APPENDIX A

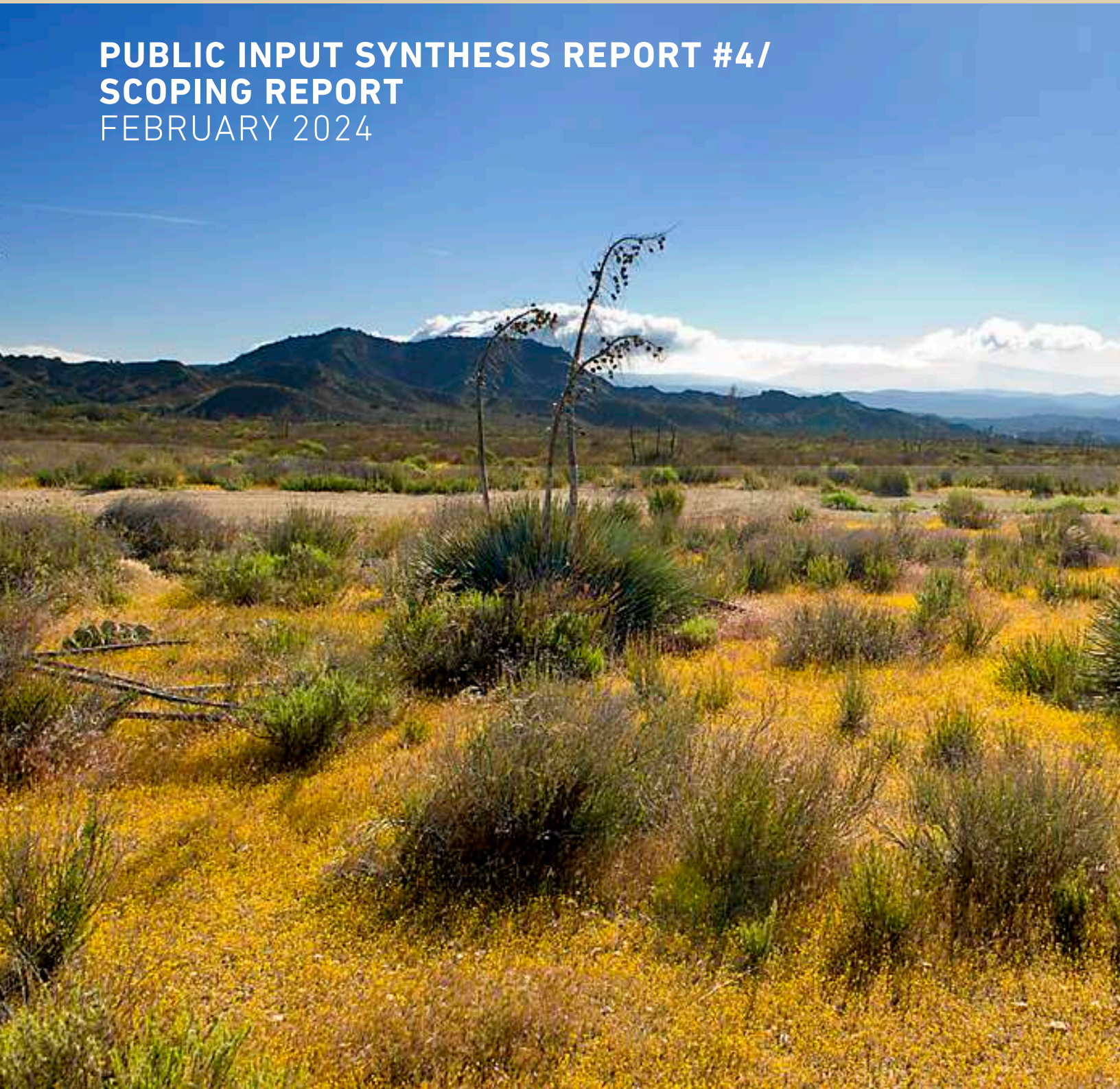
Public Scoping Report

HUNGRY VALLEY

State Vehicular Recreation Area (SVRA) General Plan Update + EIR

PUBLIC INPUT SYNTHESIS REPORT #4/ SCOPING REPORT

FEBRUARY 2024



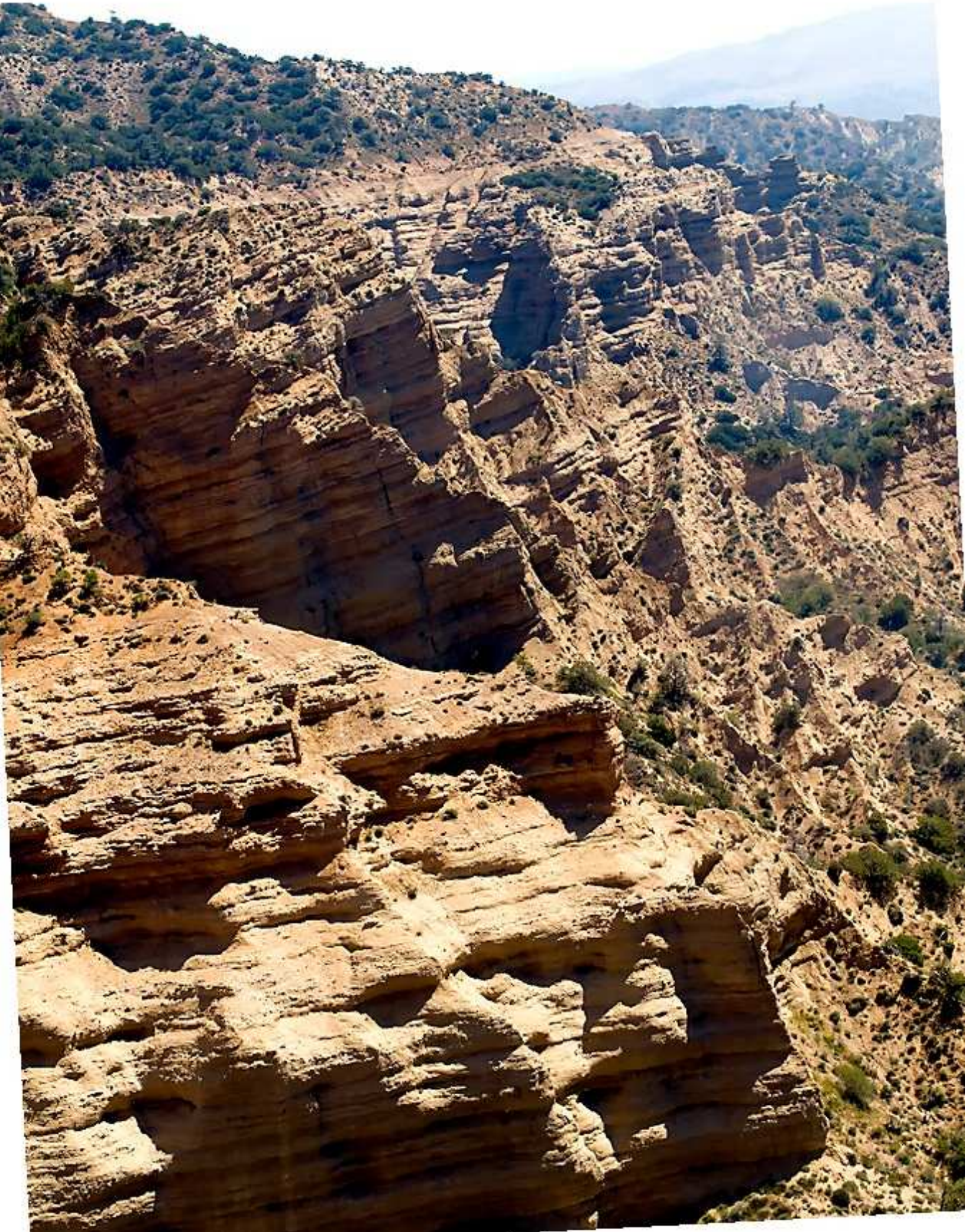


TABLE OF CONTENTS

Introduction 1

Public Outreach and Scoping Summary 3

Summary of Comments Received 5

A. Scoping Meeting PowerPoint A-1

B. Formal Public Comments B-1


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Introduction

The California Department of Parks and Recreation, Off-Highway Motor Vehicle Recreation Division (State Parks) held a formal public scoping meeting on November 15, 2023. The meeting occurred during the 30-day scoping period that was initiated with the publication of the Notice of Preparation (NOP) on November 2, 2023. The scoping period meets the California Environmental Quality Act (CEQA) public involvement requirements for the preparation of the Hungry Valley SVRA General Plan Update and Environmental Impact Report (EIR). In alignment with these requirements, public scoping for the Hungry Valley SVRA General Plan Update focused on gathering input from the public and stakeholders on the environmental issues to be analyzed in the EIR. The scoping period supplements the numerous outreach efforts completed previously for the project since approximately 2016, which has consisted of public workshops, surveys, stakeholder interviews, fact sheets, and a project website with opportunities for online input. These prior outreach efforts have helped define the Preferred Alternative and the Hungry Valley SVRA General Plan Update overall.

REPORT FOCUS

This report focuses on collating, analyzing, and presenting the public comments and feedback received during the scoping period for the Hungry Valley SVRA General Plan Update EIR. The report provides a summary of the viewpoints, concerns, and suggestions expressed by community members, stakeholders, and other interested parties, including those received during the virtual scoping meeting.

This report highlights the primary environmental, recreational, and community-related issues raised by the public during the scoping period. These insights will help guide the scope of the analysis in the EIR, ensuring that it addresses key concerns raised while aligning with the project's goals and regulatory requirements.

Moreover, the report is designed to serve as a bridge between public input and agency decision-making, facilitating a transparent and inclusive planning process. It underscores the project's commitment to community engagement and environmental stewardship, laying a foundation for informed and sustainable decisions in Hungry Valley SVRA.

ABOUT HUNGRY VALLEY SVRA

Hungry Valley SVRA is a popular recreation area for off-highway vehicle (OHV) users and other recreationists from Southern and Central California. The roughly 20,000-acre Hungry Valley SVRA is located approximately 60 miles north of downtown Los Angeles along Interstate 5 and is part of Ventura, Kern, and Los Angeles Counties. Hungry Valley SVRA provides a unique experience for OHV users. Hungry Valley SVRA provides over 130 miles of trails for OHV recreation with a wide variety of terrain types and topographic features that appeal to many types of OHV enthusiasts and other outdoor recreationists.

PROJECT OVERVIEW

The proposed Hungry Valley SVRA General Plan Update, which is considered the proposed project for purposes of CEQA, establishes the long-range purpose and vision for Hungry Valley SVRA and would update the current General Plan adopted in 1981. The purpose of Hungry Valley SVRA is to provide a destination for OHV recreation use and to offer a unique experience for visitors in and around the Southern California region. Hungry Valley SVRA includes six land use areas with different characteristics, allowable activities and uses, resources, and related management guidance. The proposed General Plan Update would maintain the existing land use designations while modifying allowable OHV recreation boundaries of select areas. State Parks would manage natural, cultural, and physical resources to protect the resources' integrity in alignment with the goals and guidelines established in the proposed General Plan Update.



Public Outreach and Scoping Summary

During the NOP scoping period, a broad range of activities were undertaken to engage the public and stakeholders effectively. In compliance with CEQA, the NOP scoping phase for the Hungry Valley SVRA General Plan Update EIR involved a 30-day public comment period to gather feedback on potential environmental impacts to be considered in the EIR. This phase, which extended from November 2, 2023, to December 1, 2023, included a virtual meeting held on November 15, 2023. The EIR will integrate the public input received during scoping to ensure significant environmental impacts are considered during the decision-making process. The public outreach strategy encompassed various channels to ensure broad participation in the process; outreach efforts are described further below.

The NOP was published to the Office of Planning and Research State Clearinghouse on November 2, 2023, to begin the scoping period. The NOP was also filed with the County Clerk-Recorder Offices in Ventura, Los Angeles, and Kern Counties. An email blast notifying availability of the NOP and the virtual scoping meeting was sent on November 2, 2023, to a comprehensive distribution list, including regulatory agencies, local organizations, counties and cities, and members of the public. Follow-up email reminders were sent the day before the public scoping meeting and to specify the end of the scoping period. Letters were also mailed to contacts on the distribution list when email addresses were unavailable. Further, the NOP was published via newspaper ads in the Bakersfield Californian on November 5 and 13, 2023 and Los Angeles Times on November 18, 2023.

PROJECT WEBSITE

The project website was originally launched in April 2016. The website has been, and continues to be, used to post project information and solicit feedback from the public. The website is available at www.planhungryvalley.com.

The project website serves as a central hub for information dissemination and public engagement. Designed for accessibility and ease of use, the website provides comprehensive information, including project details, timelines, documentation, and ways for the public to participate in the process.

Regular updates are posted to keep the community informed about the latest developments, upcoming events, and opportunities for public involvement. On November 2, 2023, the NOP was posted to the

website, to align with the beginning of the 30-day public comment period as required by CEQA. The website featured an interactive form for public comments, allowing visitors to easily submit their comments during the scoping period.

