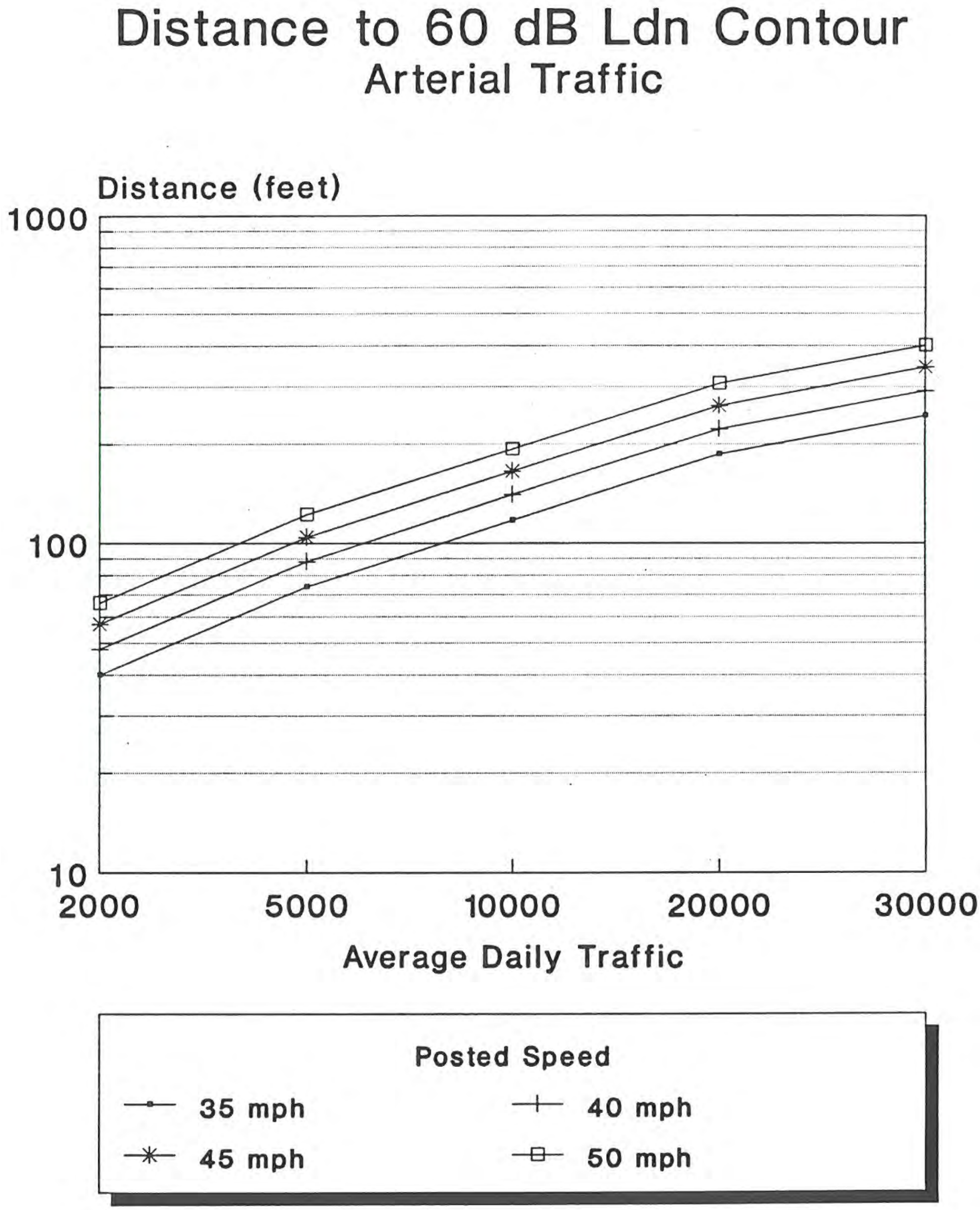
Source: Brown-Buntin Associates

TABLE 3-1
TRAFFIC NOISE CONTOUR DATA
DISTANCE (FEET) FROM CENTER OF ROADWAY
TO L_{dn} CONTOURS*

Segment	Description	Existing 60 dB	Existing 65 dB
Interstate 5:			
1	Colusa County Line to S.R. 162	752	349
2	S.R. 162 to County Road 33	872	405
3	County Road 33 to S.R. 32	766	355
4	S.R. 32 to Tehama County Line	750	348
State Route 32:			
5	I-5 to County Road South	163	75
6	County Road South to S.R. 45 S	212	99
7	S.R. 45 S to Butte County Line	228	106
State Route 45:			
8	Colusa County Line to S.R. 162 E	116	54
9	S.R. 162 E to County Line 56	97	45
10	County Road 56 to S.R. 162 W	97	45
11	S.R. 162 W to County Road 29	101	47
12	County Road 29 to S.R. 32	391	182
State Route 162:			
13	County Road 307 to County Road 306 N	36	17
14	County Road 306 N to County Road 306 S	49	23
15	County Road 306 S to I-5	92	43
16	I-5 to Willows City Limit West	199	92
17	Willows City Limit East to County Road P	101	47
18	County Road P to S.R. 45 N	71	33

Instrumentation included Larson Davis Laboratories (LDL) Models 800B and 700B integrating sound level meters which were calibrated in the field before measurements to ensure measurement accuracy.
Source: Brown-Buntin Associates

FIGURE 3-2



FHWA RD-77-108

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5150 Sunrise Blvd., Suite D-3 • Fair Oaks, CA 95628 • (916) 961-5822 • Fax: (916) 961-6418
807 West Oak Ave., Suite B • Visalia, CA 93291 • (209) 627-4923 • Fax: (209) 627-6284

Source: Brown-Buntin Associates

3.6.2 Railroads

Railroad activity in Glenn County includes freight trains on the Southern Pacific Transportation Company (SPTCo) trackage which travels north/south through the county. In addition, there are two spurs from the mainline which service the Holly Sugar Corporation in Hamilton City and the Manville Building Insulation Plant located west of the City of Willows.

SPTCo officials at the SPTCo Northern Train Dispatchers Office report that approximately five operations per day occur on the mainline through the county. The trains are distributed on a random basis throughout the day. Approximately one train per day serves the Holly Sugar Corporation and one train per week uses the Manville Plant spur. There are no reported Amtrak operations through the County.

Railroad noise measurements were conducted within the county on June 5-6, 1991 for a 24-hour period. The measurements were conducted to determine the contribution of SPTCo railroad operations to the area noise environment. The monitoring site was located approximately 50 feet from the centerline of the tracks.

The purpose of the noise level measurements was to determine a typical sound exposure level (SEL) for railroad line operations in the county, accounting for the effects of local topography, climate, travel speed and other factors which may affect noise generation. The data thus derived could then be compared to other file data for railroad operational noise levels to better describe the railroad noise environment as it affects the area noise environment, and an annual average L_{dn} could be calculated. Locomotive noise was the major contributor to railroad noise levels as defined by SEL. At 50 feet from the tracks, the average SEL for freight train operations was observed to be 101.0 dB, and the average maximum (L_{max}) measured sound level was 85.3 dB.

Based upon the noise level data and methods of calculation described in Table 3-2, the L_{dn} at a distance of 50 feet from the railroad track centerline is 65 dB. Predicted distances to the 60 and 65 dB L_{dn} contours are shown in Table 3-2.

TABLE 3-2 RAILROAD NOISE: SOUTHERN PACIFIC TRANSPORTATION COMPANY	
Distance to L_{dn} Contour*	
60 dB	65 dB
108 feet	50 feet

* Instrumentation consisted of a Larson Davis Laboratories (LDL) 700B integrating sound level meter, calibrated before use with an LDL CA250 acoustical calibrator.

To determine the distances to the 60 and 65 dB railroad L_{dn} contours, it was necessary to calculate the L_{dn} for typical freight train operations. This was done using the measured SEL value and above-described number and distribution of daily freight train operations. The L_{dn} contribution may be calculated as follows:

$$L_{dn} = \overline{SEL} + 10 \log N_{eq} - 49.4 \text{ dB, where:}$$

$\overline{SEL}$ is the mean SEL of the event, N_{eq} is the sum of the number of daytime events (7 a.m. to 10 p.m.) per day plus ten times the number of nighttime events (10 p.m. to 7 a.m.) per day, and 49.4 is 10 log the number of seconds per day.

Source: Brown-Buntin Associates

3.6.3 Fixed Noise Sources

The production of noise is a result of many industrial processes, even when the best available noise control technology is applied. Noise exposures within industrial facilities are controlled by Federal and State employee health and safety regulations (OSHA and Cal-OSHA), but exterior noise levels may exceed locally acceptable standards. Commercial, recreational and public service facility activities can also produce noise which affects adjacent sensitive land uses.

The following descriptions of existing fixed noise sources in Glenn County are intended to be representative of the relative noise impacts of such uses, and to identify specific noise sources which should be considered in the review of development proposals.

Glenn Growers Rice Drying Facility:

Rice is one of the major crops produced in Glenn County. Glenn Growers is located in Four Corners, and is one of a number of rice drying industrial facilities within Glenn County. Charles Keeney of Glenn Growers indicated that the plant operates from 8:00 a.m. to 5:00 p.m. five days per week. However, during the period from September 15 to November 1, the plant is in full operation, operating 24 hours per day, seven days per week.

The primary noise sources associated with the Glenn Growers operation, and most grain drying facilities, are elevators, screw conveyors and dryer motors. When the field work was conducted for the Glenn County General Plan, the Glenn Growers facility was not in full operation. However, file data from the PIRMI rice drying plant in Woodland collected during October 1987 indicates that the average noise level of a rice drying operation when the blowers and conveyors are operating is 70.5 dB at a distance of approximately 50 feet from the facility. The projected location to the 50 dB L_{eq} noise level contour associated with rice drying facilities is approximately 100 feet.

Manville Industrial Facility:

The Manville industrial facility, which is located west of the City of Willows, produces home insulation materials. According to Ronald Greenberg of Manville, the facility operates 24 hours per day, 365 days per year. The major noise sources include large fans which are used for manufacturing, truck traffic to and from the site (approximately 70 heavy trucks per day), and the railroad spur which accommodates one train per week.

Using the FHWA model, the L_{dn} associated with the truck traffic to and from the site is 59.3 dB at a distance of 50 feet from the access road. This is based upon an average of 70 heavy trucks per day (140 one-way trips), at an average speed of 35 mph, and a day/night split of 85%/15%.

Noise level data was collected from the Manville plant on May 23, 1991. The average sound level associated with the industrial processing was 57.5 dB at a distance of approximately 750 feet. The primary noise source was blowers. The approximate location of the 50 dB L_{eq} contour for industrial processing at the Manville plant is approximately 1,775 feet.

Holly Sugar Corporation:

The Holly Sugar Corporation is located on East 1st Street in Hamilton City. Discussions with Norman Bates, the factory manager at Holly Sugar Corporation, indicate that the major noise sources are associated with truck traffic, conveyor systems, centrifugal units housed inside on-site buildings, heavy equipment and the train which serves the plant once per day. The Holly Sugar Corporation operates on a seasonal basis, with the peak seasons occurring approximately six months during a year. During peak operations, the plant operates 24 hours per day; during the non-peak seasons, the plant operates eight hours per day.

During the time of the field investigations, there were no evident noise sources associated with the Holly Sugar plant processing. The plant manager did not give an indication on the amount of truck traffic to and from the site, and therefore an L_{dn} value associated with the truck traffic was not calculated.

Although there are no noise level data for the Holly Sugar Corporation, it should be noted that this facility could potentially produce noise levels which could be considered unacceptable at nearby noise sensitive receivers.

Sand and Gravel Operations:

There are numerous rock and sand and gravel operations located in Glenn County. The operations include the Baldwin Contracting Company Stony Creek Sand and Gravel Plant, Valley Rock Products Inc., and Martin Sand and Gravel. These facilities typically operate between the hours of 8:00 a.m. and 5:00 p.m. The primary noise sources associated with sand and gravel operations include truck traffic to and from the site, front loaders, warning beepers, belly scrapers, conveyors, and jaw and cone crushers.

The overall noise level associated with these types of operations will vary based upon the size of the operation. It should be noted that these types of operations are not considered to be compatible with noise sensitive land uses.

Miscellaneous Farming Operations:

Farming operations are common throughout Glenn County, especially on the Valley floor. Some of the more common noise sources associated with farming operations include tractors, harvesting equipment and spray equipment. Examples of noise levels produced by such equipment are shown in Table 3-3.

The noise levels described in Table 3-3 do not include all types of farm equipment, but represent a range of levels which may be expected. A general rule is that a diesel engine will produce noise levels of 75-85 dB at approximately 50 feet. Although farming operations occasionally generate a significant noise level, such levels generally do not last more than a few hours at a given location unless a stationary piece of equipment such as a pump motor (or engine) is involved. It should be noted that nighttime operation of farming equipment adjacent to residential areas may be perceived as annoying, particularly if sleep is disrupted.

TABLE 3-3

TYPICAL NOISE LEVELS ASSOCIATED WITH FARM EQUIPMENT

Equipment	Distance (feet)	Sound Level, dB
Diesel Wheel Tractor		
-with Disc	150	72-75
-with Furrow	50	69-79
Weed Sprayer (1-cylinder)	50	74-75
Aero Fan 391 Speed Sprayer	200	74-76

Source: Brown-Buntin Associates, Inc.

