

# CATEGORICAL EXEMPTION ANALYSIS

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## Pleasant Valley High School Culinary Arts and Medical Pathway CTE Project



### Chico Unified School District

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## CATEGORICAL EXEMPTION ANALYSIS

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### INTRODUCTION

#### Project Description

The Chico Unified School District (CUSD) is proposing the Pleasant Valley High School Culinary Arts and Medical Pathways CTE project (Project, Proposed Project)<sup>1</sup>. The Proposed Project will be located at the existing Pleasant Valley High School campus. The Project includes the construction of a ±16,600 square foot Culinary Arts building, removal and relocation of existing staff parking and overhead solar structures to make room for the new building, relocation of administrative offices to a renovated existing building (Valhalla), a new student drop-off area, relocation of Medical Pathway CTE to a renovated existing building (Administration), and new landscape and hardscape improvements to the existing Central Courtyard. All of this new construction/renovation/relocation will occur on the existing campus. See **Figure 1 Site Plan** for proposed layout.

The new Culinary Arts building will include the development of a multipurpose room, kitchen, and the Culinary Arts CTE. The Culinary Arts CTE will have two labs, including eight cooking stations, a full-service restaurant, and two classrooms. This space will also be utilized for catering for special events and partnerships with local colleges.

Medical Pathway CTE will include a medical lab incorporating medical bed infrastructure and open floor space for CPR and First Aid training. The Medical Pathway CTE will also have a Sports Medicine Lab, four classrooms, a staff breakroom, and restrooms.

Currently Pleasant Valley High School has six special education classrooms, 54 regular classrooms, and 23 labs. Overall, the Project will result in four new classrooms and four new labs. No increase in student capacity at the high school would occur because of the Project.

#### Project Construction

Construction is anticipated to start in the Summer of 2020 and take approximately two years to complete. The Project will be completed in one phase. The average number of daily construction workers to the site is anticipated to be approximately 25.

It is anticipated that it will take approximately 6 to 8 months to remodel the existing buildings into the relocated Administration building and Medical Pathways classrooms and labs. The vacated existing Medical Pathways and Culinary Arts classrooms will be converted into regular classrooms.

In order to construct the new Culinary Arts building, removal of approximately 31,000 square feet of the existing staff parking lot and parking lot solar panels will be required. This will result in the loss of 21 parking spaces that will not be replaced. Relocating the solar panels to another parking lot is under investigation at this time. However, has not been finalized. No large amounts of import/export of soil for

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<sup>1</sup> CTE = Career Technical Education

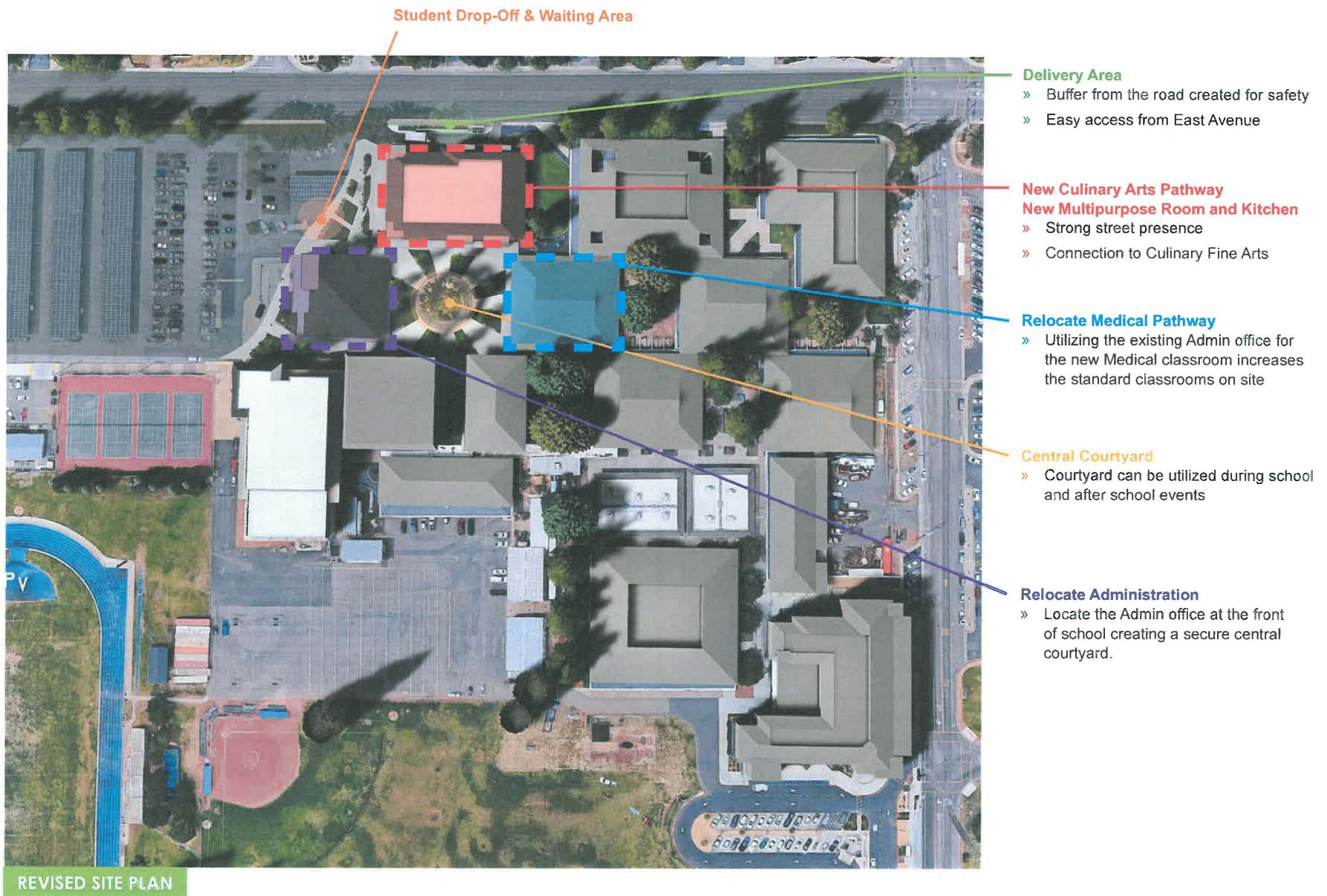
the construction of the new building is anticipated. A minor amount of soil export may be required for building footings.

### Environmental Setting

The Project site, Pleasant Valley High School Campus, is currently fully developed and in use. The Project site contains numerous buildings and areas with designated uses (i.e. the administration building and student drop-off area).

To complete the Proposed Project, the zoning designation, total footprint, and location of Pleasant Valley High School would remain unchanged. The Proposed Project involves both the re-location of existing buildings and construction of new buildings within the existing campus area. Upon completion of the Project, the general function and use of the high school would remain the same. The purpose of the Proposed Project is to enhance existing educational opportunities available at Pleasant Valley High School and improve the school's layout.

The Project site is located within the urban area of Chico with residential homes, community commercial developments (including a CVS Pharmacy and Valley Clinical Laboratory), and office buildings in the vicinity. The buildings to the north are zoned as Office Residential (OR) and Community Commercial (CC). Located to the east is Marigold Elementary School. The property immediately to the east, south, and west is zoned for Low-Density Residential (R1) use. The Project site itself is zoned as Quasi Public Facilities (PQ Public).



## EXEMPTION ANALYSIS

### A. Exempt Status

The Pleasant Valley High School Culinary Arts and Medical Pathway CTE Project qualifies for a California Environmental Quality Acts (CEQA) Categorical Exemption under Class 14 Section 15314, Minor Additions to Schools.

### B. Reason Why the Project is Exempt

The Project is exempt under CEQA Article 19- Categorical Exemptions, which lists the classes of projects which are exempt from CEQA analysis. This section includes an explanation and analysis of why the Project meets the requirements of a Class 14 exemption and will not have a significant impact on the environment. This section also details why no exceptions to categorical exemptions (Section 15300.2) apply to the Project.

### Categorical Exemption Analysis

The Project is categorically exempt under *Class 14 Section 15314- Minor Additions to Schools*. Included below is the exact language included in the categorical exemption and a detailed analysis of why the Project qualifies for this exemption.

#### *Class 14 Section 15314- Minor Additions to Schools*

*"Class 14 consists of minor additions to existing schools within existing school grounds where the addition does not increase original student capacity by more than 25% or ten classrooms, whichever is less. The addition of portable classrooms is included in this exemption."*

### **The Proposed Project meets this condition**

The Proposed Project is categorically exempt under this exemption because the Project is to be constructed within the existing boundaries of the high school, would not increase the number of classrooms by more than ten, and would not increase student capacity by more than 25%. The Proposed Project would cause a 0% net increase in student capacity and is meant only to improve upon existing educational opportunities for Pleasant Valley High School students. The Proposed Project would involve the construction of two new Culinary Arts classrooms and labs and two renovated Medical Pathway classrooms and labs. The existing Culinary Arts and Medical Pathways classrooms and labs will be turned into regular classrooms.

Regardless of the specified layout, the only addition due to the site would be four classrooms and four labs. The Project is intended to increase the quality of student learning but is not intended to increase school capacity. Thus, the Project meets the requirements of categorical exemption *Class 14 Section 15314- Minor Additions to Schools*.



## Conclusion

As detailed above, the Proposed Project meets the requirements for a CEQA categorical exemption under *Class 14 Section 15314- Minor Additions to Schools*.

### C. Exceptions to Categorical Exemptions

If certain conditions are met, a Project may exhibit characteristics indicating that the project does not qualify for a categorical exemption due to an exception as defined under CEQA. The Proposed Project does not fall under an exception to the categorical exemption based on technical data. Technical reports for air quality, greenhouse gas (GHG) emissions, biological resources, and noise, supporting the determination that no exceptions to the categorical exemption are included in **Appendix A**, **Appendix B**, and **Appendix C**.

### Exceptions

(a) **Location.** The location exception applies categorical exemptions classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located. If a project is to be located within an area considered a particularly sensitive environment, exemption from CEQA environmental assessment would not be possible.

#### This exception does not apply to the Project

As discussed above, The Proposed Project is exempt from CEQA under Categorical Exemption Class 14. The Proposed Project is located on an existing school campus, which is not classified as a particularly sensitive environment. Further, the campus is considered a disturbed site, the site is not located adjacent to any sensitive areas, and it is located within an urban area. As such, this exception does not apply to the Project.

(b) **Cumulative Impact.** The cumulative impact exception applies when the cumulative impact of successive projects of the same type in the same place, over time, is significant.

#### This exception does not apply to the Project

The Proposed Project involves the relocation of school classrooms and buildings with the addition of culinary arts classrooms and labs. Two school expansion projects (Marigold Elementary and Loma Vista School) have recently been completed in the immediate vicinity. Both of these projects occurred on an existing school site and no cumulative impacts resulted from their development. Similarly, the Proposed Project would not result in a cumulative impact to the environment, as it will occur on an existing school site and will not result in an increase in student capacity. Additionally, the construction phase is complete for the two nearby school expansion projects. Therefore, the Project would not produce cumulative impacts when considered in conjunction with other project(s) and this exception does not apply to the Project.

(c) **Significant Effect.** The significant effect exception applies to an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

This exception does not apply to the Project

The Project is Proposed within a previously disturbed area of the high school that is currently in use as a parking lot and has been for many years. Thus, the Project site has previously undergone vegetation removal, grading, and paving prior to use as a parking lot. There are neither existing unusual conditions at the Project site nor unusual conditions included in the Proposed Project. The construction of the Proposed Project would follow standard building regulations as promulgated by the City of Chico and California Department of Education. To ensure no significant environmental impacts would result from the Proposed Project, technical analysis of air quality, greenhouse gas (GHG) emissions, biological resources, and noise were performed. The findings of these studies are outlined in “*Significant Environmental Affect Analysis*” beginning on page 6 below. Technical reports detailing the findings of these studies are included in **Appendix A, Appendix B, and Appendix C.**

(d) **Scenic Highways.** The scenic highways exception applies a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.

This exception does not apply to the Project

No designated scenic highways exist within the Project area. Thus, the Project would have no impact on scenic resources visible from a scenic highway.

(e) **Hazardous Waste Sites.** A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.

This exception does not apply to the Project

The Proposed Project will not be constructed on a hazardous waste site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.

A search of the GeoTracker database, managed by the State Water Resources Control Board, was conducted. The database revealed that the Project site is not a toxic waste site and no known open or closed toxic waste site exist within the vicinity of the Project site [SWRCB 2019].

A search of the California Department of Toxic Substances Control EnviroStor database was performed for the Proposed Project. The search revealed that Pleasant Valley High School is not located on a hazardous waste site. The nearest active hazardous waste cleanup site is located approximately 1.5 miles west of the Project site [DTSC 2019].

(f) **Historical Resources.** A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.

This exception does not apply to the Project

The Project site contains no known historical resources. Due to the fact that the Proposed Project is to be located on a currently developed and previously disturbed area and the site is in an urban area not located near any waterways, the likelihood of disturbing unknown historical resources is very low. The Project site is surrounded by residential, commercial, and office building developments and no known resources exist in the vicinity. Therefore, this exception does not apply to the Proposed Project.

## SIGNIFICANT ENVIRONMENTAL AFFECTS ANALYSIS

To definitively determine that **Exception (C) Significant Effect** would not apply to the Proposed Project the following section includes an analysis of potential environmental impacts. Technical analyses were performed by ECORP Consulting Inc., for the following impact categories: air quality, GHG emissions, biological resources, and Noise. The purpose of detailed analyses is meant to determine whether the categorical exemption applies to the project or if a significant impact to the environment will necessitate further environmental review.

### Air Quality

#### *Construction-Generated Emissions*

The Project would generate short-term emissions from construction activities such as demolition, site preparation, site grading, building construction, and application of architectural coatings (e.g. painting). Common construction emissions include fugitive dust from soil disturbances, fuel combustion from mobile heavy-duty-diesel-and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips. During construction, fugitive dust, the dominant source of coarse particulate matter (PM<sub>10</sub>) and fine particulate matter (PM<sub>2.5</sub>) emissions, is generated when wheels or blades disturb surface material. Uncontrolled dust from construction can become a nuisance and potential health hazard to those living and working nearby. Off-road construction equipment is often diesel-powered and can be a substantial source of nitrogen oxide (NO<sub>x</sub>) emissions, in addition to PM<sub>10</sub> and PM<sub>2.5</sub> emissions. Worker commute trips and architectural coating are dominant sources of reactive organic gases (ROG) emissions.

Predicted maximum daily construction-generated emissions for the Proposed Project are summarized in **Table 1**. Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the Butte County Air Quality Management District's (BCAQMD's) thresholds of significance.

The BCAQMD does not have a numerical threshold for construction-generated carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), and PM<sub>2.5</sub>. As demonstrated, the Project complies with the BCAQMD requirements and would not result in an increase in the severity of construction-related air quality impacts.

<b>Table 1. Construction-Related Emissions</b>			
<b>Construction Year</b>	<b>Pollutant (pounds per day)</b>		
	<b>ROG</b>	<b>NO<sub>x</sub></b>	<b>PM<sub>10</sub></b>
Construction in 2020	3.12	18.33	1.31
Construction in 2021	2.94	16.74	1.17
<i>BCAQMD Regional Significance Threshold</i>	<i>137</i>	<i>137</i>	<i>80</i>
<b>Exceed BCAQMD Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: ECORP 2019b, Air Quality Assessment (see Attachment B)

Notes: Emissions estimates account for the demolition of 746.2 tons of pavement from the Project area. Building construction, paving and architectural coating are assumed to occur simultaneously.

### Operational Emissions

Operational air quality impacts would result in long-term operational emissions of criteria air pollutants such as PM<sub>2.5</sub>, CO and SO<sub>2</sub> as well as ozone precursors such as ROG and NO<sub>x</sub>. The BCAQMD does not have a numerical threshold for project-generated CO, SO<sub>2</sub>, and PM<sub>2.5</sub>. The Project will not be increasing the number of students attending the high school so there would be no emissions associated with vehicle traffic. The Project would not represent a new type of land use on the site or change the use of the site.

Long-term operational emissions associated with full implementation of the Proposed Project are summarized in **Table 2**.

<b>Table 2. Operational-Related Emissions</b>			
<b>Construction Year</b>	<b>Pollutant (pounds per day)</b>		
	<b>ROG</b>	<b>NO<sub>x</sub></b>	<b>PM<sub>10</sub></b>
Summer Emissions	0.56	0.93	0.07
Winter Emissions	0.56	0.93	0.07
<i>BCAQMD Regional Significance Threshold</i>	<i>25</i>	<i>25</i>	<i>80</i>
<b>Exceed BCAQMD Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: ECORP 2019b, Air Quality Assessment (see Attachment B)

As shown in **Table 2**, operational emissions at full implementation of the Project would not surpass any BCAQMD thresholds. As such, development of the Project would result in a less than significant impact to air quality under operational conditions. Therefore, the Project would not result in a violation of any air quality standards or contribute substantially to an existing project air quality violation.

### Greenhouse Gas Emissions

The Project's greenhouse gas (GHG) emissions would be generated over the short term from construction activities, consisting primarily of emissions from equipment exhaust. There would also be long-term regional emissions associated with indirect source emissions, such as electricity usage for lighting. Neither the City of Chico or BCAPCD have established air pollution thresholds under CEQA for the assessment of GHG emissions. Therefore, the Project emissions will be compared with the thresholds established in Sacramento County. As with Butte County and the Proposed Project site, Sacramento County is located within the Sacramento Valley Air Basin and therefore, the GHG thresholds of significance developed in that county were formulated based on the same geography and similar land use pattern, and thus are

Categorical Exemption Analysis  
Pleasant Valley High School Culinary Arts and Medical Pathway CTE Project

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appropriate for this analysis. While GHG standards established in Sacramento County are not binding on Butte County, they are instructive for comparison purposes. Thus, in this analysis the Project construction and operations will be compared to the SMAQMD numeric bright-line threshold of 1,100 metric tons of carbon dioxide equivalents (CO<sub>2e</sub>).

#### *Construction GHG Emissions*

The approximate quantity of annual GHG emissions generated by construction equipment is shown in **Table 3**.

<b>Table 3. Construction-Related Emissions</b>	
<b>Emission Source</b>	<b>CO<sub>2e</sub> (Metric Tons/ Year)</b>
Year 2020	185
Year 2021	329
<b>Total</b>	<b>514</b>
<i>Potentially Significant Impact Threshold</i>	<i>1,100</i>
<b>Exceed Threshold?</b>	<b>No</b>

*Source: ECORP 2019b, Air Quality Assessment (see Attachment B)*

*Notes: Emissions estimates account for the demolition of 746.2 tons of pavement from the Project area. Building construction, paving, and architectural coating assumed to occur simultaneously.*

As shown, construction would generate approximately 514 metric tons of CO<sub>2e</sub>. Once construction is complete, generation of GHG emissions would cease.

#### *Operational GHG Emissions*

The approximate quantity of annual GHG emissions generated by operations is shown in **Table 4**.

<b>Table 4. Operational-Related Emissions</b>	
<b>Emission Source</b>	<b>CO<sub>2e</sub> (Metric Tons/ Year)</b>
Area Source Emissions	0
Energy Source Emissions	328
Mobile Source Emissions	0
Solid Waste Emissions	99
Water Emissions	15
<b>Total</b>	<b>442</b>
<i>Potentially Significant Impact Threshold</i>	<i>1,100</i>
<b>Exceed Threshold?</b>	<b>No</b>

*Source: ECORP 2019b, Air Quality Assessment (see Attachment B)*

As shown, Project operations would generate approximately 442 metric tons of CO<sub>2e</sub> annually. This would not exceed the threshold established for this Project.

The Proposed Project's impact to GHG emissions and climate change is considered to be less than significant.

### Biological Resources

The Proposed Project is located on a previously disturbed area that is the location of the existing Pleasant Valley High School Campus. A biological resource assessment (BRA) was performed at the Project site to assess the potential for occurrence of special-status plant and animal species and their habitats, and sensitive habitats such as wetlands and riparian communities within the Project Study Area. The information generated from the BRA was gathered from the reconnaissance-level site assessment performed on August 22, 2019 by ECORP Consulting, Inc. Literature review was also performed to determine what, if any, special-status species have been documented within or in the vicinity of the Project area. The findings of the BRA and literature review are summarized below (ECORP 2019a).

#### *Potential Impacts*

Due to the existing disturbance on the Project site, the lack of suitable wildlife habitat, and the absence of native plant species, the Project will have a less than significant impact to biological resources. Refer to the BRA included as **Attachment A**.

### Noise

The Proposed Project site is located on the existing Pleasant Valley High School campus. The major immediately located noise source is from the campus itself. Noises produced by the existing campus include the sound of students conversing, vehicle engine noise and music produced by cars in the campus parking lot, and cheering and music during sporting events. The major noise sources in the vicinity include roadway noise traffic from the East Avenue to the north, as well as typical sources associated with commercial land uses (i.e., parking lot noise, mechanical equipment) located on the north side of East Avenue, across the Project area. To the west, south, and southeast of the high school campus, existing noise is typical of that experienced in residential neighborhoods, where standard noise sources include slow-moving automobile movements, mechanical equipment, dogs barking, and radios.

#### *Construction Noise*

Construction noise associated with the Proposed Project would be temporary and would vary depending on the nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for on-site construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., demolition, building construction, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). During construction, exterior noise levels could negatively affect sensitive receptors in the vicinity of the construction site.

Although City of Chico regulations do not apply to the Project site as public schools fall under the jurisdiction of the State of California, the district does consider local regulations during Project implementation and apply them as best practices when deemed necessary.

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Section 9.38.060 of the City of Chico Municipal Code exempts construction noise if it occurs between the hours of 10:00 a.m. and 6:00 p.m. on Sundays and holidays, 7:00 a.m. and 9:00 p.m. on other days, AND does not generate noise in excess of 86 dBA at the property plane of the construction site. In order to estimate the worst-case construction noise levels that may occur at the nearest noise-sensitive receptors in the Project vicinity, the combined construction equipment noise levels were calculated using the Roadway Noise Construction Model for the demolition, site preparation, grading, paving, building/renovation, and coating phases. The anticipated short-term construction noise levels generated during Project construction are presented in **Table 5**.

<b>Table 5. Construction Average (dBA) Noise Levels by Construction Phase – Unmitigated</b>			
<b>Description</b>	<b>Estimated Exterior Construction Noise Level @ Construction Site Boundary (as measured from the center of the construction site)</b>	<b>Construction Noise Standards (dBA <math>L_{eq}</math>)</b>	<b>Exceed Standard?</b>
Demolition, Site Preparation, & Grading Activities	75.7	86.0	No
Construction/Renovation, Paving, & Painting Activities	74.0		No

Source: Construction noise levels were calculated by ECORP Consulting (ECORP 2019c) using the FHWA Roadway Noise Construction Model (FHWA 2008). Refer to **Attachment A** for noise modeling assumptions and results.

Notes: <sup>1</sup>Construction equipment used during each phase derived from CalEEMod 2016.3.2..

$L_{eq}$  = the equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the  $L_{eq}$  of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

As shown, Project construction would not result in the generation of noise beyond the City of Chico construction-noise standard. Therefore, noise generated during construction activities, as long as conducted within the permitted hours, would not exceed City noise standards. Therefore, the construction-related noise impacts associated with the Proposed Project would be less than significant.

#### Operational Noise

The Pleasant Valley High School Campus is currently fully developed and in use. The campus contains numerous buildings and areas with designated uses (i.e. the administration building and student drop-off area). The Project includes the removal and relocation of existing staff parking and overhead solar structures to make room for a new Culinary Arts building, relocation of administrative offices to a renovated existing building, relocation of Medical Pathway CTE to a renovated existing building, and reconfiguration of the Central Courtyard. All of this new renovation would occur on the existing campus. The use of the site would remain unchanged and the student population would not increase as a result of the Project. Thus, the existing noise generated on the Project site would remain the same once construction is complete. The Project would not cause existing noise levels at noise sensitive receptors to increase. The on-site operations of the Proposed Project would have no noticeable effect on the existing ambient noise environment.

*Traffic Noise*

The Proposed Project will not increase the number of students attending the high school and therefore will not increase the amount of traffic on nearby roadways. The Project will have no impact on traffic noise.



## REFERENCES

City of Chico

- 2017 Chico Zoning Map. [http://www.chico.ca.us/planning\\_services/documents/citywebmap\\_zoning20170901Aug2017.pdf](http://www.chico.ca.us/planning_services/documents/citywebmap_zoning20170901Aug2017.pdf).

[DTSC] California Department of Toxic Substances Control

- 2019 Envirostor. <https://www.envirostor.dtsc.ca.gov/public/>.

[ECORP] ECORP Consulting, Inc.

- 2019a Biological Resources Assessment for the Pleasant Valley High School Culinary Arts and Medical Pathway.
- 2019b Pleasant Valley High School Culinary Arts and Medical Pathway CTE Project- Emissions Technical Memorandum
- 2019c Pleasant Valley High School Culinary Arts and Medical Pathway CTE Project- Noise Technical Memorandum

[FHWA] Federal Highway Administration

- 2008 Roadway Construction Noise Model.
- 2011 Effective Noise Control During Nighttime Construction.

[SWRCB] State Water Resource Control Board

- 2019 GeoTracker. <https://geotracker.waterboards.ca.gov/>.

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# **Attachments**



**Attachment A**  
Biological Resources Assessment



# Biological Resources Assessment

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Pleasant Valley High School Culinary Arts and Medical Pathway  
CTE Project  
Butte County, California

## Prepared For:

Chico Unified School District

**November 2019**

ECORP Consulting, Inc. has assisted public and private land owners with environmental regulation compliance since 1987. We offer full service capability, from initial baseline environmental studies through environmental planning review, permitting negotiation, liaison to obtain legal agreements, mitigation design, and monitoring and compliance reporting.

Citation: ECORP Consulting, Inc.. 2019. Biological Resources Assessment for the Pleasant Valley High School Culinary Arts and Medical Pathway CTE Project, Butte County, California. November 2019.



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## **LIST OF ACRONYMS AND ABBREVIATIONS**

BA	Biological assessment
BCC	Birds of conservation concern
BO	Biological opinion
BRA	Biological resources assessment
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CUSD	Chico Unified School District
CWA	Clean Water Act
ESA	Endangered Species Act
MBTA	Migratory Bird Treaty Act
NAD	North American Datum
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
Project	Pleasant Valley High School Culinary Arts and Medical Pathway CTE Project
PVHS	Pleasant Valley High School
RWQCB	Regional Water Quality Control Board
SSC	CDFW Species of Special Concern
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

## 1.0 INTRODUCTION

On behalf of the Chico Unified School District (CUSD), ECORP Consulting, Inc. conducted a biological resources assessment (BRA) for the Pleasant Valley High School (PVHS) Culinary Arts and Medical Pathway CTE Project (Project) located in the city of Chico, Butte County, California. The purpose of the assessment was to collect information on the biological resources present or with the potential to occur in the Project Study Area, assess potential biological impacts related to Project activities, and identify potential mitigation measures to inform and support the Project's California Environmental Quality Act (CEQA) documentation for biological resources.

### 1.1 Project Location

The Project is located within the campus of PVHS on East Avenue, west of Marigold Avenue, north of Manzanita Avenue, and east of Ceanothus Avenue (Figure 1. *Project Location and Vicinity*). The site corresponds to the Unsectioned Rancho Arroyo Chico Land Grant portion of the "Richardson Springs, California" 7.5-minute quadrangle (North American Datum [NAD]27) (U.S. Geological Survey [USGS] photorevised 1969). The approximate center of the site is located at latitude 39.760833° (NAD83) and longitude -121.817251° (NAD83) within the Big Chico Creek-Sacramento River Watershed (Hydrologic Unit Code #18020157) Watershed (Natural Resources Conservation Service [NRCS], USGS, and U.S. Environmental Protection Agency [USEPA] 2017).