VIRTUAL SCOPING MEETING

The virtual scoping meeting, held on November 15, 2023, was a key event in the public engagement process. This meeting provided an opportunity for direct interaction between the project team, the community, and stakeholders. It included presentations on the project's goals and objectives, potential environmental impacts, and the CEQA process, followed by a Q&A session. The feedback received during this meeting helped reinforce an understanding of community perspectives and concerns related to the Hungry Valley SVRA General Plan Update and EIR. Oral comments were accepted and responded to at the meeting; however, for public comments to be formally considered as part of the public record, they were requested in writing. The meeting was recorded and made available on the project website for those who could not attend. A copy of the PowerPoint presentation is included as Appendix A.



Summary of Comments Received



This section provides a comprehensive summary of the comments and feedback received from the public and stakeholders during the NOP scoping period. The EIR will consider all formal comments submitted relevant to environmental issues associated with the Hungry Valley SVRA General Plan Update. Other issues raised, related to project components, design, or future use of the park, will also be considered during development of the Hungry Valley SVRA General Plan Update.

The feedback encompasses a variety of themes and topics, ranging from environmental impact concerns to recreational use of Hungry Valley SVRA and overall park management. All comments have been reviewed and a summary of key patterns, prevalent concerns, and areas of consensus are provided here. This synthesis will help guide the project's next steps, particularly in refining the EIR's focus and ensuring that the project development aligns with both regulatory requirements and community expectations. Comments will not be formally responded to; however, the input received will be considered in the preparation of the EIR. All formally submitted comments are available in Appendix B and summarized in Table 1 below. The comments received in writing are considered part of the public record under CEQA. Oral comments from the public scoping meeting are also summarized in Table 2 below for informational purposes.

Table 1. Formal Public Comment Summary

Commenting Entity (Agency/ Organization/Individual)	General Theme of Comment(s)	Date
Dillon Murray, Cultural Heritage Program Planner, Ventura County Planning Division (Comment Letter)	Protection of cultural resources	November 2, 2023
Cameron Vela, Cultural Resources Analyst, Native American Heritage Commission (Comment Letter)	Protection of tribal cultural resources, compliance with Assembly Bill 52	November 2, 2023
Chuck Willhite (Comment Letter)	One-way trails, motocross track, course grooming/watering	November 13, 2023
Roxy Cabral, R.E.H.S., Land Use Section, Environmental Health Division, Ventura County (Comment Letter)	Concession stands and food facilities permitting	November 20, 2023
David Hess (Comment Letter)	Improvement of recreation experience, location of electric vehicle (EV) charging stations, use of automated technology to improve park	November 23, 2023
Nicole Collazo, Air Quality Specialist, Ventura County Air Pollution Control District (Comment Letter)	Air quality impact analysis	November 28, 2023
Amy Granat, Managing Director, California Off-Road Vehicle Association (Comment Letter)	Viability and appropriateness of facilities identified in the NOP, funding sources	November 28, 2023
Kristeen Penrod, Director, Science & Collaboration for Connected Wildlands (Comment Letter)	Wildlife corridors and habitat connectivity	December 1, 2023
Bryant Baker, M.S., Director of Conservation & Research, Los Padres ForestWatch (Comment Letter)	Protection of Los Padres National Forest, trail connections from Hungry Valley SVRA, wildlife corridors and habitat connectivity	December 1, 2023
Dave Ward, AICP, Planning Director, County of Ventura, Planning Division (Comment Letter)	General Plan EIR process, wildlife corridors	December 4, 2023
Bruce Weihs, Senior Oil and Gas Engineer, DOC (Comment Letter)	Oil and gas wells, potential project conflicts	December 5, 2023
David Mayer, Environmental Program Manager, South Coast Region, California Department of Fish and Wildlife (Comment Letter)	Identifying and mitigating project impacts on biological resources	December 18, 2023

Table 2. Public Scoping Meeting Oral Comments

Commenting Entity (Agency/ Organization/Individual)	General Theme of Comment(s)	Date
Oral comments received from various individuals at public scoping meeting	Topics ranged from OHV access, trail use, placement of EV charging stations, population growth, and park modernization.	November 15, 2023

KEY ENVIRONMENTAL ISSUES IDENTIFIED DURING SCOPING

The intent of this section is to highlight the substantive environmental issues that were identified through the scoping process. Accordingly, this section does not summarize the most frequent comments and instead identifies a cross-section of key issues relevant to the CEQA process. Comments related to planning issues that are not relevant to the CEQA process (e.g., future park management, facilities use, etc.) are also summarized below for informational purposes. The issues described below include written comments from agencies, stakeholders, and the general public.

It is important to note that this section does not identify all issues that will be analyzed in the EIR; rather, it identifies key issues raised during scoping. The EIR will address the full scope of environmental issues required by CEQA and will not be limited to the topics raised in the scoping process. The complete record of comments compiled in Appendix B will be considered for their applicability to define the range of actions, potential to avoid or reduce environmental impacts, or as mitigation measures.

Air Quality

The air quality assessment should consider project consistency with the Ventura County 2022 Air Quality Management Plan and evaluate emissions from all project-related activities. It was recommended to incorporate construction emission reduction measures and evaluate impacts in alignment with the state CEQA guidelines and other local standards, such as the Ventura County Air Quality Assessment Guidelines.

Biological Resources

The need to balance OHV use with wildlife protection was a primary concern. Recommendations included ensuring the project considers wildlife movement; reducing impacts of OHV use on wildlife; and adopting ordinances for lighting, fencing, and locating facilities to protect wildlife corridors. The value of Hungry Valley SVRA and surrounding lands as wildlife corridors as well as the need to maintain these linkages with project implementation was emphasized in multiple comments. Support was stated for the proposed General Plan Update and its focus on expanding recreational boundaries while protecting habitat areas. Additionally, the need for detailed analysis in the EIR of the potential impacts on habitats and ecosystems was emphasized, particularly related to impacts of OHV trails and recreation areas, and on the preservation of existing wildlife corridors in and around the project area through establishment of park management plans and coordination with transportation agencies. Comprehensive biological surveys and inventory of flora and fauna should be completed for the EIR.

Cultural, Tribal, and Paleontological Resources

The importance of protecting historical, paleontological, and cultural resources in the planning area was noted. It was suggested that the project include goals, policies, and programs for the treatment of these resources and assess the historical significance of older sites.



Consideration of properties 50 years of age or greater was mentioned as a general standard for consistency with federal and state requirements.

Emphasis on the protection of tribal cultural resources, the need for early consultation with California Native American tribes, and the consideration of tribal cultural values in project planning and execution was also highlighted. Compliance with state regulations like CEQA, Assembly Bill 52, and Senate Bill 18, particularly in relation to tribal consultation and environmental impact analysis, was emphasized.

Land Use and Planning

Concerns were raised about how trail connections will be managed, especially to Los Padres National Forest. The need for cooperation with the U.S. Forest Service was emphasized, and for trail management to not increase unauthorized use or trespass off designated routes. The importance of aligning trail restrictions and management with adjacent areas was also mentioned.

Mineral Resources, Utilities

Concerns were expressed about development near oil, gas, or geothermal wells within the project area. Several wells in and around the project area were identified that may have not been properly abandoned or disposed of and would require consideration in compliance with state law. The input received advised against building over or impeding access to such wells. The potential dangers of wells leaking in the future were stressed, and testing was recommended to mitigate these effects. If wells are impacted by construction, they may need re-abandonment. It was emphasized that property owners or entities proposing construction near the wells may be responsible for potential re-abandonment costs.

Public Services and Recreation, Population

The importance of balancing conservation efforts with maintaining and expanding OHV access was highlighted. Commenters expressed the need for a no-net loss approach where any closed or modified trails are compensated with new or expanded trails elsewhere.

The need to consider population growth and its impact on park use was emphasized. It was recommended that the project address growth expectations and potential user conflicts, given the park's popularity and diverse user base. Strategies that focus on core values and efficient management were advocated for, including leveraging technology for operations like gate access.

Wildfire

The potential wildfire risk of electric vehicle charging infrastructure was mentioned and requested to be assessed in the EIR.

ISSUES UNRELATED TO ENVIRONMENTAL ANALYSIS

Comments received that were outside the scope of the EIR included the following topic areas and general themes:

- Concerns raised about potential increases in fees.
- Questions raised about safety measures in the park, especially concerning interactions between different types of vehicles (e.g., four-wheel drives, dirt bikes). The maintenance of trails, including those affected by weather, was also a topic of discussion.
- The importance of enhancing the recreational experience for various off-road enthusiasts was stressed. The project should address the diverse needs of users, including those affected by trail closures or changes in available roads and trails.
- There were discussions about the current policy of free access through the park to Los Padres National Forest and whether this would be affected by the proposed project.
- The introduction of EV charging stations in the park was discussed, including concerns about financing (particularly the use of OHV Trust Fund money), impact on the park's budget, and potential for these stations to attract non-park users (e.g., travelers on Interstate 5 [I-5]). Suggestions included situating stations within the park, away from I-5, and starting with a smaller number of stations that could increase as demand grows.
- Requests were made for automation of various park facilities, such as entrance stations and gates throughout the park.
- Comments were raised about the viability or appropriateness of various facilities identified in the NOP, such as the RV Campground in the Condor Mesa Area, UAV use in the Quail Canyon Special Event Area, and EV charging stations as mentioned above.
- Participants discussed the process for obtaining permits for special events. There were concerns about the initial response often being perceived as negative and the need for a clearer, more streamlined process.
- The need for plan review and permitting by the Ventura County Environmental Health Division for food facilities within the project area was mentioned.
- It was suggested that the draft General Plan Update should have been available for review during the EIR scoping process to allow for more detailed review and comment.

Although not pertinent to the environmental analysis, these comments would be considered as part of the Hungry Valley SVRA General Plan Update and during ongoing and future park management.

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Appendix A

Scoping Meeting PowerPoint

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Hungry Valley SVRA General Plan Update

Scoping Meeting for the Environmental Impact Report

NOVEMBER 15, 2023

6:00PM - 7:30PM


CALIFORNIA STATE PARKS
SINCE 1864
Hungry Valley
State Vehicular Recreation Area
A CALIFORNIA STATE PARK

Welcome!

Agenda

- Introduction and Purpose
- Overview of General Plan Update
- Environmental Review Process
- Questions and Answers





Introduction and Purpose

Project Team

California State Parks

- Katie Metraux, General Plan Project Manager
- Chris Hon, District Senior Environmental Scientist
- Russ Dingman, District Superintendent

AECOM – General Plan and EIR consultant

- Valarie Yruretagoyena, Project Manager
- Danny DeBrito, Deputy Project Manager
- Dalis De La Mora, Environmental Planner

Purpose of EIR Scoping Meeting

- Inform agencies and the general public about the Hungry Valley General Plan Update
- Inform agencies and the general public about the Environmental Impact Report (EIR) process and scope
- Inform the public about how to submit comments and future opportunities for input
- Provide an opportunity for oral comments and questions on EIR scope of work and the proposed project in general



General Plan Update Process



Overview of General Plan Update

What is a General Plan?

- Guides future development and enhancement of the park for the next 20 to 30 years
- Establishes a long-term vision and goals
- Identifies potential improvements
- Directs future management, resource stewardship, and public use
- Identify future acquisition opportunities

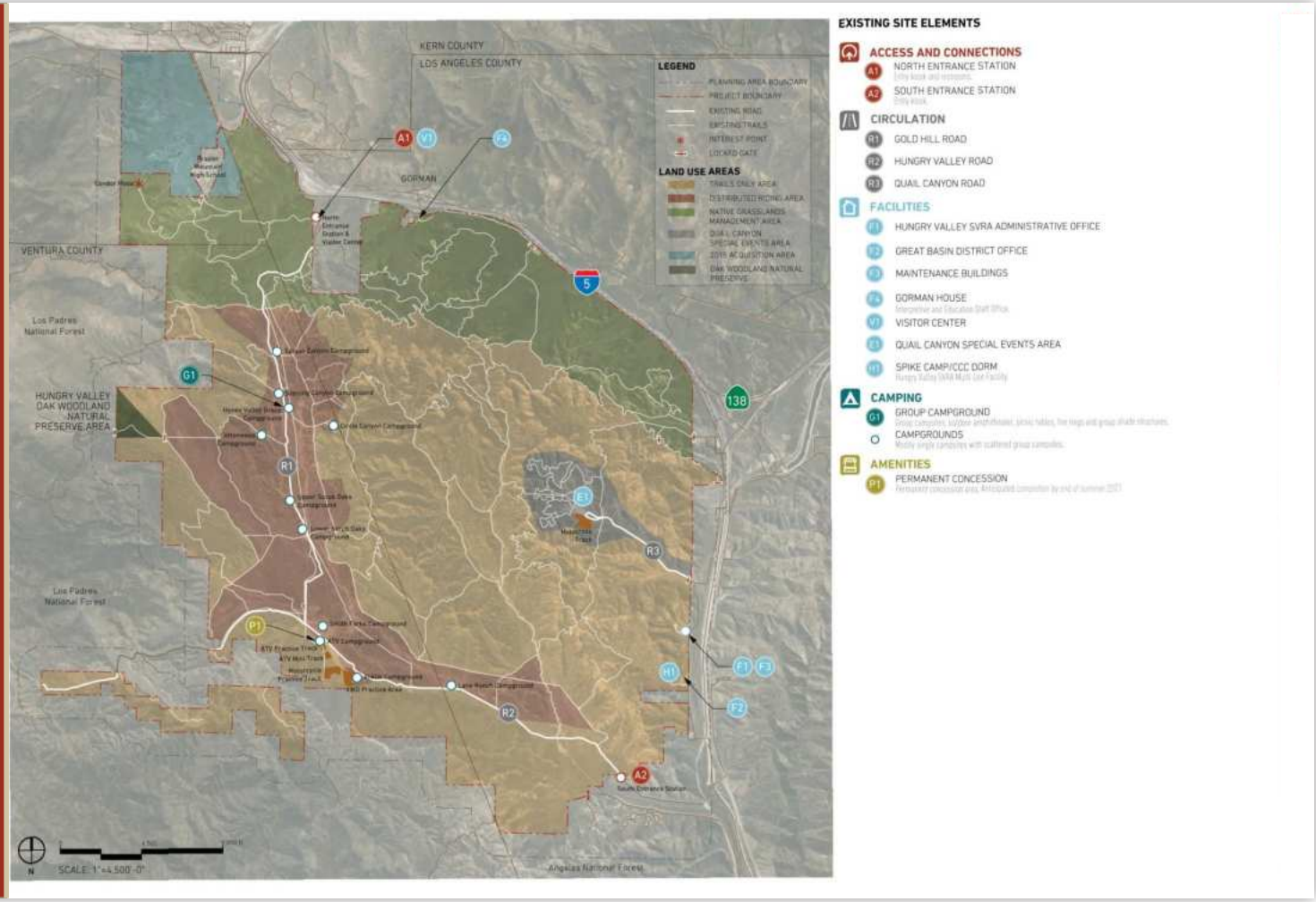
Why Update the Hungry Valley SVRA General Plan?