Airport Noise

There are two airports located within Glenn County, the Willows Glenn County Airport and the Orland Haigh Field Airport.

- <u>Willows Glenn County Airport:</u>

  The Willows Glenn County Airport is a public use airport which is operated by Glenn County. According to the 1990 California Aviation System Plan, there are 56 based aircraft at the airport with a total of 30,000 annual operations. The airport has two runways with headings of 13/31 and 16/34 and runway lengths of 4210 feet and 4506 feet respectively.

  Glenn County adopted a Comprehensive Airport Land Use Plan (CLUP) in May 1990. The CLUP states that there are 49 airplanes and two helicopters based at the Willows Glenn County Airport. There has been virtually no growth at the airport since 1978. However, the CLUP anticipates that, as the Willows area grows, the number of aircraft will increase. Existing and future (Year 2000) 60 dB CNEL contours were developed by Wadell Engineering for the CLUP. These CNEL contours are shown in Figure 3-3.

- Orland Haigh Field Airport:

  The Orland Haigh Field Airport is a public use airport which is operated by Glenn County. According to the 1990 California Aviation System Plan, there are 75 based aircraft at the airport with a total of 20,000 annual operations. The airport has one runway with a heading of 15/33 and a runway length of 5160 feet.

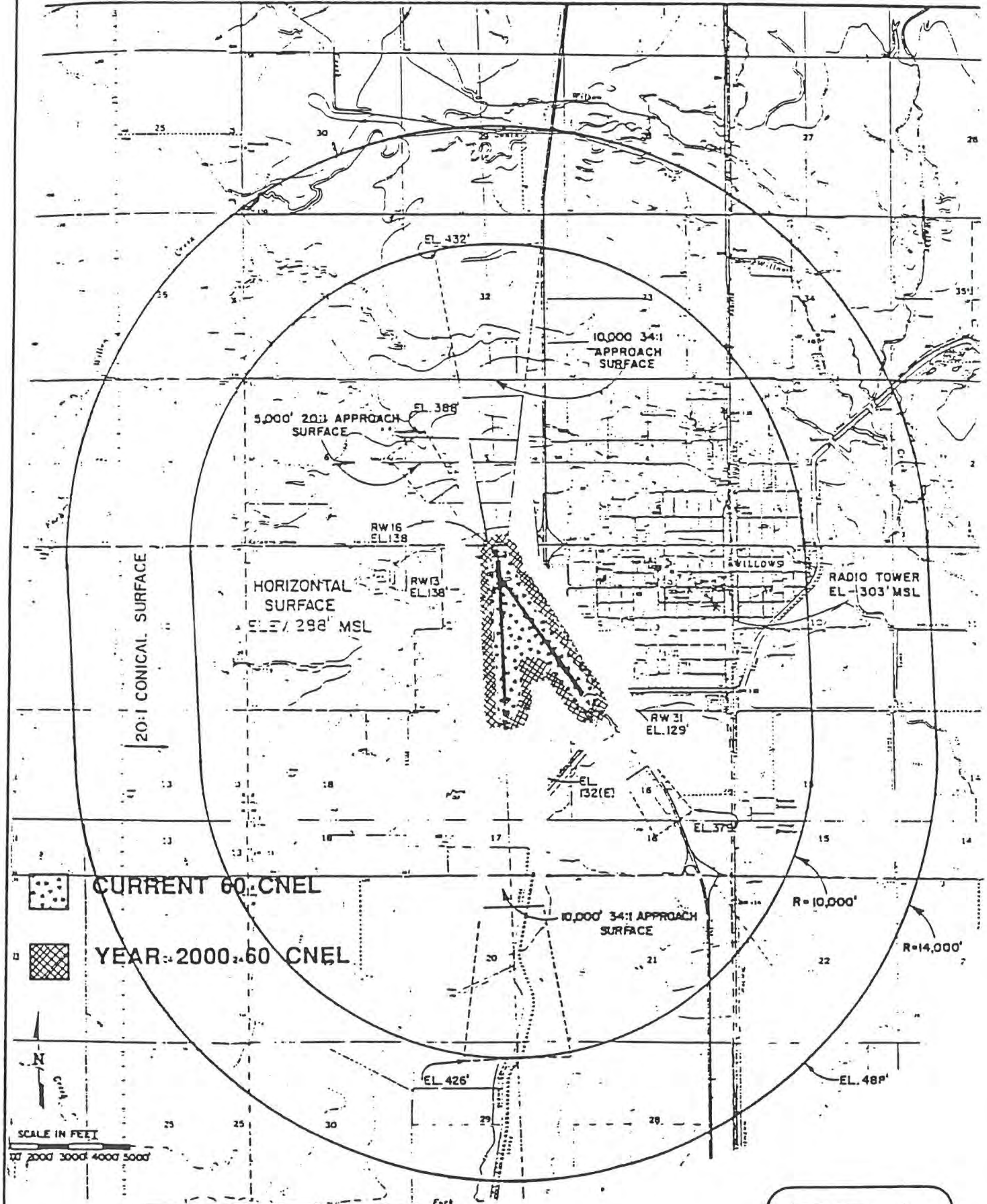
  Glenn County adopted a Comprehensive Airport Land Use Plan (CLUP) in February 1991. The CLUP states that in 1988 there were 55 aircraft based at the Orland Haigh Field Airport, with the majority of aircraft being single-engine airplanes. The CLUP forecasts a total of 80 based aircraft at the Orland Haigh Field Airport in the year 2008. Existing (Year 1988) 55 dB CNEL, and future (Year 2008) 55 and 60 dB CNEL contours were developed by Hodges and Shutt for the CLUP. These CNEL contours are shown in Figure 3-4.

- Crop Dusters:

  Glenn County staff has expressed concern about the noise associated with crop dusting activities. Aerial application aircraft are frequently used to spray crops or to spread seed or fertilizers. There are many types of fixed or rotary wing aircraft used for aerial application, including aircraft with radial and turbine engines, and 2- or 3-bladed propellers. Most of the noise impacts generated by aerial application aircraft occur as the result of propeller noise and the low altitude at which the aircraft are typically flown. One of the most widely used aerial application aircraft in the Glenn County area is the Grumman Ag Cat.

FIGURE 3-3

Willows Glenn County Airport Current & Year 2000 60 dB CNEL Noise Contours



SOURCE: WADELL ENGINEERING

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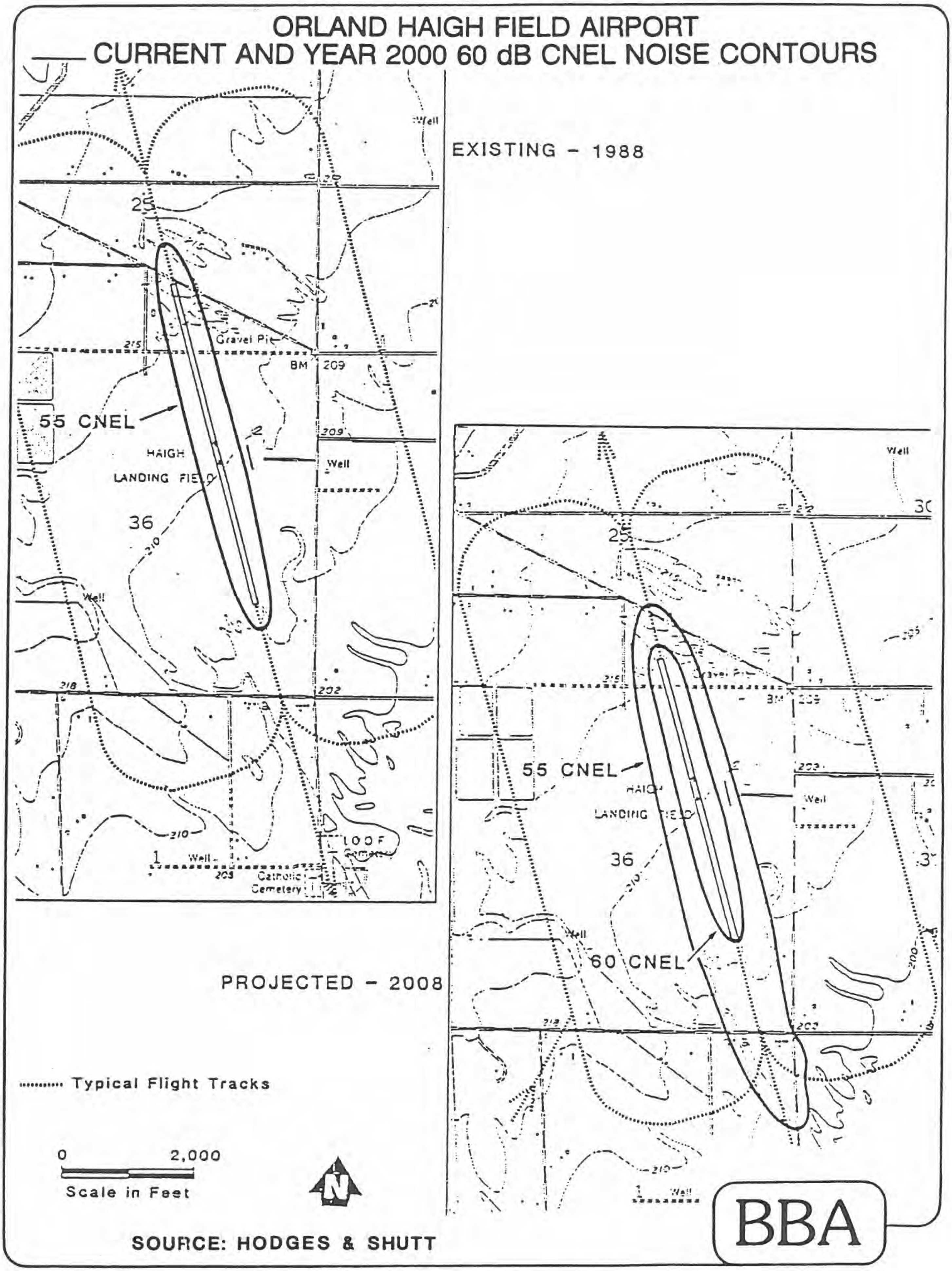
FIGURE 3-4


ORLAND HAIGH FIELD AIRPORT
CURRENT AND YEAR 2000 60 dB CNEL NOISE CONTOURS
EXISTING - 1988
PROJECTED - 2008
55 CNEL
60 CNEL
HAIGH
LANDING FIELD
Gravel Pit
BM 209
Well
Catholic Cemetery
I O O F Cemetery
Typical Flight Tracks
0 2,000
Scale in Feet
N
SOURCE: HODGES & SHUTT
BBA

To characterize noise impacts associated with aerial application aircraft, file data was utilized which was collected for the Grumman Ag Cat aircraft at Alta Airport in Tulare County. Consultation with aerial application aircraft operators, field observations, and noise measurements indicated that it was not practical, nor representative of perceived noise impacts, to prepare CNEL contours for frequent operations by aerial application aircraft. This is because aerial application operations generally follow the shortest possible route to the application site at a minimal altitude, meaning that there are no typical flight tracks. Typical "ferry" altitudes range from 50 to 150 feet based upon information previously collected from crop dusting companies.

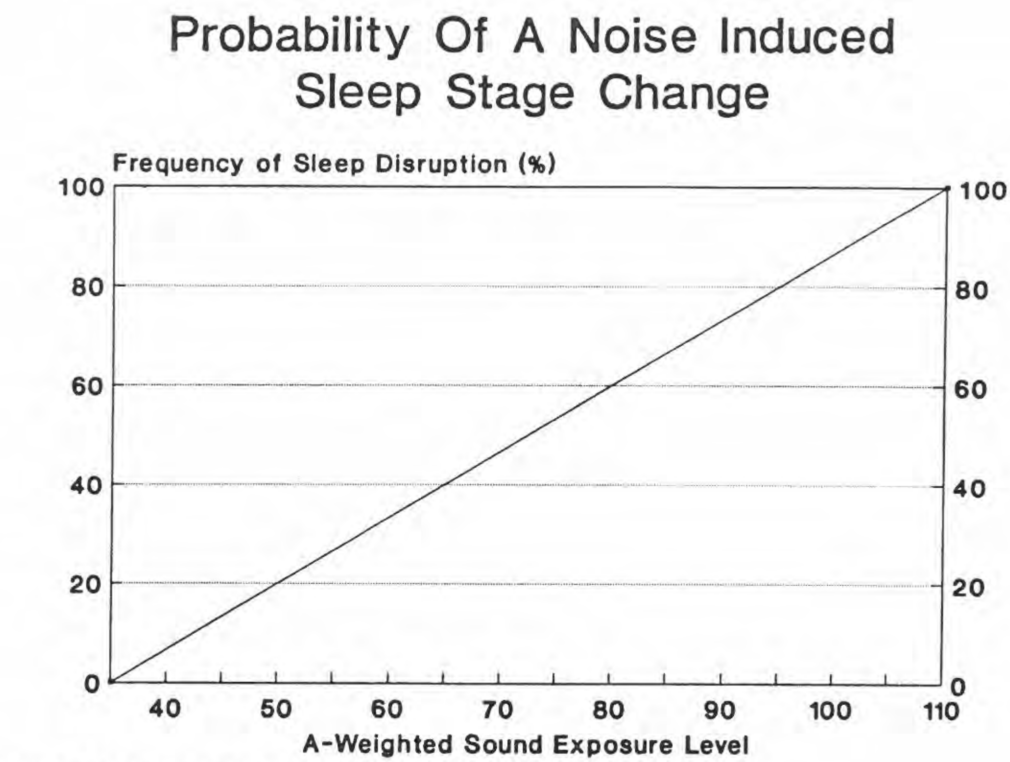
Noise level data collected at the Alta Airport in Tulare County for Ag Cat operations indicate that sideline noise levels at a distance of 1000 feet during departures were about 78 dB L_{max} and 85 dB SEL. Noise levels directly overhead with an estimated altitude of 150 feet were about 103 dB L_{max} and 106 dB SEL.