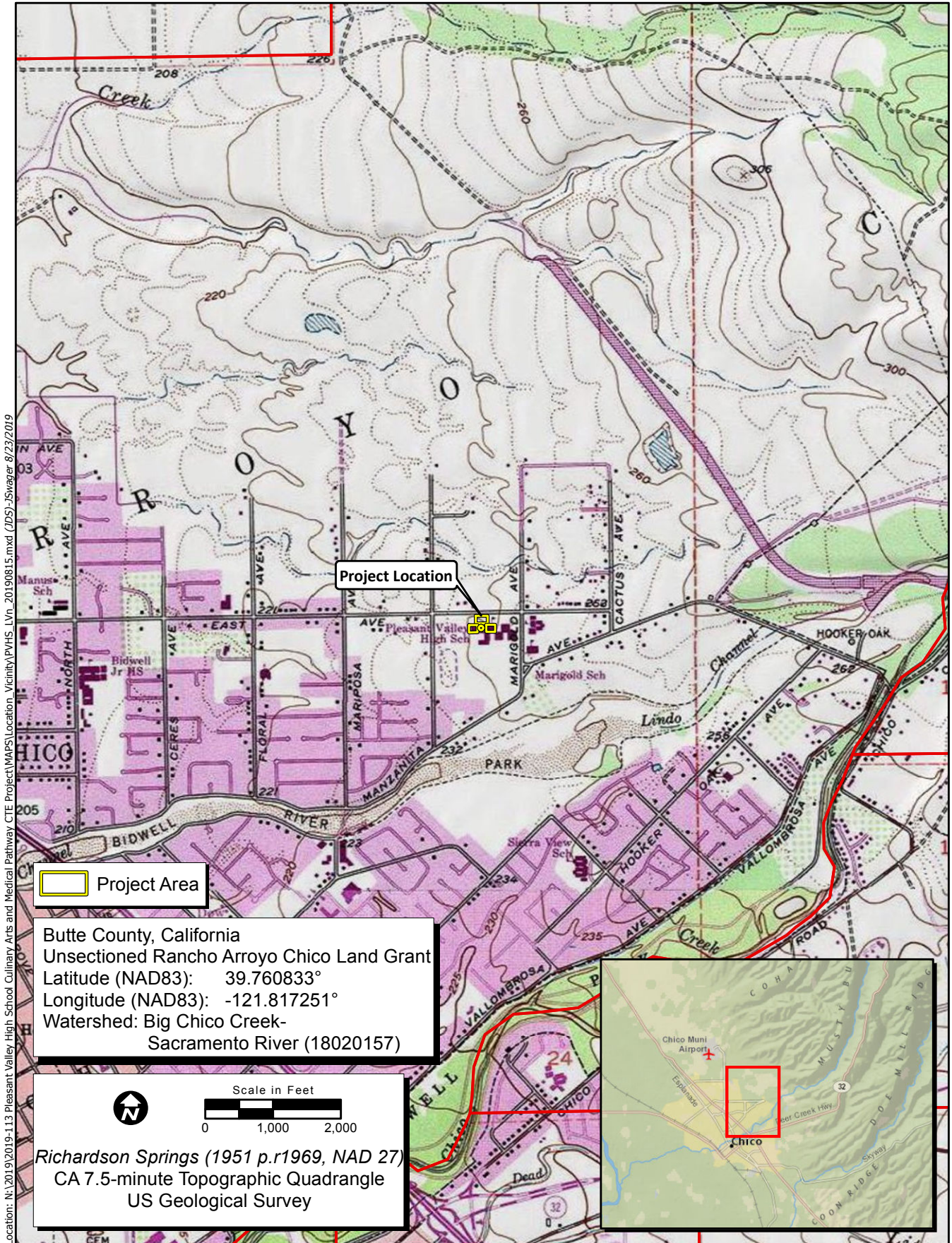
### 1.2 Project Description

The CUSD is proposing the Project. The proposed Project will be located at the existing PVHS campus. The Project includes the construction of a ±16,600-square-foot Culinary Arts building; removal and relocation of existing staff parking and overhead solar structures to make room for the new building; relocation of administrative offices to a renovated existing building (Valhalla); a new student drop-off area; relocation of Medical Pathway CTE to a renovated existing building (Administration); and new landscape and hardscape improvements to the existing Central Courtyard. All of this new construction/renovation/relocation will occur on the existing campus (Figure 2. *Site Plan*).

### 1.3 Purpose of this Biological Resources Assessment

The purpose of this BRA is to assess the potential for occurrence of special-status plant and animal species and their habitats and sensitive habitats such as wetlands and riparian communities within the Project Study Area. This assessment includes information generated from the reconnaissance-level site assessment and does not include a wetland delineation performed according to U.S. Army Corps of Engineers' (USACE's) standards, nor does it include determinate field surveys for special-status plant and animal species.



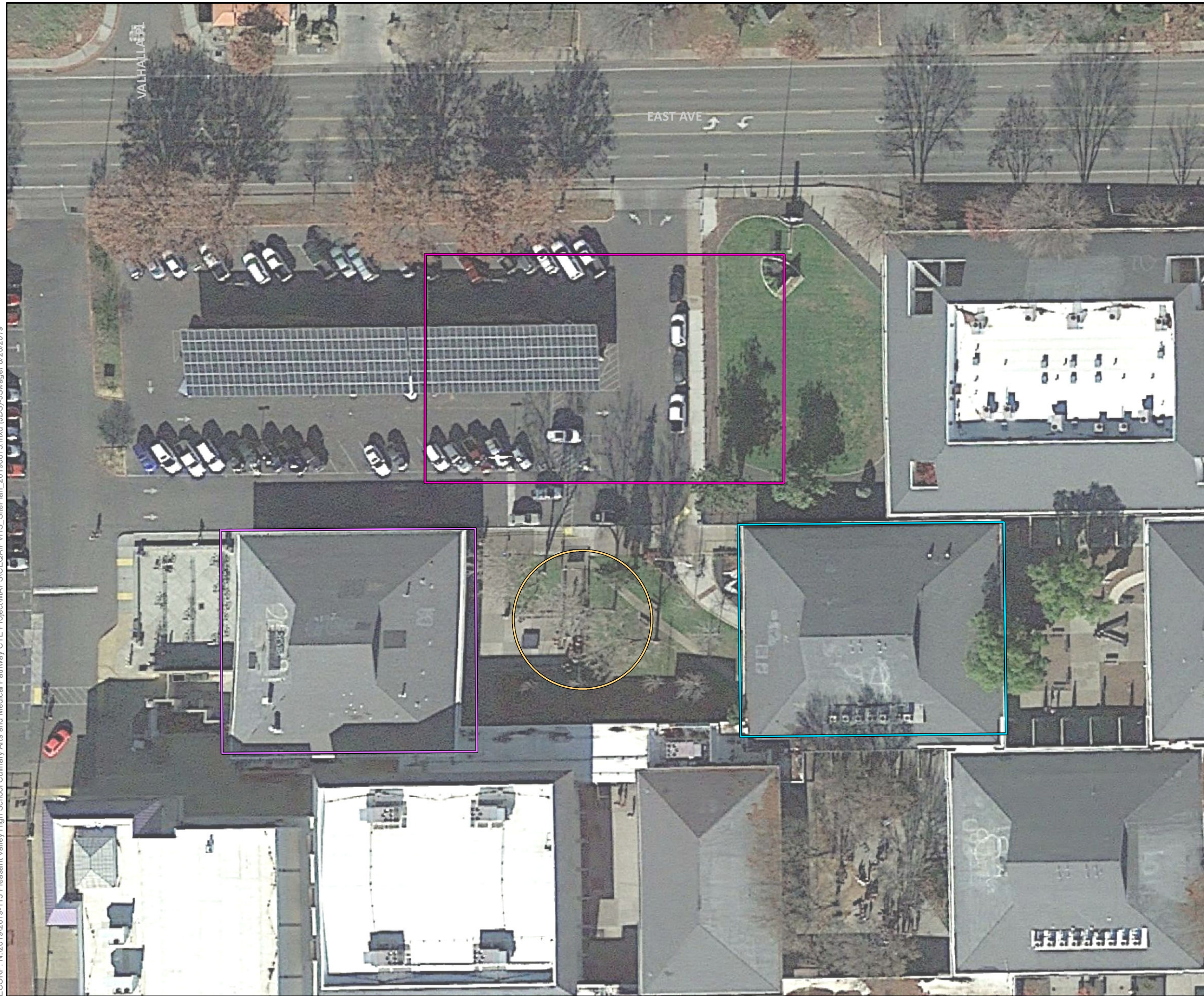


**Figure 1. Project Location and Vicinity**

2019-113 Pleasant Valley High School







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**Map Features**

Approximate Site Plan

-  Administration Building
-  Central Courtyard
-  Culinary Arts Building
-  Medical Building

Sources: ESRI, Google Earth (12/11/2018)



**Figure 2. Site Plan**  
2019-113 Pleasant Valley High School



This assessment includes a preliminary analysis of impacts on biological resources anticipated to result from the Project as presently defined. The mitigation recommendations presented in this assessment are based on a preliminary impact analysis, a review of existing literature, and the results of the site reconnaissance survey.

For the purposes of this assessment, special-status species are defined as plants or animals that:

- are listed, proposed for listing, or candidates for future listing as threatened or endangered under the federal Endangered Species Act (ESA);
- are listed or candidates for future listing as threatened or endangered under the California ESA;
- meet the definitions of endangered or rare under § 15380 of the CEQA Guidelines;
- are identified as a species of special concern by the California Department of Fish and Wildlife (CDFW);
- are birds identified as birds of conservation concern (BCC) by the U.S. Fish and Wildlife Service (USFWS);
- are considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California", "plants about which more information is needed", or "plants of limited distribution – a watch list" (i.e., species with a California Rare Plant Rank [CRPR] of 1B, 2, 3, or 4);
- are plants listed as rare under the California Native Plant Protection Act (NPPA) (California Fish and Game Code, § 1900 et seq.); or
- are fully protected in California in accordance with the California Fish and Game Code, § 3511 (birds), § 4700 (mammals), § 5050 (amphibians and reptiles), and § 5515 (fishes).

## **2.0 REGULATORY SETTING**

### **2.1 Federal Regulations**

#### **2.1.1 *Endangered Species Act***

The ESA protects plants and animals that are listed as endangered or threatened by USFWS and the National Marine Fisheries Service (NMFS). Section 9 of ESA prohibits, without authorization, the taking of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant under federal jurisdiction and removing, cutting, digging up, damaging, or destroying any listed plant in any other area in knowing violation of state law (16 U.S. Code [USC] 1538).

Under Section 7 of ESA, federal agencies are required to consult with USFWS and/or NMFS if their actions, including permit approvals and funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion (BO), USFWS

and NMFS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of ESA provides for the issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan is developed.

## **Section 7 Consultation**

Section 7 of ESA mandates that all federal agencies consult with USFWS and/or NMFS to ensure that federal agencies' actions do not jeopardize the continued existence of a listed species or adversely modify critical habitat for listed species. If direct and/or indirect effects will occur to critical habitat that appreciably diminish the value of critical habitat for both the survival and recovery of a species, the adverse modifications will require formal consultation with USFWS or NMFS. If adverse effects are likely, the federal lead agency must prepare a biological assessment (BA) for the purpose of analyzing the potential effects of the proposed project on listed species and critical habitat to establish and justify an "effect determination." Often a third-party, non-federal applicant drafts the BA for the lead federal agencies. The USFWS/NMFS reviews the BA; if it concludes that the project may adversely affect a listed species or its habitat, it prepares a BO. The BO may recommend "reasonable and prudent alternatives" to the project to avoid jeopardizing or adversely modifying habitat.

## **Critical Habitat**

Critical Habitat is defined in Section 3 of ESA as:

1. the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection; and
2. specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

For inclusion in a Critical Habitat designation, habitat within the geographical area occupied by the species at the time it was listed must first have features essential to the conservation of the species (16 USC 1533). Critical Habitat designations identify, to the extent known and using the best scientific data available, habitat areas that provide essential life cycle needs of the species (areas on which are found the primary constituent elements). Primary constituent elements are the physical and biological features that are essential to the conservation of the species and that may require special management considerations or protection. These include but are not limited to the following:

1. Space for individual and population growth and for normal behavior.
2. Food, water, air, light, minerals, or other nutritional or physiological requirements.
3. Cover or shelter.
4. Sites for breeding, reproduction, or rearing (or development) of offspring.

5. Habitats that are protected from disturbance or are representative of the historic, geographical, and ecological distributions of a species.

### **2.1.2 Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized under the MBTA, USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of nongame birds in § 3800, migratory birds in § 3513, and birds of prey in § 3503.5 of the California Fish and Game Code.

### **2.1.3 Clean Water Act**

The purpose of the federal Clean Water Act (CWA) is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Section 404 of the CWA prohibits the discharge of dredged or fill material into “Waters of the United States” without a permit from the USACE. The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas “that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3 7b). The USEPA also has authority over wetlands, including the authority to veto permits issued by USACE under CWA Section 404(c).

Projects involving activities that have no more than minimal individual and cumulative adverse environmental effects may meet the conditions of one of the Nationwide Permits already issued by USACE (Federal Register 82:1860, January 6, 2017). If impacts on wetlands could be substantial, an individual permit is required. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

## **2.2 State and Local Regulations**

### **2.2.1 California Endangered Species Act**

The California ESA (California Fish and Game Code §§ 2050-2116) protects species of fish, wildlife, and plants listed by the State as endangered or threatened. Species identified as candidates for listing may also receive protection. Section 2080 of the California ESA prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit. Take is defined in Section 86 of the California Fish and Game Code as “hunt, pursue, catch,



capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” The California ESA allows for take incidental to otherwise lawful projects under permits issued by CDFW.

### **2.2.2 Fully Protected Species**

The State of California first began to designate species as “fully protected” prior to the creation of the federal and the California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the federal and/or California ESAs. Fully protected species are identified in the California Fish and Game Code § 4700 for mammals, § 3511 for birds, § 5050 for reptiles and amphibians, and § 5515 for fish.

These sections of the California Fish and Game Code provide that fully protected species may not be taken or possessed at any time, including prohibition of CDFW from issuing incidental take permits for fully protected species under the California ESA. CDFW will issue licenses or permits for take of these species for necessary scientific research or live capture and relocation pursuant to the permit, and may allow incidental take for lawful activities carried out under an approved Natural Community Conservation Plan within which such species are covered.

### **2.2.3 Native Plant Protection Act**

The NPPA of 1977 (California Fish and Game Code §§ 1900-1913) was established with the intent to “preserve, protect and enhance rare and endangered plants in this state.” The NPPA is administered by CDFW. The Fish and Game Commission has the authority to designate native plants as “endangered” or “rare.” The NPPA prohibits the take of plants listed under the NPPA, but the NPPA contains a number of exemptions to this prohibition that have not been clarified by regulation or judicial rule. In 1984, the California ESA brought under its protection all plants previously listed as endangered under NPPA. Plants listed as rare under NPPA are not protected under the California ESA, but are still protected under the provisions of NPPA. The Fish and Game Commission no longer lists plants under NPPA, reserving all listings to the California ESA.

### **2.2.4 California Fish and Game Code Special Protections for Birds**

In addition to protections contained within the California ESA and California Fish and Game Code § 3511 described above, the California Fish and Game Code includes a number of sections that specifically protect certain birds.

Section 3800 states that it is unlawful to take nongame birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the California Fish and Game Commission or a mitigation plan approved by CDFW for mining operations.

Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.

Section 3503.5 protects birds of prey (which includes eagles, hawks, falcons, kites, ospreys, and owls) and prohibits the take, possession, or destruction of any birds and their nests

Section 3505 makes it unlawful to take, sell, or purchase egrets, ospreys, and several exotic non-native species, or any part of these birds.

Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA.

### **2.2.5 Lake or Streambed Alteration Agreements**

Section 1602 of the California Fish and Game Code requires individuals or agencies to provide a Notification of Lake or Streambed Alteration to CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” CDFW reviews the proposed actions and, if necessary, proposed measures to protect affected fish and wildlife resources. The final proposal mutually agreed upon by CDFW and the applicant is the Lake or Streambed Alteration Agreement.

### **2.2.6 Porter-Cologne Water Quality Act**

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of stormwater runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, with any region that could affect the water of the state” [Water Code 13260(a)]. Waters of the State are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” [Water Code 13050 (e)]. The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State, that are not regulated by USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of a Waste Discharge Requirements for these activities.

### **2.2.7 California Environmental Quality Act**

In accordance with CEQA Guidelines § 15380, a species or subspecies not specifically protected under the federal or California ESAs or NPPA may be considered endangered, rare, or threatened for CEQA review purposes if the species meets certain criteria specified in the Guidelines. These criteria include definitions similar to definitions used in ESA, the California ESA, and NPPA. Section 15380 was included in the CEQA Guidelines primarily to address situations in which a project under review may have a significant effect on a species that has not been listed under ESA, the California ESA, or NPPA, but that may meet the definition of endangered, rare, or threatened. Animal species identified as species of special concern (SSC) by CDFW and plants identified by the CNPS as rare, threatened, or endangered may meet the CEQA definition of rare or endangered.

## Species of Special Concern

SSC are defined by the CDFW as a species, subspecies, or distinct population of an animal native to California that are not legally protected under ESA, the California ESA, or the California Fish and Game Code, but currently satisfies one or more of the following criteria:

- The species has been completely extirpated from the state or, as in the case of birds, it has been extirpated from its primary seasonal or breeding role;
- The species is listed as federally (but not State) threatened or endangered, or meets the State definition of threatened or endangered but has not formally been listed;
- The species has or is experiencing serious (nonscyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status;
- The species has naturally small populations that exhibit high susceptibility to risk from any factor that if realized, could lead to declines that would qualify it for State threatened or endangered status; and
- SSC are typically associated with habitats that are threatened.

Depending on the policy of the lead agency, projects that result in substantial impacts to SSC may be considered significant under CEQA.

## U.S. Fish and Wildlife Service Birds of Conservation Concern

The 1988 amendment to the Fish and Wildlife Conservation Act mandates USFWS “identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under ESA.” To meet this requirement, USFWS published a list of BCC (USFWS 2008) for the U.S. The list identifies the migratory and nonmigratory bird species (beyond those already designated as federally threatened or endangered) that represent USFWS’s highest conservation priorities. Depending on the policy of the lead agency, projects that result in substantial impacts to BCC may be considered significant under CEQA.

## California Rare Plant Ranks

The CNPS maintains the *Inventory of Rare and Endangered Plants of California* (CNPS 2019), which provides a list of plant species native to California that are threatened with extinction, have limited distributions, and/or low populations. Plant species meeting one of these criteria are assigned to one of six CRPRs. The rank system was developed in collaboration with government, academia, non-governmental organizations, and private sector botanists, and is jointly managed by CDFW and the CNPS. The CRPRs are currently recognized in the California Natural Diversity Database (CNDDDB). The following are definitions of the CNPS CRPRs:

- Rare Plant Rank 1A – presumed extirpated in California and either rare or extinct elsewhere

- Rare Plant Rank 1B – rare, threatened, or endangered in California and elsewhere
- Rare Plant Rank 2A – presumed extirpated in California, but more common elsewhere
- Rare Plant Rank 2B – rare, threatened, or endangered in California but more common elsewhere
- Rare Plant Rank 3 – a review list of plants about which more information is needed
- Rare Plant Rank 4 – a watch list of plants of limited distribution

Additionally, CNPS has defined Threat Ranks that are added to the CRPR as an extension. Threat Ranks designate the level of threat on a scale of 1 through 3, with 1 being the most threatened and 3 being the least threatened. Threat Ranks are generally present for all plants ranked 1B, 2B, or 4, and for the majority of plants ranked 3. Plant species ranked 1A and 2A (presumed extirpated in California), and some species ranked 3, which lack threat information, do not typically have a Threat Rank extension. The following are definitions of the CNPS Threat Ranks:

- Threat Rank 0.1 – Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- Threat Rank 0.2 – Moderately threatened in California (20-80 percent occurrences threatened/moderate degree and immediacy of threat)
- Threat Rank 0.3 – Not very threatened in California (<20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known)

Factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Rank; and differences in Threat Ranks do not constitute additional or different protection (CNPS 2018).

Depending on the policy of the lead agency, substantial impacts to plants ranked 1A, 1B, or 2, and 3 are typically considered significant under CEQA Guidelines § 15380. Significance under CEQA is typically evaluated on a case-by-case basis for plants ranked 4 and at the discretion of the CEQA lead agency.

### **California Environmental Quality Act Significance Criteria**

Sections 15063-15065 of the CEQA Guidelines address how an impact is identified as significant. Generally, impacts to listed (rare, threatened, or endangered) species are considered significant. Assessment of "impact significance" to populations of non-listed species (e.g., SSC) usually considers the proportion of the species' range that will be affected by a project, impacts to habitat, and the regional and population level effects.

Specifically, § 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, State, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant under CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population-wide or region-wide basis.

### **3.0 METHODS**

#### **3.1 Literature Review**

The following resources were reviewed to determine the special-status species that had been previously documented within or in the vicinity of the Project Study Area:

- CDFW CNDDDB data for the Project site as well as a five-mile radius surrounding the Project site (CDFW 2019);
- USFWS list of species and other resources under the USFWS jurisdiction that are known or expected to be on or near the Project area (USFWS 2019); and
- CNPS' electronic *Inventory of Rare and Endangered Plants of California* was queried for the "Richardson Springs, California" 7.5-minute quadrangle and the nine surrounding USGS quadrangles (CNPS 2019).

#### **3.2 Field Surveys Conducted**

ECORP biologist Keith Kwan conducted a reconnaissance-level site assessment on August 22, 2019. The findings of this site assessment have been incorporated into this BRA.

#### **3.3 Special-Status Species Considered for the Project**

Special-status and CNDDDB-tracked plant and animal species considered to have the potential to occur within the region were evaluated for their potential to occur onsite.

### **4.0 RESULTS**

#### **4.1 Site Characteristics and Land Use**

The Project is located on the currently operational PVHS campus within a developed portion of the city of Chico situated at an elevation of approximately 245 feet above mean sea level in the Sacramento Valley subregion of the Great Valley region of the California floristic province (Baldwin et. al. 2012). The Project is developed with existing buildings, paved parking areas, walkways, and landscaping with no native or natural vegetation communities or habitats.

The surrounding lands include commercial development, residential development, and schools.

## **4.2 Vegetation Communities**

The Project is entirely developed with no native or natural vegetation communities or habitats. Vegetation present includes patches of manicured lawns and landscaping trees of varying sizes

## **4.3 Soils**

According to the *Web Soil Survey* (NRCS 2019), there is one soil unit mapped within the Project: (300) Redsluff gravelly loam, 0 to 2 percent slopes.

## **4.4 Potential Waters of the U.S.**

There are no aquatic features present onsite, and therefore there are no potential Waters of the U.S. present.

## **4.5 Wildlife**

Wildlife use onsite is expected to be minimal due to the highly developed nature of the Project area and vicinity. Bird species commonly found in urban settings that may occur onsite include northern mockingbird (*Mimus polyglottos*), house finch (*Haemorrhous mexicanus*), and house sparrow (*Passer domesticus*).

## **4.6 Evaluation of Special-Status Species Identified in the Literature Search**

There are no special-status species previously documented within the Project site boundaries, but several special-status species are known to occur within an approximate five-mile radius of the Project (see Attachment A).

Special-status species that came up on the CNPS, CNDDDB, and USFWS database queries were evaluated for their potential to occur onsite. Based upon the vegetation community and habitats present onsite, there are no potentially occurring special-status species for the Project site but does support potential nesting habitat for birds protected under the MBTA.

### **4.6.1 MBTA Protected Birds**

The trees within the Project could, on rare occasions, support potentially suitable nesting habitat for birds protected under the MBTA. These could include common species such as northern mockingbird and house finch, among others.

## **4.7 Wildlife Movement/Corridors**

The Project is located on the PVHS campus within a developed portion of the city of Chico. There are no signification habitat features (e.g., wetlands, woodlands) within or adjacent to the Project and Project development is not expected to impact wildlife movement.

## **4.8 Critical Habitat**

There is no designated Critical Habitat within the Project.

## **5.0 RECOMMENDATIONS**

This section summarizes possible measures to avoid, minimize, or compensate for potential impacts to biological resources from the proposed Project.

### **5.1 Waters of the U.S.**

There are no aquatic features or potential Waters of the U.S. present, so no avoidance or mitigation measures are recommended.

### **5.2 Special-Status Plants**

The Project site is highly impacted, located in a developed portion of the city of Chico, and does not have native or unaltered vegetation communities that can support potentially occurring special-status plants. No avoidance or mitigation measures are recommended.

### **5.3 Special-Status Animal Species**

#### **5.3.1 Special-Status Birds and MBTA-Protected Birds**

The Project is located on an existing high school campus with high volume of disturbance from students, faculty, and staff. The likelihood for an MBTA-protected bird to nest in this area is highly unlikely. As such, no mitigation measures are recommended.

## 6.0 REFERENCES

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[USGS] United States Geological Society

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**ATTACHMENT A**

Special-Status Species Searches  
(9-Quad CNPS Search, CNNDB Search, and Project Area IPaC Search)



Status: search results - Fri, Aug. 23, 2019 12:52 ET c

{QUADS\_123} =~ m/593D|577A|577B|592B|592C|576B|593A|593B|593C/

Search

**Tip:** Word fragments must be completed with a wildcard, e.g., *esch\** *hyp\** for *Eschscholzia hypocoides*.  
[all tips and help.] [search history]

**Your Quad Selection:** **Richardson Springs (593D) 3912177**, Chico (577A) 3912167, Ord Ferry (577B) 3912168, Cohasset (592B) 3912186, Paradise West (592C) 3912176, Hamlin Canyon (576B) 3912166, Campbell Mound (593A) 3912187, Richardson Springs NW (593B) 3912188, Nord (593C) 3912178

Hits 1 to 31 of 31

Requests that specify topo quads will return only Lists 1-3.

To save selected records for later study, click the ADD button.
