- Existing General Plan adopted in 1981
- New State Parks Planning Guidelines
- New OHV and environmental laws
- New land acquisitions since 1981
- Changing conditions and uses
- Establish future policies to guide park management

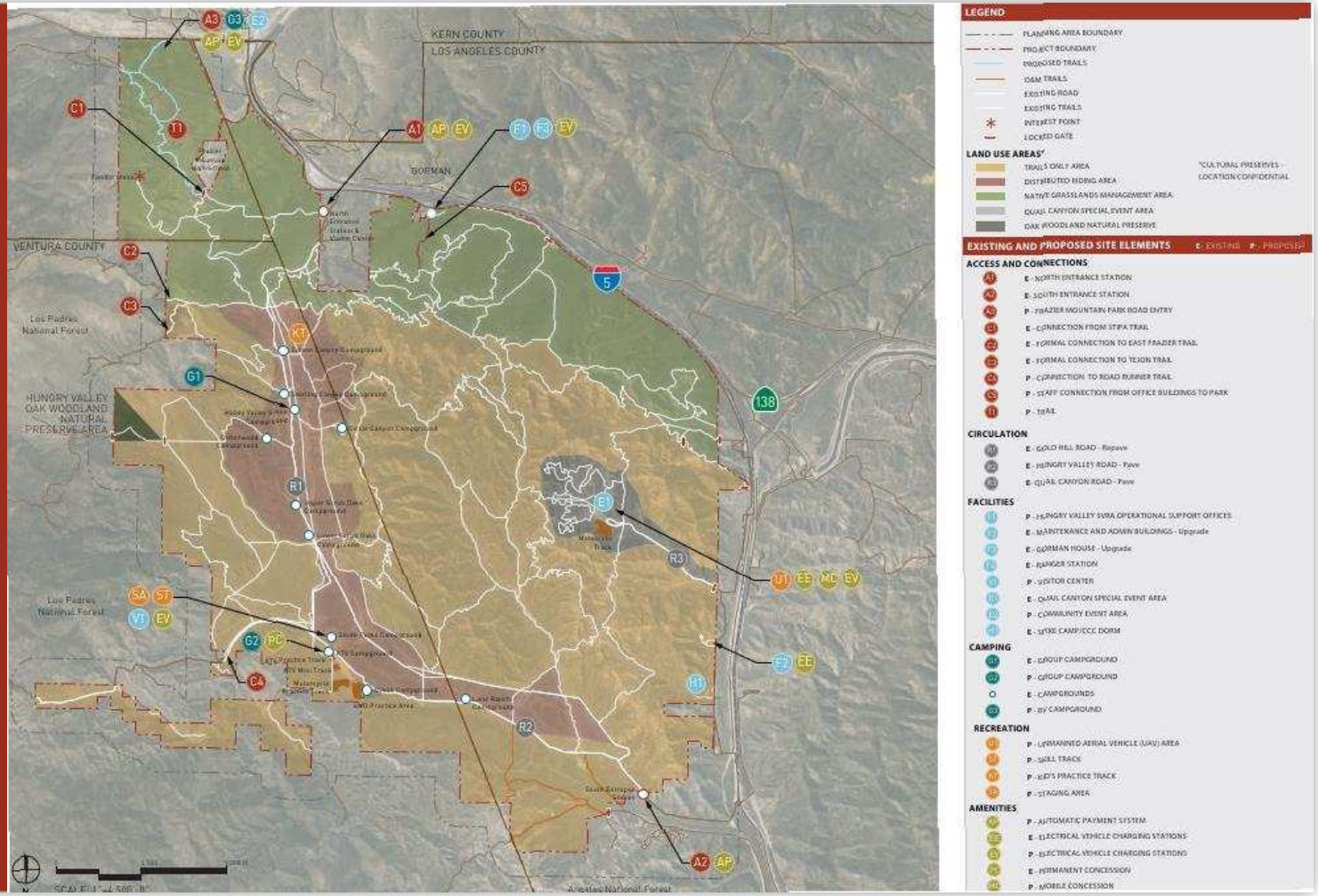
Proposed General Plan Update

- **Document Format**
  - **Chapter 1** – Introduction
  - **Chapter 2** – Existing Conditions
  - **Chapter 3** – Issues and Opportunities
  - **Chapter 4** – The Plan

Existing Conditions



Preferred Alternative



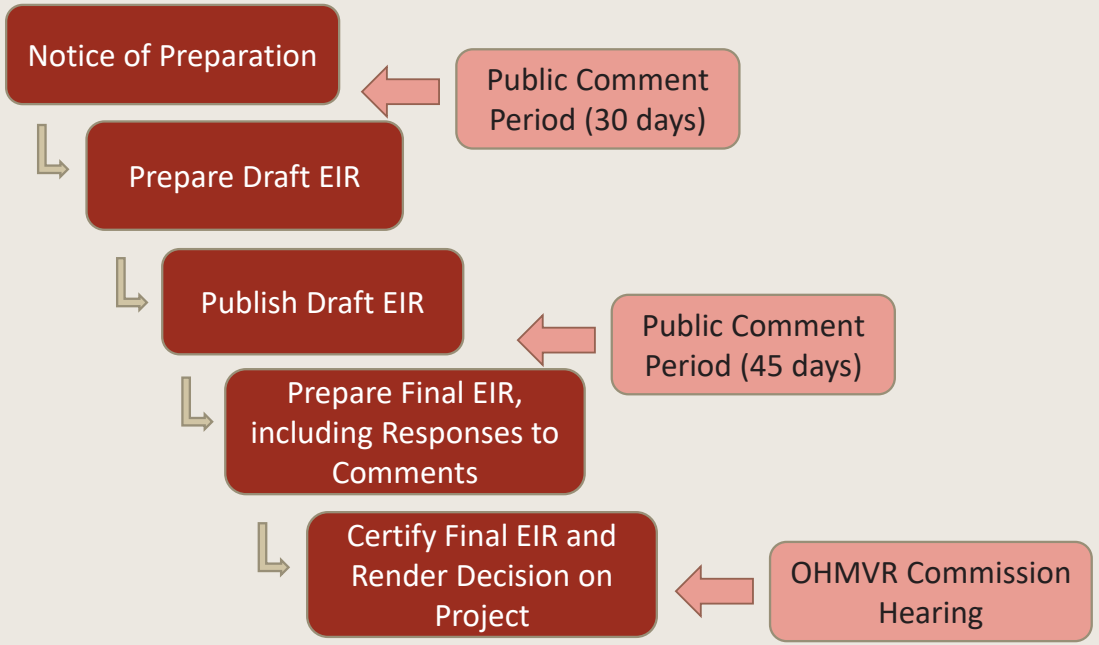


Environmental Review Process

California Environmental Quality Act (CEQA)

- Applies to **"projects"**
  - A discretionary action by a public agency that has the potential to result in a physical change in the environment, either directly or indirectly
  - General Plan Update is considered a **"project"** under CEQA
- **CEQA Lead Agency – California State Parks**
  - Inform agency decision-makers and public of any significant environmental effects
  - Identify feasible ways to avoid or reduce significant impacts, including mitigation measures and alternatives
  - Provide an opportunity for the public and agencies to comment on the environmental analysis

EIR Process per CEQA



EIR Topics

- Aesthetics
- Air Quality
- Biological Resources
- Geology/Soils and Paleontological Resources
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Recreation
- Transportation
- Tribal and Cultural Resources
- Utilities and Service Systems
- Wildfire

- Required CEQA Sections
  - Growth Inducement
  - Cumulative Impacts
  - Alternatives
  - Impacts Found to Not Be Significant
  - Summary of Impacts

How to Provide Comments

- Send written responses to the following contact:

  Katie Metraux, Project Manager

  Off-Highway Motor Vehicle Recreation Division

  P.O. Box 942896

  Sacramento, California 92496

- Use the comment form on the project website (www.planhungryvalley.com)
- Send an email to the project email (info@PlanHungryValley.com)

Questions & Answers

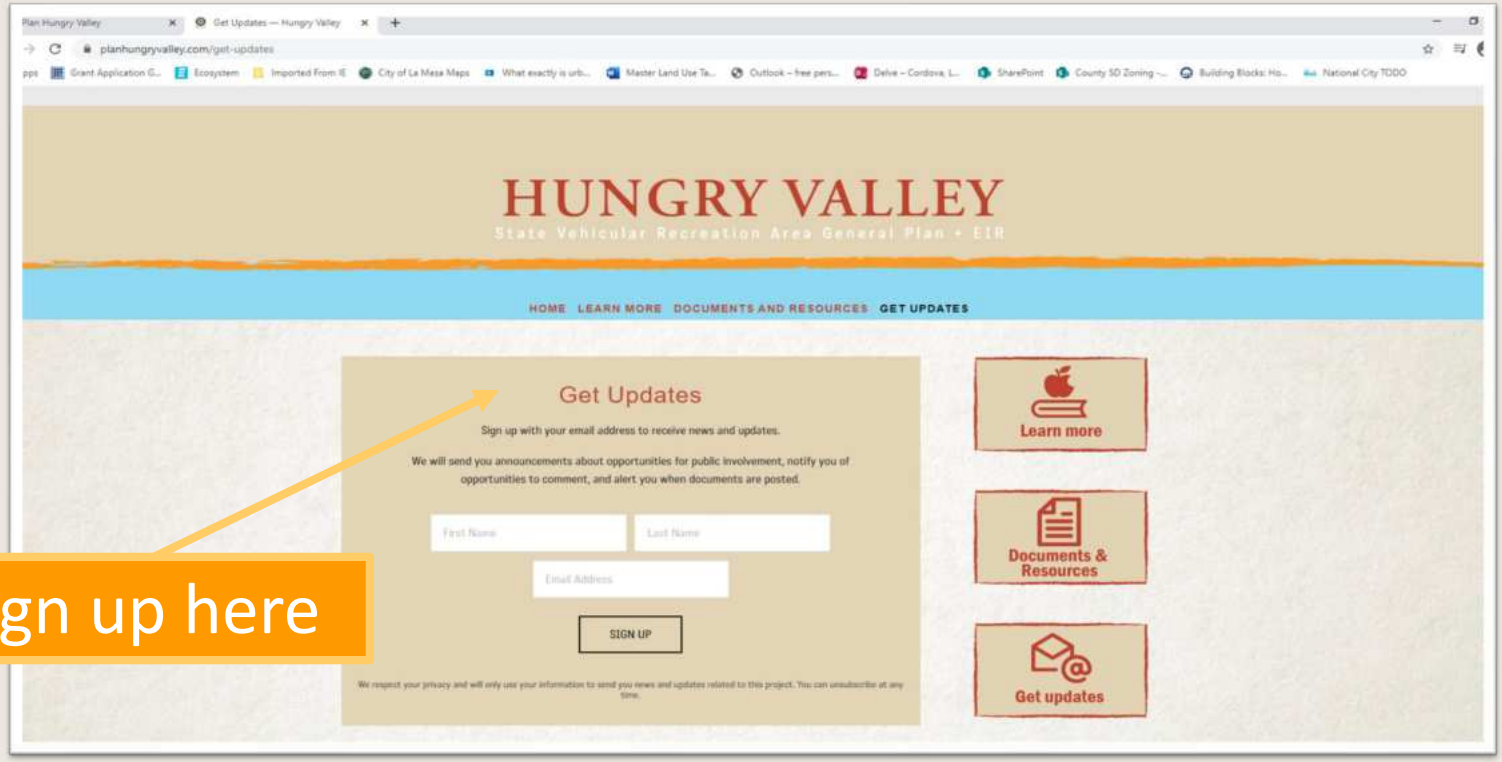


Get Involved: We want to hear from you!