Crop dusting activities generally occur during the early morning hours, when people may be sleeping. Single event noise levels from aircraft arrivals, departures and overflights may cause sleep disturbance at nearby residences. The noise level at which a sleep stage change or interruption occurs is highly individualized. A person's level of sleep is dependent on many factors including fatigue, exhaustion, stress, room temperature, bed comfort and noise level in the room. For these reasons, a single number criterion for the evaluation of sleep interference has not been established.

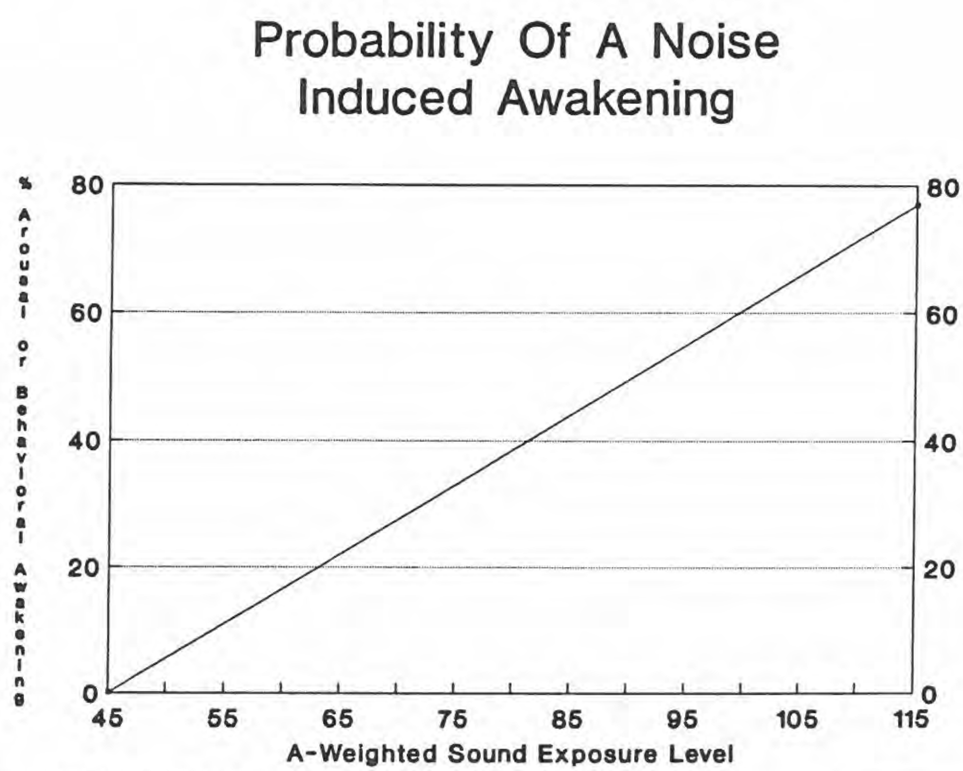
According to the <u>Noise Effects Handbook</u> published by the National Association of Noise Control Officials, behavioral awakening will most likely occur with noise levels of 70 dB or above. However, duration of the noise exposure, background noise levels and type of sound generated by the source are all important factors.

Criteria pertaining to sleep disturbance are displayed in Figure 3-5. These graphs, which were adapted from a summary and analysis of experimental sleep data as related to noise exposure, show the relationship between

FIGURE 3-5



Source: NANCO Noise Effects Handbook



Source: NANCO Noise Effects Handbook

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frequency of response (disruption or awakening) and the sound level of an intrusive noise.

3.6.4 Community Noise Survey

A community noise survey was conducted to document noise exposure in areas of the county containing noise sensitive land uses. For that purpose, noise sensitive land uses in Glenn County were considered to include residential areas, parks, schools and rural areas. Noise monitoring sites were selected to be representative of typical conditions in the county.

Short-term noise monitoring was conducted on May 23-24, 1991. Each site was monitored three different times during the day and night so that valid estimates of L_{dn} could be prepared. Two long-term noise monitoring sites were established in Glenn County to record day-night statistical trends. The data collected included the L_{eq} and other statistical descriptors. Noise monitoring sites, measured noise levels and estimated L_{dn} values at each site are summarized in Table 3-4. Monitoring sites are shown by Figure 3-1.

The community noise survey results indicate that typical noise levels in noise sensitive areas of Glenn County are in the range of 48 dB to 60 dB L_{dn}. Noise from traffic on local roadways and neighborhood activities is the controlling factor for background noise levels in the majority of the county. However, in the predominantly agricultural areas, farming equipment, crop dusting activities and the sound of crickets during the evening and nighttime hours were major contributors to background noise levels. In general, the areas of the Glenn County which contain noise sensitive uses are relatively quiet.

The 24-hour noise monitoring data in Figure 3-6 show that ambient noise levels reach a minimum during the hours of 1:00 to 5:00 a.m., increasing during the daytime hours as a function of increased traffic and other human activities.

TABLE 3-4

SUMMARY OF MEASURED NOISE LEVELS AND ESTIMATED DAY-NIGHT AVERAGE LEVELS (L_{dn}) IN AREAS CONTAINING NOISE SENSITIVE LAND USES**

Site	Location	Date	Time	Sound Level, dB					
				L_{90}	L_{50}	L_{10}	L_{eq}	L_{max}	Est. L_{dn}
1	*Near Jensen Park	5/23/91	10:0017:	48.0	52.0	56.0	53.5	66.5	
		5/23/91	00	49.0	53.0	57.0	55.0	71.5	
		5/24/91	0:00	39.0	42.0	48.0	45.0	55.5	59.8 dB
2	*Near Roosevelt Avenue	5/23/91	11:00	34.0	39.0	51.0	47.5	65.5	
		5/23/91	18:00	37.0	41.0	51.0	48.0	70.0	
		5/14/91	1:00	30.0	33.0	47.0	42.5	56.0	54.2 dB
3	Spence Park	5/23/91	11:40	41.0	43.0	49.0	47.0	64.0	
		5/23/91	22:00	42.0	45.0	47.0	46.0	61.0	
		5/24/91	11:28	41.0	44.0	48.0	46.0	65.5	52.5 dB
4	Road 25 & Road C	5/23/91	12:17	30.0	34.0	40.0	36.5	47.0	
		5/23/91	22:26	41.0	43.0	44.0	42.5	45.0	
		5/24/91	12:29	30.0	36.0	49.0	54.5	77.0	51.9 dB
5	Road 200 & 306	5/23/91	13:23	26.0	29.0	37.0	51.0	75.0	
		5/23/915/24	22:58	41.0	42.0	43.0	42.5	44.0	
		/91	10:31	26.0	31.0	41.0	52.0	75.0	51.9 dB

TABLE 3-4

SUMMARY OF MEASURED NOISE LEVELS AND ESTIMATED

DAY-NIGHT AVERAGE LEVELS (L_{dn}) IN AREAS

CONTAINING NOISE SENSITIVE LAND USES**

Site	Location	Date	Time	Sound Level, dB					
				L_{90}	L_{50}	L_{10}	L_{eq}	L_{max}	Est. L_{dn}
6	Elk Creek	5/23/91	14:06	36.0	38.0	53.0	52.0	70.0	
		5/23/91	23:21	46.0	47.0	48.0	47.0	48.0	
		5/24/91	9:54	38.0	40.0	53.0	52.5	72.0	58.5 dB
7	Fruto Road & Road 303	5/23/91	15:31	31.0	38.0	45.0	41.5	57.5	
		5/23/91	23:37	40.0	45.0	46.0	45.0	49.0	
		5/24/91	9:28	31.0	35.0	39.0	36.5	51.0	50.9 dB
8	Road B & Road 60	5/23/91	16:10	33.0	40.0	44.0	51.5	74.5	
		5/23/91	23:50	41.0	42.0	43.0	41.5	44.0	
		5/24/91	8:12	34.0	36.0	40.0	38.5	54.5	50.0 dB
9	Road P	5/23/91	11:00	39.0	42.0	51.0	54.3	75.7	
		5/23/91	23:50	46.0	47.0	48.0	47.5	50.5	
		5/24/91	8:12	47.0	49.0	53.0	52.4	67.8	54.1 dB
10	Road 50	5/23/91	11:40	35.0	39.0	56.0	53.2	70.3	
		5/23/91	23:20	43.0	45.0	46.0	46.6	60.0	
		5/24/91	8:40	38.0	41.0	53.0	51.0	64.5	54.4 dB
11	Open Field East of S.R. 45	5/23/91	12:25	35.0	38.0	45.0	41.5	53.0	53.2 dB
	Approximately @ Road 37	5/23/91	22:50	46.0	47.0	48.0	47.2	50.0	
		5/24/91	8:40	34.0	39.0	48.0	44.2	61.0	

TABLE 3-4

SUMMARY OF MEASURED NOISE LEVELS AND ESTIMATED

DAY-NIGHT AVERAGE LEVELS (L_{dn}) IN AREAS

CONTAINING NOISE SENSITIVE LAND USES**

Site	Location	Date	Time	Sound Level, dB					
				L_{90}	L_{50}	L_{10}	L_{eq}	L_{max}	Est. L_{dn}
12	South of Intersection of Road 24 and Road V.	5/23/91	13:12	28.0	36.0	48.0	42.7	51.0	58.8 dB
		5/23/91	22:20	51.0	53.0	54.0	53.0	55.8	
		5/24/91	9:55	40.0	43.0	48.0	44.9	53.3	
13	4th and Los Robles in Hamilton City	5/23/91	13:35	36.0	39.0	46.0	46.3	63.0	48.7 dB
		5/23/91	22:00	28.0	36.0	41.0	38.9	52.8	
		5/24/92	10:20	42.0	45.0	50.0	50.1	69.0	

* 24-hour monitoring site

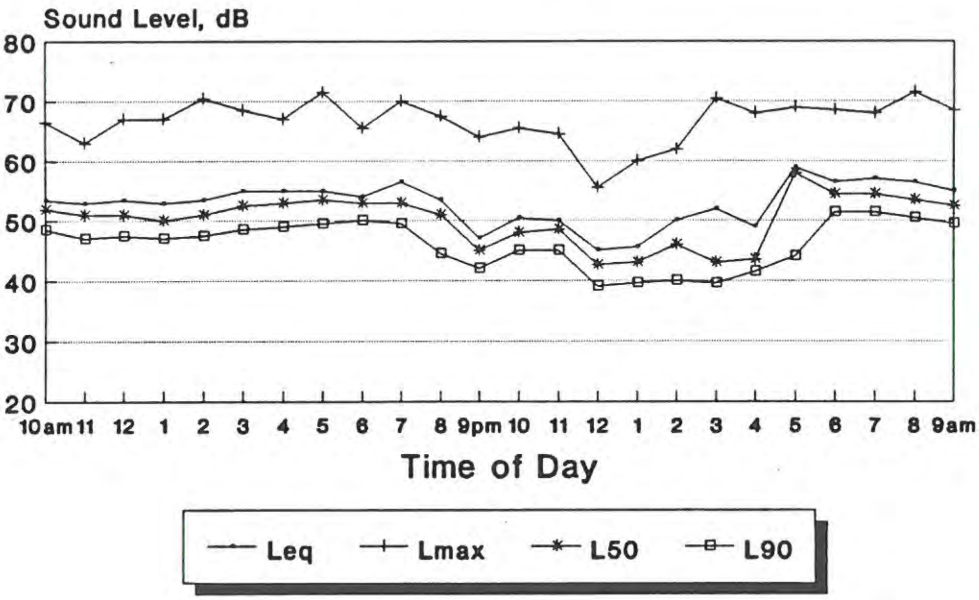
** Community noise monitoring systems were calibrated with acoustical calibrators in the field prior to use. The systems comply with all pertinent requirements of the American National Standards Institute (ANSI) for Type I sound level meters.

The L_{90} values shown in Table 3-4 represent background noise levels, where there are typically no identifiable local noise sources. The L_{50} values represent median noise levels. The L_{eq} values in Table 3-4 represent the average noise energy during the sample periods, and show the effects of brief noisy periods. The L_{eq} values were the basis of the estimated L_{dn} values. L_{max} values show the maximum noise levels observed during the samples, and were typically due to passing cars, farming equipment or aircraft overflights.