ADD checked items to Plant Press

check all

check none

Selections will appear in a new window.

open	save	hits	scientific	common	family	CNPS
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	<input type="checkbox"/>	1	<u><b>Balsamorhiza macrolepis</b></u> 	big-scale balsamroot	Asteraceae	List 1B.2
	<input type="checkbox"/>	1	<u><b>Campylopodiella stenocarpa</b></u>	flagella-like atractylocarpus	Dicranaceae	List 2B.2
	<input type="checkbox"/>	1	<u><b>Cardamine pachystigma</b></u> var. <u><b>dissectifolia</b></u> 	dissected-leaved toothwort	Brassicaceae	List 1B.2
	<input type="checkbox"/>	1	<u><b>Castilleja rubicundula</b></u> var. <u><b>rubicundula</b></u>	pink creamsacs	Orobanchaceae	List 1B.2
	<input type="checkbox"/>	1	<u><b>Clarkia gracilis</b></u> ssp. <u><b>albicaulis</b></u> 	white-stemmed clarkia	Onagraceae	List 1B.2
	<input type="checkbox"/>	1	<u><b>Clarkia mildrediae</b></u> ssp. <u><b>mildrediae</b></u> 	Mildred's clarkia	Onagraceae	List 1B.3
	<input type="checkbox"/>	1	<u><b>Cryptantha crinita</b></u> 	silky cryptantha	Boraginaceae	List 1B.2
	<input type="checkbox"/>	1	<u><b>Downingia pusilla</b></u> 	dwarf downingia	Campanulaceae	List 2B.2
	<input type="checkbox"/>	1	<u><b>Eriogonum umbellatum</b></u> var. <u><b>ahartii</b></u>	Ahart's buckwheat	Polygonaceae	List 1B.2
	<input type="checkbox"/>	1	<u><b>Euphorbia hooveri</b></u>	Hoover's spurge	Euphorbiaceae	List 1B.2
	<input type="checkbox"/>	1	<u><b>Fritillaria eastwoodiae</b></u> 	Butte County fritillary	Liliaceae	List 3.2
	<input type="checkbox"/>	1	<u><b>Fritillaria pluriflora</b></u> 	adobe-lily	Liliaceae	List 1B.2
	<input type="checkbox"/>	1	<u><b>Gratiola heterosepala</b></u> 	Boggs Lake hedge-hyssop	Plantaginaceae	List 1B.2
	<input type="checkbox"/>	1	<u><b>Hibiscus lasiocarpus</b></u> var. <u><b>occidentalis</b></u>	woolly rose-mallow	Malvaceae	List 1B.2
	<input type="checkbox"/>	1	<u><b>Imperata brevifolia</b></u> 	California satintail	Poaceae	List 2B.1
	<input type="checkbox"/>	1	<u><b>Juncus leiospermus</b></u> var. <u><b>leiospermus</b></u> 	Red Bluff dwarf rush	Juncaceae	List 1B.1
	<input type="checkbox"/>	1	<u><b>Lasthenia glabrata</b></u> ssp. <u><b>coulteri</b></u> 	Coulter's goldfields	Asteraceae	List 1B.1

	<input type="checkbox"/>	1	<b><u>Limnanthes floccosa ssp. californica</u></b> 	Butte County meadowfoam	Limnanthaceae	List 1B.1
	<input type="checkbox"/>	1	<b><u>Monardella venosa</u></b>	veiny monardella	Lamiaceae	List 1B.1
	<input type="checkbox"/>	1	<b><u>Orcuttia pilosa</u></b> 	hairy Orcutt grass	Poaceae	List 1B.1
	<input type="checkbox"/>	1	<b><u>Orcuttia tenuis</u></b> 	slender Orcutt grass	Poaceae	List 1B.1
	<input type="checkbox"/>	1	<b><u>Paronychia ahartii</u></b> 	Ahart's paronychia	Caryophyllaceae	List 1B.1
	<input type="checkbox"/>	1	<b><u>Rhynchospora californica</u></b> 	California beaked-rush	Cyperaceae	List 1B.1
	<input type="checkbox"/>	1	<b><u>Rhynchospora capitellata</u></b> 	brownish beaked-rush	Cyperaceae	List 2B.2
	<input type="checkbox"/>	1	<b><u>Rupertia hallii</u></b> 	Hall's rupertia	Fabaceae	List 1B.2
	<input type="checkbox"/>	1	<b><u>Sagittaria sanfordii</u></b> 	Sanford's arrowhead	Alismataceae	List 1B.2
	<input type="checkbox"/>	1	<b><u>Sidalcea robusta</u></b> 	Butte County checkerbloom	Malvaceae	List 1B.2
	<input type="checkbox"/>	1	<b><u>Stuckenia filiformis ssp. alpina</u></b>	slender-leaved pondweed	Potamogetonaceae	List 2B.2
	<input type="checkbox"/>	1	<b><u>Tuctoria greenei</u></b> 	Greene's tuctoria	Poaceae	List 1B.1
	<input type="checkbox"/>	1	<b><u>Wolffia brasiliensis</u></b>	Brazilian watermeal	Araceae	List 2B.3

To save selected records for later study, click the ADD button.

ADD checked items to Plant Press

☐ check all

☐ check none

Selections will appear in a new window.

No more hits.





# Selected Elements by Element Code

## California Department of Fish and Wildlife

### California Natural Diversity Database



**Query Criteria:** Quad</span> IS </span>(Richardson Springs (3912177)</span> OR </span>Chico (3912167)</span> OR </span>Ord Ferry (3912168)</span> OR </span>Cohasset (3912186)</span> OR </span>Paradise West (3912176)</span> OR </span>Hamlin Canyon (3912166)</span> OR </span>Campbell Mound (3912187)</span> OR </span>Richardson Springs NW (3912188)</span> OR </span>Nord (3912178))

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAABF02020	<i>Spea hammondi</i> western spadefoot	None	None	G3	S3	SSC
AAABH01050	<i>Rana boylei</i> foothill yellow-legged frog	None	Candidate Threatened	G3	S3	SSC
ABNGA04010	<i>Ardea herodias</i> great blue heron	None	None	G5	S4	
ABNGA04040	<i>Ardea alba</i> great egret	None	None	G5	S4	
ABNKC01010	<i>Pandion haliaetus</i> osprey	None	None	G5	S4	WL
ABNKC10010	<i>Haliaeetus leucocephalus</i> bald eagle	Delisted	Endangered	G5	S3	FP
ABNKC19070	<i>Buteo swainsoni</i> Swainson's hawk	None	Threatened	G5	S3	
ABNKD06071	<i>Falco peregrinus anatum</i> American peregrine falcon	Delisted	Delisted	G4T4	S3S4	FP
ABNME03041	<i>Laterallus jamaicensis coturniculus</i> California black rail	None	Threatened	G3G4T1	S1	FP
ABNRB02022	<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	Threatened	Endangered	G5T2T3	S1	
ABNSB10010	<i>Athene cunicularia</i> burrowing owl	None	None	G4	S3	SSC
ABPAU08010	<i>Riparia riparia</i> bank swallow	None	Threatened	G5	S2	
ABPBW01114	<i>Vireo bellii pusillus</i> least Bell's vireo	Endangered	Endangered	G5T2	S2	
ABPBXB0020	<i>Agelaius tricolor</i> tricolored blackbird	None	Threatened	G2G3	S1S2	SSC
AFCHA0205A	<i>Oncorhynchus tshawytscha</i> pop. 6 chinook salmon - Central Valley spring-run ESU	Threatened	Threatened	G5	S1	
AFCHA0209K	<i>Oncorhynchus mykiss irideus</i> pop. 11 steelhead - Central Valley DPS	Threatened	None	G5T2Q	S2	
AMACC01020	<i>Myotis yumanensis</i> Yuma myotis	None	None	G5	S4	
AMACC02010	<i>Lasionycteris noctivagans</i> silver-haired bat	None	None	G5	S3S4	
AMACC05030	<i>Lasiurus cinereus</i> hoary bat	None	None	G5	S4	



Selected Elements by Element Code  
California Department of Fish and Wildlife  
California Natural Diversity Database



Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AMACC05060	<i>Lasiurus blossevillei</i> western red bat	None	None	G5	S3	SSC
AMACC10010	<i>Antrozous pallidus</i> pallid bat	None	None	G5	S3	SSC
AMACD02011	<i>Eumops perotis californicus</i> western mastiff bat	None	None	G5T4	S3S4	SSC
AMAFJ01010	<i>Erethizon dorsatum</i> North American porcupine	None	None	G5	S3	
ARAAD02030	<i>Emys marmorata</i> western pond turtle	None	None	G3G4	S3	SSC
ARACF12100	<i>Phrynosoma blainvillii</i> coast horned lizard	None	None	G3G4	S3S4	SSC
ARADB36150	<i>Thamnophis gigas</i> giant gartersnake	Threatened	Threatened	G2	S2	
CARA2442CA	<b>Central Valley Drainage Fall Run Chinook Stream</b> Central Valley Drainage Fall Run Chinook Stream	None	None	GNR	SNR	
CARA2443CA	<b>Central Valley Drainage Hardhead/Squawfish Stream</b> Central Valley Drainage Hardhead/Squawfish Stream	None	None	GNR	SNR	
CTT44110CA	<b>Northern Hardpan Vernal Pool</b> Northern Hardpan Vernal Pool	None	None	G3	S3.1	
CTT44132CA	<b>Northern Volcanic Mud Flow Vernal Pool</b> Northern Volcanic Mud Flow Vernal Pool	None	None	G1	S1.1	
CTT52410CA	<b>Coastal and Valley Freshwater Marsh</b> Coastal and Valley Freshwater Marsh	None	None	G3	S2.1	
CTT61410CA	<b>Great Valley Cottonwood Riparian Forest</b> Great Valley Cottonwood Riparian Forest	None	None	G2	S2.1	
CTT61420CA	<b>Great Valley Mixed Riparian Forest</b> Great Valley Mixed Riparian Forest	None	None	G2	S2.2	
CTT61430CA	<b>Great Valley Valley Oak Riparian Forest</b> Great Valley Valley Oak Riparian Forest	None	None	G1	S1.1	
CTT63410CA	<b>Great Valley Willow Scrub</b> Great Valley Willow Scrub	None	None	G3	S3.2	
ICBRA03010	<i>Branchinecta conservatio</i> Conservancy fairy shrimp	Endangered	None	G2	S2	
ICBRA03030	<i>Branchinecta lynchi</i> vernal pool fairy shrimp	Threatened	None	G3	S3	
ICBRA03150	<i>Branchinecta mesoallensis</i> midvalley fairy shrimp	None	None	G2	S2S3	
ICBRA06010	<i>Linderiella occidentalis</i> California linderiella	None	None	G2G3	S2S3	
ICBRA10010	<i>Lepidurus packardii</i> vernal pool tadpole shrimp	Endangered	None	G4	S3S4	



# Selected Elements by Element Code

## California Department of Fish and Wildlife

### California Natural Diversity Database



Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
IICOL48011	<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	Threatened	None	G3T2	S2	
IICOL49010	<i>Anthicus sacramento</i> Sacramento anthicid beetle	None	None	G1	S1	
IICOL49020	<i>Anthicus antiochensis</i> Antioch Dunes anthicid beetle	None	None	G1	S1	
NBMUS84010	<i>Campylopodiella stenocarpa</i> flagella-like atractylocarpus	None	None	G5	S1?	2B.2
PDAST11061	<i>Balsamorhiza macrolepis</i> big-scale balsamroot	None	None	G2	S2	1B.2
PDAST5L0A1	<i>Lasthenia glabrata ssp. coulteri</i> Coulter's goldfields	None	None	G4T2	S2	1B.1
PDBOR0A0Q0	<i>Cryptantha crinita</i> silky cryptantha	None	None	G2	S2	1B.2
PDBRA0K1B1	<i>Cardamine pachystigma var. dissectifolia</i> dissected-leaved toothwort	None	None	G3G5T2Q	S2	1B.2
PDCAM060C0	<i>Downingia pusilla</i> dwarf downingia	None	None	GU	S2	2B.2
PDCAR0L0V0	<i>Paronychia ahartii</i> Ahart's paronychia	None	None	G3	S3	1B.1
PDCON04012	<i>Calystegia atriplicifolia ssp. buttensis</i> Butte County morning-glory	None	None	G5T3	S3	4.2
PDEUP0D150	<i>Euphorbia hooveri</i> Hoover's spurge	Threatened	None	G1	S1	1B.2
PDFAB0F8R3	<i>Astragalus tener var. ferrisiae</i> Ferris' milk-vetch	None	None	G2T1	S1	1B.1
PDFAB62010	<i>Rupertia hallii</i> Hall's rupertia	None	None	G2G3	S2S3	1B.2
PDLAM18082	<i>Monardella venosa</i> veiny monardella	None	None	G1	S1	1B.1
PDLIM02042	<i>Limnanthes floccosa ssp. californica</i> Butte County meadowfoam	Endangered	Endangered	G4T1	S1	1B.1
PDLIM02043	<i>Limnanthes floccosa ssp. floccosa</i> woolly meadowfoam	None	None	G4T4	S3	4.2
PDMAL0H0R3	<i>Hibiscus lasiocarpus var. occidentalis</i> woolly rose-mallow	None	None	G5T3	S3	1B.2
PDMAL110P0	<i>Sidalcea robusta</i> Butte County checkerbloom	None	None	G2	S2	1B.2
PDONA050J1	<i>Clarkia gracilis ssp. albicaulis</i> white-stemmed clarkia	None	None	G5T3	S3	1B.2
PDONA050Q2	<i>Clarkia mildrediae ssp. mildrediae</i> Mildred's clarkia	None	None	G3T2T3	S2S3	1B.3



Selected Elements by Element Code  
California Department of Fish and Wildlife  
California Natural Diversity Database



Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDPGN086UY	<i>Eriogonum umbellatum</i> var. <i>ahartii</i> Ahart's buckwheat	None	None	G5T3	S3	1B.2
PDSCR0D482	<i>Castilleja rubicundula</i> var. <i>rubicundula</i> pink creamsacs	None	None	G5T2	S2	1B.2
PDSCR0R060	<i>Gratiola heterosepala</i> Boggs Lake hedge-hyssop	None	Endangered	G2	S2	1B.2
PMALI040Q0	<i>Sagittaria sanfordii</i> Sanford's arrowhead	None	None	G3	S3	1B.2
PMCYP0N060	<i>Rhynchospora californica</i> California beaked-rush	None	None	G1	S1	1B.1
PMCYP0N080	<i>Rhynchospora capitellata</i> brownish beaked-rush	None	None	G5	S1	2B.2
PMJUN011L2	<i>Juncus leiospermus</i> var. <i>leiospermus</i> Red Bluff dwarf rush	None	None	G2T2	S2	1B.1
PMLEM03020	<i>Wolffia brasiliensis</i> Brazilian watermeal	None	None	G5	S2	2B.3
PMLILOV060	<i>Fritillaria eastwoodiae</i> Butte County fritillary	None	None	G3Q	S3	3.2
PMLILOV0F0	<i>Fritillaria pluriflora</i> adobe-lily	None	None	G2G3	S2S3	1B.2
PMPOA3D020	<i>Imperata brevifolia</i> California satintail	None	None	G4	S3	2B.1
PMPOA4G040	<i>Orcuttia pilosa</i> hairy Orcutt grass	Endangered	Endangered	G1	S1	1B.1
PMPOA4G050	<i>Orcuttia tenuis</i> slender Orcutt grass	Threatened	Endangered	G2	S2	1B.1
PMPOA6N010	<i>Tuctoria greenei</i> Greene's tuctoria	Endangered	Rare	G1	S1	1B.1
PMPOA03091	<i>Stuckenia filiformis</i> ssp. <i>alpina</i> slender-leaved pondweed	None	None	G5T5	S2S3	2B.2

Record Count: 76



# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

## Location

Butte County, California



## Local office

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

📠 (916) 414-6713

Federal Building  
2800 Cottage Way, Room W-2605  
Sacramento, CA 95825-1846

# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

## Reptiles

NAME

STATUS

Giant Garter Snake *Thamnophis gigas*  
No critical habitat has been designated for this species.  
<https://ecos.fws.gov/ecp/species/4482>

Threatened

## Amphibians

NAME

STATUS

California Red-legged Frog *Rana draytonii*  
There is **final** critical habitat for this species. Your location is outside the critical habitat.  
<https://ecos.fws.gov/ecp/species/2891>

Threatened

## Fishes

NAME

STATUS

Delta Smelt *Hypomesus transpacificus*  
There is **final** critical habitat for this species. Your location is outside the critical habitat.  
<https://ecos.fws.gov/ecp/species/321>

Threatened

## Insects

NAME

STATUS

Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*  
There is **final** critical habitat for this species. Your location is outside the critical habitat.  
<https://ecos.fws.gov/ecp/species/7850>

Threatened

## Crustaceans

NAME

STATUS

Conservancy Fairy Shrimp *Branchinecta conservatio*  
There is **final** critical habitat for this species. Your location is outside the critical habitat.  
<https://ecos.fws.gov/ecp/species/8246>

Endangered

Vernal Pool Fairy Shrimp *Branchinecta lynchi*  
There is **final** critical habitat for this species. Your location is outside the critical habitat.  
<https://ecos.fws.gov/ecp/species/498>

Threatened

Vernal Pool Tadpole Shrimp *Lepidurus packardii*  
There is **final** critical habitat for this species. Your location is outside the critical habitat.  
<https://ecos.fws.gov/ecp/species/2246>

Endangered

# Flowering Plants

NAME	STATUS
Butte County Meadowfoam <i>Limnanthes floccosa</i> ssp. <i>californica</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/4223">https://ecos.fws.gov/ecp/species/4223</a>	Endangered
Slender Orcutt Grass <i>Orcuttia tenuis</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/1063">https://ecos.fws.gov/ecp/species/1063</a>	Threatened

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

## Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds  
<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds  
<http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ

[below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
<b>Bald Eagle</b> <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a>	Breeds Jan 1 to Aug 31
<b>Black Rail</b> <i>Laterallus jamaicensis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/7717">https://ecos.fws.gov/ecp/species/7717</a>	Breeds Mar 1 to Sep 15
<b>California Thrasher</b> <i>Toxostoma redivivum</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31
<b>Common Yellowthroat</b> <i>Geothlypis trichas sinuosa</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/2084">https://ecos.fws.gov/ecp/species/2084</a>	Breeds May 20 to Jul 31

**Golden Eagle** *Aquila chrysaetos*

Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

**Lawrence's Goldfinch** *Carduelis lawrencei*

Breeds Mar 20 to Sep 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9464>

**Lewis's Woodpecker** *Melanerpes lewis*

Breeds Apr 20 to Sep 30

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9408>

**Nuttall's Woodpecker** *Picoides nuttallii*

Breeds Apr 1 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/9410>

**Oak Titmouse** *Baeolophus inornatus*

Breeds Mar 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9656>

**Rufous Hummingbird** *Selasphorus rufus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/8002>

**Song Sparrow** *Melospiza melodia*

Breeds Feb 20 to Sep 5

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

**Spotted Towhee** *Pipilo maculatus clementae*

Breeds Apr 15 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/4243>

**Willet** *Tringa semipalmata*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wrentit *Chamaea fasciata*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie *Pica nuttalli*

Breeds Apr 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9726>

## Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

### Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

### Survey Effort (I)



Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

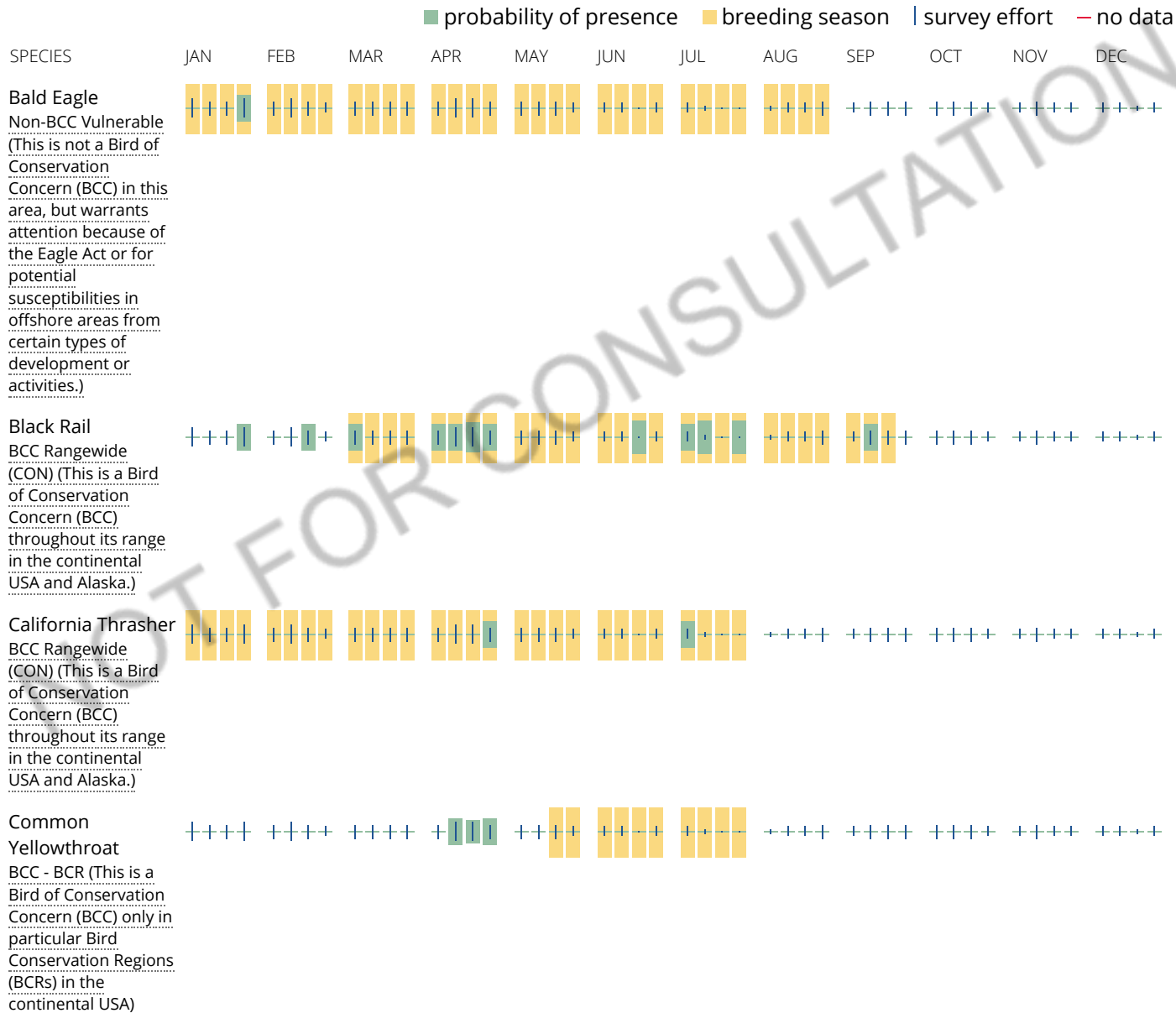
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

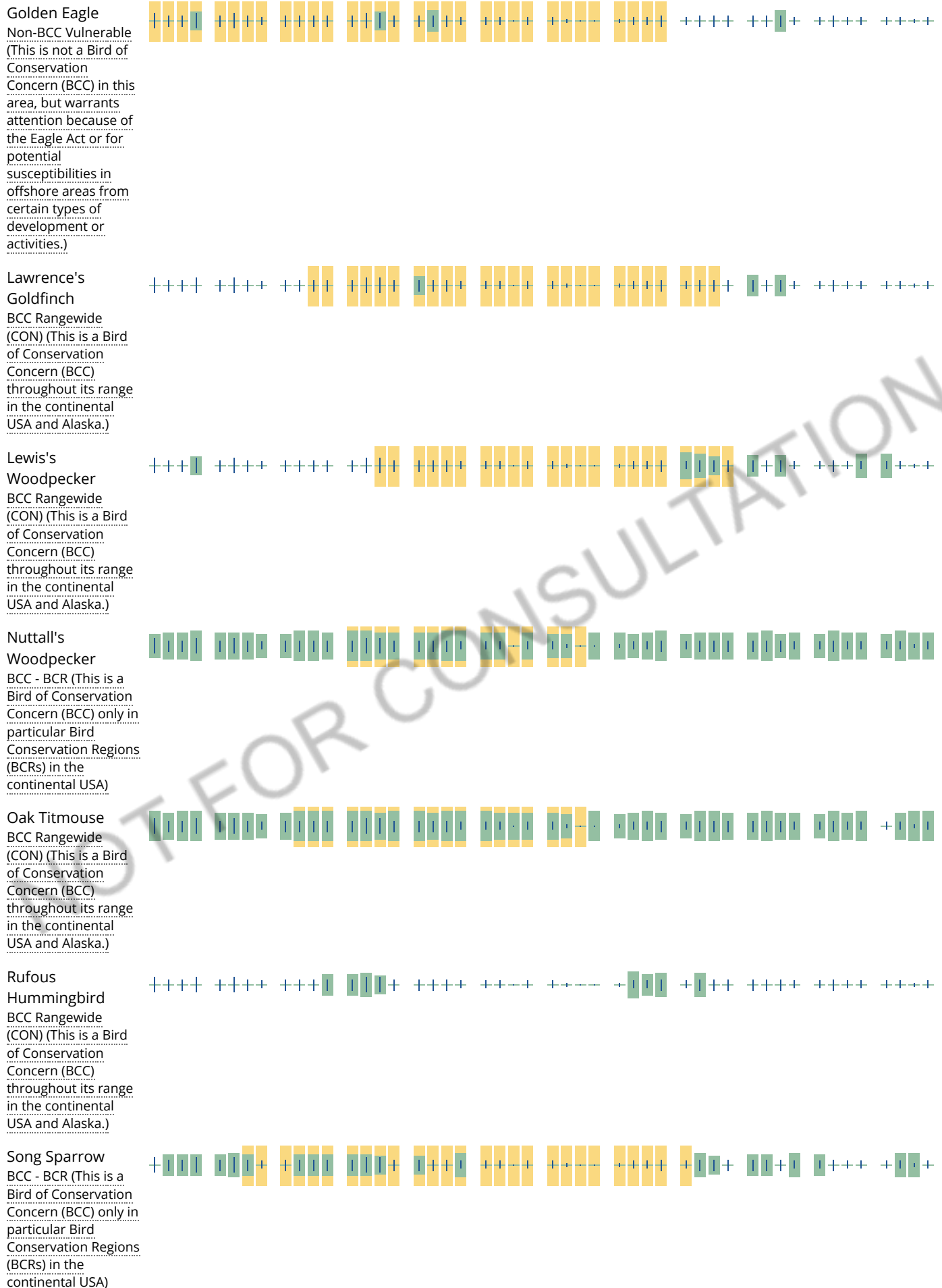
A week is marked as having no data if there were no survey events for that week.

## Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.









**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the migratory birds potentially occurring in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

## What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

## How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

## What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

## Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

## What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

## Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

## Facilities

### Wildlife refuges and fish hatcheries

REFUGE AND FISH HATCHERY INFORMATION IS NOT AVAILABLE AT THIS TIME

## Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

### Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

## **Data exclusions**

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

## **Data precautions**

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION



**Attachment B**  
Emissions Technical Memorandum





August 14, 2019

Julie Kistle, Director of Facilities and Construction  
CHICO UNIFIED SCHOOL DISTRICT  
2455 Carmichael Drive  
Chico, CA 95928-5999

**RE: *Pleasant Valley High School Culinary Arts and Medical Pathway CTE Project – Emissions Technical Memorandum***

Dear Ms. Kistle:

ECORP Consulting, Inc. has conducted a Technical Memorandum analyzing potential impacts related to air quality and greenhouse gas (GHG) emissions for the proposed Pleasant Valley High School Culinary Arts and Medical Pathway Career Technical Education (CTE) Project (Project) located in City of Chico, California. The purpose of this memorandum is to assess the Projects potential air quality and GHG impacts as a result of the Project.

## **INTRODUCTION**

The purpose of this technical memorandum is to assess the Project's potential air quality and GHG impacts as a result of the Project. The memorandum will compare the Project-generated emissions to the significant thresholds identified by the Butte County Air Quality Management District (BCAQMD), the air pollution control officer with jurisdiction over the area.

## **PROJECT DESCRIPTION**

The Chico Unified School District (CUSD) is proposing the Pleasant Valley High School Culinary Arts and Metical Pathways CTE Project. The Proposed Project is proposed to be located at the existing Pleasant Valley High School campus. The Project includes the removal and relocation of existing staff parking and overhead solar structures to make room for a new Culinary Arts building, relocation of administrative offices to a renovated existing building (Valhalla), relocation of Medical Pathway CTE to a renovated existing building (Administration), and reconfiguration of the Central Courtyard. All of this new construction/renovation/relocation would occur on the existing campus.

The new Culinary Arts building would include the development of a multipurpose room, kitchen, and CTE facilities, specifically two labs, including eight cooking stations, a full-service restaurant, and two classrooms. This space would also be utilized for catering for special events.