Visit the Project Website



Join the Notification List



Sign up here



Next Steps

Next Steps

- Prepare draft General Plan Update and EIR
- Once prepared, public review of General Plan Update and EIR
  - 45-day public comment period for draft EIR
- Prepare Final EIR, including response to comments received
- Finalize General Plan Update and EIR
- OHMVR Commission hearing on General Plan Update and EIR


THANK YOU!
Website: www.PlanHungryValley.com
Email: info@planhungryvalley.com

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Appendix B

Formal Public Comments

COUNTY of VENTURA
RESOURCE MANAGEMENT AGENCY
DAVE WARD
Planning Director

SUSAN CURTIS
Assistant Planning Director

November 2, 2023

Anthony Ciuffetelli
RMA/Planning/EDR Coordinator

Sent via email: anthony.ciuffetelli@ventura.org

SUBJECT: Hungry Valley SVRA General Plan Update Project
RMA Ref# 23-019

To Whom It May Concern,

Ventura County Cultural Heritage Board (CHB) staff is in receipt of the invitation to comment on the above-referenced project and provides the following comments:

- For areas of the Hungry Valley SVRA planning area that have not yet been surveyed, historic resources may exist that have not yet been documented. Increased amenities and more transportation infrastructure could lead to direct and indirect impacts on historic, paleontological, and cultural resources from greater public access to them and proposed development activities.
- The California Department of Parks and Recreation should set forth goals, policies and programs within the General Plan regarding the treatment of historic and cultural resources and evaluating the historical significance of those sites that contain buildings, structures, and objects that are fifty years of age or older. Fifty years of age is a general estimate of the time needed to develop historical perspective and to evaluate significance. This is a standard used by the Federal and State governments.

Thank you for the opportunity to comment on the proposed project. If you require anything further or have any questions, please contact Dillan Murray at (805) 654-5042 or at Dillan.Murray@ventura.org.

Sincerely,

Dillan Murray
Cultural Heritage Program Planner
Ventura County Planning Division

HALL OF ADMINISTRATION #1740
(805) 654-2481 • FAX (805) 654-2509 • 800 South Victoria Avenue, Ventura, CA 93009 • vcrma.org

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STATE OF CALIFORNIA — **Gavin Newsom, *Governor***

NATIVE AMERICAN HERITAGE COMMISSION

November 2, 2023

Katie Metraux
California Department of Parks and Recreation
P.O. Box 942896
Sacramento, CA 92496

Re: 2023110034, Hungry Valley State Vehicular Recreation Area General Plan Update Project, Ventura, Kern, and Los Angeles Counties

Dear Ms. Metraux:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).

2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.

3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).

4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:

- **a.** The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
- **b.** Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:

- **a.** If part or all of the APE has been previously surveyed for cultural resources.
- **b.** If any known cultural resources have already been recorded on or adjacent to the APE.
- **c.** If the probability is low, moderate, or high that cultural resources are located in the APE.
- **d.** If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.

- **a.** The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
- **b.** The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:

a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.

b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.

b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.

c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Cameron.Vela@nahc.ca.gov.

Sincerely,

Cameron Vela

Cameron Vela
Cultural Resources Analyst

cc: State Clearinghouse

DeBrito, Danny

From: Squarespace <form-submission@squarespace.info>
Sent: Monday, November 13, 2023 4:35 PM
To: DeBrito, Danny
Subject: Form Submission - Public Scoping Form - Motorcross Track

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Report Suspicious

Sent via form submission from *Hungry Valley*

Name: Chuck Willhite

Email: chuck.willhite@gmail.com, accepts marketing: false

Subject: Motorcross Track

Message: It seems that the MX track has been forgotten. When will it be ready for use and please groom/water the smaller track that is connected so beginners can learn to ride.

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COUNTY of VENTURA
RESOURCE MANAGEMENT AGENCY
CHARLES R. GENKEL
Environmental Health Director

November 20, 2023

California Department of Parks and Recreation
Off-Highway Motor Vehicle Recreation Division
P.O. Box 942896
Sacramento, California 92496
ATTN: Katie Metraux

Notice of Preparation of an Environmental Impact Report for the Hungry Valley State Vehicular Recreation Area General Plan Update (RMA REF 23-019)

Ventura County Environmental Health Division (Division) staff reviewed the information submitted for the subject project.

The Division provided the following comments:

1. The proposed project includes an existing permanent concession stand located in the Ventura County area of the project site. Food facilities are subject to plan review and permitting by this Division. The applicant/ food facility operator must submit plans to the Ventura County Environmental Health Division, Community Services Section and obtain plan approval prior to beginning any retail food operations.

   https://vcrma.org/en/consumer-food-protection

If you have any questions, please contact me at (805) 654-2830 or Roxy.Cabral@ventura.org.

Roxy Cabral, R.E.H.S.
Land Use Section
Environmental Health Division

JW G:\Admin\TECH SERVICES\FINALED Letters\Land Use\SR0021448- ODR RMA REF 23-019 Hungry Vly SVRA 11 20 23.docx

HALL OF ADMINISTRATION #1730
805-654-2813 • FAX 805-654-2480 • 800 South Victoria Avenue, Ventura, CA 93009 • vcrma.org

DeBrito, Danny

From: Squarespace <form-submission@squarespace.info>
Sent: Thursday, November 23, 2023 11:22 AM
To: DeBrito, Danny
Subject: Form Submission - Public Scoping Form - Hungry Valley Plan Update

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Sent via form submission from *Hungry Valley*

Name: David Hess

Email: dmhess88@yahoo.com, accepts marketing: false

Subject: Hungry Valley Plan Update

Message: November 24, 2023

To: Katie Metraux, Project Manager
PO Box 942896
Sacramento, CA 92496

Re: Hungry Valley SVRA General Plan Update & Environmental Impact Report

Dear Ms. Metraux:

I am writing to comment on the Hungry Valley SVRA (HV) General Plan Update (HVGPU) and Environmental Impact Report (EIR). My family and I have enjoyed the SVRAs at Hungry Valley, Ocotillo Wells and Hollister Hills and plan to visit them in the future. Therefore I am interested in ensuring that management policies and actions at HV serve to maximize access and improve the user experience for not only myself, but all others who enjoy these unique motorized vehicle recreation area.

After reviewing the Final Preferred Alternative, I support moving forward with implementation of the elements of the GPU as they serve to improve public access and the user experience in a variety of valuable ways.

Currently there is a system for allowing street-legal vehicles to pass through the SVRA en route to areas of the Los Padres National Forest (Alamo Mountain) without paying the entrance fee. I urge you to continue this policy.

I am concerned about the costs (not specified in the GPU) for the electrical vehicle charging stations. I urge you to position these stations within the SVRA rather than at the entrance stations, to avoid their use by the general public using the I-5 corridor. In addition, the installation of these stations should be staged, starting small and increasing their number as demand increases.

I would also urge you to incorporate at much technology as possible, such as unmanned computerized fee paying stations, remotely controlled gates and other technology so that long-term costs for the management of the SVRA can be minimized.

In closing, it is important to note that the GPU has the opportunity to improve public access and the user experience for everyone who enjoys recreating at Hungry Valley, and to reduce potential for user conflict and preservation of natural and cultural resources. The suggestions I have shared are made with the thought of all current and future users in mind.

Thank you for the opportunity to share public comment on this important project.

Yours truly,

David M. Hess

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Ventura County
Air Pollution
Control District

4567 Telephone Rd
Ventura, California 93003

tel 805/303-4005
fax 805/456-7797
www.vcapcd.org

Ali Reza Ghasemi, PE
Air Pollution Control Officer

VENTURA COUNTY
AIR POLLUTION CONTROL DISTRICT
Memorandum

TO: Katie Metraux, Project Manager DATE: November 28, 2023

FROM: Nicole Collazo, Air Quality Specialist, VCAPCD Planning Division NC

SUBJECT: Notice of Preparation of a Draft Environmental Impact Report for the Hungry Valley SVRA General Plan Update Project (RMA 23-019)

Ventura County Air Pollution Control District (APCD) staff has reviewed the subject Notice of Preparation (NOP) for the draft environmental impact report (DEIR), which will analyze the environmental impacts of a proposed general plan update to the Hungry Valley State Vehicular Recreation Area, (SVRA) which would include modifying allowable off-highway vehicle recreation boundaries in select areas. A portion of the SVRA lies in the northeastern boundary of Ventura County in the Los Padres National Forest. The Lead Agency is the California Department of Parks and Recreation.

APCD has the following comments regarding the project's NOP.

NOP Comments

1) The air quality assessment should consider project consistency, as included in the Ventura County Air Quality Assessment Guidelines, with the recently adopted 2022 Air Quality Management Plan (AQMP). The 2022 AQMP is the air plan to attain the 2015 federal 8-hr ozone standard with updated emission factors and population forecasts. The 2016 AQMP was the plan to attain the 2008 federal ozone standard; that standard has been met. More information on the 2022 AQMP can be found here http://www.vcapcd.org/AQMP-2022.htm.

2) The Ventura County Air Quality Assessment Guidelines (AQAG) can also be used to evaluate all potential air quality impacts. The AQAG are also downloadable from our website here: http://www.vcapcd.org/environmental-review.htm. Specifically, the air quality assessment should consider reactive organic compound (ROC) and nitrogen oxide (NOx) emissions from all project-related motor vehicles for all proposed uses, energy emissions such as heating, lighting and electricity, and area emissions such as landscaping equipment and maintenance. We note that the AQAG has not been updated since 2003 and the recommended list of mitigation measures in the AQAG are also limited and outdated. Current air quality determinations follow the same methodology but using different tools (CalEEMod vs. URBEMIS, updated OEHHA standards health risk assessments). Construction emission reduction measures, including for construction required or needed for projects related to vegetation and sediment removal, such as requiring Tier 4 off-road construction equipment can reduce pollutants by up to 85% and is highly recommended if emissions are above local and state thresholds adopted. This mitigation can also be quantified using the CalEEMod air emissions model. Another reduction measure is using 2010 and newer

on-road engine vehicles for exporting material that comply with California State Regulation for In-Use On-Road Diesel Vehicles Title 13, CCR §2025 since they emit less diesel emissions.

3) The air quality impact section should be in accordance with the state CEQA Guidelines impact criteria found in its Appendix G, Environmental Checklist Form, outlined below.

- Conflict with or obstruct implementation of the applicable air quality management plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Result in other emissions (such as those leading to odors) affecting a substantial number of people.

Thank you for the opportunity to comment on the NOP. If you have any questions, you may contact me at nicole@vcapcd.org.

1500 W El Camino Ave. #352· Sacramento · California · 95833-1945
Phone · 916-710-1950· info@corva.org · www.corva.org

November 28, 2023

Katie Metraux, Project Manager
P.O. Box 9424896
Sacramento, CA 92496

Submitted via email: info@planhungryvalley.com

Thank you for accepting these comments on behalf of the California Off-Road Vehicle Association (CORVA), our members, member clubs and business sponsors. For over 53 years CORVA has been dedicated to preserving, promoting and protecting vehicular access to state parks, in addition to advocating for off-road trails and areas on federal land throughout California.

Hungry Valley State Vehicular Recreation Area (HVSVRA) provides access to a wide variety of off-road enthusiasts because of its proximity to large urban areas in southern California. The proposed General Plan must be diverse enough to meet current needs and foresee the needs for future generations of off-road enthusiasts.

To that end, the scoping document is proposing a few changes that at first glance seem untoward for a planning document for a State Vehicular Recreation Area. Concerning the proposed electric charging stations, it is unclear how the stations in areas close to the Interstate 5 corridor would benefit OHV recreation enthusiasts. Electric vehicles do not contribute to the OHV Trust Fund through the gas tax, a percentage of which provides the largest source of income to the fund. Additionally, electric off-road vehicle registrations are very few in number, and do not represent a significant contribution to the OHV Trust Fund. Please clearly state in the draft General Plan how the charging stations would be operated, who would finance the construction and ongoing maintenance, and if any of the fees generated from the charging stations would be funneled back into the maintenance and operations of the park.

The charging station proposed near the Smith Forks Campground might be better situated closer to Edison Canyon Campground and the proposed kids track. Because of the wide availability of Stacyc electric bikes, one of the most prolific users of electric off-road vehicles are children who are learning how to ride. It would be present a greater benefit to the small population of electric off-road vehicle users if the electric charging station was located closer to the proposed kids track.

The greater question concerns the appropriateness of using OHV Trust Fund monies for the construction and/or operation of an electric charging station. The costs for construction,

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maintenance and operation of the charging station should be borne by an outside concession, and not take away any staff time that is funded by the OHV Trust Fund.

Equally concerning is the proposed RV park in the Condor Mesa area. State Parks successfully operate RV campgrounds throughout the state with full hook-ups, but this is a proposal for a State Vehicular Recreation Area. All aspects of the park must enhance OHV recreation and benefit off-road enthusiasts. A disturbing scenario could be that the RV park is built with OHV Trust Fund dollars, but becomes largely reserved by non-OHV enthusiasts, thereby defeating the purpose of benefitting the community that funded the construction. Please delineate in the draft General Plan whether the proposed RV park would be operated by an outside concessionaire, or by State Parks, and how OHV enthusiasts could ensure the availability of spaces for their use alone.