Source: Brown-Buntin Associates

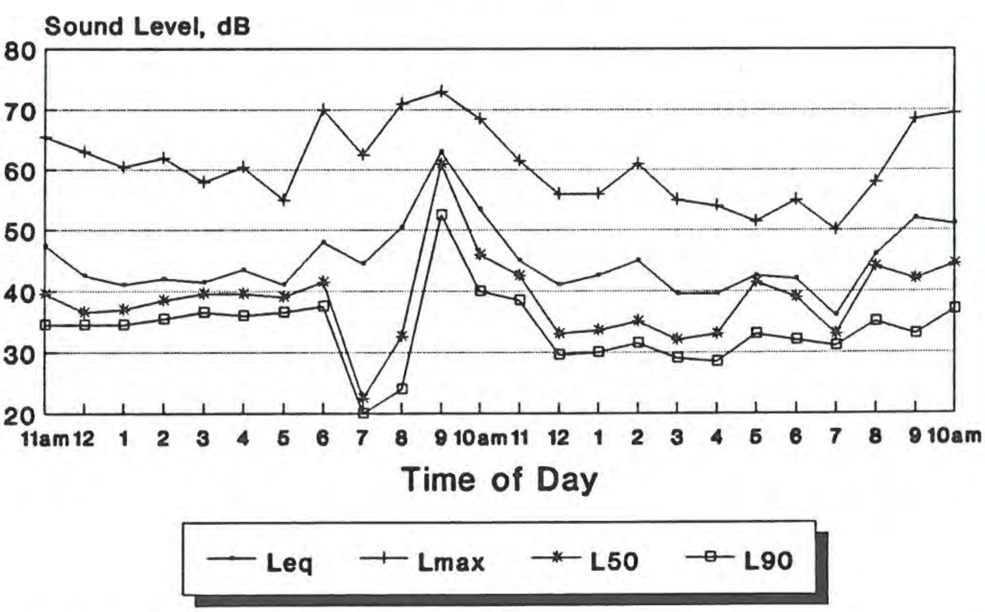
FIGURE 3-6

Hourly Noise Levels
South of Willows



May 23-24, 1991
Ldn = 59.8 dB

Hourly Noise Levels
North of Orland



May 23-24, 1991
Ldn = 54.2 dB

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https://www.countyofglenn.net/govt/county-code/title-15/division-4/part-1/chapter-560#100

15.560.100 Noise

A. Maximum sound emissions for any use shall not exceed equivalent sound pressure levels in decibels, A-weighted scale, for any one hour as stipulated in Table B. These maximums are applicable beyond any property lines of the property containing the noise. (Note: Equivalent sound pressure level (Leq) is a measure of the sound level for any one hour. It is the energy average of all the various sounds emitted from the source during the hour. A-weighted scale is used to adjust sound measurements to simulate the sensitivity of the human ear.)

Table B Maximum One-hour Equivalent Sound Pressure Levels (A-Weighted - dBA)

Receiving Property Zoning District

Time of Day:	Residential:	Commercial:	Industrial:
7:00 - 10:00 p.m.	55	60	65
10:00 - 7:00 a.m.	45	55	60

***NOTE:** The residential category also includes all resource zoning districts.

B. In the event the receiving property or receptor is a dwelling, hospital, school, library or nursing home, even though it may be other wise zoned for commercial or industrial and related uses, maximum one-hour equivalent sound pressure received shall be as indicated in Table C.

Table C Maximum One-hour Equivalent Sound Pressure Levels (A-Weighted - dBA)

Time of Day:	Level:
7:00 - 10:00 p.m.	57
10:00 - 7:00 a.m.	50

C. Noises of Short Duration.

For noises of short duration or impulsive character, such as hammering, maximum one-hour sound pressure levels permitted beyond the property of origin shall be seven decibels less than those listed in Table C.

D. Noises of Unusual Periodic Character.

For noises of unusual periodic character, such as humming, screeching and pure tones, the median octave band sound pressure levels as indicated in Table D shall not be exceeded beyond the property of origin when the receiving property is zoned residential or is occupied by a dwelling, hospital, school, library, or nursing home.

Table D Medial Octave Band Sound Pressure Levels Octave Band Center

Frequency, Hz:	7:00 a.m. to 10:00 p.m.:	10:00 p.m. to 7:00 a.m.:
31.5	68	65
63	65	62
25	61	56
250	55	50
500	52	46
1,000	46	43
2,000	46	40
4,000	43	37
8,000	40	34

E. Additional Allowance. When the receiving property is zoned commercial or industrial and is not a dwelling, hospital, school, library or nursing home, an additional sound decibel emission above the pressure levels specified in Table D above shall be permitted as indicated in Table E.

Table E Additional Allowance

Receiving Property Zone: Additional Decibels Allowed:

Commercial 5

Industrial 10

F. Exemptions. Local noise standards set forth in this section do not apply to the following situations and sources of noise provided standard, reasonable practices are being followed:

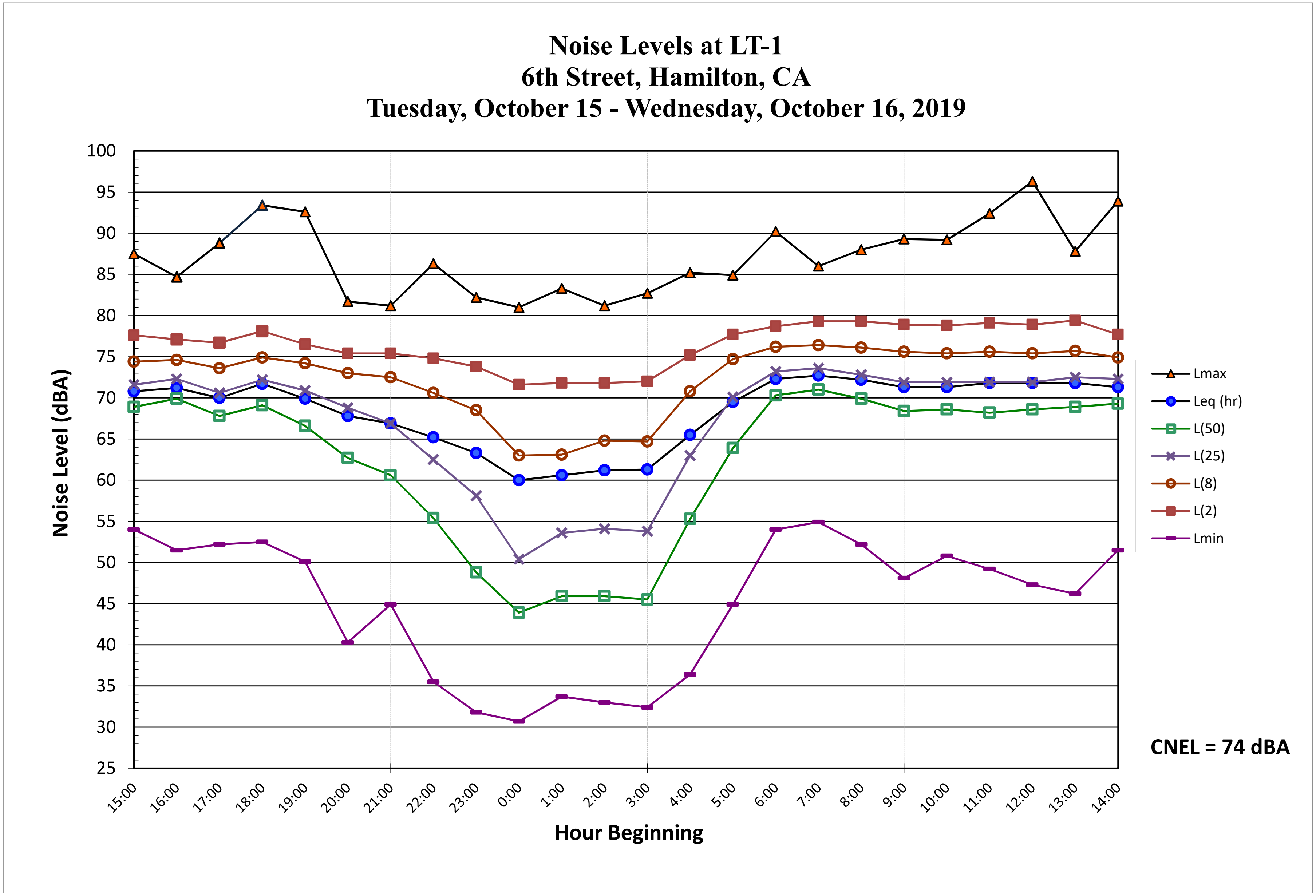
1. Emergency equipment operated on an irregular or unscheduled basis;
2. Warning devices operated continuously for no more than five minutes;
3. Bells, chimes or carillons;
4. Nonelectronically amplified sounds at sporting, amusement and entertainment events;
5. Construction site sounds between 7:00 a.m. and 7:00 p.m.;
6. Lawn and plant care machinery fitted with correctly functioning sound suppression equipment and operated between 7:00 a.m. and 8:00 p.m.;
7. Aircraft when subject to federal or state regulations;
8. Agricultural equipment when operated on property zoned for agricultural activities.

G. Exceptions. Upon written application from the owner or operator of an industrial or commercial noise source, the director or planning commission, as part of a use permit approval, may conditionally authorize exceptions to local noise emission standards in the following situations:

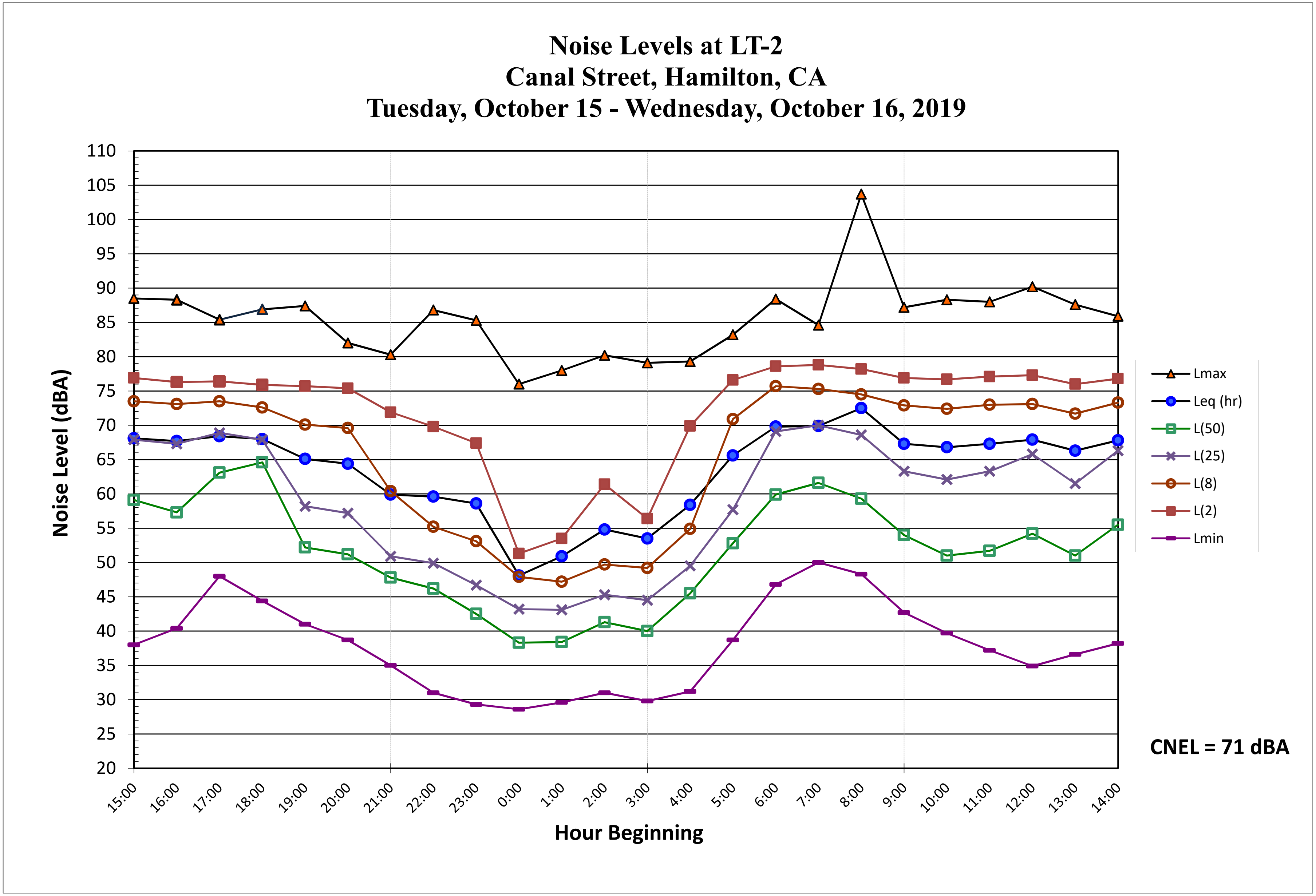
1. Infrequent noise;
2. Noise levels at or anywhere beyond the property lines of the property of origin when exceeded by an exempt noise, as listed in subsection (E) of this section, in the same location;
3. If after applying best available control technology (BACT), a use existing prior to the effective date of the ordinance codified in this chapter, is unable to conform to the standards established by this section.