Medical Pathway CTE would include a medical lab incorporating medical bed infrastructure and open floor space for CPR and First Aid training. The Medical pathway CTE would also contain a Sports Medicine Lab, four classrooms, a staff breakroom, and restrooms.

The Project site, Pleasant Valley High School Campus, is currently fully developed and in use. The Project site contains numerous buildings and areas with designated uses (i.e. the administration building and student drop-off area). The Project site is located within the urban area of Chico with residential homes,

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community commercial developments (including a CVS Pharmacy and Valley Clinical Laboratory), and office buildings in the vicinity. The buildings to the north are designated as Office Residential (OR) and Community Commercial (CC). The property immediately to the east, south, and west is zoned for Low-Density Residential (R1) use. The Project site itself is zoned as Quasi Public Facilities (PQ Public). To complete the Proposed Project, the zoning designation, total footprint, and location of Pleasant Valley High School would remain unchanged as it only involves the re-location of existing buildings and construction of new buildings within the existing campus area. Upon completion of the Project, the general function and use of the high school would remain the same. The purpose of the Proposed Project is to enhance the educational opportunities available at Pleasant Valley High School and improve the school's layout.

## **AIR QUALITY ANALYSIS**

### ***Environmental Setting***

Chico is located within Butte County. CARB has divided California into regional air basins according to topographic features. Butte County and the Project site area are located in a region identified as the North Sacramento Valley Air Basin (NSVAB). The NSVAB consists of a total of seven counties: Sutter, Yuba, Colusa, Butte, Glenn, Tehama, and Shasta. The NSVAB is bounded on the north and west by the Coastal Mountain Range and on the east by the southern portion of the Cascade Mountain Range and the northern portion of the Sierra Nevada range. These mountain ranges reach heights in excess of 6,000 feet above mean sea level, with individual peaks rising much higher. The mountains form a substantial physical barrier to locally created pollution as well as that transported northward on prevailing winds from the Sacramento metropolitan area.

Both the U.S. Environmental Protection Agency (USEPA) and the CARB have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants representing safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. The six criteria pollutants are ozone (O<sub>3</sub>) (precursor O<sub>3</sub> emissions include nitrogen oxide (NO<sub>x</sub>) and reactive organic gases (ROG)), carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), and lead. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The Butte County region of the NSVAB is designated as a nonattainment area for the state standards for O<sub>3</sub>, coarse particulate matter (PM<sub>10</sub>) and fine particulate matter (PM<sub>2.5</sub>) as well as being in a nonattainment area for federal standards of O<sub>3</sub>.

### ***Regulatory Setting***

The local air quality agency affecting the NSVAB is the BCAQMD, which is charged with the responsibility of implementing air quality programs and ensuring that national and state ambient air quality standards are not exceeded and that air quality conditions are maintained in the NSVAB. In an attempt to achieve national and state ambient air quality standards and maintain air quality, the air district has completed the several air quality attainment plans and reports, which together constitute the Butte County portion of State Implementation Plan (SIP), described in more detail below.

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The BCAQMD has also adopted various rules and regulations for the control of stationary and area sources of emissions, including Rule 205 (Fugitive Dust). This rule requires fugitive dust sources to implement best available control measures for all sources, and all forms of visible particulate matter are prohibited from crossing any property line. This rule is intended to reduce PM<sub>10</sub> emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. Additionally, BCAQMD Rule 430 requires new source review of any new, relocated, or modified permit units that emit toxic air contaminants. The rule establishes allowable risks for permit units requiring permits.

### ***Methodology***

Air quality and GHG impacts were assessed in accordance with methodologies recommended by CARB. Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects.

## **AIR QUALITY CHECKLIST AND DISCUSSION**

### ***Would the Project conflict with or obstruct implementation of the applicable air quality plan?***

As part of its enforcement responsibilities, the EPA requires each state with nonattainment areas to prepare and submit a SIP that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the California Clean Air Act requires an air quality attainment plan (AQAP) to be prepared for areas designated as nonattainment with regard to the federal and state ambient air quality standards. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

The North Sacramento Valley Planning Area (NSVPA) 2015 Air Quality Attainment Plan (AQAP) is the most recent and comprehensive air quality planning document covering Butte County and constitutes the Butte County portion of the SIP. SIPs are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, and permitting), district rules, state regulations, and federal controls describing how the state will attain ambient air quality standards for O<sub>3</sub> and PM. State law makes CARB the lead agency for all purposes related to the SIP. Local air districts prepare SIP elements and submit them to CARB for review and approval. The NSVPA 2015 AQAP includes forecast ROG and NO<sub>x</sub> emissions (O<sub>3</sub> precursors) for the entire NSVPA region through the year 2020. These emissions are not appropriated by county or municipality.

Criteria for determining consistency with the 2015 AQAP are defined by the following indicators:

- Consistency Criterion No. 1: The Proposed Project would not result in an increase in the frequency or severity of existing air quality violations, or cause or contribute to new

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violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQAP.

- Consistency Criterion No. 2: The Proposed Project would not exceed the assumptions in the AQAP.

The violations to which Consistency Criterion No. 1 refers are the California ambient air quality standards and the national ambient air quality standards. As evaluated below, the Project would not exceed the short-term construction standards or long-term operational standards and in so doing would not violate any air quality standards. Thus, Project would be consistent with the first criterion.

Concerning Consistency Criterion No. 2, the AQAP contains air pollutant reduction strategies and demonstrates that the applicable ambient air quality standards can be achieved within the time frames required under federal law. Growth projections from local general plans adopted by cities in the district are used to develop regional growth forecasts that are used to develop future air quality forecasts for the NSVPA 2015 AQAP. Development consistent with the growth projections in the City of Chico General Plan is considered to be consistent with the 2015 AQAP. The Project site, as previously stated, is zoned as PQ Public and is currently an active high school. Therefore, the Project site is consistent with the zoning in the City of Chico General Plan. Additionally, the Project is not anticipated to increase the number of students attending the high school. Thus, the Project is consistent with the regional growth anticipated by the AQAP and thereby consistent with the second criterion. The Project would not hinder implementation of any NSVPA Air Quality Attainment Plan strategies to improve air quality in Butte County.

**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?**

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

**Construction Emission Impacts**

Predicted maximum daily construction-generated emissions for the Proposed Project are summarized in **Table 1**. Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the BCAQMD's thresholds of significance.

Table 1. Construction-Related Emissions			
Construction Year	Pollutant (pounds per day)		
	ROG	NO <sub>x</sub>	PM <sub>10</sub>
Construction in 2020	3.12	18.33	1.31
Construction in 2021	2.94	16.74	1.17
<i>BCAQMD Regional Significance Threshold</i>	<i>137</i>	<i>137</i>	<i>80</i>
<b>Exceed BCAQMD Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: CalEEMod version 2016.3.2. Refer to **Attachment A** for Model Data Outputs.

Notes: Emissions estimates account for the demolition of 746.2 tons of pavement from the Project area. Building construction, paving and architectural coating are assumed to occur simultaneously.

As shown in **Table 1**, construction-generated emissions would not exceed the BCAQMD's significance thresholds.

### Operational Emission Impacts

Implementations of the Project would result in long-term operational emissions of criteria air pollutants such as PM<sub>2.5</sub>, Co and SO<sub>2</sub> as well as ozone precursors such as ROG and NO<sub>x</sub>. As previously stated, the Project will not be increasing the number of students attending the high school. Thus, there would be no increase of emissions associated with motor vehicle use. Long-term operational emissions attributed to the Proposed Project are summarized in **Table 2**.

Table 2. Operational-Related Emissions			
Construction Year	Pollutant (pounds per day)		
	ROG	NO <sub>x</sub>	PM <sub>10</sub>
Summer Emissions	0.56	0.93	0.07
Winter Emissions	0.56	0.93	0.07
<i>BCAQMD Regional Significance Threshold</i>	<i>25</i>	<i>25</i>	<i>80</i>
<b>Exceed BCAQMD Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: CalEEMod version 2016.3.2. Refer to **Attachment A** for Model Data Outputs.

As shown in **Table 2**, operational-generated emissions would not exceed the BCAQMD's significance thresholds.

### **Would the Project expose sensitive receptors to substantial pollutant concentrations?**

Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers.

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CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

### **Construction Generated Air Contaminants**

Construction-related activities would result in temporary, short-term emissions of diesel particulate matter (DPM) from the exhaust of off-road, heavy-duty diesel equipment for site preparation (e.g., clearing, grading); soil hauling truck traffic; paving; and other miscellaneous activities. For construction activity, DPM is the primary toxic air contaminant (TAC) of concern. Particulate exhaust emissions from diesel-fueled engines (i.e., DPM) were identified as a TAC by the CARB in 1998. The potential cancer risk from the inhalation of DPM, as discussed below, outweighs the potential for all other health impacts (i.e., non-cancer chronic risk, short-term acute risk) and health impacts from other TACs. Accordingly, DPM is the focus of this discussion.

Based on the emission modeling conducted for the Project, the maximum construction-related emissions of exhaust PM<sub>2.5</sub>, considered a surrogate for DPM, would be 0.96 pounds per day during construction in the year 2020 and 0.83 pounds per day during construction in the year 2021 (see **Attachment A**). (PM<sub>2.5</sub> is considered a surrogate for DPM because more than 90 percent of DPM is less than 1 microgram in diameter and therefore is a subset of particulate matter under 2.5 microns in diameter (i.e., PM<sub>2.5</sub>), according to CARB. Most PM<sub>2.5</sub> derives from combustion, such as use of gasoline and diesel fuels by motor vehicles.) Furthermore, even during the most intense month of construction, emissions of DPM would be generated from different locations on the site, rather than a single location, because different types of construction activities (e.g., site preparation, grading, paving) would not occur at the same place at the same time.

The dose to which receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for any exposed receptor. Thus, the risks estimated for an exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-, 30-, or 9-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the Project. Consequently, an important consideration is the fact that construction of the Project is anticipated to last approximately 18 months, which is far less than the minimum duration of exposure from which to calculate health risk (9 years), and that on a day-to-day basis construction activity generally spans eight hours as opposed to throughout the entire day. Therefore, considering the relatively low mass of DPM emissions that would be generated during even the most intense season of construction, the fact that construction would not last as long as the minimum duration of exposure from which to calculate health risk, and the relatively short duration that construction activities would occur at a single location on the Project site, construction-related TAC emissions would not expose sensitive receptors to substantial amounts of air toxics.

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## Operational Air Contaminants

### *Carbon Monoxide Hot Spots*

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections. Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Under certain meteorological conditions, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high traffic volume potential, areas of high CO concentrations, or “hot spots,” are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours. However, transport of this criteria pollutant is extremely limited, and CO disperses rapidly with distance from the source under normal meteorological conditions. Furthermore, vehicle emissions standards have become increasingly more stringent in the last 20 years. Currently, the CO standard in California is a maximum of 3.4 grams per mile for passenger cars (requirements for certain vehicles are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the Project vicinity have steadily declined.

Accordingly, with the steadily decreasing CO emissions from vehicles, even very busy intersections do not result in exceedances of the CO standard. The analysis prepared for CO attainment in the South Coast Air Quality Management District 1992 Federal Attainment Plan for Carbon Monoxide (SCAQMD 1992) in Southern California can be used to demonstrate the potential for CO exceedances. The South Coast CO hot spot analysis was conducted for four busy intersections in Los Angeles County during the peak morning and afternoon time periods. The intersections evaluated included Long Beach Boulevard and Imperial Highway (Lynwood), Wilshire Boulevard and Veteran Avenue (Westwood), Sunset Boulevard and Highland Avenue (Hollywood), and La Cienega Boulevard and Century Boulevard (Inglewood). The busiest intersection evaluated was at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. The Los Angeles County Metropolitan Transportation Authority evaluated the level of service in the vicinity of the Wilshire Boulevard/Veteran Avenue intersection and found it to be level of service (LOS) E at peak morning traffic and LOS F at peak afternoon traffic. Even with the inefficient LOS and volume of traffic, the CO analysis concluded that there was no violation of CO standards (SCAQMD 1992).

The Proposed Project would not be increasing the number of students attending the school and thus would not increase traffic volumes. Because the Proposed Project would not increase traffic volumes at any intersection to more than 100,000 vehicles per day, there is no likelihood of the Project traffic exceeding CO values.

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

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word “strong” to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection

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or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

### **Construction Impacts**

During construction, the Proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the construction area.

### **Operational Impacts**

The land uses generally identified as sources of odors include wastewater treatment plants, wastewater pumping facilities, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing and fiberglass manufacturing facilities, painting/coating operations, rendering plants, coffee roasters, food processing facilities, confined animal facilities, feedlots, dairies, green waste and recycling operations, and metal smelting plants. If a source of odors is proposed to be located near existing or planned sensitive receptors, this could have the potential to cause operational-related odor impacts. The Project does not include any of these land uses or similar land uses.

## **GREENHOUSE GAS EMISSIONS ANALYSIS**

### ***Environmental Setting***

Greenhouse Gas (GHG) emissions are released as byproducts of fossil fuel combustion, waste disposal, energy use, land use changes, and other human activities. This release of gases, such as carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and chlorofluorocarbons, creates a blanket around the earth that allows light to pass through but traps heat at the surface, preventing its escape into space. While this is a naturally occurring process known as the greenhouse effect, human activities have accelerated the generation of GHGs beyond natural levels. The overabundance of GHGs in the atmosphere has led to an unexpected warming of the earth and has the potential to severely impact the earth's climate system.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH<sub>4</sub> traps over 25 times more heat per molecule than CO<sub>2</sub>, and N<sub>2</sub>O absorbs 298 times more heat per molecule than CO<sub>2</sub>. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO<sub>2</sub>e). Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO<sub>2</sub> were being emitted.

### ***Regulatory Setting***

Implementations of the Proposed Project could result in GHG impacts during construction and operations. Neither the City of Chico or BCAPCD have established air pollution thresholds under CEQA for the assessment of GHG emissions. Therefore, the Project emissions will be compared with the thresholds established in Sacramento County. As with Butte County and the Proposed Project site,



Sacramento County is located within the Sacramento Valley Air Basin and therefore, the GHG thresholds of significance developed in that county were formulated based on the same geography and similar land use pattern, and thus are appropriate for this analysis. While GHG standards established in Sacramento County are not binding on Butte County, they are instructive for comparison purposes. Thus, in this analysis the Project construction and operations will be compared to the SMAQMD numeric bright-line threshold of 1,100 metric tons of CO<sub>2</sub>e per year. The City of Chico promulgates a Climate Action Plan (CAP) intended to reduce the generation of community-generated GHG emissions and this document will be considered as well.

## GREENHOUSE GAS EMISSIONS CHECKLIST AND DISCUSSION

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

#### **Construction Impacts**

Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the Project site, and off-road construction equipment (e.g., dozers, loaders, excavators). **Table 3** illustrates the specific construction-generated GHG emissions that would result from construction of the Project.

<b>Table 3. Construction-Related Emissions</b>	
<b>Emission Source</b>	<b>CO<sub>2</sub>e (Metric Tons/ Year)</b>
Year 2020	185
Year 2021	329
<b>Total</b>	<b>514</b>
<i>Potentially Significant Impact Threshold</i>	<i>1,100</i>
<b>Exceed Threshold?</b>	<b>No</b>

Source: CalEEMod version 2016.3.2. Refer to **Appendix A** for Model Data Outputs.

Notes: Emissions estimates account for the demolition of 746.2 tons of pavement from the Project area. Building construction, paving, and architectural coating assumed to occur simultaneously.

As shown in **Table 3**, Project construction would result in the generation of approximately 514 tons of CO<sub>2</sub>e over the course of construction. Once construction is complete, the generation of these GHG emissions would cease. Construction-related GHG emissions would not surpass the GHG significance threshold.

#### **Operational Impacts**

Operations of the Project would result in GHG emissions predominately associated with energy use (e.g., lighting, cooking equipment, furnace). Long-term operational GHG emissions attributed to the Project are identified in **Table 4** and compared to the bright-line threshold of 1,100 metric tons of CO<sub>2</sub>e annually.

<b>Table 4. Operational-Related Emissions</b>	
<b>Emission Source</b>	<b>CO<sub>2e</sub> (Metric Tons/ Year)</b>
Area Source Emissions	0
Energy Source Emissions	328
Mobile Source Emissions	0
Solid Waste Emissions	99
Water Emissions	15
<b>Total</b>	<b>442</b>
<i>Potentially Significant Impact Threshold</i>	<i>1,100</i>
<b>Exceed Threshold?</b>	<b>No</b>

Source: CalEEMod version 2016.3.2. Refer to **Appendix A** for Model Data Outputs.

As shown in **Table 4**, operational-generated emissions would not exceed the SMAQMD's interim screening level numeric bright-line threshold of 1,100 metric tons of CO<sub>2e</sub> annually. operational-related GHG emissions would not surpass the GHG significance threshold.

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

The City of Chico CAP is a strategic planning document that identifies sources of GHG emissions within the City, presents current and future emission estimates, identifies GHG reduction target for future years, and presents strategies to reduce emissions from the transportation, solid waste, and residential, commercial, and industrial energy use. The GHG reduction strategies in the CAP build on inventory results and key opportunities prioritized by the City staff and members of the public. The CAP consists of strategies that identify steps the City will take to support reductions in GHG emissions. The City will achieve these reductions in GHG emissions through a mix of voluntary programs and strategic standards.

Both the existing and the projected GHG inventories in the CAP were derived based on the land use designations and associated designations defined in the City's General Plan. The Proposed Project is consistent with the land use designation and development density presented in the General Plan. As previously stated, the Project site is designated by the City's General Plan as PQ Public and is currently and operational high school. The Project is proposing a new Culinary Arts building along with the relocation of two additional classrooms on campus. As previously stated, the Proposed Project is not anticipated to increase the number of students attending the high school. Since the Project is consistent with the General Plan it is consistent with the types, intensity, and patterns of land use envisioned for the site vicinity in the General Plan, the Project would not conflict with the land use assumptions or exceed the population or job growth projections used by the City to develop the CAP. Additionally, the new building would be constructed to comply with Title 24 Energy Efficiency Standards as well as California Green Building Code Standards resulting in a reduction of GHG emissions.

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## REFERENCES

[BCAQMD] Butte County Air Quality Management District

- 2014 CEQA Air Quality Handbook. Threshold of Significance Table. <https://bcaqmd.org/wp-content/uploads/CEQA-Handbook-Appendices-2014.pdf>

[CARB] California Air Resources Board

- 2005 Air Quality and Land Use Handbook
- 2017 State and Federal Area Designation Maps. <http://www.arb.ca.gov/desig/adm/adm.htm>.

City of Chico

- 2012 2020 Climate Action Plan.

[SCAQMD] South Coast Air Quality Management District

- 1992 1992 Federal Attainment Plan for Carbon Monoxide.

[SMAQMD] Sacramento Metropolitan Air Quality Management District

- 2016 CEQA Guidelines. Threshold of Significance Table.  
<http://www.airquality.org/businesses/ceqa-land-use-planning/ceqa-guidance-tools>



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# **Appendix A**

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## PV High School CE - Butte County, Summer

## PV High School CE

### Butte County, Summer

## 1.0 Project Characteristics

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### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High Turnover (Sit Down Restaurant)	16.60	1000sqft	0.38	16,600.00	0

### 1.2 Other Project Characteristics

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	71
<b>Climate Zone</b>	3			<b>Operational Year</b>	2021
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	641.35	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The new culinary building is being modeled as a restaurant due to the similar activity that will occur there.

Construction Phase - Construction dates updated to match that of the Project.

Demolition -

Vehicle Trips - The building is being constructed at an active school. The Project will not result in any new trips once in operations.

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	365.00

## PV High School CE - Butte County, Summer

tblConstructionPhase	NumDays	100.00	365.00
tblConstructionPhase	NumDays	10.00	60.00
tblConstructionPhase	NumDays	5.00	365.00
tblConstructionPhase	NumDays	1.00	30.00
tblConstructionPhase	PhaseEndDate	1/29/2020	12/30/2021
tblConstructionPhase	PhaseEndDate	1/15/2020	12/30/2021
tblConstructionPhase	PhaseEndDate	8/23/2019	6/23/2020
tblConstructionPhase	PhaseEndDate	8/28/2019	8/6/2020
tblConstructionPhase	PhaseEndDate	1/22/2020	12/30/2021
tblConstructionPhase	PhaseEndDate	8/26/2019	8/4/2020
tblConstructionPhase	PhaseStartDate	1/23/2020	8/7/2020
tblConstructionPhase	PhaseStartDate	8/29/2019	8/7/2020
tblConstructionPhase	PhaseStartDate	8/12/2019	4/1/2020
tblConstructionPhase	PhaseStartDate	8/27/2019	8/5/2020
tblConstructionPhase	PhaseStartDate	1/16/2020	8/7/2020
tblConstructionPhase	PhaseStartDate	8/24/2019	6/24/2020
tblGrading	AcresOfGrading	15.00	0.50
tblVehicleTrips	CC_TL	10.52	0.00
tblVehicleTrips	CC_TTP	72.50	0.00
tblVehicleTrips	CNW_TL	10.52	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	10.52	0.00
tblVehicleTrips	CW_TTP	8.50	0.00
tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PR_TP	37.00	0.00
tblVehicleTrips	ST_TR	158.37	0.00



## PV High School CE - Butte County, Summer

tblVehicleTrips	SU_TR	131.84	0.00
tblVehicleTrips	WD_TR	127.15	0.00

## 2.0 Emissions Summary

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## PV High School CE - Butte County, Summer

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	3.1211	18.3355	17.9190	0.0295	0.8481	1.0332	1.3161	0.4391	0.9630	1.0372	0.0000	2,809.0812	2,809.0812	0.7030	0.0000	2,826.6547
2021	2.9443	16.7461	17.6032	0.0294	0.2772	0.8984	1.1756	0.0742	0.8375	0.9117	0.0000	2,799.9864	2,799.9864	0.6988	0.0000	2,817.4560
Maximum	3.1211	18.3355	17.9190	0.0295	0.8481	1.0332	1.3161	0.4391	0.9630	1.0372	0.0000	2,809.0812	2,809.0812	0.7030	0.0000	2,826.6547

### Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	3.1211	18.3355	17.9190	0.0295	0.8481	1.0332	1.3161	0.4391	0.9630	1.0372	0.0000	2,809.0812	2,809.0812	0.7030	0.0000	2,826.6547
2021	2.9443	16.7461	17.6032	0.0294	0.2772	0.8984	1.1756	0.0742	0.8375	0.9117	0.0000	2,799.9864	2,799.9864	0.6988	0.0000	2,817.4560
Maximum	3.1211	18.3355	17.9190	0.0295	0.8481	1.0332	1.3161	0.4391	0.9630	1.0372	0.0000	2,809.0812	2,809.0812	0.7030	0.0000	2,826.6547

[illegible]

## PV High School CE - Butte County, Summer

**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4608	2.0000e-005	1.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.6300e-003	3.6300e-003	1.0000e-005		3.8700e-003
Energy	0.1032	0.9382	0.7881	5.6300e-003		0.0713	0.0713		0.0713	0.0713		1,125.8572	1,125.8572	0.0216	0.0206	1,132.5476
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.5640</b>	<b>0.9382</b>	<b>0.7898</b>	<b>5.6300e-003</b>	<b>0.0000</b>	<b>0.0713</b>	<b>0.0713</b>	<b>0.0000</b>	<b>0.0713</b>	<b>0.0713</b>		<b>1,125.8608</b>	<b>1,125.8608</b>	<b>0.0216</b>	<b>0.0206</b>	<b>1,132.5515</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4608	2.0000e-005	1.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.6300e-003	3.6300e-003	1.0000e-005		3.8700e-003
Energy	0.1032	0.9382	0.7881	5.6300e-003		0.0713	0.0713		0.0713	0.0713		1,125.8572	1,125.8572	0.0216	0.0206	1,132.5476
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.5640</b>	<b>0.9382</b>	<b>0.7898</b>	<b>5.6300e-003</b>	<b>0.0000</b>	<b>0.0713</b>	<b>0.0713</b>	<b>0.0000</b>	<b>0.0713</b>	<b>0.0713</b>		<b>1,125.8608</b>	<b>1,125.8608</b>	<b>0.0216</b>	<b>0.0206</b>	<b>1,132.5515</b>

## PV High School CE - Butte County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	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

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#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/1/2020	6/23/2020	5	60	
2	Site Preparation	Site Preparation	6/24/2020	8/4/2020	5	30	
3	Grading	Grading	8/5/2020	8/6/2020	5	2	
4	Building Construction	Building Construction	8/7/2020	12/30/2021	5	365	
5	Paving	Paving	8/7/2020	12/30/2021	5	365	
6	Architectural Coating	Architectural Coating	8/7/2020	12/30/2021	5	365	

**Acres of Grading (Site Preparation Phase): 0.5**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 24,900; Non-Residential Outdoor: 8,300; Striped Parking Area: 0 (Architectural Coating – sqft)**

#### OffRoad Equipment

## PV High School CE - Butte County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	74.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	7.00	3.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT

## PV High School CE - Butte County, Summer

**3.1 Mitigation Measures Construction****3.2 Demolition - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2661	0.0000	0.2661	0.0403	0.0000	0.0403			0.0000			0.0000
Off-Road	0.8674	7.8729	7.6226	0.0120		0.4672	0.4672		0.4457	0.4457		1,147.235 2	1,147.235 2	0.2169		1,152.657 8
<b>Total</b>	<b>0.8674</b>	<b>7.8729</b>	<b>7.6226</b>	<b>0.0120</b>	<b>0.2661</b>	<b>0.4672</b>	<b>0.7333</b>	<b>0.0403</b>	<b>0.4457</b>	<b>0.4860</b>		<b>1,147.235 2</b>	<b>1,147.235 2</b>	<b>0.2169</b>		<b>1,152.657 8</b>

## PV High School CE - Butte County, Summer

**3.2 Demolition - 2020****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.8000e-003	0.3431	0.0449	1.0200e-003	0.0216	1.3400e-003	0.0230	5.9300e-003	1.2800e-003	7.2100e-003		106.5990	106.5990	7.4900e-003		106.7862
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	0.0676	0.0477	0.5773	1.0300e-003	0.0954	7.5000e-004	0.0961	0.0253	7.0000e-004	0.0260		102.3754	102.3754	5.0600e-003		102.5018
<b>Total</b>	<b>0.0774</b>	<b>0.3908</b>	<b>0.6222</b>	<b>2.0500e-003</b>	<b>0.1170</b>	<b>2.0900e-003</b>	<b>0.1191</b>	<b>0.0312</b>	<b>1.9800e-003</b>	<b>0.0332</b>		<b>208.9744</b>	<b>208.9744</b>	<b>0.0126</b>		<b>209.2880</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2661	0.0000	0.2661	0.0403	0.0000	0.0403			0.0000			0.0000
Off-Road	0.8674	7.8729	7.6226	0.0120		0.4672	0.4672		0.4457	0.4457	0.0000	1,147.2352	1,147.2352	0.2169		1,152.6578
<b>Total</b>	<b>0.8674</b>	<b>7.8729</b>	<b>7.6226</b>	<b>0.0120</b>	<b>0.2661</b>	<b>0.4672</b>	<b>0.7333</b>	<b>0.0403</b>	<b>0.4457</b>	<b>0.4860</b>	<b>0.0000</b>	<b>1,147.2352</b>	<b>1,147.2352</b>	<b>0.2169</b>		<b>1,152.6578</b>