There are several changes proposed for the Quail Canyon Special Event Area, but Quail Canyon has been closed for public use for a long time, with no scheduled reopening. The draft General Plan should address the well repairs needed for the area and give a schedule for reopening to the public before any additional improvements are seriously considered.

Additionally, the proposed unmanned aerial vehicle area within Qual Canyon Special Event Area is a confusing addition to the General Plan. This proposal will not enhance OHV recreation or create new opportunities for off-road enthusiasts, which goes against the mission statement for the Off Highway Motor Vehicle Recreation Division of California State Parks. It would be an inappropriate use of OHV Trust Fund money, although if funds could be apportioned from another source, it could be considered an additional use of the park *only when the area isn't needed by the intended users, the OHV community*.

There are several worthwhile proposals in the preferred alternative. The new staging area proposed near Smith Fork Campground is a good proposal and would meet the needs for additional parking and unloading due to the rise in popularity of UTV or SidexSide vehicles. The new proposed entrance from Frazier Mountain Road would be very helpful to off-road enthusiasts that use the trail connections into the Los Padres National Forest.

One overall concern that must be considered in the draft General Plan is the expectations of visitors to the SVRA and how the park is meeting those expectations. In the past few years, some of the roads available to street legal 4WD recreation have been closed, negatively affecting the experience of that group of off-roaders. Similarly, the proliferation of UTV's in the park has negatively affected technical single-track riders. Hungry Valley must work with local clubs and communities of visitors to the park to enhance their experiences because of the inherent diversity of the off-road community. Outreach and the creation of quarterly meetings with the public will help staff identify and satisfy these needs.

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The preferred alternative for the Hungry Valley General Plan has some out-of-the-box ideas and shows some creativity in trying to meet the needs of current and future generations of off-roaders. However, some of the uses may not be appropriate expenditures from the OHV Trust Fund, and the draft document must identify alternative funding sources for these uses.

CORVA looks forward to working closely with the planning team in the development of the draft Hungry Valley General Plan.

On behalf of the Board of Directors of the California Off-Road Vehicle Association,

Amy Granat

Amy Granat
Managing Director
Amy.granat@corva.org

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SC Wildlands
Science & Collaboration for Connected Wildlands
P.O. Box 1052, Fair Oaks, CA 95628
www.scwildlands.org

December 1, 2023

Katie Metraux, Project Manager
California Department of Parks and Recreation
Off-Highway Motor Vehicle Recreation Division
P.O. Box 942896
Sacramento, California 92496
Email: info@PlanHungryValley.com

SUBJECT: Response to Notice of Preparation of an Environmental Impact Report for the Hungry Valley State Vehicular Recreation Area General Plan Update

Dear Ms. Metraux,

Thank you for providing this opportunity to comment on the Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the General Plan Update for Hungry Valley State Vehicular Recreation Area (SVRA). SC Wildlands' mission is to protect and restore systems of connected wildlands that support native species and the ecosystems upon which they rely. As such, our comments largely focus on the potential impacts of the proposed project on habitat connectivity and wildlife movement corridors and the need to ensure that wildlife movement is maintained and enhanced within the context of the proposed actions.

Hungry Valley sits at the southern extent of the Tehachapi Connection (Penrod et al. 2003) and also overlaps the Sierra Madre-Castaic Linkage (Penrod et al. 2005). Areas important for wildlife movement should have a sensitive area designation to ensure that any new facilities are sited outside of high-quality habitats and areas important for wildlife movement. Please consider adopting any applicable Ventura County Habitat Connectivity and Wildlife Corridor (HCWC) ordinances (e.g., lighting, fencing, setbacks for crossings), so that all new facilities and upgrades to existing facilities are consistent with or more restrictive than what's in the HCWC. All proposed actions for Hungry Valley SVRA and the associated cumulative impacts should consider the context of these regionally significant landscape level connections, including the extensive existing conservation investments and policies that have been put in place specifically to conserve connectivity.

The Tehachapi Connection (Penrod et al. 2003), linking the Sierra Nevada and Sierra Madre mountains, has statewide importance as the sole wildland connection between the Sierra Nevada-Cascade system that stretches for over 2000 miles from Kern County into British Columbia, and the 800 mile long upland system comprised of the Sierra Madre (the coast ranges from San Francisco to Los Angeles), Transverse (Santa Monica, San Gabriel, San Bernardino Mountains), and Peninsular Ranges (San Jacinto, Santa Ana, Palomar, and Laguna Mountains of San Diego County, and the Sierra Juarez of Baja). This linkage is also situated at

the juncture of several ecoregions, including the Sierra Nevada, South Coast, Central Valley, and the Mojave Desert. The Tehachapi Mountains have been described as a "biogeographic crossroads" and a "crucible of evolution", and are home to a stunning variety of plant and animal life (White et al. 2003). The recent state-wide mountain lion genetic study (Gustafson et al. 2022) identifies the Tehachapi Mountains as part of the Sierra population segment, which is the most genetically diverse and a critically important and valuable source population for restoring genetic diversity to lion populations in the Transverse Ranges to the south and west (and beyond).

The Tehachapi Connection connects extensive protected lands in the region. Protected areas to the south include Los Padres National Forest, Wind Wolves Preserve, Bitter Creek National Wildlife Refuge, and **Hungry Valley State Vehicular Recreation Area**. Protected areas to the north include Sequoia National Forest and extensive lands administered by Bureau of Land Management. At the time the linkage report was completed in 2003 (Penrod et al.), about 12% (78,355 of 663,257 total acres) of the linkage design was protected, mostly in land administered by the Bureau of Land Management. Since that time, an additional 25,213 acres have been protected in fee (CPAD 2021b) and 118,103 acres has been protected under conservation easements (CCED 2021b) with an additional 89,281 acres committed for conservation in future Tejon Ranch set asides (TRC et al. 2008), such that 310,952 acres or 47% of the Linkage Design is now protected, conserved, or committed to conservation. An additional 119,655 acres in the linkage are conserved as working rangelands through the Land Conservation Act (i.e., Williamson Act), such that 65% of the linkage (430,607 out of 663,257 acres) is protected or conserved, providing contiguous protected lands stretching over 55 miles through the Tehachapi Linkage, connecting Sequoia and Los Padres National Forests and Hungry Valley SRVA.

The Tehachapi Connection overlaps or has been integrated into several federal, state, and local polices that support conservation in the linkage. The Desert Renewable Energy Conservation Plan (DRECP; BLM 2016) includes several federal land conservation designations within the linkage and beyond to conserve connectivity. For example, the DRECP includes the Tehachapi Linkage Wildlife Allocation area, one of only two such Wildlife Allocation areas in the plan, which overlaps 41,629 acres of the linkage but the total area is 161,646 acres (BLM 2016), expanding the linkage to encompass virtually all habitat north of State Route 58 in between the major strands of the delineated linkage design (Penrod et al. 2003) all the way to Sequoia National Forest! The DRECP (BLM 2016) also includes the Pacific Crest Trail Special Resource Management Area that overlaps 21,399 acres in the eastern strand of the linkage. The DRECP also includes several Areas of Critical Environmental Concern (ACEC) that overlap and expand beyond the linkage, including Middle Knob ACEC (18,147 of 20,533 acres in the linkage); Horse Canyon ACEC (2,842 of 6,892 acres in the linkage); and the Jawbone Butterbredt ACEC (2,911 of 190,513 in the linkage), which is contiguous with the 247,787acre Mojave Ground Squirrel ACEC (BLM 2016). In addition, the Los Angeles County San Andreas Significant Ecological Area (2019) overlaps 6,988 acres in the southwest area of the linkage, which is contiguous with Hungry Valley SVRA.

The Sierra Madre-Castaic Linkage serves to connect the Sierra Madre Ranges of Los Padres National Forest with the Castaic Ranges of the Angeles National Forest (Penrod et al. 2005a). The linkage encompasses a diversity of natural communities and has several main branches, reflecting variation in the habitat needs of different target focal species. The northern branch, which overlaps Hungry Valley SVRA, is dominated by pinyon-juniper woodland, sagebrush, and desert scrub habitats. The recent California mountain lion genetics study (Gustafson et al. 2022) indicates that this is an important connectivity area between the Sierra Nevada Mountains and the Coast and Transverse Ranges.

The Sierra Madre-Castaic Connection connects extensive protected lands in the region. Protected areas to the west include Los Padres National Forest and **Hungry Valley State Vehicular Recreation Area**, and further north Wind Wolves Preserve, Carrizo Plain National Monument, and Bitter Creek National Wildlife Refuge. Protected areas to the east include Angeles National Forest and Castaic Lake State Recreation Area. At the time the Sierra Madre-Castaic Linkage report was released in 2005a (Penrod et al.), roughly 75% of the linkage (299,208 of 398,944 acres) was conserved. Since that time, an additional 4,331 acres have been protected or conserved via fee title or conservation easements. In addition, 18,538 acres in the southern branch of the linkage is conserved as working rangelands through the Land Conservation Act in Ventura County, such that 81% of the linkage is now protected or conserved.

The Sierra Madre-Castaic Linkage also overlaps or has been integrated into several federal, state, and local polices that support conservation in the linkage. Federal land conservation designations in the linkage include Sespe Wilderness, Chumash Wilderness, Dick Smith Wilderness, and Matilija Wilderness, as well as Piru Creek and Sespe Creek National Wild and Scenic Rivers. Roughly 18,596 acres of the linkage is included in Los Angeles County's Significant Ecological Areas ordinance. In addition, 56,206 acres of the southern branch of the linkage is included in Ventura County's Habitat Connectivity and Wildlife Corridor (HCWC) Overlay Zone (2019) and associated ordinances (e.g., nighttime lighting, fencing, wildlife crossing structures, surface waters). The County of Ventura also administers contracts for 18,538 acres of rangelands on several ranches in the southern branch of the linkage that are enrolled in the California Land Conservation Act (LCA) Program (i.e., Williamson Act), which are contracts between the County and qualifying landowners that restricts land use to agricultural or open space uses; contracts automatically renew annually. The City of Ojai's General Plan 2045 Update section on Biological Resources, Natural Resources, and Open Space Existing Conditions Report (2021) refers to the County of Ventura's HCWC. The linkage also includes 208,746 acres of designated critical habitat for California condor, southwestern willow flycatcher, conservancy fairy shrimp, vernal pool fairy shrimp, California red-legged frog and the arroyo toad.

Hungry Valley SVRA abuts a California Department of Fish and Wildlife Priority Wildlife Barrier (2022) on Interstate 5. There are several existing bridges on I-5, as well as Caltrans Adaptation priorities and planned transportation improvement projects in the vicinity of Hungry Valley SVRA, including a project for Tejon Pass Overcrossing Bridge Seismic Retro. These transportation improvement projects may provide opportunities for wildlife crossing improvements. For example, there is a 3-mile stretch of Interstate 5 south of the village of Gorman and north of the interchange with SR138 (PM 82.08 to PM 84.9 Los Angeles County), where improved crossings are needed (Penrod et al. 2003). Four concrete box culverts about 5 feet tall and wide are spaced one-half to 1 mile apart, and suggest locations for bridged undercrossings. Each culvert opens directly into Hungry Valley State Park on the west end of the culvert, and the eastern freeway frontage by the Michener Conservation Easement administered by Tejon Ranch Conservancy (TRC). In addition, Gorman Post Ranch (private inholding currently for sale) is



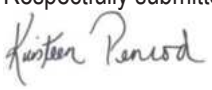
Culvert on Interstate-5 for Gorman Creek with Hungry Valley State Park in the foreground. Note steep degraded slopes on far side of I-5.

contiguous with the future TRC dedication. Either a bridged undercrossing or a vegetated wildlife overpass may be feasible here.

All proposed actions should consider opportunities for wildlife crossing improvements on Interstate 5 and impacts of the proposed actions to wildlife movement at the regional scale. All proposed circulation improvements and permanent erosion control measures associated with transportation infrastructure in the park should incorporate climate resilient wildlife crossing structures that address the needs of multiple taxonomic groups.

Thank you for the opportunity to provide input. Please contact us if we can provide further input on the importance of Hungry Valley SVRA to regional wildlife movement. We're happy to provide data and information to the environmental review process.

Respectfully submitted,



Kristeen Penrod, Director
SC Wildlands
www.scwildlands.org

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December 1, 2023

Katie Metraux, Project Manager
California Department of Parks and Recreation
Off-Highway Motor Vehicle Recreation Division
P.O. Box 942896
Sacramento, California 92496

Re: Scoping Comments on the Notice of Preparation of an Environmental Impact Report for the Hungry Valley State Vehicular Recreation Area General Plan

Dear Project Manager Metraux:

Thank you for providing us the opportunity to comment on the Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the Hungry Valley State Vehicular Recreation Area (HVSVRA) General Plan update. Our organization works to protect the Los Padres National Forest (LPNF), which is adjacent to the HVSVRA and is likely to be impacted in various ways by the an update to the General Plan.