(Ord. 1183 § 2, 2006)

AMBIENT NOISE MONITORING RESULTS



Noise Levels at LT-1
6th Street, Hamilton, CA
Tuesday, October 15 - Wednesday, October 16, 2019
Noise Level (dBA)
Hour Beginning
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
Lmax
Leq (hr)
L(50)
L(25)
L(8)
L(2)
Lmin
CNEL = 74 dBA



Noise Levels at LT-2
Canal Street, Hamilton, CA
Tuesday, October 15 - Wednesday, October 16, 2019
Noise Level (dBA)
110
105
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
Hour Beginning
Lmax
Leq (hr)
L(50)
L(25)
L(8)
L(2)
Lmin
CNEL = 71 dBA

TRAFFIC NOISE INCREASE CALCULATIONS

Segment	Existing No Project	Existing With Project			Project Noise Increase
Canal Road - North of 6th Street	407	530			1.15
Canal Road - South of 6th Street	323	377			0.67
6th Street - East of Canal Road	1252	1315			0.21
6th Street - West of Canal Road	924	930			0.03

APPENDIX E

TRAFFIC ANALYSIS MEMORANDUM

MEMORANDUM

DATE	October 31, 2019
TO	Hamilton Unified School District
ADDRESS	620 Canal Street, Hamilton City, California 95951
CONTACT	Mike Cannon, Hamilton Unified School District
FROM	Fernando Sotelo, PE, PTP
SUBJECT	**Hamilton High School Site Expansion – Traffic Analysis**
PROJECT NUMBER	HASD-02.0

This memorandum summarizes the findings of the traffic analysis we conducted for the proposed Hamilton High School Site Expansion project in Hamilton City, Glenn County, California. It includes a description of the project, existing traffic conditions and evaluates potential traffic impacts with the project. The study has been prepared under the supervision of a licensed traffic engineer consistent with methodologies used to evaluate traffic impacts by the California Department of Transportation (Caltrans). Our research and findings are documented in this technical memorandum.

Project Location and Description

Hamilton Unified School District ("District" or "HUSD") intends to modernize existing Hamilton High School located at 620 Canal Street in Hamilton City, Glenn County, California and expand the existing footprint of the school to accommodate the development of new school facilities. As part of the project, the District would acquire an approximately 48-acre portion of a property adjacent to the existing school; construct new playing fields, a gymnasium and parking lot on the expanded site; modernize existing buildings and plan future construction and of new school buildings and parking areas.

The project would increase student capacity from 290[1] to 540, which is an increase of 250 students. The project is anticipated to occur into two phases. Phase I involves the acquisition of the 48-acre parcel and during this phase the District proposes developing a new playing fields, building a new parking area, and constructing a 20,000 SF Gymnasium. Utilities infrastructure would be modernized as well. For the new parking lot, the District plans on building a 90-stall parking lot and student drop-off lane on the western boundary of the site, north of the existing campus, would be developed in Phase I. The lot would be accessed via Canal Street. Phase I is anticipated to span 2 to 5 years.

[1]California Department of Education. 2018-2019 Enrollment by Grade: Hamilton High Report. https://dq.cde.ca.gov/dataquest/dqcensus/enrgrdlevels.aspx?agglevel=School&year=2018-19&cds=11765621133701

The District would expand Hamilton High School to accommodate approximately 250 additional students, for a future total of capacity of approximately 540 students. The expansion would total 68,500 SF of new facilities and 75,000 SF of new circulation and parking.

The vicinity of the site is a predominantly agricultural community. There is active farmland bordering the site to the north. Single-family homes with a few commercial and light industrial properties are located across West 6th Street, south of the site. The site is bounded by State Route 45 (Canal Street) to the west, State Route 32 (6th Street) to the south, Ella Barkley High School (an alternative education high school) to the east, and the expansion site to the north.

Applicable Regulations

GLENN COUNTY STANDARDS

The Glenn County General Plan states that the County seeks to maintain a level of service (LOS) "C" for all road segments and signalized intersections within the County. A peak hour level of service "D" or "E" may be allowed if proposed mitigation measures to reduce the traffic impact is proven impractical due topography, environmental impacts, or other significant factors. LOS "F" is unacceptable under all conditions (Glenn County 1993).

CALTRANS STANDARDS

Caltrans' guidelines are in the process of being updated to address new CEQA requirements to evaluate transportation impacts based on VMT. The latest version of Caltrans' Guide for the Preparation of Traffic Impact Studies[2] states that Caltrans endeavors to maintain a target LOS at the transition between "C" and "D" on State facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agencies consult with Caltrans to determine the appropriate target LOS for their facilities. As Glenn County utilizes a target LOS "C" for all roadway segments and intersections in the County, LOS C is utilized as the acceptable LOS.

Existing Conditions

ROADWAYS AND INTERSECTION

Regional access is provided by State Route 45 (SR-45), also known as Canal Street and State Route 32 (SR-32), also known as 6th Street. Glenn County General Plan classifies 6th Street as an undivided, two-lane roadway rural minor collector roadway with a posted speed limit of 35 miles per hour. Canal Street is an undivided, two-lane roadway described as a rural minor collector in the Glenn County General Plan[3] with a posted speed limit of 40 miles per hour.

According to the functional classifications from the California Highway System[4], SR-45 north of 6th Street is classified as a Major Collector, and south of 6th Street SR-45 is classified as a Minor Arterial. 6th Street is classified as an Other Principal Arterial. Parking is generally not permitted along both sides of 6th Street and Canal Street.

Roadway capacity is generally limited by the ability to move vehicles through intersections. A level of service (LOS) is a standard performance measurement to describe the operating characteristics of a street system in terms of the

---

[2] State of California Department of Transportation, 2002, *Guide for the Preparation of Traffic Impact Studies*.

[3] Policy Plan Glenn County General Plan, Glenn County Board of Supervisors, June 1993.

[4] https://dot.ca.gov/programs/research-innovation-system-information/office-of-highway-system-information-performance

level of congestion or delay experienced by motorists. Service levels range from A through F, which relate to traffic conditions from best (uncongested, free-flowing conditions) to worst (total breakdown with stop-and-go operation). The methodology used to assess the operation of a signalized intersection is based on the Highway Capacity Manual (HCM). The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions. The peak hours selected for analysis are the highest volumes that occur in four consecutive 15-minute periods from 7 to 9 am, from 2 to 3:30 pm, and from 4 to 6 pm on weekdays. The HCM 6th Edition presents LOS in terms of control delay (in seconds per vehicle). Table 1, *Intersection Level of Service Descriptions,* describes the level of service concept and the operating conditions expected under each level of service for signalized intersections.

Table 1 Intersection Level of Service Descriptions

LOS	DESCRIPTION	SIGNALIZED
A	Level of Service A occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	0 to 10.00
B	Level of Service B generally occurs with good progression and/or short cycle lengths. More vehicles stop than for Level of Service A, causing higher levels of average total delay.	10.01 to 20.00
C	Level of Service C generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.	20.01 to 35.00
D	Level of Service D generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	35.01 to 55.00
E	Level of Service E is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume to capacity ratios. Individual cycle failures are frequent occurrences.	55.01 to 80.00
F	Level of Service F is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume to capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.	80.01 and up

Source: HCM 6th Edition

To review existing traffic conditions and determine potential traffic impacts with the project, intersection turn movement counts were taken at the intersections of Canal Street at 6th Street. The counts were taken on Wednesday and Thursday, September 11 and 12, 2019, while schools were in session. The existing AM, midday and PM peak hour count worksheets are provided in Attachment A. The intersection operations analysis results are summarized in Table 2, *Existing Peak Hour Intersection Levels of Service*. The study area intersection currently operates at an acceptable LOS during the peak hours. Intersection LOS calculation worksheets for existing conditions are provided in Attachment A. The software PTV Vistro 7 was used to determine the LOS at the study area intersection.

Table 2 Existing Peak Hour Intersection Levels of Service

Intersection	AM Peak Hour		School Dismissal Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1. Canal Street and 6th Street	21.63	C	24.68	C	27.21	C

Notes: LOS calculation worksheets in Attachment B.

AM peak hour is from 7 to 9 am, school dismissal from 2 to 3:30 PM, and the PM peak hour from 2 to 4 pm.

BICYCLE AND PEDESTRIAN AND TRANSIT

The infrastructure for pedestrian and bicycle travel in the vicinity of the project site has not been fully developed; sidewalks are not continuous, and no bicycle lanes have been marked. However, the project would include dedicated bicycle lanes along the western perimeter of the site and 20 new bicycle parking spaces would be provided as part of Phase I of the project. Pedestrian access to the school would continue to be via sidewalks along Canal Street. There will also be pedestrian access to the southern area of the school through the existing Hamilton High School.

Public transit is provided by Glenn Ride which runs seven round trips every weekday and three round trip on Saturday from Willows to Willows to Chico with enroute service to Artois, Orland and Hamilton City. Weekday hours of operation are approximately 5:15 am to 8:13 pm while Saturday service operates from 8:00 am to 7:23 pm. The closest bus stop located 5th Street and Los Robles Avenue, approximately 0.18 miles from the school.

Future Traffic With Project

PROJECT TRIP GENERATION

The trip generation for the existing and uses were calculated based on rates in the Institute of Transportation Engineer's (ITE) Trip Generation Manual, 10th edition. Trip generation for the existing and project is based on trips for land use code 530, High School.

Table 3, *Trip Generation Rates*, and Table 4, *Project Trip Generation*, show the trip generation rates and estimate vehicle trips for the existing conditions in the AM peak hour, PM peak hour, and student dismissal hour. For this project, ITE Land Use "High School" has been utilized to reflect the operation of the existing school site and evaluate the potential impacts of increasing the school's capacity by 250 students. With the increase associated with the project, the high school generate up to 508 weekday daily trips. The project would generate 130 trips (87 inbound and 43 outbound) during the AM peak hour; 35 trips (17 inbound and 18 outbound) during the PM peak hour, and 82 trips (26 inbound and 56 outbound) during the student dismissal hour.

Table 3 Trip Generation Rates

LAND USE	ITE LAND USE CODE	UNIT [1]	TRIP GENERATION RATES[1] DAILY	AM PEAK HOUR IN	AM PEAK HOUR OUT	AM PEAK HOUR TOTAL	PM PEAK HOUR IN	PM PEAK HOUR OUT	PM PEAK HOUR TOTAL	STUDENT DISMISSAL HOUR IN	STUDENT DISMISSAL HOUR OUT	STUDENT DISMISSAL HOUR TOTAL
High School	530	Students	2.03	0.35	0.17	0.52	0.07	0.07	0.14	0.11	0.22	0.33

1 Trip generation rates per the ITE Trip Generation Manual 10th Edition.

Table 4 Project Trip Generation

LAND USE	STUDENTS	PROJECT TRIP GENERATION DAILY	AM PEAK HOUR IN	AM PEAK HOUR OUT	AM PEAK HOUR TOTAL	PM PEAK HOUR IN	PM PEAK HOUR OUT	PM PEAK HOUR TOTAL	STUDENT DISMISSAL HOUR IN	STUDENT DISMISSAL HOUR OUT	STUDENT DISMISSAL HOUR TOTAL
Hamilton High School	250	508	87	43	130	17	18	35	26	56	82

TRIP DISTRIBUTION

The project will be primarily accessed via Canal Street and 6th Street. Primary vehicular access to the site and the parking and student drop off area would be via driveways on Canal Street. The project would also include a secondary vehicular and emergency access through the existing campus to facilities on the new property, and on Canal Street at the northern boundary of the site. Based on a review of the existing traffic patterns in the area, site access, land uses and roadway functional classifications in the area, it is anticipated that the majority of the project trips will reach the site from the south via Canal Street and from the east via 6th Street. It is anticipated that approximately 5% of the trips originate from the north and approximately 5% from the west. The project volumes are presented in Attachment B.

FUTURE TRAFFIC CONDITIONS

As shown in Figure 3-6, primary vehicular access to the site and the proposed parking areas would be via Canal Street, the drop-off area would be provided off-street in a one-way loop with vehicles arriving from the south and departing via the north driveway to minimize turn movements and conflicts. The project would also include secondary vehicular and emergency access through the existing campus to proposed facilities on the new property, and on Canal Street at the northern boundary of the site. Canal Street is a 2-lane road with speed limits of 40 miles per hour, the existing traffic volumes in the peak hours and school dismissal hour range from 307 to 407 vehicles per hour. The road segment in the vicinity of the school is a straight segment with no view obstructions. As a school zone, the limit is reduced to 25 miles per hour in the vicinity of the school when children are present. Due to the low volumes and speeds on Canal Street, and because most traffic arrives from the south and departures back to the south , no turn restrictions on access driveways would be required.

The calculated intersection operations for Existing Plus Project traffic conditions are shown in Table 5, *Existing Plus Project Peak Hour Intersection Levels of Service*. Under Existing Plus Project conditions, there would be a small increase in delay at the study intersection during the AM and PM peak hours and student dismissal hours. The study intersection would continue to operate at an acceptable LOS C. No significant traffic impacts would occur with the project at the key intersection of Canal Street at 6th Street. The intersection volumes under Existing Plus Project AM and PM peak hours and student dismissal hours are provided in Attachment B.

Table 5 - Existing Plus Project Peak Hour Intersection Levels of Service

Intersection	AM Peak Hour		School Dismissal Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1. Canal Street and 6th Street	27.11	C	24.67	C	27.25	C

Notes: LOS calculation worksheets in Attachment B.

AM peak hour is from 7 to 9 am, school dismissal from 2 to 3:30 PM, and the PM peak hour from 2 to 4 pm.