## PV High School CE - Butte County, Summer

**3.2 Demolition - 2020****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.8000e-003	0.3431	0.0449	1.0200e-003	0.0216	1.3400e-003	0.0230	5.9300e-003	1.2800e-003	7.2100e-003		106.5990	106.5990	7.4900e-003		106.7862
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	0.0676	0.0477	0.5773	1.0300e-003	0.0954	7.5000e-004	0.0961	0.0253	7.0000e-004	0.0260		102.3754	102.3754	5.0600e-003		102.5018
<b>Total</b>	<b>0.0774</b>	<b>0.3908</b>	<b>0.6222</b>	<b>2.0500e-003</b>	<b>0.1170</b>	<b>2.0900e-003</b>	<b>0.1191</b>	<b>0.0312</b>	<b>1.9800e-003</b>	<b>0.0332</b>		<b>208.9744</b>	<b>208.9744</b>	<b>0.0126</b>		<b>209.2880</b>

**3.3 Site Preparation - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0177	0.0000	0.0177	1.9100e-003	0.0000	1.9100e-003			0.0000			0.0000
Off-Road	0.6853	8.4307	4.0942	9.7400e-003		0.3353	0.3353		0.3085	0.3085		943.4872	943.4872	0.3051		951.1158
<b>Total</b>	<b>0.6853</b>	<b>8.4307</b>	<b>4.0942</b>	<b>9.7400e-003</b>	<b>0.0177</b>	<b>0.3353</b>	<b>0.3530</b>	<b>1.9100e-003</b>	<b>0.3085</b>	<b>0.3104</b>		<b>943.4872</b>	<b>943.4872</b>	<b>0.3051</b>		<b>951.1158</b>



## PV High School CE - Butte County, Summer

**3.3 Site Preparation - 2020****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0338	0.0239	0.2886	5.2000e-004	0.0477	3.8000e-004	0.0481	0.0127	3.5000e-004	0.0130		51.1877	51.1877	2.5300e-003		51.2509
<b>Total</b>	<b>0.0338</b>	<b>0.0239</b>	<b>0.2886</b>	<b>5.2000e-004</b>	<b>0.0477</b>	<b>3.8000e-004</b>	<b>0.0481</b>	<b>0.0127</b>	<b>3.5000e-004</b>	<b>0.0130</b>		<b>51.1877</b>	<b>51.1877</b>	<b>2.5300e-003</b>		<b>51.2509</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0177	0.0000	0.0177	1.9100e-003	0.0000	1.9100e-003			0.0000			0.0000
Off-Road	0.6853	8.4307	4.0942	9.7400e-003		0.3353	0.3353		0.3085	0.3085	0.0000	943.4872	943.4872	0.3051		951.1158
<b>Total</b>	<b>0.6853</b>	<b>8.4307</b>	<b>4.0942</b>	<b>9.7400e-003</b>	<b>0.0177</b>	<b>0.3353</b>	<b>0.3530</b>	<b>1.9100e-003</b>	<b>0.3085</b>	<b>0.3104</b>	<b>0.0000</b>	<b>943.4872</b>	<b>943.4872</b>	<b>0.3051</b>		<b>951.1158</b>

## PV High School CE - Butte County, Summer

**3.3 Site Preparation - 2020****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0338	0.0239	0.2886	5.2000e-004	0.0477	3.8000e-004	0.0481	0.0127	3.5000e-004	0.0130		51.1877	51.1877	2.5300e-003		51.2509
<b>Total</b>	<b>0.0338</b>	<b>0.0239</b>	<b>0.2886</b>	<b>5.2000e-004</b>	<b>0.0477</b>	<b>3.8000e-004</b>	<b>0.0481</b>	<b>0.0127</b>	<b>3.5000e-004</b>	<b>0.0130</b>		<b>51.1877</b>	<b>51.1877</b>	<b>2.5300e-003</b>		<b>51.2509</b>

**3.4 Grading - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.8674	7.8729	7.6226	0.0120		0.4672	0.4672		0.4457	0.4457		1,147.2352	1,147.2352	0.2169		1,152.6578
<b>Total</b>	<b>0.8674</b>	<b>7.8729</b>	<b>7.6226</b>	<b>0.0120</b>	<b>0.7528</b>	<b>0.4672</b>	<b>1.2200</b>	<b>0.4138</b>	<b>0.4457</b>	<b>0.8595</b>		<b>1,147.2352</b>	<b>1,147.2352</b>	<b>0.2169</b>		<b>1,152.6578</b>

## PV High School CE - Butte County, Summer

**3.4 Grading - 2020****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0676	0.0477	0.5773	1.0300e-003	0.0954	7.5000e-004	0.0961	0.0253	7.0000e-004	0.0260		102.3754	102.3754	5.0600e-003		102.5018
<b>Total</b>	<b>0.0676</b>	<b>0.0477</b>	<b>0.5773</b>	<b>1.0300e-003</b>	<b>0.0954</b>	<b>7.5000e-004</b>	<b>0.0961</b>	<b>0.0253</b>	<b>7.0000e-004</b>	<b>0.0260</b>		<b>102.3754</b>	<b>102.3754</b>	<b>5.0600e-003</b>		<b>102.5018</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.8674	7.8729	7.6226	0.0120		0.4672	0.4672		0.4457	0.4457	0.0000	1,147.2352	1,147.2352	0.2169		1,152.6578
<b>Total</b>	<b>0.8674</b>	<b>7.8729</b>	<b>7.6226</b>	<b>0.0120</b>	<b>0.7528</b>	<b>0.4672</b>	<b>1.2200</b>	<b>0.4138</b>	<b>0.4457</b>	<b>0.8595</b>	<b>0.0000</b>	<b>1,147.2352</b>	<b>1,147.2352</b>	<b>0.2169</b>		<b>1,152.6578</b>

## PV High School CE - Butte County, Summer

**3.4 Grading - 2020****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0676	0.0477	0.5773	1.0300e-003	0.0954	7.5000e-004	0.0961	0.0253	7.0000e-004	0.0260		102.3754	102.3754	5.0600e-003		102.5018
<b>Total</b>	<b>0.0676</b>	<b>0.0477</b>	<b>0.5773</b>	<b>1.0300e-003</b>	<b>0.0954</b>	<b>7.5000e-004</b>	<b>0.0961</b>	<b>0.0253</b>	<b>7.0000e-004</b>	<b>0.0260</b>		<b>102.3754</b>	<b>102.3754</b>	<b>5.0600e-003</b>		<b>102.5018</b>

**3.5 Building Construction - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806		1,102.978 1	1,102.978 1	0.3567		1,111.896 2
<b>Total</b>	<b>0.8617</b>	<b>8.8523</b>	<b>7.3875</b>	<b>0.0114</b>		<b>0.5224</b>	<b>0.5224</b>		<b>0.4806</b>	<b>0.4806</b>		<b>1,102.978 1</b>	<b>1,102.978 1</b>	<b>0.3567</b>		<b>1,111.896 2</b>

## PV High School CE - Butte County, Summer

**3.5 Building Construction - 2020****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0159	0.4487	0.0863	1.1800e-003	0.0293	2.9000e-003	0.0322	8.4200e-003	2.7700e-003	0.0112		123.0864	123.0864	9.6900e-003		123.3286
Worker	0.0473	0.0334	0.4041	7.2000e-004	0.0668	5.3000e-004	0.0673	0.0177	4.9000e-004	0.0182		71.6628	71.6628	3.5400e-003		71.7513
<b>Total</b>	<b>0.0633</b>	<b>0.4821</b>	<b>0.4904</b>	<b>1.9000e-003</b>	<b>0.0960</b>	<b>3.4300e-003</b>	<b>0.0995</b>	<b>0.0261</b>	<b>3.2600e-003</b>	<b>0.0294</b>		<b>194.7492</b>	<b>194.7492</b>	<b>0.0132</b>		<b>195.0799</b>

**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	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806	0.0000	1,102.978 1	1,102.978 1	0.3567		1,111.896 2
<b>Total</b>	<b>0.8617</b>	<b>8.8523</b>	<b>7.3875</b>	<b>0.0114</b>		<b>0.5224</b>	<b>0.5224</b>		<b>0.4806</b>	<b>0.4806</b>	<b>0.0000</b>	<b>1,102.978 1</b>	<b>1,102.978 1</b>	<b>0.3567</b>		<b>1,111.896 2</b>

## PV High School CE - Butte County, Summer

**3.5 Building Construction - 2020****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0159	0.4487	0.0863	1.1800e-003	0.0293	2.9000e-003	0.0322	8.4200e-003	2.7700e-003	0.0112		123.0864	123.0864	9.6900e-003		123.3286
Worker	0.0473	0.0334	0.4041	7.2000e-004	0.0668	5.3000e-004	0.0673	0.0177	4.9000e-004	0.0182		71.6628	71.6628	3.5400e-003		71.7513
<b>Total</b>	<b>0.0633</b>	<b>0.4821</b>	<b>0.4904</b>	<b>1.9000e-003</b>	<b>0.0960</b>	<b>3.4300e-003</b>	<b>0.0995</b>	<b>0.0261</b>	<b>3.2600e-003</b>	<b>0.0294</b>		<b>194.7492</b>	<b>194.7492</b>	<b>0.0132</b>		<b>195.0799</b>

**3.5 Building Construction - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7750	7.9850	7.2637	0.0114		0.4475	0.4475		0.4117	0.4117		1,103.2158	1,103.2158	0.3568		1,112.1358
<b>Total</b>	<b>0.7750</b>	<b>7.9850</b>	<b>7.2637</b>	<b>0.0114</b>		<b>0.4475</b>	<b>0.4475</b>		<b>0.4117</b>	<b>0.4117</b>		<b>1,103.2158</b>	<b>1,103.2158</b>	<b>0.3568</b>		<b>1,112.1358</b>

## PV High School CE - Butte County, Summer

**3.5 Building Construction - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0128	0.4059	0.0735	1.1700e-003	0.0293	1.4300e-003	0.0307	8.4200e-003	1.3700e-003	9.8000e-003		122.1177	122.1177	9.3800e-003		122.3522
Worker	0.0437	0.0298	0.3658	7.0000e-004	0.0668	5.1000e-004	0.0673	0.0177	4.7000e-004	0.0182		69.4245	69.4245	3.1500e-003		69.5033
<b>Total</b>	<b>0.0565</b>	<b>0.4357</b>	<b>0.4393</b>	<b>1.8700e-003</b>	<b>0.0960</b>	<b>1.9400e-003</b>	<b>0.0980</b>	<b>0.0261</b>	<b>1.8400e-003</b>	<b>0.0280</b>		<b>191.5422</b>	<b>191.5422</b>	<b>0.0125</b>		<b>191.8556</b>

**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	0.7750	7.9850	7.2637	0.0114		0.4475	0.4475		0.4117	0.4117	0.0000	1,103.2158	1,103.2158	0.3568		1,112.1358
<b>Total</b>	<b>0.7750</b>	<b>7.9850</b>	<b>7.2637</b>	<b>0.0114</b>		<b>0.4475</b>	<b>0.4475</b>		<b>0.4117</b>	<b>0.4117</b>	<b>0.0000</b>	<b>1,103.2158</b>	<b>1,103.2158</b>	<b>0.3568</b>		<b>1,112.1358</b>

## PV High School CE - Butte County, Summer

**3.5 Building Construction - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0128	0.4059	0.0735	1.1700e-003	0.0293	1.4300e-003	0.0307	8.4200e-003	1.3700e-003	9.8000e-003		122.1177	122.1177	9.3800e-003		122.3522
Worker	0.0437	0.0298	0.3658	7.0000e-004	0.0668	5.1000e-004	0.0673	0.0177	4.7000e-004	0.0182		69.4245	69.4245	3.1500e-003		69.5033
<b>Total</b>	<b>0.0565</b>	<b>0.4357</b>	<b>0.4393</b>	<b>1.8700e-003</b>	<b>0.0960</b>	<b>1.9400e-003</b>	<b>0.0980</b>	<b>0.0261</b>	<b>1.8400e-003</b>	<b>0.0280</b>		<b>191.5422</b>	<b>191.5422</b>	<b>0.0125</b>		<b>191.8556</b>

**3.6 Paving - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7716	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669		1,035.3926	1,035.3926	0.3016		1,042.9323
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.7716</b>	<b>7.2266</b>	<b>7.1128</b>	<b>0.0113</b>		<b>0.3950</b>	<b>0.3950</b>		<b>0.3669</b>	<b>0.3669</b>		<b>1,035.3926</b>	<b>1,035.3926</b>	<b>0.3016</b>		<b>1,042.9323</b>



## PV High School CE - Butte County, Summer

**3.6 Paving - 2020****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1217	0.0859	1.0391	1.8600e-003	0.1717	1.3600e-003	0.1730	0.0455	1.2500e-003	0.0468		184.2758	184.2758	9.1000e-003		184.5033
<b>Total</b>	<b>0.1217</b>	<b>0.0859</b>	<b>1.0391</b>	<b>1.8600e-003</b>	<b>0.1717</b>	<b>1.3600e-003</b>	<b>0.1730</b>	<b>0.0455</b>	<b>1.2500e-003</b>	<b>0.0468</b>		<b>184.2758</b>	<b>184.2758</b>	<b>9.1000e-003</b>		<b>184.5033</b>

**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	0.7716	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669	0.0000	1,035.3926	1,035.3926	0.3016		1,042.9323
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.7716</b>	<b>7.2266</b>	<b>7.1128</b>	<b>0.0113</b>		<b>0.3950</b>	<b>0.3950</b>		<b>0.3669</b>	<b>0.3669</b>	<b>0.0000</b>	<b>1,035.3926</b>	<b>1,035.3926</b>	<b>0.3016</b>		<b>1,042.9323</b>

## PV High School CE - Butte County, Summer

**3.6 Paving - 2020****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1217	0.0859	1.0391	1.8600e-003	0.1717	1.3600e-003	0.1730	0.0455	1.2500e-003	0.0468		184.2758	184.2758	9.1000e-003		184.5033
<b>Total</b>	<b>0.1217</b>	<b>0.0859</b>	<b>1.0391</b>	<b>1.8600e-003</b>	<b>0.1717</b>	<b>1.3600e-003</b>	<b>0.1730</b>	<b>0.0455</b>	<b>1.2500e-003</b>	<b>0.0468</b>		<b>184.2758</b>	<b>184.2758</b>	<b>9.1000e-003</b>		<b>184.5033</b>

**3.6 Paving - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7214	6.7178	7.0899	0.0113		0.3534	0.3534		0.3286	0.3286		1,035.3425	1,035.3425	0.3016		1,042.8818
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.7214</b>	<b>6.7178</b>	<b>7.0899</b>	<b>0.0113</b>		<b>0.3534</b>	<b>0.3534</b>		<b>0.3286</b>	<b>0.3286</b>		<b>1,035.3425</b>	<b>1,035.3425</b>	<b>0.3016</b>		<b>1,042.8818</b>

## PV High School CE - Butte County, Summer

**3.6 Paving - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1123	0.0766	0.9405	1.8000e-003	0.1717	1.3000e-003	0.1730	0.0455	1.2000e-003	0.0467		178.5201	178.5201	8.1100e-003		178.7229
<b>Total</b>	<b>0.1123</b>	<b>0.0766</b>	<b>0.9405</b>	<b>1.8000e-003</b>	<b>0.1717</b>	<b>1.3000e-003</b>	<b>0.1730</b>	<b>0.0455</b>	<b>1.2000e-003</b>	<b>0.0467</b>		<b>178.5201</b>	<b>178.5201</b>	<b>8.1100e-003</b>		<b>178.7229</b>

**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	0.7214	6.7178	7.0899	0.0113		0.3534	0.3534		0.3286	0.3286	0.0000	1,035.3425	1,035.3425	0.3016		1,042.8818
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.7214</b>	<b>6.7178</b>	<b>7.0899</b>	<b>0.0113</b>		<b>0.3534</b>	<b>0.3534</b>		<b>0.3286</b>	<b>0.3286</b>	<b>0.0000</b>	<b>1,035.3425</b>	<b>1,035.3425</b>	<b>0.3016</b>		<b>1,042.8818</b>

## PV High School CE - Butte County, Summer

**3.6 Paving - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1123	0.0766	0.9405	1.8000e-003	0.1717	1.3000e-003	0.1730	0.0455	1.2000e-003	0.0467		178.5201	178.5201	8.1100e-003		178.7229
<b>Total</b>	<b>0.1123</b>	<b>0.0766</b>	<b>0.9405</b>	<b>1.8000e-003</b>	<b>0.1717</b>	<b>1.3000e-003</b>	<b>0.1730</b>	<b>0.0455</b>	<b>1.2000e-003</b>	<b>0.0467</b>		<b>178.5201</b>	<b>178.5201</b>	<b>8.1100e-003</b>		<b>178.7229</b>

**3.7 Architectural Coating - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.0540					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
<b>Total</b>	<b>1.2962</b>	<b>1.6838</b>	<b>1.8314</b>	<b>2.9700e-003</b>		<b>0.1109</b>	<b>0.1109</b>		<b>0.1109</b>	<b>0.1109</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0218</b>		<b>281.9928</b>

## PV High School CE - Butte County, Summer

**3.7 Architectural Coating - 2020****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	6.7600e-003	4.7700e-003	0.0577	1.0000e-004	9.5400e-003	8.0000e-005	9.6100e-003	2.5300e-003	7.0000e-005	2.6000e-003		10.2375	10.2375	5.1000e-004		10.2502
<b>Total</b>	<b>6.7600e-003</b>	<b>4.7700e-003</b>	<b>0.0577</b>	<b>1.0000e-004</b>	<b>9.5400e-003</b>	<b>8.0000e-005</b>	<b>9.6100e-003</b>	<b>2.5300e-003</b>	<b>7.0000e-005</b>	<b>2.6000e-003</b>		<b>10.2375</b>	<b>10.2375</b>	<b>5.1000e-004</b>		<b>10.2502</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.0540					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
<b>Total</b>	<b>1.2962</b>	<b>1.6838</b>	<b>1.8314</b>	<b>2.9700e-003</b>		<b>0.1109</b>	<b>0.1109</b>		<b>0.1109</b>	<b>0.1109</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0218</b>		<b>281.9928</b>

## PV High School CE - Butte County, Summer

**3.7 Architectural Coating - 2020****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	6.7600e-003	4.7700e-003	0.0577	1.0000e-004	9.5400e-003	8.0000e-005	9.6100e-003	2.5300e-003	7.0000e-005	2.6000e-003		10.2375	10.2375	5.1000e-004		10.2502
<b>Total</b>	<b>6.7600e-003</b>	<b>4.7700e-003</b>	<b>0.0577</b>	<b>1.0000e-004</b>	<b>9.5400e-003</b>	<b>8.0000e-005</b>	<b>9.6100e-003</b>	<b>2.5300e-003</b>	<b>7.0000e-005</b>	<b>2.6000e-003</b>		<b>10.2375</b>	<b>10.2375</b>	<b>5.1000e-004</b>		<b>10.2502</b>

**3.7 Architectural Coating - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.0540					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>1.2729</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

## PV High School CE - Butte County, Summer

**3.7 Architectural Coating - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	6.2400e-003	4.2500e-003	0.0523	1.0000e-004	9.5400e-003	7.0000e-005	9.6100e-003	2.5300e-003	7.0000e-005	2.6000e-003		9.9178	9.9178	4.5000e-004		9.9291
<b>Total</b>	<b>6.2400e-003</b>	<b>4.2500e-003</b>	<b>0.0523</b>	<b>1.0000e-004</b>	<b>9.5400e-003</b>	<b>7.0000e-005</b>	<b>9.6100e-003</b>	<b>2.5300e-003</b>	<b>7.0000e-005</b>	<b>2.6000e-003</b>		<b>9.9178</b>	<b>9.9178</b>	<b>4.5000e-004</b>		<b>9.9291</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.0540					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>1.2729</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

## PV High School CE - Butte County, Summer

**3.7 Architectural Coating - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	6.2400e-003	4.2500e-003	0.0523	1.0000e-004	9.5400e-003	7.0000e-005	9.6100e-003	2.5300e-003	7.0000e-005	2.6000e-003		9.9178	9.9178	4.5000e-004		9.9291
<b>Total</b>	<b>6.2400e-003</b>	<b>4.2500e-003</b>	<b>0.0523</b>	<b>1.0000e-004</b>	<b>9.5400e-003</b>	<b>7.0000e-005</b>	<b>9.6100e-003</b>	<b>2.5300e-003</b>	<b>7.0000e-005</b>	<b>2.6000e-003</b>		<b>9.9178</b>	<b>9.9178</b>	<b>4.5000e-004</b>		<b>9.9291</b>

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**



## PV High School CE - Butte County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

## 4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

## 4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
High Turnover (Sit Down	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

## 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
High Turnover (Sit Down Restaurant)	0.514547	0.034230	0.180067	0.120126	0.034848	0.006594	0.018358	0.079646	0.001635	0.001462	0.005861	0.001268	0.001358

## 5.0 Energy Detail

## PV High School CE - Butte County, Summer

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1032	0.9382	0.7881	5.6300e-003		0.0713	0.0713		0.0713	0.0713		1,125.8572	1,125.8572	0.0216	0.0206	1,132.5476
NaturalGas Unmitigated	0.1032	0.9382	0.7881	5.6300e-003		0.0713	0.0713		0.0713	0.0713		1,125.8572	1,125.8572	0.0216	0.0206	1,132.5476

**5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
High Turnover (Sit Down Restaurant)	9569.79	0.1032	0.9382	0.7881	5.6300e-003		0.0713	0.0713		0.0713	0.0713		1,125.8572	1,125.8572	0.0216	0.0206	1,132.5476
<b>Total</b>		<b>0.1032</b>	<b>0.9382</b>	<b>0.7881</b>	<b>5.6300e-003</b>		<b>0.0713</b>	<b>0.0713</b>		<b>0.0713</b>	<b>0.0713</b>		<b>1,125.8572</b>	<b>1,125.8572</b>	<b>0.0216</b>	<b>0.0206</b>	<b>1,132.5476</b>

## PV High School CE - Butte County, Summer

**5.2 Energy by Land Use - NaturalGas****Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
High Turnover (Sit Down Restaurant)	9.56979	0.1032	0.9382	0.7881	5.6300e-003		0.0713	0.0713		0.0713	0.0713		1,125.8572	1,125.8572	0.0216	0.0206	1,132.5476
<b>Total</b>		<b>0.1032</b>	<b>0.9382</b>	<b>0.7881</b>	<b>5.6300e-003</b>		<b>0.0713</b>	<b>0.0713</b>		<b>0.0713</b>	<b>0.0713</b>		<b>1,125.8572</b>	<b>1,125.8572</b>	<b>0.0216</b>	<b>0.0206</b>	<b>1,132.5476</b>

**6.0 Area Detail****6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.4608	2.0000e-005	1.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.6300e-003	3.6300e-003	1.0000e-005		3.8700e-003
Unmitigated	0.4608	2.0000e-005	1.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.6300e-003	3.6300e-003	1.0000e-005		3.8700e-003

## PV High School CE - Butte County, Summer

**6.2 Area by SubCategory****Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3552					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.6000e-004	2.0000e-005	1.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.6300e-003	3.6300e-003	1.0000e-005		3.8700e-003
<b>Total</b>	<b>0.4608</b>	<b>2.0000e-005</b>	<b>1.7000e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>3.6300e-003</b>	<b>3.6300e-003</b>	<b>1.0000e-005</b>		<b>3.8700e-003</b>

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3552					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.6000e-004	2.0000e-005	1.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.6300e-003	3.6300e-003	1.0000e-005		3.8700e-003
<b>Total</b>	<b>0.4608</b>	<b>2.0000e-005</b>	<b>1.7000e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>3.6300e-003</b>	<b>3.6300e-003</b>	<b>1.0000e-005</b>		<b>3.8700e-003</b>

**7.0 Water Detail**

## PV High School CE - Butte County, Summer

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**7.1 Mitigation Measures Water**

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

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**8.0 Waste Detail****8.1 Mitigation Measures Waste**

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**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment****Fire Pumps and Emergency Generators**

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

## PV High School CE - Butte County, Winter

## PV High School CE

### Butte County, Winter

## 1.0 Project Characteristics

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### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High Turnover (Sit Down Restaurant)	16.60	1000sqft	0.38	16,600.00	0

### 1.2 Other Project Characteristics

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	71
<b>Climate Zone</b>	3			<b>Operational Year</b>	2021
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	641.35	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The new culinary building is being modeled as a restaurant due to the similar activity that will occur there.

Construction Phase - Construction dates updated to match that of the Project.

Demolition -

Vehicle Trips - The building is being constructed at an active school. The Project will not result in any new trips once in operations.