We appreciate the steps the California Department of Parks and Recreation (State Parks) has taken prior to preparation of an EIR. However, the NOP is relatively lacking in detail, and therefore our scoping comments may not reflect the full suite of issues in which we are interested as they relate to the General Plan update. We anticipate highlighting any additional concerns we may have once the draft EIR is published. At this point in time, our primary concerns relate to 1) how State Parks plans to formalize trail connections with existing designated off-highway vehicle (OHV) routes in the LPNF and 2) how the HVSVRA will be managed in consideration of wildlife movement and habitat connectivity.

1. Trail Connections to the LPNF

The NOP states that "[t]rail connections are proposed to be formalized from Sterling Canyon Trail to East Frazier and Tejon Trails (C2 and C3, respectively), to

POST OFFICE BOX 831 • SANTA BARBARA CA 93102 • 805.617.4610 • INFO@LPFW.ORG

improve connectivity between Hungry Valley SVRA and Los Padres National Forest." The East Frazier OHV trail (Forest Route 19W06) and Tejon OHV trail (Forest Route 19W03) are both seasonally closed trails that, when open, only allow motorcycle use. We understand that these trails connect with the Sterling Canyon Trail in the HVSVRA, and satellite imagery of the area indicates that the connections are currently fenced off between the two pieces of public land.

If State Parks intends to formalize these connections and remove the existing barriers between the LPNF and the HVSVRA, we request that your agency cooperate with the U.S. Forest Service and ensure that any changes made to the General Plan do not increase the likelihood of unauthorized use of designated LPNF routes or trespass off designated routes. Specifically, both East Fraizer OHV and Tejon OHV are only open to motorcycles between May 1 and November 1 and are closed to other types of OHVs at all times (see the Motor Vehicle Use Map for the Mt. Pinos, Ojai, and Santa Barbara Ranger Districts of the LPNF in Exhibit A). Conversely, the connecting route in the HVSVRA (Sterling Canyon Trail) is open to other types of OHVs in addition to motorcycles, though it is unclear to us whether there are any seasonal restrictions on use within the HVSVRA. Therefore, it is imperative, if these connections are to be formalized, that State Parks ensure that restrictions are implemented that mirror those of the LPNF trails. This may require installation of gates that are only opened seasonally, as well as barriers that restrict non-motorcycle use. The draft EIR should contain a detailed analysis of how these connections will be managed and whether State Parks has the capacity to properly manage seasonal cross-boundary access in these locations.

2. Wildlife Movement and Habitat Connectivity

The HVSVRA is located in an ecologically important area yet is home to some of the most high-impact outdoor recreational uses anywhere in the region. Thus, State Parks has the complicated task of balancing OHV use with wildlife protection in this critical area. The report, South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion, which was developed in partnership with State Parks and several other agencies and nonprofits, identifies much of the HVSVRA as located within the Sierra Madre – Castaic Connection. This wildlife movement and habitat connectivity corridor is important for animal passage between the portions of the Transverse Ranges east of Interstate 5 with those found west of Interstate 5. The HVSVRA is in a unique area where several ecosystems such as mixed chaparral, sage scrub, oak woodland, and pinyon-juniper merge and blend into one another. Such ecotones tend to be biodiverse and provide important habitat for a variety of species.

We recommend that State Parks update the General Plan in a way that better facilitates wildlife movement across the HVSVRA and reduces impacts of OHV use on wildlife where possible. One way to achieve this is to follow the approach taken by the County of Ventura, which in 2019 adopted ordinances aimed at better protecting these wildlife corridors. We recommend incorporating into the new General Plan the same requirements for lighting, fencing, facility siting, and protection of existing wildlife crossings (such as culverts) found in these ordinances (see Sec. 8109-4.8 – Habitat Connectivity and Wildlife Corridors Overlay Zone in the Ventura County Non-Coastal Zoning Ordinance). We urge State Parks to coordinate and consult with the County of Ventura Resource Management Agency during the development of the draft EIR.

Additionally, the draft EIR should contained detailed analyses of how any management actions will impact plants and wildlife in the HVSVRA. While these analyses should center on rare and listed species, more general examinations of how plants and wildlife will be impacted under a new General Plan are also important. The NOP stated that the current General Plan was adopted in 1981, which we note has several mentions of various monitoring plans and management studies. It is unclear whether these studies and plans were develope, since the General Plan was adopted as there is limited information available to the public via State Parks websites. The draft EIR should include any such documents as well as candid analyses on whether and how these plans or studies were actually implemented. Going forward, it is important that State Parks not develop a new General Plan which cannot be properly implemented over the coming years and decades due to staff and funding shortages. This is especially true as it relates to wildlife and ecosystem management. Significant changes to how OHV use occurs within the HVSVRA should not be put forth in the new General Plan with the assumption that certain wildlife and ecosystem management actions will be taken if there is a low likelihood that those management actions will actually be taken.

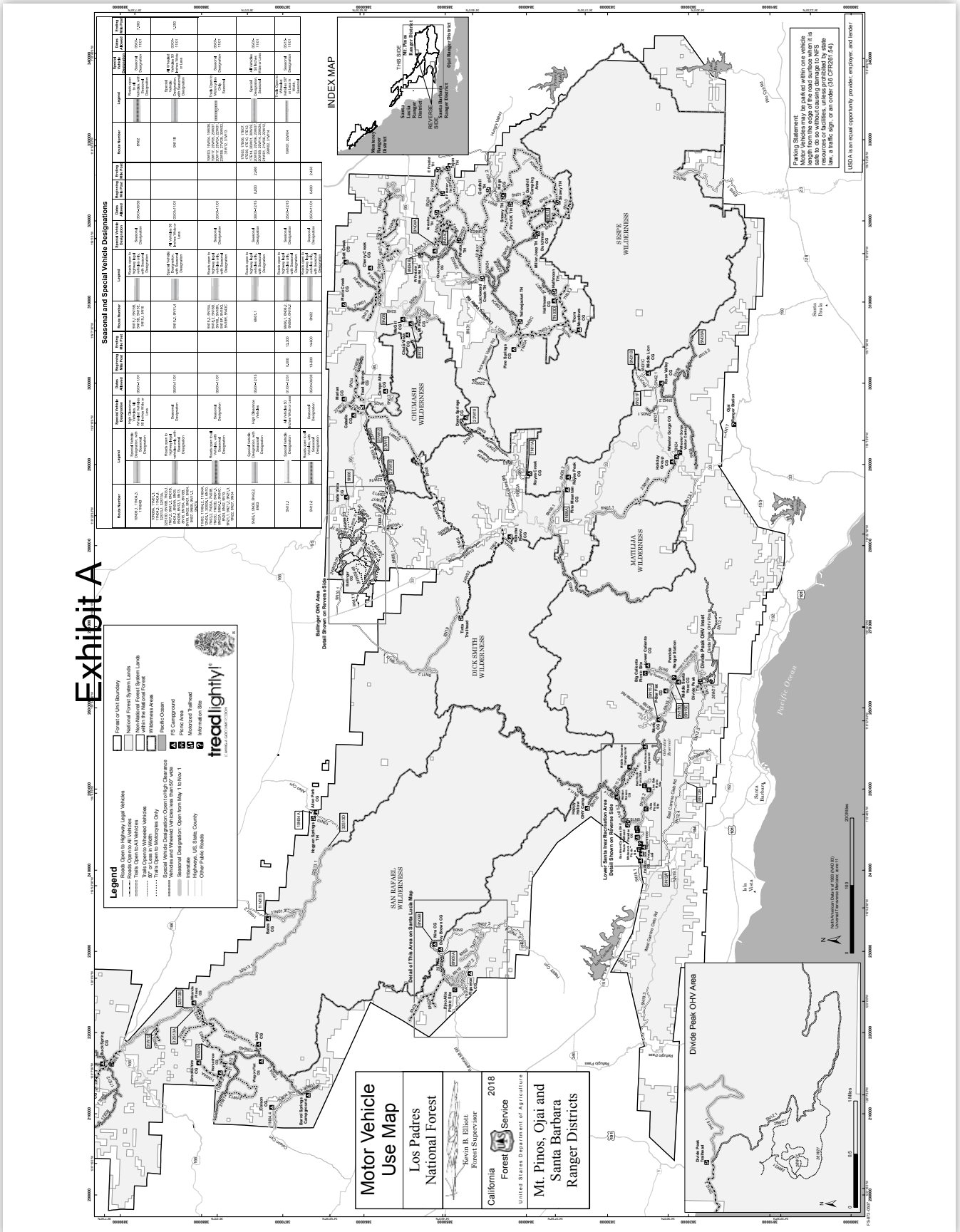
Thank you for considering our scoping comments. Please send us all future documents related to this project, and please do not hesitate to reach out if you would like to discuss any of the above issues in further detail.

Sincerely,

Bryant Baker, M.S.



Director of Conservation & Research
Los Padres ForestWatch


Exhibit A
Motor Vehicle Use Map
Los Padres National Forest
Kevin B. Elliott
Forest Supervisor
California Forest Service
2018
United States Department of Agriculture
Mt. Pinos, Ojai and Santa Barbara Ranger Districts
Legend
Forest or Unit Boundary
National Forest System Lands
Non-National Forest System Lands within the National Forest
Wilderness Areas
Pacific Ocean
FS Campground
Picnic Area
Motorized Trailhead
Information Site
Roads Open to Highway Legal Vehicles
Roads Open to All Vehicles
Roads Open to Wheeled Vehicles
Trails Open to Wheeled Vehicles 50" or Less in Width
Trails Open to Motorcycles Only
Special Vehicle Designation: Open in High Clearance Vehicles and Wheeled Vehicles less than 50" wide
Seasonal Designation: Open from May 1 to Nov 1
Highways, US, State, County
Other Public Roads
treadlightly!
Seasonal and Special Vehicle Designations
INDEX MAP
Divide Peak OHV Area
Parking Statement
Motor Vehicles may be parked within one vehicle length from the edge of the road surface when it is safe to do so and parking prohibited by sign, rest area or facilities, closure prohibited by state law, a traffic sign, or an order (36 CFR261.54).
USDA is an equal opportunity provider, employer, and lender
SAN RAFAEL WILDERNESS
CHUMASH WILDERNESS
DICK SMITH WILDERNESS
MATILIJA WILDERNESS
SISQUOC WILDERNESS
Pacific Ocean

COUNTY of VENTURA

RESOURCE MANAGEMENT AGENCY
DAVE WARD
Planning Director

SUSAN CURTIS
Assistant Planning Director

December 4, 2023

Katie Metraux, Project Manager
California Department of Parks and Recreation
Off-Highway Motor Vehicle Recreation Division
P.O. Box 942896
Sacramento, California 92496

SUBJECT: Response to Notice of Preparation of an Environmental Impact Report for the Hungry Valley State Vehicular Recreation Area General Plan Update

Dear Katie Metraux,

Thank you for providing the Ventura County Planning Division (Planning Division) with the opportunity to comment regarding the Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the General Plan Update for Hungry Valley State Vehicular Recreation Area (SVRA). The Planning Division coordinates with neighboring jurisdictions and provides review and comment on environmental documents prepared for projects that could affect the unincorporated area. The SVRA is an important recreational resource managed by the California Department of Parks and Recreation (State Parks), providing campgrounds, trails, and opportunities for visitors to enjoy open space. The Planning Division is supportive of the proposed General Plan update, expanded facility improvements, trail upgrades, and appreciates the protection of important habitat areas.

The proposed project is an environmental review for an update to the General Plan, which establishes the long-range purpose and vision for Hungry Valley SVRA while modifying allowable off-highway vehicles (OHV) recreation boundaries. The General Plan provides a framework to manage impacts from OHV and related uses while maintaining natural, cultural, and physical resources in alignment with the goals and guidelines that would be established in the update. The draft Hungry Valley SVRA Final Preferred Alternative includes a map of land use areas and brief text describing the different characteristics, allowable uses, resources, and related management mandates that include a Distributed Riding Area, Trails Only Area, Native Grasslands Management Area, Quail Canyon Special Event Area, Oak Woodland Natural Preserve, and three cultural preserves.

In addition to expanding the recreational boundaries of the SVRA to include 845 acres of land in the Northwest Condor Mesa area of Kern County, the following improvements are proposed within the General Plan Update (also see map in Exhibit A):

HALL OF ADMINISTRATION #1740
(805) 654-2481 • FAX (805) 654-2509 • 800 South Victoria Avenue, Ventura, CA 93009 • vcrma.org

- **OHV Trails and Access Points**[1]
  Proposed NEW Trails and Access Points
  - New entry (A3) and trail from Frazier Mountain Road to the new proposed Condor Mesa RV Campground (G3)
  - New trails in the Condor Mesa Area (T1).
  - A New Road Runner Trail (C4*) for connectivity between the main body of Hungry Valley SVRA and the isolated parcel of State Parks land surrounded by Los Padres National Forest.
  - A new maintenance-only connection to the park is proposed from the proposed office buildings at the northern boundary (C5).

  Existing Social Trails or Previously Undesignated Trails
  - Incorporate trail connections with USFS lands in Los Padres National Forest west and southwest of Hungry Valley SVRA (near Condor Mesa Area) (T1).
  - A trail connection will be formalized at Stipa Trail (C1), to connect the trails in the main body of Hungry Valley SVRA to the proposed new trails in the Condor Mesa Area.
  - Trail connections are proposed to be formalized from Sterling Canyon Trail to East Frazier and Tejon Trails (C2* and C3*, respectively), to improve connectivity between Hungry Valley SVRA and Los Padres National Forest.