Vehicles Miles Travelled

On September 27, 2013, SB 743 was signed into law. SB 743 started a process that could fundamentally change transportation impact analysis as part of CEQA compliance. These changes include the elimination of auto delay, level of service (LOS), and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts in many parts of California (if not statewide). As part of the updated CEQA Guidelines, the new criteria "shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses" (Public Resources Code Section 21099(b)(1)). On January 20, 2016, OPR released revisions to its CEQA guidelines for the implementation of SB743. Final review and rulemaking for the new guidelines were completed in December 28, 2018 when the California Natural Resource Agency certified and adopted the CEQA Guidelines update package, including guidelines section implementing Senate Bill 743. OPR allows agencies an opt-in period to adopt the guidelines; they become mandatory on July 1, 2020. Vehicle miles traveled (VMT) is an indicator of the travel levels on the roadway system by motor vehicles. It corresponds to the number of vehicles multiplied by the distance traveled in a given period over a geographical area. In other words, VMT is a function of (1) number of daily trips and (2) the average trip length (VMT= daily trips x average trip length). Glenn County has not implemented VMT metrics yet and currently uses the established LOS criteria.

Furthermore, the project would serve the existing and future residents within its attendance boundary and the modernization of the school campus is expected to accommodate the anticipated demand for the school. There is currently no school within a close proximity of the project site within the school district and residents would have to travel a longer distance to attend the existing nearby schools if the project is not implemented. Therefore, the project would result in an increase in VMT if the Modified Project is not implemented. The project would not alter traffic patterns in the area; therefore, impacts of the project regarding VMT would be less than significant.

Conclusion

This analysis reviewed potential impacts due to project trips to the Canal Street and 6th Street intersection near the project. Project-generated traffic would not result in the study intersection deteriorating to an unacceptable level of service. Therefore, the project would not result in a substantial traffic impact, and no mitigation measures would be required.

References

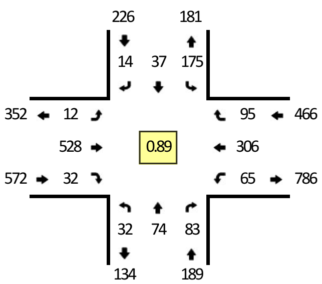
Institute of Transportation Engineers (ITE). 2017. Trip Generation Manual. 10th edition.

ATTACHMENT A: Intersection Turn Movement Counts

Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

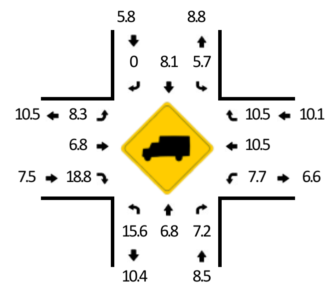
LOCATION: Canal St -- 6th St — **QC JOB #:** 15064401

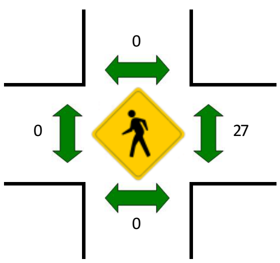
CITY/STATE: Hamilton City, CA — **DATE:** Thu, Sep 12 2019

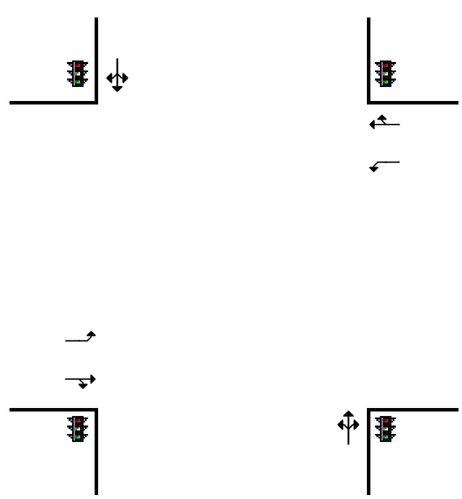


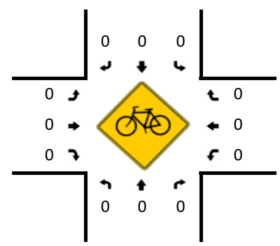
Peak-Hour: 7:15 AM -- 8:15 AM

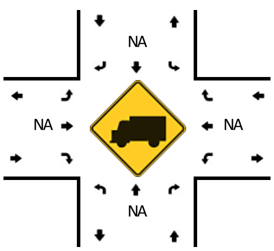
Peak 15-Min: 7:45 AM -- 8:00 AM

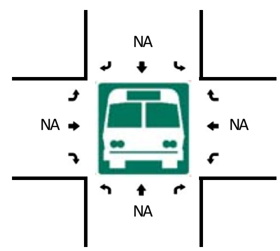












15-Min Count Period Beginning At	Canal St (Northbound)				Canal St (Southbound)				6th St (Eastbound)				6th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	8	4	14	0	32	7	0	0	0	96	2	0	15	52	9	0	239	
7:15 AM	4	7	22	0	40	5	0	0	0	148	7	0	24	71	16	0	344	
7:30 AM	13	10	15	0	57	4	1	0	2	143	12	0	15	94	16	0	382	
7:45 AM	9	38	21	0	33	11	6	0	6	136	8	0	14	93	31	0	406	1371
8:00 AM	6	19	25	0	45	17	7	0	4	101	5	0	12	48	32	0	321	1453
8:15 AM	7	15	19	0	32	5	0	0	1	99	3	0	11	57	14	0	263	1372
8:30 AM	8	11	17	0	30	10	1	0	0	99	6	0	11	39	14	0	246	1236
8:45 AM	8	1	15	0	23	7	1	0	2	73	5	0	9	60	11	0	215	1045

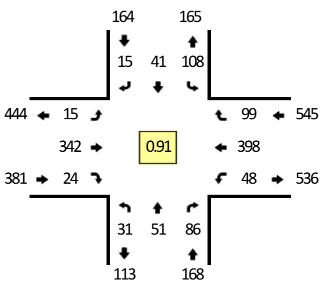
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	36	152	84	0	132	44	24	0	24	544	32	0	56	372	124	0	1624
Heavy Trucks	4	0	8		4	0	0		0	36	12		12	52	8		136
Pedestrians		0				0				0				68			68
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

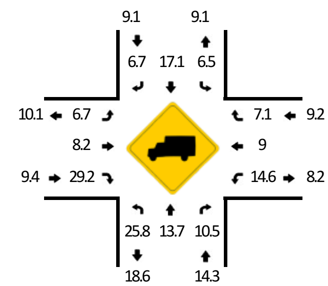
Report generated on 9/17/2019 12:18 PM — SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

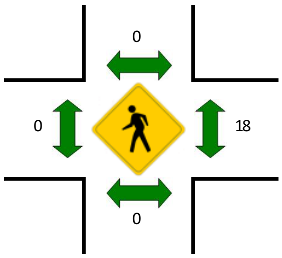
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

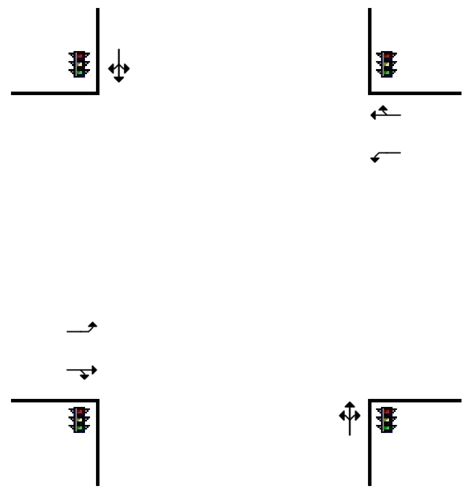
LOCATION: Canal St -- 6th St | **QC JOB #:** 15064404
CITY/STATE: Hamilton City, CA | **DATE:** Wed, Sep 11 2019

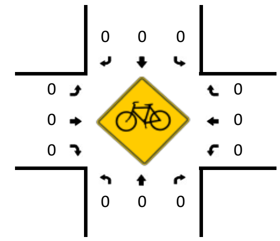


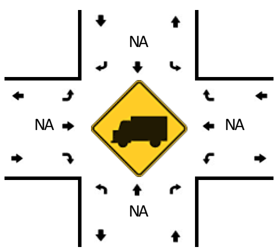
Peak-Hour: 2:30 PM -- 3:30 PM
Peak 15-Min: 3:15 PM -- 3:30 PM

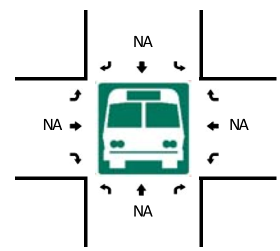












15-Min Count Period Beginning At	Canal St (Northbound) Left	Thru	Right	U	Canal St (Southbound) Left	Thru	Right	U	6th St (Eastbound) Left	Thru	Right	U	6th St (Westbound) Left	Thru	Right	U	Total	Hourly Totals
2:00 PM	9	9	17	0	19	6	0	0	12	66	3	0	8	76	22	0	247	
2:15 PM	11	16	25	0	15	2	1	0	4	74	4	0	13	79	19	0	263	
2:30 PM	12	12	22	0	25	6	1	0	2	107	8	0	15	105	23	0	338	
2:45 PM	7	7	23	0	15	8	1	0	3	88	4	0	7	101	26	0	290	1138
3:00 PM	6	11	22	0	23	9	6	0	4	70	6	0	16	86	25	0	284	1175
3:15 PM	6	21	19	0	45	18	7	0	6	77	6	0	10	106	25	0	346	1258

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	24	84	76	0	180	72	28	0	24	308	24	0	40	424	100	0	1384
Heavy Trucks	4	4	8		12	0	4		4	12	4		4	52	4		112
Pedestrians		0				0				0				72			72
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

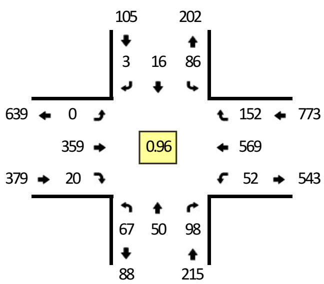
Comments:

Report generated on 9/17/2019 12:18 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

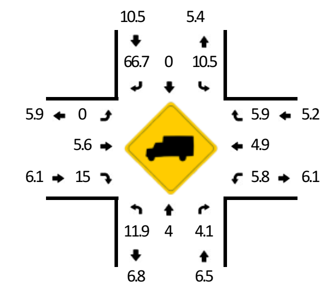
LOCATION: Canal St -- 6th St — **QC JOB #:** 15064402

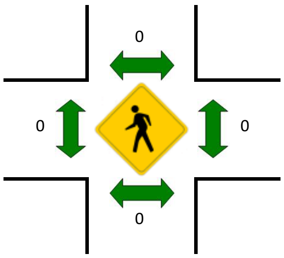
CITY/STATE: Hamilton City, CA — **DATE:** Wed, Sep 11 2019

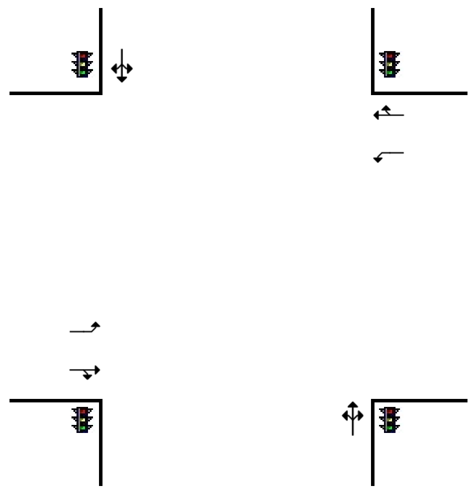


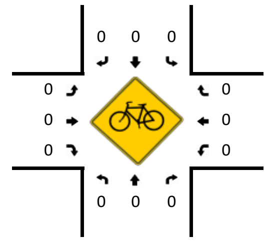
Peak-Hour: 4:45 PM -- 5:45 PM

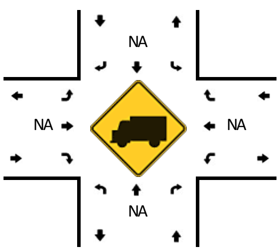
Peak 15-Min: 5:00 PM -- 5:15 PM

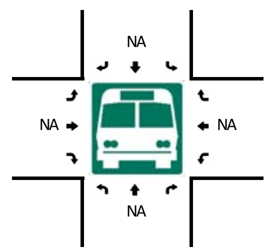












15-Min Count Period Beginning At	Canal St (Northbound)				Canal St (Southbound)				6th St (Eastbound)				6th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	13	5	23	0	37	12	5	0	3	93	7	0	11	116	24	0	349	
4:15 PM	12	12	24	0	22	7	2	0	1	104	2	0	13	114	36	0	349	
4:30 PM	16	8	29	0	30	4	0	0	1	92	2	0	17	127	26	0	352	
4:45 PM	16	8	23	0	25	8	0	0	0	84	4	0	15	140	34	0	357	1407
5:00 PM	14	20	26	0	26	3	0	0	0	97	6	0	13	144	34	0	383	1441
5:15 PM	20	11	26	0	21	4	1	0	0	87	4	0	12	136	43	0	365	1457
5:30 PM	17	11	23	0	14	1	2	0	0	91	6	0	12	149	41	0	367	1472
5:45 PM	13	9	14	0	12	5	1	0	0	75	1	0	15	134	28	0	307	1422

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	56	80	104	0	104	12	0	0	0	388	24	0	52	576	136	0	1532
Heavy Trucks	8	8	8		4	0	0		0	20	4		12	20	4		88
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/17/2019 12:18 PM — SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

ATTACHMENT B: LOS Worksheets, Traffic Volumes and Intersection Lane Configurations

Intersection Level Of Service Report
Intersection 1: Canal Road @ 6th Street

Control Type:	Signalized	Delay (sec / veh):	21.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.674