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	365.00

## PV High School CE - Butte County, Winter

tblConstructionPhase	NumDays	100.00	365.00
tblConstructionPhase	NumDays	10.00	60.00
tblConstructionPhase	NumDays	5.00	365.00
tblConstructionPhase	NumDays	1.00	30.00
tblConstructionPhase	PhaseEndDate	1/29/2020	12/30/2021
tblConstructionPhase	PhaseEndDate	1/15/2020	12/30/2021
tblConstructionPhase	PhaseEndDate	8/23/2019	6/23/2020
tblConstructionPhase	PhaseEndDate	8/28/2019	8/6/2020
tblConstructionPhase	PhaseEndDate	1/22/2020	12/30/2021
tblConstructionPhase	PhaseEndDate	8/26/2019	8/4/2020
tblConstructionPhase	PhaseStartDate	1/23/2020	8/7/2020
tblConstructionPhase	PhaseStartDate	8/29/2019	8/7/2020
tblConstructionPhase	PhaseStartDate	8/12/2019	4/1/2020
tblConstructionPhase	PhaseStartDate	8/27/2019	8/5/2020
tblConstructionPhase	PhaseStartDate	1/16/2020	8/7/2020
tblConstructionPhase	PhaseStartDate	8/24/2019	6/24/2020
tblGrading	AcresOfGrading	15.00	0.50
tblVehicleTrips	CC_TL	10.52	0.00
tblVehicleTrips	CC_TTP	72.50	0.00
tblVehicleTrips	CNW_TL	10.52	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	10.52	0.00
tblVehicleTrips	CW_TTP	8.50	0.00
tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PR_TP	37.00	0.00
tblVehicleTrips	ST_TR	158.37	0.00

## PV High School CE - Butte County, Winter

tblVehicleTrips	SU_TR	131.84	0.00
tblVehicleTrips	WD_TR	127.15	0.00

## 2.0 Emissions Summary

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## PV High School CE - Butte County, Winter

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	3.1060	18.3780	17.6952	0.0291	0.8481	1.0333	1.3161	0.4391	0.9630	1.0372	0.0000	2,771.7737	2,771.7737	0.7024	0.0000	2,789.3329
2021	2.9305	16.7825	17.3953	0.0290	0.2772	0.8984	1.1756	0.0742	0.8376	0.9117	0.0000	2,763.7172	2,763.7172	0.6984	0.0000	2,781.1768
Maximum	3.1060	18.3780	17.6952	0.0291	0.8481	1.0333	1.3161	0.4391	0.9630	1.0372	0.0000	2,771.7737	2,771.7737	0.7024	0.0000	2,789.3329

### Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	3.1060	18.3780	17.6952	0.0291	0.8481	1.0333	1.3161	0.4391	0.9630	1.0372	0.0000	2,771.7737	2,771.7737	0.7024	0.0000	2,789.3329
2021	2.9305	16.7825	17.3953	0.0290	0.2772	0.8984	1.1756	0.0742	0.8376	0.9117	0.0000	2,763.7172	2,763.7172	0.6984	0.0000	2,781.1768
Maximum	3.1060	18.3780	17.6952	0.0291	0.8481	1.0333	1.3161	0.4391	0.9630	1.0372	0.0000	2,771.7737	2,771.7737	0.7024	0.0000	2,789.3329

[illegible]

## PV High School CE - Butte County, Winter

**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4608	2.0000e-005	1.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.6300e-003	3.6300e-003	1.0000e-005		3.8700e-003
Energy	0.1032	0.9382	0.7881	5.6300e-003		0.0713	0.0713		0.0713	0.0713		1,125.8572	1,125.8572	0.0216	0.0206	1,132.5476
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.5640</b>	<b>0.9382</b>	<b>0.7898</b>	<b>5.6300e-003</b>	<b>0.0000</b>	<b>0.0713</b>	<b>0.0713</b>	<b>0.0000</b>	<b>0.0713</b>	<b>0.0713</b>		<b>1,125.8608</b>	<b>1,125.8608</b>	<b>0.0216</b>	<b>0.0206</b>	<b>1,132.5515</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4608	2.0000e-005	1.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.6300e-003	3.6300e-003	1.0000e-005		3.8700e-003
Energy	0.1032	0.9382	0.7881	5.6300e-003		0.0713	0.0713		0.0713	0.0713		1,125.8572	1,125.8572	0.0216	0.0206	1,132.5476
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.5640</b>	<b>0.9382</b>	<b>0.7898</b>	<b>5.6300e-003</b>	<b>0.0000</b>	<b>0.0713</b>	<b>0.0713</b>	<b>0.0000</b>	<b>0.0713</b>	<b>0.0713</b>		<b>1,125.8608</b>	<b>1,125.8608</b>	<b>0.0216</b>	<b>0.0206</b>	<b>1,132.5515</b>

## PV High School CE - Butte County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	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

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#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/1/2020	6/23/2020	5	60	
2	Site Preparation	Site Preparation	6/24/2020	8/4/2020	5	30	
3	Grading	Grading	8/5/2020	8/6/2020	5	2	
4	Building Construction	Building Construction	8/7/2020	12/30/2021	5	365	
5	Paving	Paving	8/7/2020	12/30/2021	5	365	
6	Architectural Coating	Architectural Coating	8/7/2020	12/30/2021	5	365	

**Acres of Grading (Site Preparation Phase): 0.5**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 24,900; Non-Residential Outdoor: 8,300; Striped Parking Area: 0 (Architectural Coating – sqft)**

#### OffRoad Equipment

## PV High School CE - Butte County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	74.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	7.00	3.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT

## PV High School CE - Butte County, Winter

**3.1 Mitigation Measures Construction****3.2 Demolition - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2661	0.0000	0.2661	0.0403	0.0000	0.0403			0.0000			0.0000
Off-Road	0.8674	7.8729	7.6226	0.0120		0.4672	0.4672		0.4457	0.4457		1,147.235 2	1,147.235 2	0.2169		1,152.657 8
<b>Total</b>	<b>0.8674</b>	<b>7.8729</b>	<b>7.6226</b>	<b>0.0120</b>	<b>0.2661</b>	<b>0.4672</b>	<b>0.7333</b>	<b>0.0403</b>	<b>0.4457</b>	<b>0.4860</b>		<b>1,147.235 2</b>	<b>1,147.235 2</b>	<b>0.2169</b>		<b>1,152.657 8</b>

## PV High School CE - Butte County, Winter

**3.2 Demolition - 2020****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0102	0.3548	0.0516	9.9000e-004	0.0216	1.3800e-003	0.0230	5.9300e-003	1.3200e-003	7.2500e-003		104.0866	104.0866	8.4800e-003		104.2986
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	0.0615	0.0590	0.4861	9.0000e-004	0.0954	7.5000e-004	0.0961	0.0253	7.0000e-004	0.0260		89.2353	89.2353	4.3600e-003		89.3443
<b>Total</b>	<b>0.0717</b>	<b>0.4138</b>	<b>0.5377</b>	<b>1.8900e-003</b>	<b>0.1170</b>	<b>2.1300e-003</b>	<b>0.1191</b>	<b>0.0312</b>	<b>2.0200e-003</b>	<b>0.0332</b>		<b>193.3219</b>	<b>193.3219</b>	<b>0.0128</b>		<b>193.6429</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2661	0.0000	0.2661	0.0403	0.0000	0.0403			0.0000			0.0000
Off-Road	0.8674	7.8729	7.6226	0.0120		0.4672	0.4672		0.4457	0.4457	0.0000	1,147.2352	1,147.2352	0.2169		1,152.6578
<b>Total</b>	<b>0.8674</b>	<b>7.8729</b>	<b>7.6226</b>	<b>0.0120</b>	<b>0.2661</b>	<b>0.4672</b>	<b>0.7333</b>	<b>0.0403</b>	<b>0.4457</b>	<b>0.4860</b>	<b>0.0000</b>	<b>1,147.2352</b>	<b>1,147.2352</b>	<b>0.2169</b>		<b>1,152.6578</b>

## PV High School CE - Butte County, Winter

**3.2 Demolition - 2020****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0102	0.3548	0.0516	9.9000e-004	0.0216	1.3800e-003	0.0230	5.9300e-003	1.3200e-003	7.2500e-003		104.0866	104.0866	8.4800e-003		104.2986
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	0.0615	0.0590	0.4861	9.0000e-004	0.0954	7.5000e-004	0.0961	0.0253	7.0000e-004	0.0260		89.2353	89.2353	4.3600e-003		89.3443
<b>Total</b>	<b>0.0717</b>	<b>0.4138</b>	<b>0.5377</b>	<b>1.8900e-003</b>	<b>0.1170</b>	<b>2.1300e-003</b>	<b>0.1191</b>	<b>0.0312</b>	<b>2.0200e-003</b>	<b>0.0332</b>		<b>193.3219</b>	<b>193.3219</b>	<b>0.0128</b>		<b>193.6429</b>

**3.3 Site Preparation - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0177	0.0000	0.0177	1.9100e-003	0.0000	1.9100e-003			0.0000			0.0000
Off-Road	0.6853	8.4307	4.0942	9.7400e-003		0.3353	0.3353		0.3085	0.3085		943.4872	943.4872	0.3051		951.1158
<b>Total</b>	<b>0.6853</b>	<b>8.4307</b>	<b>4.0942</b>	<b>9.7400e-003</b>	<b>0.0177</b>	<b>0.3353</b>	<b>0.3530</b>	<b>1.9100e-003</b>	<b>0.3085</b>	<b>0.3104</b>		<b>943.4872</b>	<b>943.4872</b>	<b>0.3051</b>		<b>951.1158</b>

## PV High School CE - Butte County, Winter

**3.3 Site Preparation - 2020****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0308	0.0295	0.2430	4.5000e-004	0.0477	3.8000e-004	0.0481	0.0127	3.5000e-004	0.0130		44.6177	44.6177	2.1800e-003		44.6722
<b>Total</b>	<b>0.0308</b>	<b>0.0295</b>	<b>0.2430</b>	<b>4.5000e-004</b>	<b>0.0477</b>	<b>3.8000e-004</b>	<b>0.0481</b>	<b>0.0127</b>	<b>3.5000e-004</b>	<b>0.0130</b>		<b>44.6177</b>	<b>44.6177</b>	<b>2.1800e-003</b>		<b>44.6722</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0177	0.0000	0.0177	1.9100e-003	0.0000	1.9100e-003			0.0000			0.0000
Off-Road	0.6853	8.4307	4.0942	9.7400e-003		0.3353	0.3353		0.3085	0.3085	0.0000	943.4872	943.4872	0.3051		951.1158
<b>Total</b>	<b>0.6853</b>	<b>8.4307</b>	<b>4.0942</b>	<b>9.7400e-003</b>	<b>0.0177</b>	<b>0.3353</b>	<b>0.3530</b>	<b>1.9100e-003</b>	<b>0.3085</b>	<b>0.3104</b>	<b>0.0000</b>	<b>943.4872</b>	<b>943.4872</b>	<b>0.3051</b>		<b>951.1158</b>



## PV High School CE - Butte County, Winter

**3.3 Site Preparation - 2020****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0308	0.0295	0.2430	4.5000e-004	0.0477	3.8000e-004	0.0481	0.0127	3.5000e-004	0.0130		44.6177	44.6177	2.1800e-003		44.6722
<b>Total</b>	<b>0.0308</b>	<b>0.0295</b>	<b>0.2430</b>	<b>4.5000e-004</b>	<b>0.0477</b>	<b>3.8000e-004</b>	<b>0.0481</b>	<b>0.0127</b>	<b>3.5000e-004</b>	<b>0.0130</b>		<b>44.6177</b>	<b>44.6177</b>	<b>2.1800e-003</b>		<b>44.6722</b>

**3.4 Grading - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.8674	7.8729	7.6226	0.0120		0.4672	0.4672		0.4457	0.4457		1,147.2352	1,147.2352	0.2169		1,152.6578
<b>Total</b>	<b>0.8674</b>	<b>7.8729</b>	<b>7.6226</b>	<b>0.0120</b>	<b>0.7528</b>	<b>0.4672</b>	<b>1.2200</b>	<b>0.4138</b>	<b>0.4457</b>	<b>0.8595</b>		<b>1,147.2352</b>	<b>1,147.2352</b>	<b>0.2169</b>		<b>1,152.6578</b>

## PV High School CE - Butte County, Winter

**3.4 Grading - 2020****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0615	0.0590	0.4861	9.0000e-004	0.0954	7.5000e-004	0.0961	0.0253	7.0000e-004	0.0260		89.2353	89.2353	4.3600e-003		89.3443
<b>Total</b>	<b>0.0615</b>	<b>0.0590</b>	<b>0.4861</b>	<b>9.0000e-004</b>	<b>0.0954</b>	<b>7.5000e-004</b>	<b>0.0961</b>	<b>0.0253</b>	<b>7.0000e-004</b>	<b>0.0260</b>		<b>89.2353</b>	<b>89.2353</b>	<b>4.3600e-003</b>		<b>89.3443</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.8674	7.8729	7.6226	0.0120		0.4672	0.4672		0.4457	0.4457	0.0000	1,147.2352	1,147.2352	0.2169		1,152.6578
<b>Total</b>	<b>0.8674</b>	<b>7.8729</b>	<b>7.6226</b>	<b>0.0120</b>	<b>0.7528</b>	<b>0.4672</b>	<b>1.2200</b>	<b>0.4138</b>	<b>0.4457</b>	<b>0.8595</b>	<b>0.0000</b>	<b>1,147.2352</b>	<b>1,147.2352</b>	<b>0.2169</b>		<b>1,152.6578</b>

## PV High School CE - Butte County, Winter

**3.4 Grading - 2020****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0615	0.0590	0.4861	9.0000e-004	0.0954	7.5000e-004	0.0961	0.0253	7.0000e-004	0.0260		89.2353	89.2353	4.3600e-003		89.3443
<b>Total</b>	<b>0.0615</b>	<b>0.0590</b>	<b>0.4861</b>	<b>9.0000e-004</b>	<b>0.0954</b>	<b>7.5000e-004</b>	<b>0.0961</b>	<b>0.0253</b>	<b>7.0000e-004</b>	<b>0.0260</b>		<b>89.2353</b>	<b>89.2353</b>	<b>4.3600e-003</b>		<b>89.3443</b>

**3.5 Building Construction - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806		1,102.978 1	1,102.978 1	0.3567		1,111.896 2
<b>Total</b>	<b>0.8617</b>	<b>8.8523</b>	<b>7.3875</b>	<b>0.0114</b>		<b>0.5224</b>	<b>0.5224</b>		<b>0.4806</b>	<b>0.4806</b>		<b>1,102.978 1</b>	<b>1,102.978 1</b>	<b>0.3567</b>		<b>1,111.896 2</b>

## PV High School CE - Butte County, Winter

**3.5 Building Construction - 2020****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0166	0.4619	0.0997	1.1500e-003	0.0293	2.9500e-003	0.0322	8.4200e-003	2.8300e-003	0.0113		119.9432	119.9432	0.0109		120.2164
Worker	0.0431	0.0413	0.3403	6.3000e-004	0.0668	5.3000e-004	0.0673	0.0177	4.9000e-004	0.0182		62.4647	62.4647	3.0500e-003		62.5410
<b>Total</b>	<b>0.0597</b>	<b>0.5032</b>	<b>0.4399</b>	<b>1.7800e-003</b>	<b>0.0960</b>	<b>3.4800e-003</b>	<b>0.0995</b>	<b>0.0261</b>	<b>3.3200e-003</b>	<b>0.0294</b>		<b>182.4079</b>	<b>182.4079</b>	<b>0.0140</b>		<b>182.7574</b>

**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	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806	0.0000	1,102.978 1	1,102.978 1	0.3567		1,111.896 2
<b>Total</b>	<b>0.8617</b>	<b>8.8523</b>	<b>7.3875</b>	<b>0.0114</b>		<b>0.5224</b>	<b>0.5224</b>		<b>0.4806</b>	<b>0.4806</b>	<b>0.0000</b>	<b>1,102.978 1</b>	<b>1,102.978 1</b>	<b>0.3567</b>		<b>1,111.896 2</b>

## PV High School CE - Butte County, Winter

**3.5 Building Construction - 2020****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0166	0.4619	0.0997	1.1500e-003	0.0293	2.9500e-003	0.0322	8.4200e-003	2.8300e-003	0.0113		119.9432	119.9432	0.0109		120.2164
Worker	0.0431	0.0413	0.3403	6.3000e-004	0.0668	5.3000e-004	0.0673	0.0177	4.9000e-004	0.0182		62.4647	62.4647	3.0500e-003		62.5410
<b>Total</b>	<b>0.0597</b>	<b>0.5032</b>	<b>0.4399</b>	<b>1.7800e-003</b>	<b>0.0960</b>	<b>3.4800e-003</b>	<b>0.0995</b>	<b>0.0261</b>	<b>3.3200e-003</b>	<b>0.0294</b>		<b>182.4079</b>	<b>182.4079</b>	<b>0.0140</b>		<b>182.7574</b>

**3.5 Building Construction - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7750	7.9850	7.2637	0.0114		0.4475	0.4475		0.4117	0.4117		1,103.2158	1,103.2158	0.3568		1,112.1358
<b>Total</b>	<b>0.7750</b>	<b>7.9850</b>	<b>7.2637</b>	<b>0.0114</b>		<b>0.4475</b>	<b>0.4475</b>		<b>0.4117</b>	<b>0.4117</b>		<b>1,103.2158</b>	<b>1,103.2158</b>	<b>0.3568</b>		<b>1,112.1358</b>

## PV High School CE - Butte County, Winter

**3.5 Building Construction - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0134	0.4162	0.0858	1.1400e-003	0.0293	1.4800e-003	0.0308	8.4200e-003	1.4200e-003	9.8400e-003		118.9724	118.9724	0.0106		119.2378
Worker	0.0398	0.0368	0.3065	6.1000e-004	0.0668	5.1000e-004	0.0673	0.0177	4.7000e-004	0.0182		60.5065	60.5065	2.7100e-003		60.5744
<b>Total</b>	<b>0.0532</b>	<b>0.4530</b>	<b>0.3923</b>	<b>1.7500e-003</b>	<b>0.0960</b>	<b>1.9900e-003</b>	<b>0.0980</b>	<b>0.0261</b>	<b>1.8900e-003</b>	<b>0.0280</b>		<b>179.4789</b>	<b>179.4789</b>	<b>0.0133</b>		<b>179.8122</b>

**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	0.7750	7.9850	7.2637	0.0114		0.4475	0.4475		0.4117	0.4117	0.0000	1,103.2158	1,103.2158	0.3568		1,112.1358
<b>Total</b>	<b>0.7750</b>	<b>7.9850</b>	<b>7.2637</b>	<b>0.0114</b>		<b>0.4475</b>	<b>0.4475</b>		<b>0.4117</b>	<b>0.4117</b>	<b>0.0000</b>	<b>1,103.2158</b>	<b>1,103.2158</b>	<b>0.3568</b>		<b>1,112.1358</b>

## PV High School CE - Butte County, Winter

**3.5 Building Construction - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0134	0.4162	0.0858	1.1400e-003	0.0293	1.4800e-003	0.0308	8.4200e-003	1.4200e-003	9.8400e-003		118.9724	118.9724	0.0106		119.2378
Worker	0.0398	0.0368	0.3065	6.1000e-004	0.0668	5.1000e-004	0.0673	0.0177	4.7000e-004	0.0182		60.5065	60.5065	2.7100e-003		60.5744
<b>Total</b>	<b>0.0532</b>	<b>0.4530</b>	<b>0.3923</b>	<b>1.7500e-003</b>	<b>0.0960</b>	<b>1.9900e-003</b>	<b>0.0980</b>	<b>0.0261</b>	<b>1.8900e-003</b>	<b>0.0280</b>		<b>179.4789</b>	<b>179.4789</b>	<b>0.0133</b>		<b>179.8122</b>

**3.6 Paving - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7716	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669		1,035.3926	1,035.3926	0.3016		1,042.9323
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.7716</b>	<b>7.2266</b>	<b>7.1128</b>	<b>0.0113</b>		<b>0.3950</b>	<b>0.3950</b>		<b>0.3669</b>	<b>0.3669</b>		<b>1,035.3926</b>	<b>1,035.3926</b>	<b>0.3016</b>		<b>1,042.9323</b>

## PV High School CE - Butte County, Winter

**3.6 Paving - 2020****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1108	0.1063	0.8750	1.6200e-003	0.1717	1.3600e-003	0.1730	0.0455	1.2500e-003	0.0468		160.6236	160.6236	7.8500e-003		160.8198
<b>Total</b>	<b>0.1108</b>	<b>0.1063</b>	<b>0.8750</b>	<b>1.6200e-003</b>	<b>0.1717</b>	<b>1.3600e-003</b>	<b>0.1730</b>	<b>0.0455</b>	<b>1.2500e-003</b>	<b>0.0468</b>		<b>160.6236</b>	<b>160.6236</b>	<b>7.8500e-003</b>		<b>160.8198</b>

**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	0.7716	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669	0.0000	1,035.3926	1,035.3926	0.3016		1,042.9323
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.7716</b>	<b>7.2266</b>	<b>7.1128</b>	<b>0.0113</b>		<b>0.3950</b>	<b>0.3950</b>		<b>0.3669</b>	<b>0.3669</b>	<b>0.0000</b>	<b>1,035.3926</b>	<b>1,035.3926</b>	<b>0.3016</b>		<b>1,042.9323</b>



## PV High School CE - Butte County, Winter

**3.6 Paving - 2020****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1108	0.1063	0.8750	1.6200e-003	0.1717	1.3600e-003	0.1730	0.0455	1.2500e-003	0.0468		160.6236	160.6236	7.8500e-003		160.8198
<b>Total</b>	<b>0.1108</b>	<b>0.1063</b>	<b>0.8750</b>	<b>1.6200e-003</b>	<b>0.1717</b>	<b>1.3600e-003</b>	<b>0.1730</b>	<b>0.0455</b>	<b>1.2500e-003</b>	<b>0.0468</b>		<b>160.6236</b>	<b>160.6236</b>	<b>7.8500e-003</b>		<b>160.8198</b>

**3.6 Paving - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7214	6.7178	7.0899	0.0113		0.3534	0.3534		0.3286	0.3286		1,035.3425	1,035.3425	0.3016		1,042.8818
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.7214</b>	<b>6.7178</b>	<b>7.0899</b>	<b>0.0113</b>		<b>0.3534</b>	<b>0.3534</b>		<b>0.3286</b>	<b>0.3286</b>		<b>1,035.3425</b>	<b>1,035.3425</b>	<b>0.3016</b>		<b>1,042.8818</b>

## PV High School CE - Butte County, Winter

**3.6 Paving - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1023	0.0946	0.7882	1.5700e-003	0.1717	1.3000e-003	0.1730	0.0455	1.2000e-003	0.0467		155.5882	155.5882	6.9800e-003		155.7626
<b>Total</b>	<b>0.1023</b>	<b>0.0946</b>	<b>0.7882</b>	<b>1.5700e-003</b>	<b>0.1717</b>	<b>1.3000e-003</b>	<b>0.1730</b>	<b>0.0455</b>	<b>1.2000e-003</b>	<b>0.0467</b>		<b>155.5882</b>	<b>155.5882</b>	<b>6.9800e-003</b>		<b>155.7626</b>

**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	0.7214	6.7178	7.0899	0.0113		0.3534	0.3534		0.3286	0.3286	0.0000	1,035.3425	1,035.3425	0.3016		1,042.8818
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.7214</b>	<b>6.7178</b>	<b>7.0899</b>	<b>0.0113</b>		<b>0.3534</b>	<b>0.3534</b>		<b>0.3286</b>	<b>0.3286</b>	<b>0.0000</b>	<b>1,035.3425</b>	<b>1,035.3425</b>	<b>0.3016</b>		<b>1,042.8818</b>

## PV High School CE - Butte County, Winter

**3.6 Paving - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1023	0.0946	0.7882	1.5700e-003	0.1717	1.3000e-003	0.1730	0.0455	1.2000e-003	0.0467		155.5882	155.5882	6.9800e-003		155.7626
<b>Total</b>	<b>0.1023</b>	<b>0.0946</b>	<b>0.7882</b>	<b>1.5700e-003</b>	<b>0.1717</b>	<b>1.3000e-003</b>	<b>0.1730</b>	<b>0.0455</b>	<b>1.2000e-003</b>	<b>0.0467</b>		<b>155.5882</b>	<b>155.5882</b>	<b>6.9800e-003</b>		<b>155.7626</b>

**3.7 Architectural Coating - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.0540					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
<b>Total</b>	<b>1.2962</b>	<b>1.6838</b>	<b>1.8314</b>	<b>2.9700e-003</b>		<b>0.1109</b>	<b>0.1109</b>		<b>0.1109</b>	<b>0.1109</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0218</b>		<b>281.9928</b>

## PV High School CE - Butte County, Winter

**3.7 Architectural Coating - 2020****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	6.1500e-003	5.9000e-003	0.0486	9.0000e-005	9.5400e-003	8.0000e-005	9.6100e-003	2.5300e-003	7.0000e-005	2.6000e-003		8.9235	8.9235	4.4000e-004		8.9344
<b>Total</b>	<b>6.1500e-003</b>	<b>5.9000e-003</b>	<b>0.0486</b>	<b>9.0000e-005</b>	<b>9.5400e-003</b>	<b>8.0000e-005</b>	<b>9.6100e-003</b>	<b>2.5300e-003</b>	<b>7.0000e-005</b>	<b>2.6000e-003</b>		<b>8.9235</b>	<b>8.9235</b>	<b>4.4000e-004</b>		<b>8.9344</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.0540					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
<b>Total</b>	<b>1.2962</b>	<b>1.6838</b>	<b>1.8314</b>	<b>2.9700e-003</b>		<b>0.1109</b>	<b>0.1109</b>		<b>0.1109</b>	<b>0.1109</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0218</b>		<b>281.9928</b>

## PV High School CE - Butte County, Winter

**3.7 Architectural Coating - 2020****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	6.1500e-003	5.9000e-003	0.0486	9.0000e-005	9.5400e-003	8.0000e-005	9.6100e-003	2.5300e-003	7.0000e-005	2.6000e-003		8.9235	8.9235	4.4000e-004		8.9344
<b>Total</b>	<b>6.1500e-003</b>	<b>5.9000e-003</b>	<b>0.0486</b>	<b>9.0000e-005</b>	<b>9.5400e-003</b>	<b>8.0000e-005</b>	<b>9.6100e-003</b>	<b>2.5300e-003</b>	<b>7.0000e-005</b>	<b>2.6000e-003</b>		<b>8.9235</b>	<b>8.9235</b>	<b>4.4000e-004</b>		<b>8.9344</b>

**3.7 Architectural Coating - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.0540					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>1.2729</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

## PV High School CE - Butte County, Winter

**3.7 Architectural Coating - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	5.6800e-003	5.2600e-003	0.0438	9.0000e-005	9.5400e-003	7.0000e-005	9.6100e-003	2.5300e-003	7.0000e-005	2.6000e-003		8.6438	8.6438	3.9000e-004		8.6535
<b>Total</b>	<b>5.6800e-003</b>	<b>5.2600e-003</b>	<b>0.0438</b>	<b>9.0000e-005</b>	<b>9.5400e-003</b>	<b>7.0000e-005</b>	<b>9.6100e-003</b>	<b>2.5300e-003</b>	<b>7.0000e-005</b>	<b>2.6000e-003</b>		<b>8.6438</b>	<b>8.6438</b>	<b>3.9000e-004</b>		<b>8.6535</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.0540					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>1.2729</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

## PV High School CE - Butte County, Winter

**3.7 Architectural Coating - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	5.6800e-003	5.2600e-003	0.0438	9.0000e-005	9.5400e-003	7.0000e-005	9.6100e-003	2.5300e-003	7.0000e-005	2.6000e-003		8.6438	8.6438	3.9000e-004		8.6535
<b>Total</b>	<b>5.6800e-003</b>	<b>5.2600e-003</b>	<b>0.0438</b>	<b>9.0000e-005</b>	<b>9.5400e-003</b>	<b>7.0000e-005</b>	<b>9.6100e-003</b>	<b>2.5300e-003</b>	<b>7.0000e-005</b>	<b>2.6000e-003</b>		<b>8.6438</b>	<b>8.6438</b>	<b>3.9000e-004</b>		<b>8.6535</b>

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

## PV High School CE - Butte County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

## 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

## 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

## 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
High Turnover (Sit Down Restaurant)	0.514547	0.034230	0.180067	0.120126	0.034848	0.006594	0.018358	0.079646	0.001635	0.001462	0.005861	0.001268	0.001358

## 5.0 Energy Detail



## PV High School CE - Butte County, Winter

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1032	0.9382	0.7881	5.6300e-003		0.0713	0.0713		0.0713	0.0713		1,125.8572	1,125.8572	0.0216	0.0206	1,132.5476
NaturalGas Unmitigated	0.1032	0.9382	0.7881	5.6300e-003		0.0713	0.0713		0.0713	0.0713		1,125.8572	1,125.8572	0.0216	0.0206	1,132.5476

**5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
High Turnover (Sit Down Restaurant)	9569.79	0.1032	0.9382	0.7881	5.6300e-003		0.0713	0.0713		0.0713	0.0713		1,125.8572	1,125.8572	0.0216	0.0206	1,132.5476
<b>Total</b>		<b>0.1032</b>	<b>0.9382</b>	<b>0.7881</b>	<b>5.6300e-003</b>		<b>0.0713</b>	<b>0.0713</b>		<b>0.0713</b>	<b>0.0713</b>		<b>1,125.8572</b>	<b>1,125.8572</b>	<b>0.0216</b>	<b>0.0206</b>	<b>1,132.5476</b>

## PV High School CE - Butte County, Winter

**5.2 Energy by Land Use - NaturalGas****Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
High Turnover (Sit Down Restaurant)	9.56979	0.1032	0.9382	0.7881	5.6300e-003		0.0713	0.0713		0.0713	0.0713		1,125.8572	1,125.8572	0.0216	0.0206	1,132.5476
<b>Total</b>		<b>0.1032</b>	<b>0.9382</b>	<b>0.7881</b>	<b>5.6300e-003</b>		<b>0.0713</b>	<b>0.0713</b>		<b>0.0713</b>	<b>0.0713</b>		<b>1,125.8572</b>	<b>1,125.8572</b>	<b>0.0216</b>	<b>0.0206</b>	<b>1,132.5476</b>

**6.0 Area Detail****6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.4608	2.0000e-005	1.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.6300e-003	3.6300e-003	1.0000e-005		3.8700e-003
Unmitigated	0.4608	2.0000e-005	1.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.6300e-003	3.6300e-003	1.0000e-005		3.8700e-003

## PV High School CE - Butte County, Winter

**6.2 Area by SubCategory****Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3552					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.6000e-004	2.0000e-005	1.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.6300e-003	3.6300e-003	1.0000e-005		3.8700e-003
<b>Total</b>	<b>0.4608</b>	<b>2.0000e-005</b>	<b>1.7000e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>3.6300e-003</b>	<b>3.6300e-003</b>	<b>1.0000e-005</b>		<b>3.8700e-003</b>

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3552					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.6000e-004	2.0000e-005	1.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.6300e-003	3.6300e-003	1.0000e-005		3.8700e-003
<b>Total</b>	<b>0.4608</b>	<b>2.0000e-005</b>	<b>1.7000e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>3.6300e-003</b>	<b>3.6300e-003</b>	<b>1.0000e-005</b>		<b>3.8700e-003</b>

**7.0 Water Detail**

## PV High School CE - Butte County, Winter

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**7.1 Mitigation Measures Water**

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

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**8.0 Waste Detail****8.1 Mitigation Measures Waste**

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**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment****Fire Pumps and Emergency Generators**

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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## PV High School CE - Butte County, Annual

## PV High School CE

### Butte County, Annual

## 1.0 Project Characteristics

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### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High Turnover (Sit Down Restaurant)	16.60	1000sqft	0.38	16,600.00	0

### 1.2 Other Project Characteristics

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	71
<b>Climate Zone</b>	3			<b>Operational Year</b>	2021
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	641.35	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The new culinary building is being modeled as a restaurant due to the similar activity that will occur there.