- **Circulation Improvements**
  - Repaving Gold Hill Road (R1*) and paving Hungry Valley Road (R2) and Quail Canyon Road (R3), including permanent erosion control measures where necessary.

- **Facilities**
  Upgrades for Existing Facilities
  - Existing maintenance and administration buildings (F2) are proposed for upgrades to meet current accessibility and safety standards (occur in existing footprint). Buildings that are not able to be upgraded to meet current standards will be demolished.
  - The current Visitor Center at the North Entrance will be repurposed into a storage facility.

  Proposed New Facilities
  - New operational support office buildings would be constructed at the northern boundary adjacent to the Gorman House (F1).
  - A new Visitor Center (V1) is proposed at the Smith Forks Campground.
  - A community event area (E2) is proposed for local, community-oriented or State Parks events in the Condor Mesa Area along Frazier Mountain Park Road.
  - A reservable group campground near the Smith Forks Campground (G2), with restrooms.
  - A new RV campground with full hookups (G3) in the Condor Mesa Area along Frazier Mountain Park Road.

- **Recreation**
  - A new designated unmanned aerial vehicle (UAV) area (U1) within the Quail Canyon Special Event Area with geofencing to restrict use to designated area.

[1] Items in this list denoted with an asterisk indicate they are located within Ventura County.

- A new kid's track (KT*) near the Edison Canyon Campground.
- A new skills track (ST*) near the Smith Forks Campground.
- A new staging area (SA*) near the Smith Forks Campground that includes designated parking area, shade ramadas, and OHV loading/offloading ramps.

- **Amenities**
  - Automatic payment systems at entrance kiosks.
  - Electric vehicle charging stations (EV*).
  - A mobile concession (MC) for seasonal use and/or special events within the Quail Canyon Special Event Area. The newly constructed permanent concessions facility near the ATV Campground will remain as is (PC).

General Plan Review

The uncontrolled use of off-road highway vehicles can significantly degrade and destroy native habitats and impact wildlife movement throughout the landscape. The proposed expansion of OHV trails and recreation areas in Hungry Valley can reasonably be foreseen to impact natural resources directly and indirectly within and beyond the SVRA boundaries. California PRC § 5090.02 states that these recreational areas should be provided and managed for sustained long term use. Accordingly, the EIR should include analysis of the draft General Plan, technical studies and background reports, alternatives analysis, and cumulative impact analyses.

Currently, the information available on the Hungry Valley SVRA website does not include a draft General Plan for review. The documents available summarize public workshops and fact sheets. There is also a "Final Preferred Alternative" with a map that shows areas for park expansion and improvements along with brief text. There is not enough information about the General Plan to evaluate potentially significant impacts and determine that the park can be expanded and improved without causing significant impacts to the environment while sustaining long term use. The NOP should have been released with a draft General Plan for public review and the General Plan should include the State mandated elements.

More detailed maps and other specific information on the number, length, and exact location of existing trails and facilities will be needed for an EIR baseline. There should also be an assessment of habitat types and geologic hazards (slopes, erosion issues, fire evacuations etc.) within the EIR analysis. For example, the 1981 General Plan refers to numerous monitoring and management studies that are not available on the website (e.g., Native Grasslands Management Plan in response to nearby OHV use) and biological policies (pg. 24-26) that require corrective actions (e.g., revegetation policy) as well as habitats (e.g., riparian area).

The General Plan should include, and the EIR should evaluate, planned changes to the facilities, OHV trails, and roads. The EIR should determine if these changes will require additional State Parks monitoring and management actions for long term use and those actions should be included in the General Plan as a policy or program. The EIR alternatives analysis should determine whether any of the new facilities can be sited outside of high-quality habitats, and if they cannot be sited in areas with fewer impacts, then the impacts should be mitigated to the maximum extent feasible.

Regional Wildlife Corridors

The Sierra Madre-Castaic Linkage (South Coast) and the Tehachapi Connection are two of eight regional wildlife corridor linkages used by the California Department of Fish and Wildlife (CDFW) and California Department of Transportation (Caltrans) for conservation and climate action planning[2] (see map in Exhibit B). Human disturbance has been well documented to significantly alter wildlife movement[3,4,5]. The Hungry Valley SVRA as shown in Exhibit B is sited within a critical junction point between the two linkages. Exhibit D shows existing bridges on Interstate 5, as well as Caltrans' adaptation priority projects and planned transportation improvement projects that may provide opportunities for wildlife crossing improvements. These bridges and culverts serve as wildlife crossing structures and should be considered in the EIR's analysis of wildlife movement.

If needed to support wildlife movement and to mitigate impacts from new development the General Plan and EIR should include more "sensitive area" designations and a "Wildlife Movement Corridor Protection Plan" as described in PRC § 5090.43 and § 5090.39 to allow for wildlife to safely move through the SRVA. To identify the most appropriate areas to conserve for wildlife movement, a qualified biologist should evaluate direct, indirect and cumulative impacts to wildlife movement. Then the project should be revised, or adequate mitigation measures should be included for any potentially significant impacts identified. Adequate wildlife movement analysis should include identification of impacts and barriers to species' natural movements needed to sustain populations. All impacts to the movement and migration of vulnerable species should be mitigated to the extent feasible[6]. It is important that designs utilize the latest science-based research on lighting[7], fencing[8] and other mitigation measures for all infrastructure improvements[9,10]. In addition, as mentioned previously, the EIR alternative analysis should demonstrate that the proposed new facilities are sited outside high-quality habitats and areas important for wildlife movement. Please coordinate with Caltrans to plan methods for wildlife to utilize their crossing structures as shown in Exhibit D.

In closing, the Ventura County General Plan is supportive of parks and recreation resources; however, a draft Hungry Valley SVRA General Plan should be available for this EIR scoping process. The EIR should include a cumulative impact analysis of wildlife

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[2] http://www.scwildlands.org/reports/CaliforniaEssentialHabitatConnectivityProject.pdf and California Essential Habitat Connectivity Project https://wildlife.ca.gov/Conservation/Planning/Connectivity/CEHC

[3] https://www.nature.com/articles/s41559-020-01380-1

[4] https://esajournals.onlinelibrary.wiley.com/doi/10.1002/ecs2.3487

[5] https://www.sciencedaily.com/releases/2023/01/230119093130.htm

[6] An example of a CEQA wildlife movement analysis can be found within the County's Initial Study Assessment Guidelines and Initial Study Biological Assessment Template

[7] https://www.science.org/toc/science/380/6650 , https://www.blm.gov/noc/blm-library/night-sky-and-dark-environments-best-management-practices-artificial-light-night

[8] https://azdot.gov/sites/default/files/2019/06/wildlife_funnel_fencing.pdf

[9] https://fws.gov/media/reducing-bird-collisions-buildings-and-building-glass-best-practices

[10] https://conservationcorridor.org/technical-guides/

movement. We appreciate State Park's efforts to update the 1981 General Plan and support park improvements and responsible long-term expansion of the SVRA.

Thank you again for the opportunity to comment on this Notice of Preparation. If you have any questions about this letter, please contact Abigail Convery at Abigail.Convery@ventura.org or 805.654.2489.

Sincerely,

Dave Ward, AICP | Planning Director
County of Ventura, Planning Division

Exhibit A- Proposed General Plan Update Preferred Alternative

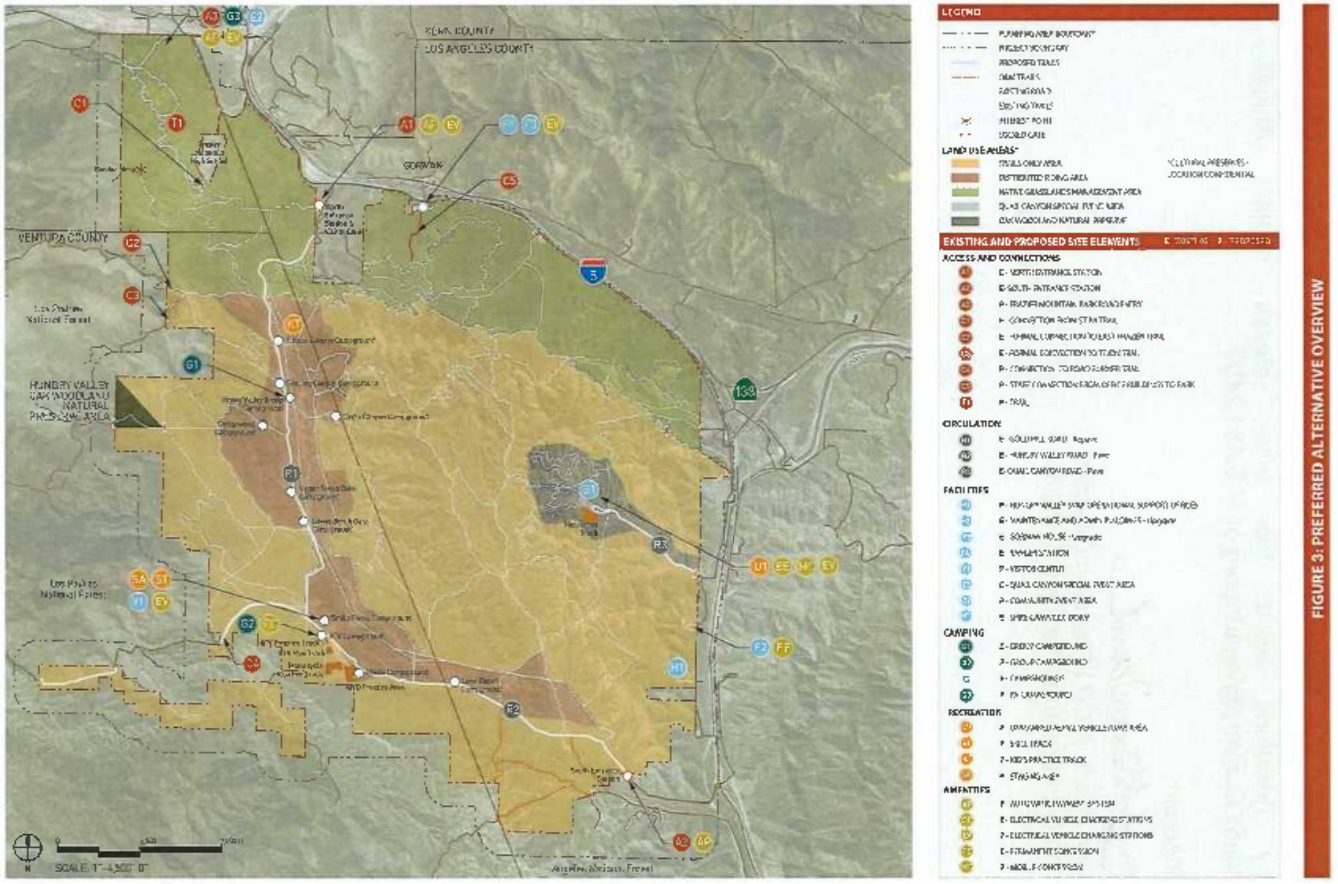


Exhibit B-Sierra Madre-Castaic Linkage and Tehachapi Connection (yellow color).

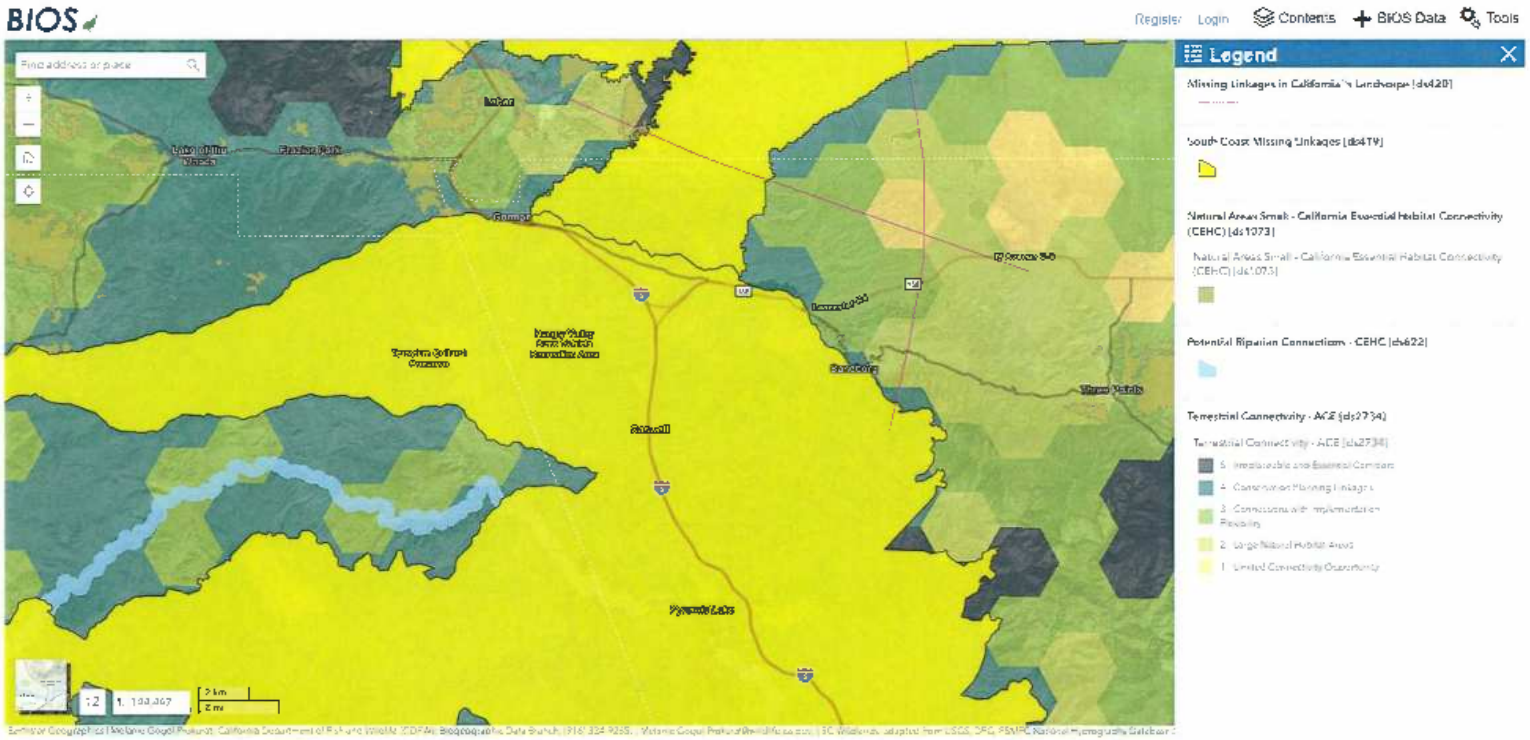


Exhibit C-Sierra Madre-Castaic Linkage and Tehachapi Connection Terrestrial Connectivity.