Intersection Setup

Name							6th Street			6th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	18.27	18.27	10.14	11.75	12.23	12.23
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	122.39	100.00	100.00	87.41	100.00	100.00
Speed [mph]	30.00			30.00			25.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name							6th Street			6th Street		
Base Volume Input [veh/h]	32	74	83	175	37	14	12	528	32	65	306	95
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	74	83	175	37	14	12	528	32	65	306	95
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	21	23	49	10	4	3	148	9	18	86	27
Total Analysis Volume [veh/h]	36	83	93	197	42	16	13	593	36	73	344	107
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			27			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			27		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	25	0	0	25	0	9	25	0	20	36	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	16	0	0	10	0	0	16	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	L	C
C, Cycle Length [s]	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	21	21	21	1	33	4	36
g / C, Green / Cycle	0.29	0.29	0.29	0.02	0.48	0.06	0.52
(v / s)_i Volume / Saturation Flow Rate	0.08	0.07	0.27	0.01	0.36	0.05	0.28
s, saturation flow rate [veh/h]	1576	1431	961	1667	1733	1603	1604
c, Capacity [veh/h]	529	419	373	30	827	93	831
d1, Uniform Delay [s]	18.85	18.74	26.21	34.10	15.03	32.58	11.33
k, delay calibration	0.11	0.11	0.17	0.11	0.50	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.21	0.26	3.50	9.97	6.51	13.13	2.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.23	0.22	0.68	0.44	0.76	0.78	0.54
d, Delay for Lane Group [s/veh]	19.07	19.00	29.71	44.07	21.54	45.71	13.87
Lane Group LOS	B	B	C	D	C	D	B
Critical Lane Group	No	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.42	1.11	4.27	0.30	8.91	1.44	3.94
50th-Percentile Queue Length [ft/ln]	35.57	27.79	106.71	7.44	222.67	35.90	98.62
95th-Percentile Queue Length [veh/ln]	2.56	2.00	7.66	0.54	13.80	2.59	7.10
95th-Percentile Queue Length [ft/ln]	64.02	50.02	191.41	13.39	345.03	64.63	177.51

Movement, Approach, & Intersection Results

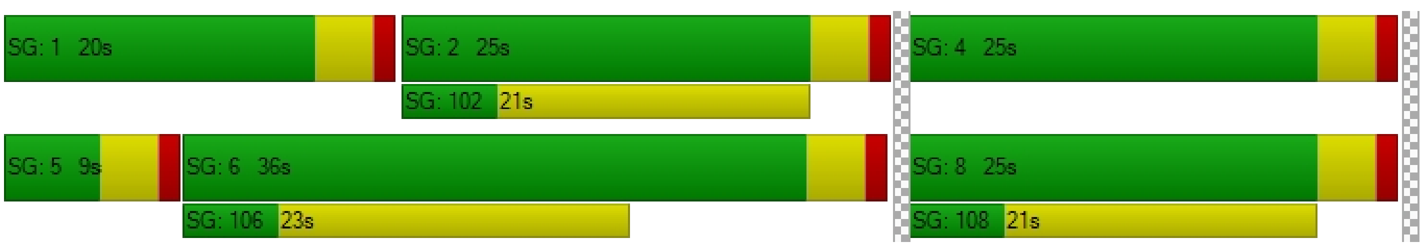
d_M, Delay for Movement [s/veh]	19.07	19.07	19.00	29.71	29.71	29.71	44.07	21.54	21.54	45.71	13.87	13.87
Movement LOS	B	B	B	C	C	C	D	C	C	D	B	B
d_A, Approach Delay [s/veh]	19.04			29.71			21.99			18.31		
Approach LOS	B			C			C			B		
d_I, Intersection Delay [s/veh]	21.63											
Intersection LOS	C											
Intersection V/C	0.674											

Other Modes

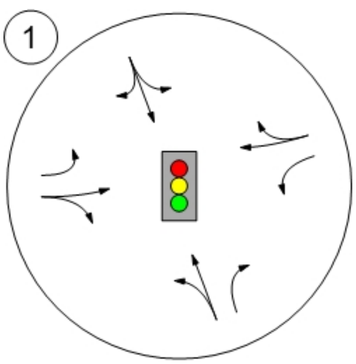
g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	576.88	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	26.58	0.00	26.58
I_p,int, Pedestrian LOS Score for Intersection	2.047	1.927	0.000	3.048
Crosswalk LOS	B	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	600	600	914
d_b, Bicycle Delay [s]	17.15	17.15	17.15	10.31
I_b,int, Bicycle LOS Score for Intersection	1.909	1.980	2.619	2.424
Bicycle LOS	A	A	B	B

Sequence

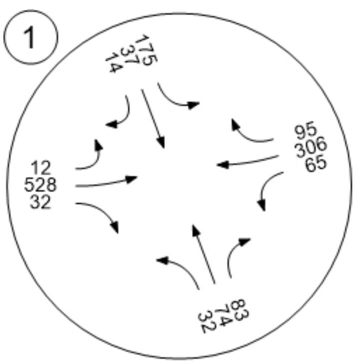
Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Lane Configuration and Traffic Control



Traffic Volume - Base Volume



Intersection Level Of Service Report
Intersection 1: Canal Road @ 6th Street

Control Type:	Signalized	Delay (sec / veh):	27.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.698

Intersection Setup

Name							6th Street			6th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	18.27	18.27	10.14	11.75	12.23	12.23
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	122.39	100.00	100.00	87.41	100.00	100.00
Speed [mph]	30.00			30.00			25.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name							6th Street			6th Street		
Base Volume Input [veh/h]	32	74	83	175	37	14	12	528	32	65	306	95
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	35	0	20	19	2	4	0	0	0	0	43
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	109	83	195	56	16	16	528	32	65	306	138
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	31	23	55	16	4	4	148	9	18	86	39
Total Analysis Volume [veh/h]	36	122	93	219	63	18	18	593	36	73	344	155
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			27			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			27		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	25	0	0	25	0	12	25	0	20	33	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	16	0	0	10	0	0	16	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	L	C
C, Cycle Length [s]	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	27	27	27	2	27	4	30
g / C, Green / Cycle	0.38	0.38	0.38	0.02	0.39	0.06	0.43
(v / s)_i Volume / Saturation Flow Rate	0.10	0.07	0.29	0.01	0.36	0.05	0.32
s, saturation flow rate [veh/h]	1582	1431	1035	1667	1733	1603	1578
c, Capacity [veh/h]	666	545	484	38	675	93	670
d1, Uniform Delay [s]	14.81	14.35	21.23	33.84	20.53	32.58	16.97
k, delay calibration	0.50	0.50	0.50	0.11	0.29	0.11	0.18
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.84	0.68	5.88	8.81	14.46	13.13	2.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.24	0.17	0.62	0.47	0.93	0.78	0.74
d, Delay for Lane Group [s/veh]	15.65	15.03	27.12	42.65	34.99	45.71	19.77
Lane Group LOS	B	B	C	D	C	D	B
Critical Lane Group	No	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.75	1.02	4.91	0.39	11.79	1.44	5.73
50th-Percentile Queue Length [ft/ln]	43.87	25.38	122.67	9.78	294.79	35.90	143.36
95th-Percentile Queue Length [veh/ln]	3.16	1.83	8.54	0.70	17.42	2.59	9.66
95th-Percentile Queue Length [ft/ln]	78.96	45.68	213.49	17.60	435.58	64.63	241.54

Movement, Approach, & Intersection Results

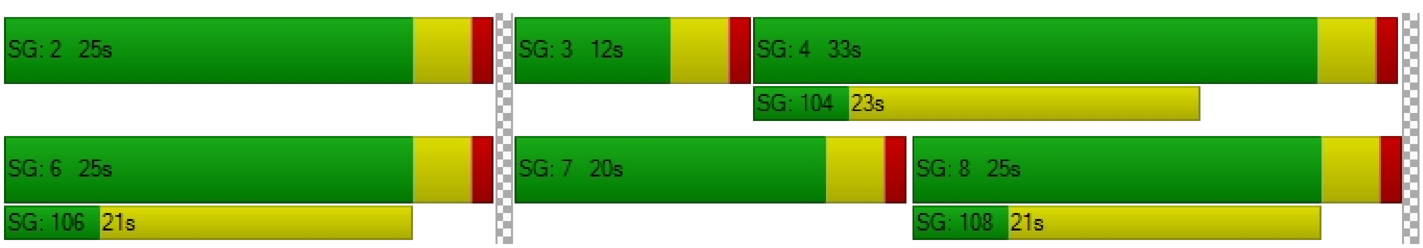
d_M, Delay for Movement [s/veh]	15.65	15.65	15.03	27.12	27.12	27.12	42.65	34.99	34.99	45.71	19.77	19.77
Movement LOS	B	B	B	C	C	C	D	C	C	D	B	B
d_A, Approach Delay [s/veh]	15.42			27.12			35.21			23.08		
Approach LOS	B			C			D			C		
d_I, Intersection Delay [s/veh]	27.11											
Intersection LOS	C											
Intersection V/C	0.698											

Other Modes

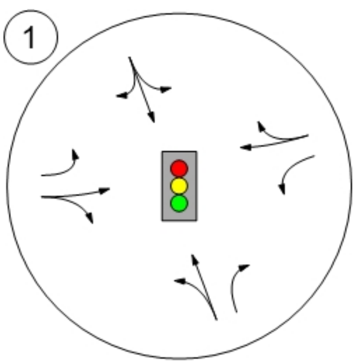
g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	530.92	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	26.58	0.00	26.58
I_p,int, Pedestrian LOS Score for Intersection	2.067	1.994	0.000	3.121
Crosswalk LOS	B	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	600	600	829
d_b, Bicycle Delay [s]	17.15	17.15	17.15	12.01
I_b,int, Bicycle LOS Score for Intersection	1.974	2.055	2.627	2.503
Bicycle LOS	A	B	B	B

Sequence

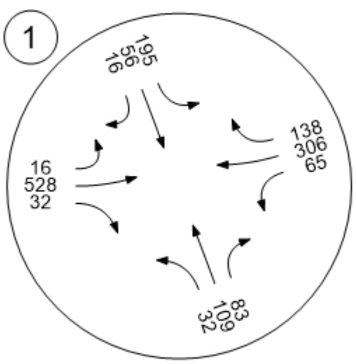
Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Lane Configuration and Traffic Control



Traffic Volume - Future Total Volume



Intersection Level Of Service Report
Intersection 1: Canal Road @ 6th Street

Control Type:	Signalized	Delay (sec / veh):	24.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.495

Intersection Setup

Name							6th Street			6th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	18.27	18.27	10.14	11.75	12.23	12.23
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	122.39	100.00	100.00	87.41	100.00	100.00
Speed [mph]	30.00			30.00			25.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name							6th Street			6th Street		
Base Volume Input [veh/h]	31	51	86	108	41	15	15	342	24	48	398	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	51	86	108	41	15	15	342	24	48	398	99
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	14	24	30	11	4	4	94	7	13	109	27
Total Analysis Volume [veh/h]	34	56	95	119	45	16	16	376	26	53	437	109
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	25	0	0	25	0	9	35	0	10	36	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	16	0	0	10	0	0	16	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	L	C
C, Cycle Length [s]	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	31	31	31	1	24	3	26
g / C, Green / Cycle	0.44	0.44	0.44	0.02	0.34	0.05	0.37
(v / s)_i Volume / Saturation Flow Rate	0.06	0.07	0.15	0.01	0.23	0.03	0.34
s, saturation flow rate [veh/h]	1491	1431	1204	1667	1731	1603	1626
c, Capacity [veh/h]	730	632	617	35	587	76	595
d1, Uniform Delay [s]	11.54	11.70	14.11	33.94	19.94	32.89	21.22
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.21
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.35	0.50	1.19	9.18	1.42	10.70	10.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.12	0.15	0.29	0.46	0.68	0.69	0.92
d, Delay for Lane Group [s/veh]	11.88	12.20	15.30	43.12	21.36	43.58	32.12
Lane Group LOS	B	B	B	D	C	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.83	0.90	2.02	0.35	5.58	1.02	8.64
50th-Percentile Queue Length [ft/ln]	20.67	22.45	50.59	8.85	139.43	25.59	216.08
95th-Percentile Queue Length [veh/ln]	1.49	1.62	3.64	0.64	9.45	1.84	13.46
95th-Percentile Queue Length [ft/ln]	37.21	40.41	91.07	15.92	236.25	46.05	336.62

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.88	11.88	12.20	15.30	15.30	15.30	43.12	21.36	21.36	43.58	32.12	32.12
Movement LOS	B	B	B	B	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	12.04			15.30			22.20			33.13		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	24.68											
Intersection LOS	C											
Intersection V/C	0.495											

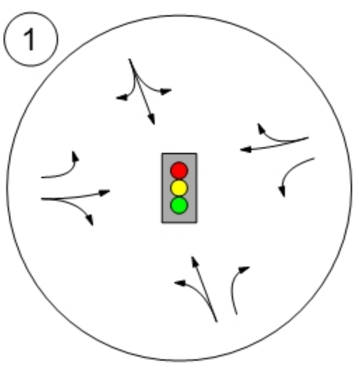
Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	26.58	0.00	26.58
I_p,int, Pedestrian LOS Score for Intersection	2.029	1.880	0.000	2.807
Crosswalk LOS	B	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	600	886	914
d_b, Bicycle Delay [s]	17.15	17.15	10.86	10.31
I_b,int, Bicycle LOS Score for Intersection	1.865	1.857	2.249	2.548
Bicycle LOS	A	A	B	B