Construction Phase - Construction dates updated to match that of the Project.

Demolition -

Vehicle Trips - The building is being constructed at an active school. The Project will not result in any new trips once in operations.

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	365.00

## PV High School CE - Butte County, Annual

tblConstructionPhase	NumDays	100.00	365.00
tblConstructionPhase	NumDays	10.00	60.00
tblConstructionPhase	NumDays	5.00	365.00
tblConstructionPhase	NumDays	1.00	30.00
tblConstructionPhase	PhaseEndDate	1/29/2020	12/30/2021
tblConstructionPhase	PhaseEndDate	1/15/2020	12/30/2021
tblConstructionPhase	PhaseEndDate	8/23/2019	6/23/2020
tblConstructionPhase	PhaseEndDate	8/28/2019	8/6/2020
tblConstructionPhase	PhaseEndDate	1/22/2020	12/30/2021
tblConstructionPhase	PhaseEndDate	8/26/2019	8/4/2020
tblConstructionPhase	PhaseStartDate	1/23/2020	8/7/2020
tblConstructionPhase	PhaseStartDate	8/29/2019	8/7/2020
tblConstructionPhase	PhaseStartDate	8/12/2019	4/1/2020
tblConstructionPhase	PhaseStartDate	8/27/2019	8/5/2020
tblConstructionPhase	PhaseStartDate	1/16/2020	8/7/2020
tblConstructionPhase	PhaseStartDate	8/24/2019	6/24/2020
tblGrading	AcresOfGrading	15.00	0.50
tblVehicleTrips	CC_TL	10.52	0.00
tblVehicleTrips	CC_TTP	72.50	0.00
tblVehicleTrips	CNW_TL	10.52	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	10.52	0.00
tblVehicleTrips	CW_TTP	8.50	0.00
tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PR_TP	37.00	0.00
tblVehicleTrips	ST_TR	158.37	0.00

## PV High School CE - Butte County, Annual

tblVehicleTrips	SU_TR	131.84	0.00
tblVehicleTrips	WD_TR	127.15	0.00

## 2.0 Emissions Summary

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## PV High School CE - Butte County, Annual

## 2.1 Overall Construction

### Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.2023	1.3470	1.2463	2.1200e-003	0.0271	0.0738	0.1009	6.5100e-003	0.0691	0.0756	0.0000	183.6609	183.6609	0.0441	0.0000	184.7621
2021	0.3798	2.1796	2.2606	3.7800e-003	0.0345	0.1168	0.1513	9.2800e-003	0.1089	0.1182	0.0000	327.0334	327.0334	0.0823	0.0000	329.0910
Maximum	0.3798	2.1796	2.2606	3.7800e-003	0.0345	0.1168	0.1513	9.2800e-003	0.1089	0.1182	0.0000	327.0334	327.0334	0.0823	0.0000	329.0910

### Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.2023	1.3470	1.2463	2.1200e-003	0.0271	0.0738	0.1009	6.5100e-003	0.0691	0.0756	0.0000	183.6607	183.6607	0.0441	0.0000	184.7619
2021	0.3798	2.1796	2.2606	3.7800e-003	0.0345	0.1168	0.1513	9.2800e-003	0.1089	0.1182	0.0000	327.0331	327.0331	0.0823	0.0000	329.0906
Maximum	0.3798	2.1796	2.2606	3.7800e-003	0.0345	0.1168	0.1513	9.2800e-003	0.1089	0.1182	0.0000	327.0331	327.0331	0.0823	0.0000	329.0906

[illegible]



## PV High School CE - Butte County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
3	2-12-2020	5-11-2020	0.1348	0.1348
4	5-12-2020	8-11-2020	0.3237	0.3237
5	8-12-2020	11-11-2020	0.7054	0.7054
6	11-12-2020	2-11-2021	0.6793	0.6793
7	2-12-2021	5-11-2021	0.6263	0.6263
8	5-12-2021	8-11-2021	0.6470	0.6470
9	8-12-2021	9-30-2021	0.3516	0.3516
		Highest	0.7054	0.7054

## 2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0841	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-004	3.0000e-004	0.0000	0.0000	3.2000e-004
Energy	0.0188	0.1712	0.1438	1.0300e-003		0.0130	0.0130		0.0130	0.0130	0.0000	326.2982	326.2982	9.9000e-003	4.7300e-003	327.9540
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	40.0988	0.0000	40.0988	2.3698	0.0000	99.3432
Water						0.0000	0.0000		0.0000	0.0000	1.5985	8.2589	9.8575	0.1646	3.9500e-003	15.1497
<b>Total</b>	<b>0.1029</b>	<b>0.1712</b>	<b>0.1440</b>	<b>1.0300e-003</b>	<b>0.0000</b>	<b>0.0130</b>	<b>0.0130</b>	<b>0.0000</b>	<b>0.0130</b>	<b>0.0130</b>	<b>41.6974</b>	<b>334.5574</b>	<b>376.2548</b>	<b>2.5442</b>	<b>8.6800e-003</b>	<b>442.4473</b>

## PV High School CE - Butte County, Annual

**2.2 Overall Operational****Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0841	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-004	3.0000e-004	0.0000	0.0000	3.2000e-004
Energy	0.0188	0.1712	0.1438	1.0300e-003		0.0130	0.0130		0.0130	0.0130	0.0000	326.2982	326.2982	9.9000e-003	4.7300e-003	327.9540
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	40.0988	0.0000	40.0988	2.3698	0.0000	99.3432
Water						0.0000	0.0000		0.0000	0.0000	1.3492	7.0216	8.3708	0.1389	3.3400e-003	12.8377
<b>Total</b>	<b>0.1029</b>	<b>0.1712</b>	<b>0.1440</b>	<b>1.0300e-003</b>	<b>0.0000</b>	<b>0.0130</b>	<b>0.0130</b>	<b>0.0000</b>	<b>0.0130</b>	<b>0.0130</b>	<b>41.4480</b>	<b>333.3201</b>	<b>374.7681</b>	<b>2.5186</b>	<b>8.0700e-003</b>	<b>440.1352</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.60</b>	<b>0.37</b>	<b>0.40</b>	<b>1.01</b>	<b>7.03</b>	<b>0.52</b>

**3.0 Construction Detail****Construction Phase**

## PV High School CE - Butte County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/1/2020	6/23/2020	5	60	
2	Site Preparation	Site Preparation	6/24/2020	8/4/2020	5	30	
3	Grading	Grading	8/5/2020	8/6/2020	5	2	
4	Building Construction	Building Construction	8/7/2020	12/30/2021	5	365	
5	Paving	Paving	8/7/2020	12/30/2021	5	365	
6	Architectural Coating	Architectural Coating	8/7/2020	12/30/2021	5	365	

**Acres of Grading (Site Preparation Phase): 0.5**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 24,900; Non-Residential Outdoor: 8,300; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

## PV High School CE - Butte County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	74.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	7.00	3.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT

## PV High School CE - Butte County, Annual

**3.1 Mitigation Measures Construction****3.2 Demolition - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.9800e-003	0.0000	7.9800e-003	1.2100e-003	0.0000	1.2100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0260	0.2362	0.2287	3.6000e-004		0.0140	0.0140		0.0134	0.0134	0.0000	31.2226	31.2226	5.9000e-003	0.0000	31.3702
<b>Total</b>	<b>0.0260</b>	<b>0.2362</b>	<b>0.2287</b>	<b>3.6000e-004</b>	<b>7.9800e-003</b>	<b>0.0140</b>	<b>0.0220</b>	<b>1.2100e-003</b>	<b>0.0134</b>	<b>0.0146</b>	<b>0.0000</b>	<b>31.2226</b>	<b>31.2226</b>	<b>5.9000e-003</b>	<b>0.0000</b>	<b>31.3702</b>

## PV High School CE - Butte County, Annual

**3.2 Demolition - 2020****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-004	0.0106	1.4300e-003	3.0000e-005	6.2000e-004	4.0000e-005	6.7000e-004	1.7000e-004	4.0000e-005	2.1000e-004	0.0000	2.8724	2.8724	2.2000e-004	0.0000	2.8778
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	1.7400e-003	1.5700e-003	0.0146	3.0000e-005	2.7400e-003	2.0000e-005	2.7600e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.5093	2.5093	1.2000e-004	0.0000	2.5124
<b>Total</b>	<b>2.0400e-003</b>	<b>0.0122</b>	<b>0.0160</b>	<b>6.0000e-005</b>	<b>3.3600e-003</b>	<b>6.0000e-005</b>	<b>3.4300e-003</b>	<b>9.0000e-004</b>	<b>6.0000e-005</b>	<b>9.6000e-004</b>	<b>0.0000</b>	<b>5.3818</b>	<b>5.3818</b>	<b>3.4000e-004</b>	<b>0.0000</b>	<b>5.3902</b>

**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					7.9800e-003	0.0000	7.9800e-003	1.2100e-003	0.0000	1.2100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0260	0.2362	0.2287	3.6000e-004		0.0140	0.0140		0.0134	0.0134	0.0000	31.2226	31.2226	5.9000e-003	0.0000	31.3702
<b>Total</b>	<b>0.0260</b>	<b>0.2362</b>	<b>0.2287</b>	<b>3.6000e-004</b>	<b>7.9800e-003</b>	<b>0.0140</b>	<b>0.0220</b>	<b>1.2100e-003</b>	<b>0.0134</b>	<b>0.0146</b>	<b>0.0000</b>	<b>31.2226</b>	<b>31.2226</b>	<b>5.9000e-003</b>	<b>0.0000</b>	<b>31.3702</b>

## PV High School CE - Butte County, Annual

**3.2 Demolition - 2020****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-004	0.0106	1.4300e-003	3.0000e-005	6.2000e-004	4.0000e-005	6.7000e-004	1.7000e-004	4.0000e-005	2.1000e-004	0.0000	2.8724	2.8724	2.2000e-004	0.0000	2.8778
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	1.7400e-003	1.5700e-003	0.0146	3.0000e-005	2.7400e-003	2.0000e-005	2.7600e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.5093	2.5093	1.2000e-004	0.0000	2.5124
<b>Total</b>	<b>2.0400e-003</b>	<b>0.0122</b>	<b>0.0160</b>	<b>6.0000e-005</b>	<b>3.3600e-003</b>	<b>6.0000e-005</b>	<b>3.4300e-003</b>	<b>9.0000e-004</b>	<b>6.0000e-005</b>	<b>9.6000e-004</b>	<b>0.0000</b>	<b>5.3818</b>	<b>5.3818</b>	<b>3.4000e-004</b>	<b>0.0000</b>	<b>5.3902</b>

**3.3 Site Preparation - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0103	0.1265	0.0614	1.5000e-004		5.0300e-003	5.0300e-003		4.6300e-003	4.6300e-003	0.0000	12.8388	12.8388	4.1500e-003	0.0000	12.9426
<b>Total</b>	<b>0.0103</b>	<b>0.1265</b>	<b>0.0614</b>	<b>1.5000e-004</b>	<b>2.7000e-004</b>	<b>5.0300e-003</b>	<b>5.3000e-003</b>	<b>3.0000e-005</b>	<b>4.6300e-003</b>	<b>4.6600e-003</b>	<b>0.0000</b>	<b>12.8388</b>	<b>12.8388</b>	<b>4.1500e-003</b>	<b>0.0000</b>	<b>12.9426</b>

## PV High School CE - Butte County, Annual

**3.3 Site Preparation - 2020****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	3.9000e-004	3.6400e-003	1.0000e-005	6.9000e-004	1.0000e-005	6.9000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.6273	0.6273	3.0000e-005	0.0000	0.6281
<b>Total</b>	<b>4.4000e-004</b>	<b>3.9000e-004</b>	<b>3.6400e-003</b>	<b>1.0000e-005</b>	<b>6.9000e-004</b>	<b>1.0000e-005</b>	<b>6.9000e-004</b>	<b>1.8000e-004</b>	<b>1.0000e-005</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>0.6273</b>	<b>0.6273</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>0.6281</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0103	0.1265	0.0614	1.5000e-004		5.0300e-003	5.0300e-003		4.6300e-003	4.6300e-003	0.0000	12.8387	12.8387	4.1500e-003	0.0000	12.9426
<b>Total</b>	<b>0.0103</b>	<b>0.1265</b>	<b>0.0614</b>	<b>1.5000e-004</b>	<b>2.7000e-004</b>	<b>5.0300e-003</b>	<b>5.3000e-003</b>	<b>3.0000e-005</b>	<b>4.6300e-003</b>	<b>4.6600e-003</b>	<b>0.0000</b>	<b>12.8387</b>	<b>12.8387</b>	<b>4.1500e-003</b>	<b>0.0000</b>	<b>12.9426</b>



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**3.3 Site Preparation - 2020****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	3.9000e-004	3.6400e-003	1.0000e-005	6.9000e-004	1.0000e-005	6.9000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.6273	0.6273	3.0000e-005	0.0000	0.6281
<b>Total</b>	<b>4.4000e-004</b>	<b>3.9000e-004</b>	<b>3.6400e-003</b>	<b>1.0000e-005</b>	<b>6.9000e-004</b>	<b>1.0000e-005</b>	<b>6.9000e-004</b>	<b>1.8000e-004</b>	<b>1.0000e-005</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>0.6273</b>	<b>0.6273</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>0.6281</b>

**3.4 Grading - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.7000e-004	7.8700e-003	7.6200e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.5000e-004	4.5000e-004	0.0000	1.0408	1.0408	2.0000e-004	0.0000	1.0457
<b>Total</b>	<b>8.7000e-004</b>	<b>7.8700e-003</b>	<b>7.6200e-003</b>	<b>1.0000e-005</b>	<b>7.5000e-004</b>	<b>4.7000e-004</b>	<b>1.2200e-003</b>	<b>4.1000e-004</b>	<b>4.5000e-004</b>	<b>8.6000e-004</b>	<b>0.0000</b>	<b>1.0408</b>	<b>1.0408</b>	<b>2.0000e-004</b>	<b>0.0000</b>	<b>1.0457</b>

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**3.4 Grading - 2020****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	5.0000e-005	4.9000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.0836	0.0836	0.0000	0.0000	0.0838
<b>Total</b>	<b>6.0000e-005</b>	<b>5.0000e-005</b>	<b>4.9000e-004</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>0.0836</b>	<b>0.0836</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0838</b>

**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					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.7000e-004	7.8700e-003	7.6200e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.5000e-004	4.5000e-004	0.0000	1.0408	1.0408	2.0000e-004	0.0000	1.0457
<b>Total</b>	<b>8.7000e-004</b>	<b>7.8700e-003</b>	<b>7.6200e-003</b>	<b>1.0000e-005</b>	<b>7.5000e-004</b>	<b>4.7000e-004</b>	<b>1.2200e-003</b>	<b>4.1000e-004</b>	<b>4.5000e-004</b>	<b>8.6000e-004</b>	<b>0.0000</b>	<b>1.0408</b>	<b>1.0408</b>	<b>2.0000e-004</b>	<b>0.0000</b>	<b>1.0457</b>

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**3.4 Grading - 2020****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	5.0000e-005	4.9000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.0836	0.0836	0.0000	0.0000	0.0838
<b>Total</b>	<b>6.0000e-005</b>	<b>5.0000e-005</b>	<b>4.9000e-004</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>0.0836</b>	<b>0.0836</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0838</b>

**3.5 Building Construction - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0452	0.4648	0.3878	6.0000e-004		0.0274	0.0274		0.0252	0.0252	0.0000	52.5318	52.5318	0.0170	0.0000	52.9565
<b>Total</b>	<b>0.0452</b>	<b>0.4648</b>	<b>0.3878</b>	<b>6.0000e-004</b>		<b>0.0274</b>	<b>0.0274</b>		<b>0.0252</b>	<b>0.0252</b>	<b>0.0000</b>	<b>52.5318</b>	<b>52.5318</b>	<b>0.0170</b>	<b>0.0000</b>	<b>52.9565</b>

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**3.5 Building Construction - 2020****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.5000e-004	0.0242	4.8200e-003	6.0000e-005	1.4800e-003	1.5000e-004	1.6400e-003	4.3000e-004	1.5000e-004	5.8000e-004	0.0000	5.7994	5.7994	4.9000e-004	0.0000	5.8115
Worker	2.1300e-003	1.9300e-003	0.0178	3.0000e-005	3.3600e-003	3.0000e-005	3.3800e-003	8.9000e-004	3.0000e-005	9.2000e-004	0.0000	3.0739	3.0739	1.5000e-004	0.0000	3.0776
<b>Total</b>	<b>2.9800e-003</b>	<b>0.0261</b>	<b>0.0227</b>	<b>9.0000e-005</b>	<b>4.8400e-003</b>	<b>1.8000e-004</b>	<b>5.0200e-003</b>	<b>1.3200e-003</b>	<b>1.8000e-004</b>	<b>1.5000e-003</b>	<b>0.0000</b>	<b>8.8733</b>	<b>8.8733</b>	<b>6.4000e-004</b>	<b>0.0000</b>	<b>8.8892</b>

**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	0.0452	0.4648	0.3878	6.0000e-004		0.0274	0.0274		0.0252	0.0252	0.0000	52.5317	52.5317	0.0170	0.0000	52.9564
<b>Total</b>	<b>0.0452</b>	<b>0.4648</b>	<b>0.3878</b>	<b>6.0000e-004</b>		<b>0.0274</b>	<b>0.0274</b>		<b>0.0252</b>	<b>0.0252</b>	<b>0.0000</b>	<b>52.5317</b>	<b>52.5317</b>	<b>0.0170</b>	<b>0.0000</b>	<b>52.9564</b>

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**3.5 Building Construction - 2020****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.5000e-004	0.0242	4.8200e-003	6.0000e-005	1.4800e-003	1.5000e-004	1.6400e-003	4.3000e-004	1.5000e-004	5.8000e-004	0.0000	5.7994	5.7994	4.9000e-004	0.0000	5.8115
Worker	2.1300e-003	1.9300e-003	0.0178	3.0000e-005	3.3600e-003	3.0000e-005	3.3800e-003	8.9000e-004	3.0000e-005	9.2000e-004	0.0000	3.0739	3.0739	1.5000e-004	0.0000	3.0776
<b>Total</b>	<b>2.9800e-003</b>	<b>0.0261</b>	<b>0.0227</b>	<b>9.0000e-005</b>	<b>4.8400e-003</b>	<b>1.8000e-004</b>	<b>5.0200e-003</b>	<b>1.3200e-003</b>	<b>1.8000e-004</b>	<b>1.5000e-003</b>	<b>0.0000</b>	<b>8.8733</b>	<b>8.8733</b>	<b>6.4000e-004</b>	<b>0.0000</b>	<b>8.8892</b>

**3.5 Building Construction - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1008	1.0381	0.9443	1.4800e-003		0.0582	0.0582		0.0535	0.0535	0.0000	130.1067	130.1067	0.0421	0.0000	131.1587
<b>Total</b>	<b>0.1008</b>	<b>1.0381</b>	<b>0.9443</b>	<b>1.4800e-003</b>		<b>0.0582</b>	<b>0.0582</b>		<b>0.0535</b>	<b>0.0535</b>	<b>0.0000</b>	<b>130.1067</b>	<b>130.1067</b>	<b>0.0421</b>	<b>0.0000</b>	<b>131.1587</b>

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**3.5 Building Construction - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6900e-003	0.0540	0.0102	1.5000e-004	3.6700e-003	1.9000e-004	3.8600e-003	1.0600e-003	1.8000e-004	1.2400e-003	0.0000	14.2460	14.2460	1.1700e-003	0.0000	14.2752
Worker	4.8800e-003	4.2500e-003	0.0399	8.0000e-005	8.3100e-003	7.0000e-005	8.3800e-003	2.2100e-003	6.0000e-005	2.2700e-003	0.0000	7.3733	7.3733	3.3000e-004	0.0000	7.3814
<b>Total</b>	<b>6.5700e-003</b>	<b>0.0582</b>	<b>0.0501</b>	<b>2.3000e-004</b>	<b>0.0120</b>	<b>2.6000e-004</b>	<b>0.0122</b>	<b>3.2700e-003</b>	<b>2.4000e-004</b>	<b>3.5100e-003</b>	<b>0.0000</b>	<b>21.6193</b>	<b>21.6193</b>	<b>1.5000e-003</b>	<b>0.0000</b>	<b>21.6566</b>

**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	0.1008	1.0381	0.9443	1.4800e-003		0.0582	0.0582		0.0535	0.0535	0.0000	130.1065	130.1065	0.0421	0.0000	131.1585
<b>Total</b>	<b>0.1008</b>	<b>1.0381</b>	<b>0.9443</b>	<b>1.4800e-003</b>		<b>0.0582</b>	<b>0.0582</b>		<b>0.0535</b>	<b>0.0535</b>	<b>0.0000</b>	<b>130.1065</b>	<b>130.1065</b>	<b>0.0421</b>	<b>0.0000</b>	<b>131.1585</b>

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**3.5 Building Construction - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6900e-003	0.0540	0.0102	1.5000e-004	3.6700e-003	1.9000e-004	3.8600e-003	1.0600e-003	1.8000e-004	1.2400e-003	0.0000	14.2460	14.2460	1.1700e-003	0.0000	14.2752
Worker	4.8800e-003	4.2500e-003	0.0399	8.0000e-005	8.3100e-003	7.0000e-005	8.3800e-003	2.2100e-003	6.0000e-005	2.2700e-003	0.0000	7.3733	7.3733	3.3000e-004	0.0000	7.3814
<b>Total</b>	<b>6.5700e-003</b>	<b>0.0582</b>	<b>0.0501</b>	<b>2.3000e-004</b>	<b>0.0120</b>	<b>2.6000e-004</b>	<b>0.0122</b>	<b>3.2700e-003</b>	<b>2.4000e-004</b>	<b>3.5100e-003</b>	<b>0.0000</b>	<b>21.6193</b>	<b>21.6193</b>	<b>1.5000e-003</b>	<b>0.0000</b>	<b>21.6566</b>

**3.6 Paving - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0405	0.3794	0.3734	5.9000e-004		0.0207	0.0207		0.0193	0.0193	0.0000	49.3129	49.3129	0.0144	0.0000	49.6719
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0405</b>	<b>0.3794</b>	<b>0.3734</b>	<b>5.9000e-004</b>		<b>0.0207</b>	<b>0.0207</b>		<b>0.0193</b>	<b>0.0193</b>	<b>0.0000</b>	<b>49.3129</b>	<b>49.3129</b>	<b>0.0144</b>	<b>0.0000</b>	<b>49.6719</b>

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**3.6 Paving - 2020****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4900e-003	4.9600e-003	0.0459	9.0000e-005	8.6300e-003	7.0000e-005	8.7000e-003	2.3000e-003	7.0000e-005	2.3600e-003	0.0000	7.9044	7.9044	3.8000e-004	0.0000	7.9139
<b>Total</b>	<b>5.4900e-003</b>	<b>4.9600e-003</b>	<b>0.0459</b>	<b>9.0000e-005</b>	<b>8.6300e-003</b>	<b>7.0000e-005</b>	<b>8.7000e-003</b>	<b>2.3000e-003</b>	<b>7.0000e-005</b>	<b>2.3600e-003</b>	<b>0.0000</b>	<b>7.9044</b>	<b>7.9044</b>	<b>3.8000e-004</b>	<b>0.0000</b>	<b>7.9139</b>

**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	0.0405	0.3794	0.3734	5.9000e-004		0.0207	0.0207		0.0193	0.0193	0.0000	49.3128	49.3128	0.0144	0.0000	49.6719
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0405</b>	<b>0.3794</b>	<b>0.3734</b>	<b>5.9000e-004</b>		<b>0.0207</b>	<b>0.0207</b>		<b>0.0193</b>	<b>0.0193</b>	<b>0.0000</b>	<b>49.3128</b>	<b>49.3128</b>	<b>0.0144</b>	<b>0.0000</b>	<b>49.6719</b>



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**3.6 Paving - 2020****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4900e-003	4.9600e-003	0.0459	9.0000e-005	8.6300e-003	7.0000e-005	8.7000e-003	2.3000e-003	7.0000e-005	2.3600e-003	0.0000	7.9044	7.9044	3.8000e-004	0.0000	7.9139
<b>Total</b>	<b>5.4900e-003</b>	<b>4.9600e-003</b>	<b>0.0459</b>	<b>9.0000e-005</b>	<b>8.6300e-003</b>	<b>7.0000e-005</b>	<b>8.7000e-003</b>	<b>2.3000e-003</b>	<b>7.0000e-005</b>	<b>2.3600e-003</b>	<b>0.0000</b>	<b>7.9044</b>	<b>7.9044</b>	<b>3.8000e-004</b>	<b>0.0000</b>	<b>7.9139</b>

**3.6 Paving - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0938	0.8733	0.9217	1.4600e-003		0.0459	0.0459		0.0427	0.0427	0.0000	122.1021	122.1021	0.0356	0.0000	122.9912
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0938</b>	<b>0.8733</b>	<b>0.9217</b>	<b>1.4600e-003</b>		<b>0.0459</b>	<b>0.0459</b>		<b>0.0427</b>	<b>0.0427</b>	<b>0.0000</b>	<b>122.1021</b>	<b>122.1021</b>	<b>0.0356</b>	<b>0.0000</b>	<b>122.9912</b>

## PV High School CE - Butte County, Annual

**3.6 Paving - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0126	0.0109	0.1026	2.1000e-004	0.0214	1.7000e-004	0.0215	5.6900e-003	1.6000e-004	5.8400e-003	0.0000	18.9598	18.9598	8.4000e-004	0.0000	18.9808
<b>Total</b>	<b>0.0126</b>	<b>0.0109</b>	<b>0.1026</b>	<b>2.1000e-004</b>	<b>0.0214</b>	<b>1.7000e-004</b>	<b>0.0215</b>	<b>5.6900e-003</b>	<b>1.6000e-004</b>	<b>5.8400e-003</b>	<b>0.0000</b>	<b>18.9598</b>	<b>18.9598</b>	<b>8.4000e-004</b>	<b>0.0000</b>	<b>18.9808</b>

**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	0.0938	0.8733	0.9217	1.4600e-003		0.0459	0.0459		0.0427	0.0427	0.0000	122.1020	122.1020	0.0356	0.0000	122.9911
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0938</b>	<b>0.8733</b>	<b>0.9217</b>	<b>1.4600e-003</b>		<b>0.0459</b>	<b>0.0459</b>		<b>0.0427</b>	<b>0.0427</b>	<b>0.0000</b>	<b>122.1020</b>	<b>122.1020</b>	<b>0.0356</b>	<b>0.0000</b>	<b>122.9911</b>