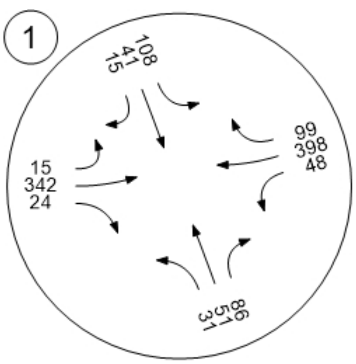
Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Lane Configuration and Traffic Control



Traffic Volume - Future Total Volume



Intersection Level Of Service Report
Intersection 1: Canal Road @ 6th Street

Control Type:	Signalized	Delay (sec / veh):	24.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.554

Intersection Setup

Name								6th Street			6th Street	
Approach		Northbound			Southbound			Eastbound			Westbound	
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	18.27	18.27	10.14	11.75	12.23	12.23
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	122.39	100.00	100.00	87.41	100.00	100.00
Speed [mph]		30.00			30.00			25.00			55.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No			No	
Crosswalk		Yes			Yes			No			Yes	

Volumes

Name								6th Street			6th Street	
Base Volume Input [veh/h]	31	51	86	108	41	15	15	342	24	48	398	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	0	27	23	3	1	0	0	0	0	13
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	63	86	135	64	18	16	342	24	48	398	112
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	17	24	37	18	5	4	94	7	13	109	31
Total Analysis Volume [veh/h]	34	69	95	148	70	20	18	376	26	53	437	123
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	25	0	0	25	0	9	35	0	10	36	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	16	0	0	10	0	0	16	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	L	C
C, Cycle Length [s]	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	30	30	30	2	25	3	26
g / C, Green / Cycle	0.43	0.43	0.43	0.02	0.35	0.05	0.38
(v / s)_i Volume / Saturation Flow Rate	0.07	0.07	0.20	0.01	0.23	0.03	0.35
s, saturation flow rate [veh/h]	1494	1431	1205	1667	1731	1603	1620
c, Capacity [veh/h]	712	616	602	38	607	76	608
d1, Uniform Delay [s]	12.11	12.17	15.50	33.84	19.26	32.89	20.91
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.23
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.43	0.53	1.94	8.81	1.25	10.70	11.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.14	0.15	0.40	0.47	0.66	0.69	0.92
d, Delay for Lane Group [s/veh]	12.53	12.71	17.44	42.65	20.51	43.58	32.62
Lane Group LOS	B	B	B	D	C	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.98	0.92	2.92	0.39	5.44	1.02	8.94
50th-Percentile Queue Length [ft/ln]	24.55	23.08	73.04	9.78	135.98	25.59	223.59
95th-Percentile Queue Length [veh/ln]	1.77	1.66	5.26	0.70	9.26	1.84	13.85
95th-Percentile Queue Length [ft/ln]	44.18	41.55	131.47	17.60	231.60	46.05	346.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.53	12.53	12.71	17.44	17.44	17.44	42.65	20.51	20.51	43.58	32.62	32.62
Movement LOS	B	B	B	B	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	12.62			17.44			21.46			33.57		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	24.67											
Intersection LOS	C											
Intersection V/C	0.554											

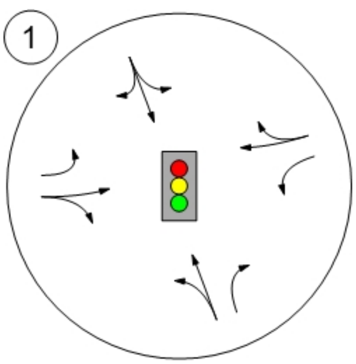
Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	26.58	0.00	26.58
I_p,int, Pedestrian LOS Score for Intersection	2.042	1.922	0.000	2.874
Crosswalk LOS	B	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	600	886	914
d_b, Bicycle Delay [s]	17.15	17.15	10.86	10.31
I_b,int, Bicycle LOS Score for Intersection	1.886	1.952	2.253	2.571
Bicycle LOS	A	A	B	B

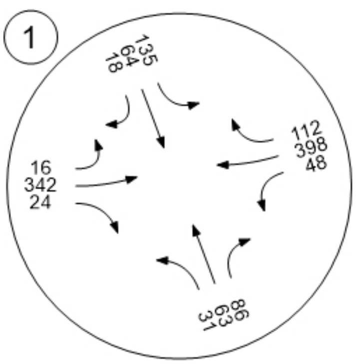
Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Lane Configuration and Traffic Control



Traffic Volume - Future Total Volume



Intersection Level Of Service Report
Intersection 1: Canal Road @ 6th Street

Control Type:	Signalized	Delay (sec / veh):	27.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.568

Intersection Setup

Name	Canal Rd			Canal Rd			6th Street			6th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	18.27	18.27	10.14	11.75	12.23	12.23
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	122.39	100.00	100.00	87.41	100.00	100.00
Speed [mph]	30.00			30.00			25.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Canal Rd			Canal Rd			6th Street			6th Street		
Base Volume Input [veh/h]	67	50	98	86	16	3	0	359	20	52	569	152
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	50	98	86	16	3	0	359	20	52	569	152
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	13	26	22	4	1	0	93	5	14	148	40
Total Analysis Volume [veh/h]	70	52	102	90	17	3	0	374	21	54	593	158
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			18		
v_di, Inbound Pedestrian Volume crossing m	0			18			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	25	0	0	25	0	9	35	0	10	36	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	16	0	0	10	0	0	16	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	L	C
C, Cycle Length [s]	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	24	24	0	31	3	34
g / C, Green / Cycle	0.34	0.34	0.34	0.00	0.44	0.05	0.49
(v / s)_i Volume / Saturation Flow Rate	0.08	0.07	0.10	0.00	0.23	0.03	0.46
s, saturation flow rate [veh/h]	1459	1431	1064	1667	1734	1603	1615
c, Capacity [veh/h]	581	490	458	1	762	75	785
d1, Uniform Delay [s]	16.36	16.30	19.17	0.00	14.26	32.92	17.31
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.37
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.82	0.96	1.24	0.00	0.55	12.06	19.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.21	0.24	0.00	0.52	0.72	0.96
d, Delay for Lane Group [s/veh]	17.19	17.26	20.41	0.00	14.81	44.98	36.44
Lane Group LOS	B	B	C	A	B	D	D
Critical Lane Group	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.44	1.22	1.49	0.00	4.32	1.06	12.53
50th-Percentile Queue Length [ft/ln]	36.09	30.53	37.16	0.00	108.03	26.58	313.13
95th-Percentile Queue Length [veh/ln]	2.60	2.20	2.68	0.00	7.73	1.91	18.33
95th-Percentile Queue Length [ft/ln]	64.96	54.96	66.89	0.00	193.25	47.85	458.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.19	17.19	17.26	20.41	20.41	20.41	0.00	14.81	14.81	44.98	36.44	36.44
Movement LOS	B	B	B	C	C	C	A	B	B	D	D	D
d_A, Approach Delay [s/veh]	17.22			20.41			14.81			37.01		
Approach LOS	B			C			B			D		
d_I, Intersection Delay [s/veh]	27.21											
Intersection LOS	C											
Intersection V/C	0.568											

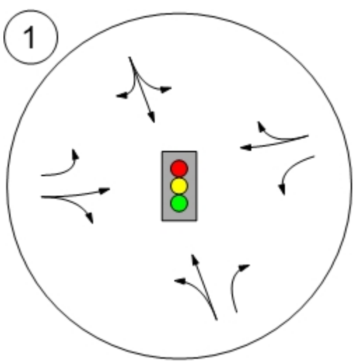
Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	793.23	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	26.58	0.00	26.58
I_p,int, Pedestrian LOS Score for Intersection	2.032	1.860	0.000	2.874
Crosswalk LOS	B	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	600	886	914
d_b, Bicycle Delay [s]	17.15	17.15	10.86	10.31
I_b,int, Bicycle LOS Score for Intersection	1.929	1.741	2.211	2.888
Bicycle LOS	A	A	B	C

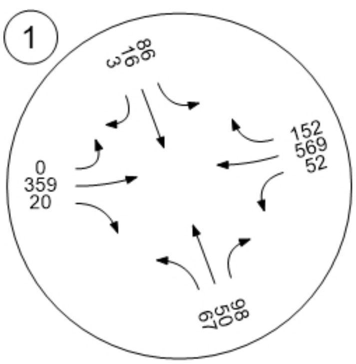
Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Lane Configuration and Traffic Control



Traffic Volume - Future Total Volume



Intersection Level Of Service Report

Intersection 1: Canal Road @ 6th Street

Control Type:	Signalized	Delay (sec / veh):	27.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.595

Intersection Setup

Name	Canal Rd			Canal Rd			6th Street			6th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	18.27	18.27	10.14	11.75	12.23	12.23
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	122.39	100.00	100.00	87.41	100.00	100.00
Speed [mph]	30.00			30.00			25.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Canal Rd			Canal Rd			6th Street			6th Street		
Base Volume Input [veh/h]	67	50	98	86	16	3	0	359	20	52	569	152
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	0	8	8	1	1	0	0	0	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	58	98	94	24	4	1	359	20	52	569	160
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	15	26	24	6	1	0	93	5	14	148	42
Total Analysis Volume [veh/h]	70	60	102	98	25	4	1	374	21	54	593	167
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			18		
v_di, Inbound Pedestrian Volume crossing m	0			18			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	25	0	0	25	0	10	36	0	9	35	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	16	0	0	10	0	0	16	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	L	C
C, Cycle Length [s]	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	23	23	0	31	3	34
g / C, Green / Cycle	0.33	0.33	0.33	0.00	0.45	0.05	0.49
(v / s)_i Volume / Saturation Flow Rate	0.09	0.07	0.12	0.00	0.23	0.03	0.47
s, saturation flow rate [veh/h]	1456	1431	1032	1667	1734	1603	1613
c, Capacity [veh/h]	566	479	437	3	776	75	794
d1, Uniform Delay [s]	16.86	16.69	20.25	34.92	13.85	32.93	17.06
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.38
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.94	1.02	1.68	71.24	0.52	12.29	19.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.23	0.21	0.29	0.38	0.51	0.72	0.96
d, Delay for Lane Group [s/veh]	17.80	17.70	21.94	106.16	14.37	45.22	36.35
Lane Group LOS	B	B	C	F	B	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.57	1.24	1.80	0.07	4.25	1.07	12.66
50th-Percentile Queue Length [ft/ln]	39.33	31.00	45.06	1.73	106.17	26.67	316.40
95th-Percentile Queue Length [veh/ln]	2.83	2.23	3.24	0.12	7.63	1.92	18.49
95th-Percentile Queue Length [ft/ln]	70.79	55.79	81.11	3.11	190.66	48.01	462.26

Movement, Approach, & Intersection Results

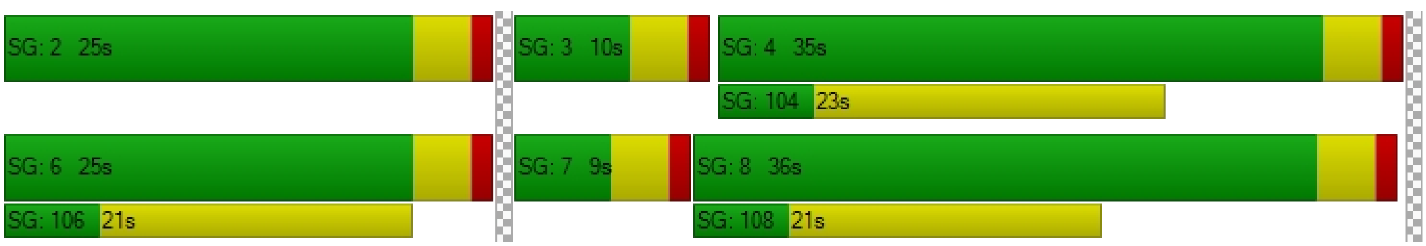
d_M, Delay for Movement [s/veh]	17.80	17.80	17.70	21.94	21.94	21.94	106.16	14.37	14.37	45.22	36.35	36.35
Movement LOS	B	B	B	C	C	C	F	B	B	D	D	D
d_A, Approach Delay [s/veh]	17.76			21.94			14.60			36.94		
Approach LOS	B			C			B			D		
d_I, Intersection Delay [s/veh]	27.25											
Intersection LOS	C											
Intersection V/C	0.595											

Other Modes

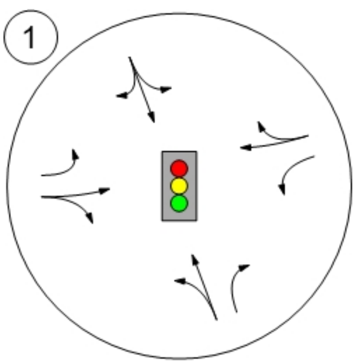
g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	780.29	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	26.58	0.00	26.58
I_p,int, Pedestrian LOS Score for Intersection	2.037	1.877	0.000	2.895
Crosswalk LOS	B	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	600	914	886
d_b, Bicycle Delay [s]	17.15	17.15	10.31	10.86
I_b,int, Bicycle LOS Score for Intersection	1.942	1.769	2.213	2.903
Bicycle LOS	A	A	B	C

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Lane Configuration and Traffic Control



Traffic Volume - Future Total Volume