## PV High School CE - Butte County, Annual

**3.6 Paving - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0126	0.0109	0.1026	2.1000e-004	0.0214	1.7000e-004	0.0215	5.6900e-003	1.6000e-004	5.8400e-003	0.0000	18.9598	18.9598	8.4000e-004	0.0000	18.9808
<b>Total</b>	<b>0.0126</b>	<b>0.0109</b>	<b>0.1026</b>	<b>2.1000e-004</b>	<b>0.0214</b>	<b>1.7000e-004</b>	<b>0.0215</b>	<b>5.6900e-003</b>	<b>1.6000e-004</b>	<b>5.8400e-003</b>	<b>0.0000</b>	<b>18.9598</b>	<b>18.9598</b>	<b>8.4000e-004</b>	<b>0.0000</b>	<b>18.9808</b>

**3.7 Architectural Coating - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0553					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.0884	0.0962	1.6000e-004		5.8200e-003	5.8200e-003		5.8200e-003	5.8200e-003	0.0000	13.4046	13.4046	1.0400e-003	0.0000	13.4305
<b>Total</b>	<b>0.0680</b>	<b>0.0884</b>	<b>0.0962</b>	<b>1.6000e-004</b>		<b>5.8200e-003</b>	<b>5.8200e-003</b>		<b>5.8200e-003</b>	<b>5.8200e-003</b>	<b>0.0000</b>	<b>13.4046</b>	<b>13.4046</b>	<b>1.0400e-003</b>	<b>0.0000</b>	<b>13.4305</b>

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**3.7 Architectural Coating - 2020****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.8000e-004	2.5500e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4391	0.4391	2.0000e-005	0.0000	0.4397
<b>Total</b>	<b>3.0000e-004</b>	<b>2.8000e-004</b>	<b>2.5500e-003</b>	<b>0.0000</b>	<b>4.8000e-004</b>	<b>0.0000</b>	<b>4.8000e-004</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>0.4391</b>	<b>0.4391</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.4397</b>

**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	0.0553					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.0884	0.0962	1.6000e-004		5.8200e-003	5.8200e-003		5.8200e-003	5.8200e-003	0.0000	13.4046	13.4046	1.0400e-003	0.0000	13.4305
<b>Total</b>	<b>0.0680</b>	<b>0.0884</b>	<b>0.0962</b>	<b>1.6000e-004</b>		<b>5.8200e-003</b>	<b>5.8200e-003</b>		<b>5.8200e-003</b>	<b>5.8200e-003</b>	<b>0.0000</b>	<b>13.4046</b>	<b>13.4046</b>	<b>1.0400e-003</b>	<b>0.0000</b>	<b>13.4305</b>

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**3.7 Architectural Coating - 2020****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.8000e-004	2.5500e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4391	0.4391	2.0000e-005	0.0000	0.4397
<b>Total</b>	<b>3.0000e-004</b>	<b>2.8000e-004</b>	<b>2.5500e-003</b>	<b>0.0000</b>	<b>4.8000e-004</b>	<b>0.0000</b>	<b>4.8000e-004</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>0.4391</b>	<b>0.4391</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.4397</b>

**3.7 Architectural Coating - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1370					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0285	0.1985	0.2363	3.9000e-004		0.0122	0.0122		0.0122	0.0122	0.0000	33.1923	33.1923	2.2800e-003	0.0000	33.2492
<b>Total</b>	<b>0.1655</b>	<b>0.1985</b>	<b>0.2363</b>	<b>3.9000e-004</b>		<b>0.0122</b>	<b>0.0122</b>		<b>0.0122</b>	<b>0.0122</b>	<b>0.0000</b>	<b>33.1923</b>	<b>33.1923</b>	<b>2.2800e-003</b>	<b>0.0000</b>	<b>33.2492</b>

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**3.7 Architectural Coating - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-004	6.1000e-004	5.7000e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0533	1.0533	5.0000e-005	0.0000	1.0545
<b>Total</b>	<b>7.0000e-004</b>	<b>6.1000e-004</b>	<b>5.7000e-003</b>	<b>1.0000e-005</b>	<b>1.1900e-003</b>	<b>1.0000e-005</b>	<b>1.2000e-003</b>	<b>3.2000e-004</b>	<b>1.0000e-005</b>	<b>3.2000e-004</b>	<b>0.0000</b>	<b>1.0533</b>	<b>1.0533</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>1.0545</b>

**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	0.1370					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0285	0.1985	0.2363	3.9000e-004		0.0122	0.0122		0.0122	0.0122	0.0000	33.1923	33.1923	2.2800e-003	0.0000	33.2492
<b>Total</b>	<b>0.1655</b>	<b>0.1985</b>	<b>0.2363</b>	<b>3.9000e-004</b>		<b>0.0122</b>	<b>0.0122</b>		<b>0.0122</b>	<b>0.0122</b>	<b>0.0000</b>	<b>33.1923</b>	<b>33.1923</b>	<b>2.2800e-003</b>	<b>0.0000</b>	<b>33.2492</b>

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**3.7 Architectural Coating - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-004	6.1000e-004	5.7000e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0533	1.0533	5.0000e-005	0.0000	1.0545
<b>Total</b>	<b>7.0000e-004</b>	<b>6.1000e-004</b>	<b>5.7000e-003</b>	<b>1.0000e-005</b>	<b>1.1900e-003</b>	<b>1.0000e-005</b>	<b>1.2000e-003</b>	<b>3.2000e-004</b>	<b>1.0000e-005</b>	<b>3.2000e-004</b>	<b>0.0000</b>	<b>1.0533</b>	<b>1.0533</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>1.0545</b>

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

## 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

## 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

## 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
High Turnover (Sit Down Restaurant)	0.514547	0.034230	0.180067	0.120126	0.034848	0.006594	0.018358	0.079646	0.001635	0.001462	0.005861	0.001268	0.001358

## 5.0 Energy Detail



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Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	139.8999	139.8999	6.3300e-003	1.3100e-003	140.4481
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	139.8999	139.8999	6.3300e-003	1.3100e-003	140.4481
NaturalGas Mitigated	0.0188	0.1712	0.1438	1.0300e-003		0.0130	0.0130		0.0130	0.0130	0.0000	186.3983	186.3983	3.5700e-003	3.4200e-003	187.5060
NaturalGas Unmitigated	0.0188	0.1712	0.1438	1.0300e-003		0.0130	0.0130		0.0130	0.0130	0.0000	186.3983	186.3983	3.5700e-003	3.4200e-003	187.5060

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**5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
High Turnover (Sit Down Restaurant)	3.49297e+006	0.0188	0.1712	0.1438	1.0300e-003		0.0130	0.0130		0.0130	0.0130	0.0000	186.3983	186.3983	3.5700e-003	3.4200e-003	187.5060
<b>Total</b>		<b>0.0188</b>	<b>0.1712</b>	<b>0.1438</b>	<b>1.0300e-003</b>		<b>0.0130</b>	<b>0.0130</b>		<b>0.0130</b>	<b>0.0130</b>	<b>0.0000</b>	<b>186.3983</b>	<b>186.3983</b>	<b>3.5700e-003</b>	<b>3.4200e-003</b>	<b>187.5060</b>

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
High Turnover (Sit Down Restaurant)	3.49297e+006	0.0188	0.1712	0.1438	1.0300e-003		0.0130	0.0130		0.0130	0.0130	0.0000	186.3983	186.3983	3.5700e-003	3.4200e-003	187.5060
<b>Total</b>		<b>0.0188</b>	<b>0.1712</b>	<b>0.1438</b>	<b>1.0300e-003</b>		<b>0.0130</b>	<b>0.0130</b>		<b>0.0130</b>	<b>0.0130</b>	<b>0.0000</b>	<b>186.3983</b>	<b>186.3983</b>	<b>3.5700e-003</b>	<b>3.4200e-003</b>	<b>187.5060</b>

## PV High School CE - Butte County, Annual

**5.3 Energy by Land Use - Electricity****Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
High Turnover (Sit Down Restaurant)	480902	139.8999	6.3300e-003	1.3100e-003	140.4481
<b>Total</b>		<b>139.8999</b>	<b>6.3300e-003</b>	<b>1.3100e-003</b>	<b>140.4481</b>

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
High Turnover (Sit Down Restaurant)	480902	139.8999	6.3300e-003	1.3100e-003	140.4481
<b>Total</b>		<b>139.8999</b>	<b>6.3300e-003</b>	<b>1.3100e-003</b>	<b>140.4481</b>

**6.0 Area Detail****6.1 Mitigation Measures Area**

## PV High School CE - Butte County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0841	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-004	3.0000e-004	0.0000	0.0000	3.2000e-004
Unmitigated	0.0841	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-004	3.0000e-004	0.0000	0.0000	3.2000e-004

## 6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0192					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0648					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-004	3.0000e-004	0.0000	0.0000	3.2000e-004
<b>Total</b>	<b>0.0841</b>	<b>0.0000</b>	<b>1.5000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.0000e-004</b>	<b>3.0000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.2000e-004</b>

## PV High School CE - Butte County, Annual

**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0192					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0648					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-004	3.0000e-004	0.0000	0.0000	3.2000e-004
<b>Total</b>	<b>0.0841</b>	<b>0.0000</b>	<b>1.5000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.0000e-004</b>	<b>3.0000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.2000e-004</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

## PV High School CE - Butte County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	8.3708	0.1389	3.3400e-003	12.8377
Unmitigated	9.8575	0.1646	3.9500e-003	15.1497

**7.2 Water by Land Use****Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
High Turnover (Sit Down Restaurant)	5.03866 / 0.321617	9.8575	0.1646	3.9500e-003	15.1497
<b>Total</b>		<b>9.8575</b>	<b>0.1646</b>	<b>3.9500e-003</b>	<b>15.1497</b>

## PV High School CE - Butte County, Annual

**7.2 Water by Land Use****Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
High Turnover (Sit Down Restaurant)	4.25263 / 0.321617	8.3708	0.1389	3.3400e-003	12.8377
<b>Total</b>		<b>8.3708</b>	<b>0.1389</b>	<b>3.3400e-003</b>	<b>12.8377</b>

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	40.0988	2.3698	0.0000	99.3432
Unmitigated	40.0988	2.3698	0.0000	99.3432

## PV High School CE - Butte County, Annual

**8.2 Waste by Land Use****Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
High Turnover (Sit Down Restaurant)	197.54	40.0988	2.3698	0.0000	99.3432
<b>Total</b>		<b>40.0988</b>	<b>2.3698</b>	<b>0.0000</b>	<b>99.3432</b>

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
High Turnover (Sit Down Restaurant)	197.54	40.0988	2.3698	0.0000	99.3432
<b>Total</b>		<b>40.0988</b>	<b>2.3698</b>	<b>0.0000</b>	<b>99.3432</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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## PV High School CE - Butte County, Annual

**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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# **Attachment C**

## Project Noise Technical Memorandum



November 6, 2019

Julie Kistle, Director of Facilities and Construction  
CHICO UNIFIED SCHOOL DISTRICT  
2455 Carmichael Drive  
Chico, CA 95928-5999

**RE: *Pleasant Valley High School Culinary Arts and Medical Pathway CTE Project – Noise Technical Memorandum***

Dear Ms. Kistle:

ECORP Consulting, Inc. has conducted a Noise Memorandum for the proposed Pleasant Valley High School Culinary Arts and Medical Pathway Career Technical Education (CTE) Project (Project) located in City of Chico, California. The purpose of this memorandum is to assess the Projects potential noise impacts within the Project area.

## **INTRODUCTION**

The purpose of this technical memorandum is to assess the Projects potential noise impacts within the Project area. The memorandum will compare Project-generated noise and vibration to City of Chico standards for construction and operations.

## **PROJECT DESCRIPTION**

The Chico Unified School District (CUSD) is proposing the Pleasant Valley High School Culinary Arts and Metical Pathways CTE Project. The Proposed Project will be located at the existing Pleasant Valley High School campus. The Project includes the removal and relocation of existing staff parking and overhead solar structures to make room for a new Culinary Arts building, relocation of administrative offices to a renovated existing building (Valhalla), relocation of Medical Pathway CTE to a renovated existing building (Administration), and reconfiguration of the Central Courtyard. All of this new construction/renovation/relocation would occur on the existing campus.

The new Culinary Arts building will include the development of a multipurpose room, kitchen, and CTE facilities, specifically two labs, including eight cooking stations, a full-service restaurant, and two classrooms. This space will also be utilized for catering for special events.

Medical Pathway CTE would include a medical lab incorporating medical bed infrastructure and open floor space for CPR and First Aid training. The Medical pathway CTE would also contain a Sports Medicine Lab, four classrooms, a staff breakroom, and restrooms.

The Project site, Pleasant Valley High School Campus, is currently fully developed and in use. The Project site contains numerous buildings and areas with designated uses (i.e. the administration building and student drop-off area). The Project site is located within the urban area of Chico with residential homes, community commercial developments (including a CVS Pharmacy and Valley Clinical Laboratory), and office buildings in the vicinity. The buildings to the north are designated as Office Residential (OR) and

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Community Commercial (CC). The property immediately to the east, south, and west is zoned for Low-Density Residential (R1) use. The Project site itself is zoned as Quasi Public Facilities (PQ Public). To complete the Proposed Project, the zoning designation, total footprint, and location of Pleasant Valley High School would remain unchanged as it only involves the re-location of existing buildings and construction of new buildings within the existing campus area. Upon completion of the Project, the general function and use of the high school would remain the same. The purpose of the Proposed Project is to enhance the educational opportunities available at Pleasant Valley High School and improve the school's layout.

## **Noise Analysis**

### ***Fundamentals of Sound and Environmental Noise***

Noise can be generated by a number of sources, including mobile sources, such as automobiles, trucks and airplanes, and stationary sources, such as construction sites, machinery, and industrial operations. Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 decibels (dBA) for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dBA for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics (FHWA 2011). No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dBA per doubling of distance is normally assumed.

Noise levels may also be reduced by intervening structures; generally, a row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 10 to 20 dBA (FHWA 2011). In general, barriers contribute to decreasing noise levels only when the structure breaks the "line of sight" between the source and the receiver. The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more.

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs. The  $L_{eq}$  is a measure of ambient noise, while the  $L_{dn}$  and CNEL (Community Noise Equivalent Level) are measures of community noise. Each is applicable to this analysis and defined as follows:

- **$L_{eq}$  (Equivalent Noise Level)** is the average acoustic energy content of noise for a stated period of time. Thus, the  $L_{eq}$  of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

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- **L<sub>dn</sub> (Day-Night Average)** is a 24-hour average L<sub>eq</sub> with a 10 dBA “weighting” added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L<sub>eq</sub> would result in a measurement of 66.4 dBA L<sub>dn</sub>.
  - **CNEL (Community Noise Equivalent Level)** is a 24-hour average L<sub>eq</sub> with a 5 dBA “weighting” during the hours of 7:00 p.m. to 10:00 p.m. and a 10 dBA “weighting” added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24-hour L<sub>eq</sub> would result in a measurement of 66.7 dBA CNEL.

### ***Human Response to Noise***

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA).

### ***Vibration Fundamentals***

Ground vibration can be measured several ways to quantify the amplitude of vibration produced. This can be through peak particle velocity or root mean square velocity. These velocity measurements measure maximum particle at one point or the average of the squared amplitude of the signal, respectively. Vibration impacts on people can be described as the level of annoyance and can vary depending on an individual’s sensitivity. Generally, low-level vibrations may cause window rattling but do not pose any threats to the integrity of buildings or structures.

### ***Noise-Sensitive Land Uses***

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses

such as parks, historic sites, cemeteries, and recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

The Project site itself is considered a noise-sensitive land use when school is in session. Other noise-sensitive land uses in the Project vicinity include residences to the west, south, and southeast, and Marigold Elementary School (when in session) to the east. It is noted that these sensitive land uses are largely buffered from the Proposed development area, located in the north-central portion of the campus, by other existing school buildings.

### **Existing Noise Environment**

The major noise sources in the vicinity include roadway noise traffic from the East Avenue to the north, as well as typical sources associated with commercial land uses (i.e., parking lot noise, mechanical equipment) located on the north side of East Avenue, across the Project area. To the west, south, and southeast of the high school campus, existing noise is typical of that experienced in residential neighborhoods, where standard noise sources include slow-moving automobile movements, mechanical equipment, dogs barking, and radios.

Existing baseline noise measurements were conducted in the Project area on March 10, 2017 as part of a separate noise analysis (*Pleasant Valley High School Athletic Fields Initial Study, CUSD 2017*). These noise measurements were conducted using with a Larson Davis SoundExpert LxT precision sound level meter, which satisfies the American National Standards Institute (ANSI) for general environmental noise measurement instrumentation. Prior to the measurements, the SoundExpert LxT sound level meter was calibrated according to manufacturer specifications with a Larson Davis CAL200 Class I Calibrator. The noise measurement sites were representative of typical existing noise exposure within and immediately adjacent to the Project site. The 10-minute measurements were taken between 11:00 a.m. and 11:41 a.m. Short-term ( $L_{eq}$ ) measurements are considered representative of the noise levels throughout the day. The average noise levels and sources of noise measured at each location are listed in **Table 1**.

**TABLE 1  
EXISTING NOISE MEASUREMENTS**

Site No.	Location	$L_{eq}$ (dBA)	$L_{min}$ (dBA)	$L_{max}$ (dBA)	Time
1	Ceanothus Avenue and Paseo Haciendas Court intersection	63.7	40.6	80.2	11:00 a.m.
2	Ceanothus Avenue and Kimberlee Lane intersection	64.1	42.5	76.3	11:12 a.m.
3	Manzanita Avenue adjacent to Manzanita Avenue/Madrone Avenue bus stop	63.8	43.0	77.1	11:26 a.m.
4	School parking lot at Marigold Avenue and Manzanita Avenue	47.0	41.0	59.6	11:41 a.m.

Source: CSUD 2017



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## **Methodology**

This analysis of the existing and future noise environments is based on noise prediction modeling and empirical observations. In order to estimate the worst-case construction noise levels that may occur, predicted construction noise levels were calculated utilizing the Federal Highway Administration's Roadway Construction Model (2008). Operational noise levels are addressed qualitatively. Groundborne vibration levels associated with construction-related activities for the Project were evaluated utilizing typical groundborne vibration levels associated with construction equipment, obtained from Caltrans. Potential groundborne vibration impacts related to structural damage and human annoyance were evaluated, taking into account the distance from construction activities to nearby land uses.

## **NOISE CHECKLIST AND DISCUSSION**

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

### **Construction Noise Impacts**

Construction noise associated with the Proposed Project would be temporary and would vary depending on the nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for on-site construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., demolition, building construction, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). During construction, exterior noise levels could negatively affect sensitive receptors in the vicinity of the construction site.

Although City of Chico regulations do not apply to lands under the jurisdiction of the Chico Unified School District, the district will consider local regulations during Project implementation and apply them as best practices when deemed necessary.

Section 9.38.060 of the City of Chico Municipal Code exempts construction noise if it occurs between the hours of 10:00 a.m. and 6:00 p.m. on Sundays and holidays, 7:00 a.m. and 9:00 p.m. on other days, AND does not generate noise in excess of 86 dBA at the property plane of the construction site. In order to estimate the worst-case construction noise levels that may occur at the nearest noise-sensitive receptors in the Project vicinity, the combined construction equipment noise levels were calculated using the Roadway Noise Construction Model for the demolition, site preparation, grading, paving, building/renovation, and coating phases. The anticipated short-term construction noise levels generated during Project construction are presented in **Table 2**.

Table 2. Construction Average (dBA) Noise Levels by Construction Phase – Unmitigated			
Description	Estimated Exterior Construction Noise Level @ Construction Site Boundary (as measured from the center of the construction site)	Construction Noise Standards (dBA L <sub>eq</sub> )	Exceed Standard?
Demolition, Site Preparation, & Grading Activities	75.7	86.0	No
Construction/Renovation, Paving, & Painting Activities	74.0		No

Source: Construction noise levels were calculated by ECORP Consulting using the FHWA Roadway Noise Construction Model (FHWA 2008). Refer to **Attachment A** for noise modeling assumptions and results.

Notes: <sup>1</sup>Construction equipment used during each phase derived from CalEEMod 2016.3.2..

*L<sub>eq</sub> = the equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L<sub>eq</sub> of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.*

As shown, Project construction would not result in the generation of noise beyond the City of Chico construction-noise standard. Therefore, noise generated during construction activities, as long as conducted within the permitted hours, would not exceed City noise standards.

### Operational Noise Impact

As previously stated, the Pleasant Valley High School Campus is currently fully developed and in use. The campus contains numerous buildings and areas with designated uses (i.e. the administration building and student drop-off area). The Project includes the removal and relocation of existing staff parking and overhead solar structures to make room for a new Culinary Arts building, relocation of administrative offices to a renovated existing building, relocation of Medical Pathway CTE to a renovated existing building, and reconfiguration of the Central Courtyard. All of this new renovation would occur on the existing campus. The use of the site would remain unchanged and the student population would not increase as a result of the Project. Thus, the existing noise generated on the Project site would remain the same once construction is complete. The Project would not cause existing noise levels at noise sensitive receptors to increase. The on-site operations of the Proposed Project would have no noticeable effect on the existing ambient noise environment.

### ***Would the Project result generation of excessive groundborne vibration or groundborne noise levels?***

#### Construction Vibration Impacts

Excessive groundborne vibration impacts result from continuously occurring vibration levels. Increases in groundborne vibration levels attributable to the Proposed Project would be exclusively associated with short-term construction-related activities. Construction on the Project site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and

trucks. It is noted that the use of pile drivers is not anticipated for Project construction. Vibration decreases rapidly with distance. Groundborne vibration levels associated with construction equipment are summarized in **Table 3**.

<b>Table 3. Vibration Source Amplitudes for Construction Equipment</b>		
<b>Equipment Type</b>	<b>Peak Particle Velocity at 50 Feet (inches per second)</b>	<b>Peak Particle Velocity at 10 Feet (inches per second)</b>
Large Bulldozer	0.03	0.35
Caisson Drilling	0.03	0.35
Loaded Trucks	0.02	0.29
Hoe Ram	0.03	0.35
Jackhammer	0.01	0.14
Small Bulldozer/Tractor	0.00	0.01

Source: FTA 2018

The City does not regulate vibration associated with construction. However, a discussion of construction vibration is included for full disclosure purposes. For comparison purposes, the Caltrans's (2004) recommended standard of 0.4 inches per second peak particle velocity with respect to the prevention of structural damage for typical buildings is used as a threshold. This is also the level at which vibrations may begin to annoy people in buildings.

The nearest off-campus structures to the construction site are commercial structures approximately 90 feet away on the North side of East Avenue. The nearest on-campus structures would be existing school buildings approximately 10 feet distant from proposed construction activities.

Based on the vibration levels presented in **Table 3**, ground vibration generated by heavy-duty equipment would not be anticipated to exceed approximately 0.03 inches per second peak particle velocity at 50 feet. Therefore, vibration from construction activities experienced at the nearest off-campus buildings would be expected to be below the 0.40 inch per second peak particle velocity threshold at 90 feet. Further, ground vibration generated by heavy-duty equipment would not be anticipated to exceed approximately 0.35 inches per second peak particle velocity at 10 feet, and thus would not exceed the 0.40 inch per second peak particle velocity threshold at the nearest on-campus structures.

### **Operational Vibration Impacts**

Project operations would not include the use of any stationary equipment that would result in excessive groundborne vibration levels. Therefore, the Project would result in no groundborne vibration impacts during operations.

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***Would the Project expose people residing or working in the Project area to excessive airport noise levels?***

The Chico Municipal Airport, at 150 Airpark Avenue, is located approximately 3 miles northwest of the Proposed Project site. According to the Butte County Airport Land Use Compatibility Plan (ALUCP), developed by the Butte County Airport Land Use Commission (ALUC), approximately half of the PVHS campus is located within Compatibility Zone C of the Chico Airport (BCALUC 2017). Although land uses in Zone C are subjected to frequent aircraft noise events, the zone lies outside of the 55-dB CNEL contour (BCALUC 2017). As previously described, environmental noise levels are generally considered low when the CNEL is below 60 dBA. Furthermore, the City of Chico General Plan Noise Element Compatibility Standards identifies noise levels less than 65 dBA CNEL as acceptable for the development of new school facilities. Therefore, the Chico Municipal Airport would not be anticipated to expose students or teachers to excessive noise levels.

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## REFERENCES

[BCALUC] Butte County Airport Land Use Commission

2017 *Butte County Airport Land Use Compatibility Plan.*

[Caltrans] California Department of Transportation

2004 Transportation- and Construction-Induced Vibration Guidance Manual.

[CUSD] Chico Unified School District

2017 Pleasant Valley High School Athletic Fields Initial Study.

[FHWA] Federal Highway Administration

2008 Roadway Construction Noise Model.

2011 Effective Noise Control During Nighttime Construction.

[FTA] Federal Transit Administration

2018 Transit Noise and Vibration Impact Assessment.



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# **ATTACHMENT A**

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Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/12/2019  
Case Description: Demolition & Site Preparation

Description	Land Use	Baselines (dBA)			---- Receptor #1 ----	
		Daytime	Evening	Night		
Construction Site Bound:	Commercial	1	1	1		

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Concrete Saw	No	20		89.6	220	0
Backhoe	No	40		77.6	220	0
Backhoe	No	40		77.6	220	0
Dozer	No	40		81.7	220	0
Backhoe	No	40		77.6	220	0
Grader	No	40	85		220	0
Concrete Saw	No	20		89.6	220	0
Backhoe	No	40		77.6	220	0
Backhoe	No	40		77.6	220	0
Dozer	No	40		81.7	220	0

Equipment	Results		Noise Limits (dBA)	Noise Limit Exceedance (dBA)
	Calculated (dBA)			
	*Lmax	Leq	86 dBA Leq	No
Concrete Saw	76.7	69.7		
Backhoe	64.7	60.7		
Backhoe	64.7	60.7		
Dozer	68.8	64.8		
Backhoe	64.7	60.7		
Grader	72.1	68.2		
Concrete Saw	76.7	69.7		
Backhoe	64.7	60.7		
Backhoe	64.7	60.7		
Dozer	68.8	64.8		
Total	76.7	75.7		

\*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/12/2019  
Case Description: Construction & Renovation-Paving-Painting

Description	Land Use	---- Receptor #1 ----		
		Baselines (dBA)		
		Daytime	Evening	Night
Construction Boundary	Commercial	1	1	1

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	220	0
Gradall	No	40		83.4	220	0
Gradall	No	40		83.4	220	0
Backhoe	No	40		77.6	220	0
Backhoe	No	40		77.6	220	0
Backhoe	No	40		77.6	220	0
Roller	No	20		80	220	0
Paver	No	50		77.2	220	0
Concrete Mixer Truck	No	40		78.8	220	0
Concrete Pump Truck	No	20		81.4	220	0
Drum Mixer	No	50		80	220	0
Drum Mixer	No	50		80	220	0
Compressor (air)	No	40		77.7	220	0

Equipment	Results		Noise Limits (dBA)	Noise Limit Exceedance (dBA)
	Calculated (dBA)			
	*Lmax	Leq		
Crane	67.7	59.7	86 dBA Leq	No
Gradall	70.5	66.6		
Gradall	70.5	66.6		
Backhoe	64.7	60.7		
Backhoe	64.7	60.7		
Backhoe	64.7	60.7		
Roller	67.1	60.1		
Paver	64.4	61.3		
Concrete Mixer Truck	65.9	62		
Concrete Pump Truck	68.5	61.5		
Drum Mixer	67.1	64.1		
Drum Mixer	67.1	64.1		
Compressor (air)	64.8	60.8		
Total	70.5	74		

\*Calculated Lmax is the Loudest value.