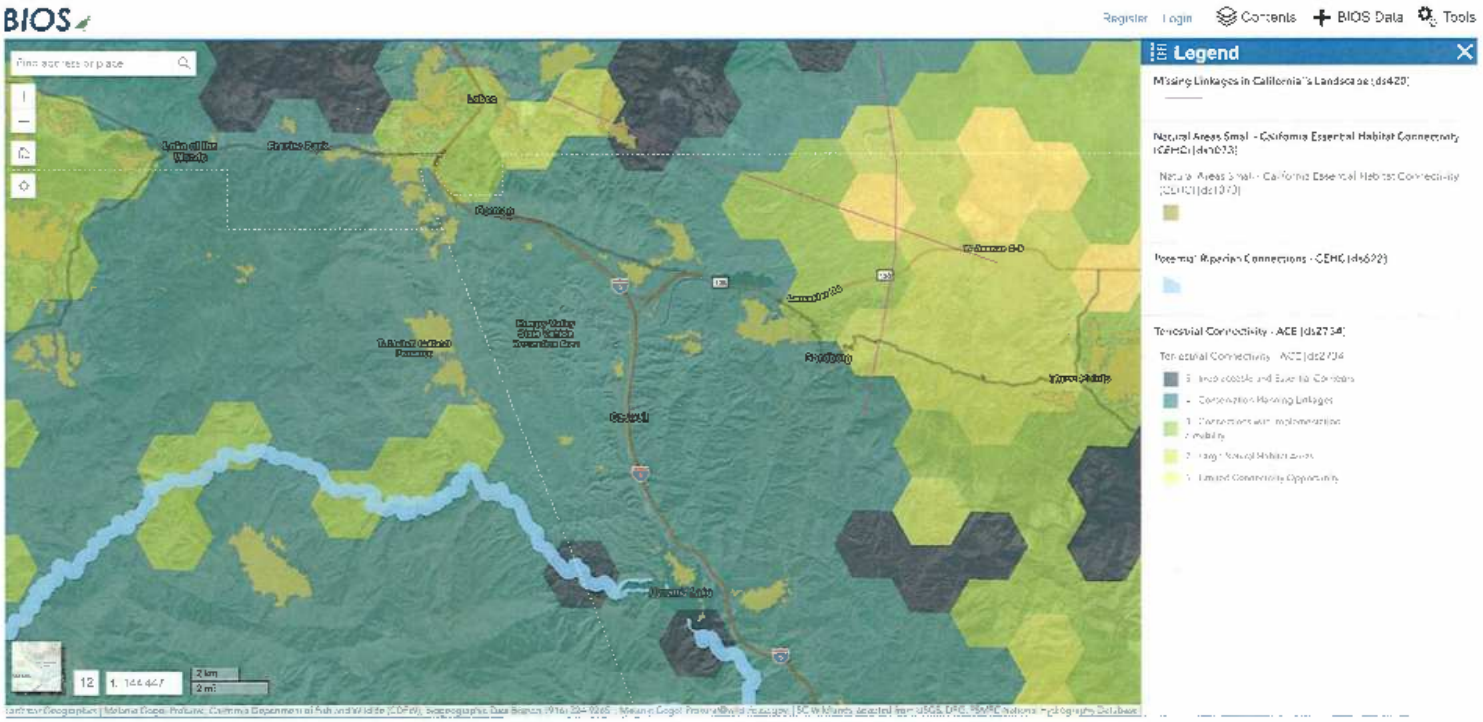
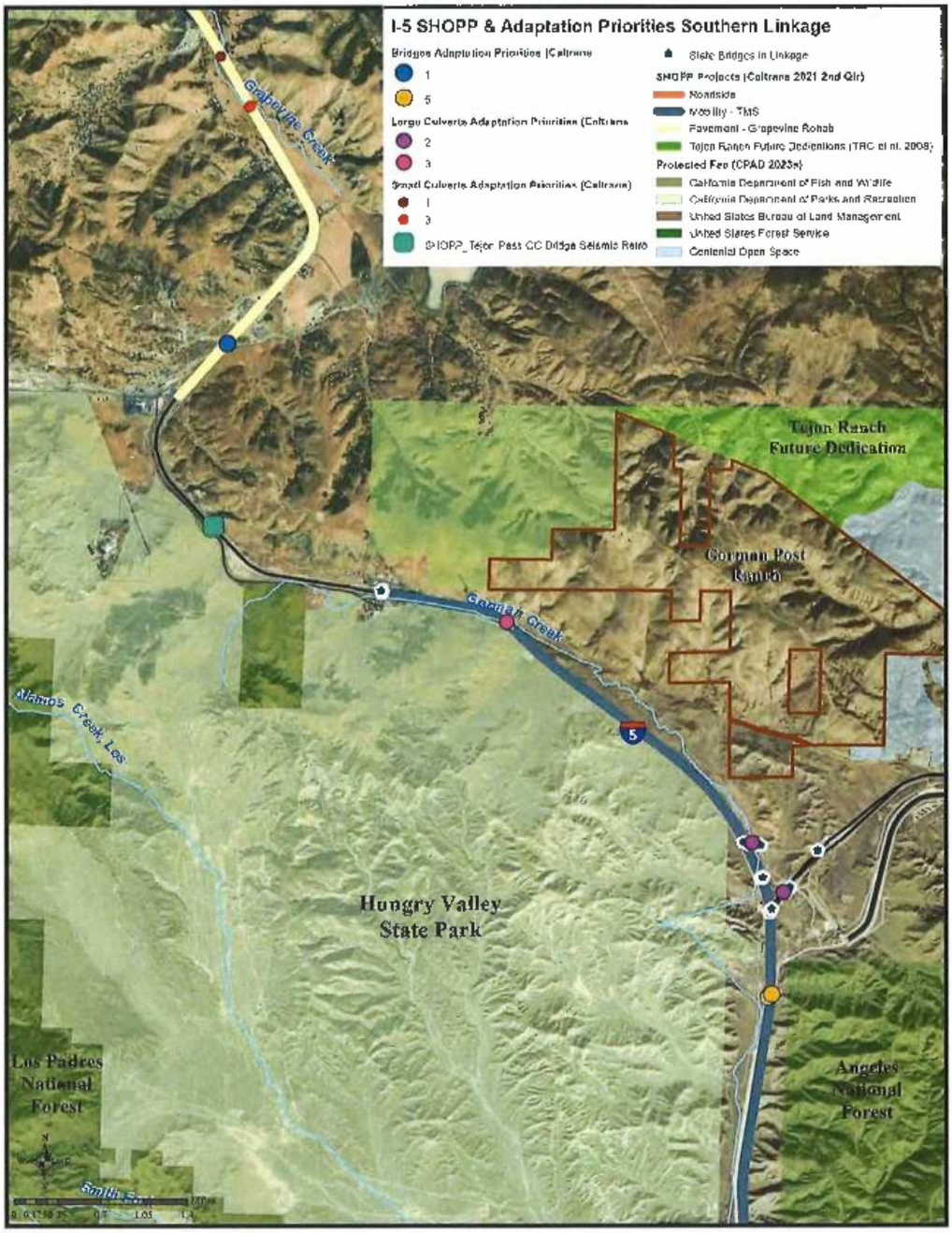


Exhibit D-Caltrans I-5 Adaptation Priorities



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California
Department of Conservation
Geologic Energy Management Division

Gavin Newsom, Governor
David Shabazian, Director
715 P Street, MS 1803
Sacramento, CA. 95814
T: (916) 445-5986

12/05/2023

California Department of Parks and Recreation
Katie Metraux
Katie.Metraux@parks.ca.gov

Construction Site Well Review (CSWR) ID: 1012926

Assessor Parcel Number(s): 0040230045, 0040250055, 3251005045, 3251027902, 3251027903

Property Owner(s): California Department of Parks and Recreation

Project Location Address: 5301 Ralphs Ranch Rd Gorman, California 93243

Project Title: SCH 2023110034 Hungry Valley State Vehicular Recreation Area General Plan Update

Public Resources Code (PRC) § 3208.1 establishes well reabandonment responsibility when a previously plugged and abandoned well will be impacted by planned property development or construction activities. Local permitting agencies, property owners, and/or developers should be aware of, and fully understand, that significant and potentially dangerous issues may be associated with development near oil, gas, and geothermal wells.

The California Geologic Energy Management Division (CalGEM) has received and reviewed the above referenced project dated 12/5/2023. To assist local permitting agencies, property owners, and developers in making wise land use decisions regarding potential development near oil, gas, or geothermal wells, the Division provides the following well evaluation.

The project is located in Los Angeles County, within the boundaries of the following fields:

Any Field

Our records indicate there are 5 known oil or gas wells located within the project boundary as identified in the application.

- Number of wells Not Abandoned to Current Division Requirements as Prescribed by Law and

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Projected to Be Built Over or Have Future Access Impeded by this project: 0

- Number of wells Not Abandoned to Current Division Requirements as Prescribed by Law and Not Projected to Be Built Over or Have Future Access Impeded by this project: 5

- Number of wells Abandoned to Current Division Requirements as Prescribed by Law and Projected to Be Built Over or Have Future Access Impeded by this project: 0

- Number of wells Abandoned to Current Division Requirements as Prescribed by Law and Not Projected to Be Built Over or Have Future Access Impeded by this project: 0

The Division categorically advises against building over, or in any way impeding access to, oil, gas, or geothermal wells. Impeding access to a well could result in the need to remove any structure or obstacle that prevents or impedes access including, but not limited to, buildings, housing, fencing, landscaping, trees, pools, patios, sidewalks, roadways, and decking. Maintaining sufficient access is considered the ability for a well servicing unit and associated necessary equipment to reach a well from a public street or access way, solely over the parcel on which the well is located. A well servicing unit, and any necessary equipment, should be able to pass unimpeded along and over the route, and should be able to access the well without disturbing the integrity of surrounding infrastructure.

There are no guarantees a well abandoned in compliance with current Division requirements as prescribed by law will not start leaking in the future. It always remains a possibility that any well may start to leak oil, gas, and/or water after abandonment, no matter how thoroughly the well was plugged and abandoned. The Division acknowledges wells plugged and abandoned to the most current Division requirements as prescribed by law have a lower probability of leaking in the future, however there is no guarantees that such abandonments will not leak.

The Division advises that all wells identified on the development parcel prior to, or during, development activities be tested for liquid and gas leakage. Surveyed locations should be provided to the Division in Latitude and Longitude, NAD 83 decimal format. The Division expects any wells found leaking to be reported to it immediately.

Failure to plug and reabandon the well may result in enforcement action, including an order to perform reabandonment well work, pursuant to PRC § 3208.1, and 3224.

PRC § 3208.1 give the Division the authority to order or permit the re-abandonment of any well where it has reason to question the integrity of the previous abandonment, or if the well is not accessible or visible. Responsibility for re-abandonment costs may be affected by the choices made by the local permitting agency, property owner, and/or developer in considering the general advice set forth in this

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letter. The PRC continues to define the person or entity responsible for reabandonment as:

1. The property owner - If the well was plugged and abandoned in conformance with Division requirements at the time of abandonment, and in its current condition does not pose an immediate danger to life, health, and property, but requires additional work solely because the owner of the property on which the well is located proposes construction on the property that would prevent or impede access to the well for purposes of remedying a currently perceived future problem, then the owner of the property on which the well is located shall obtain all rights necessary to reabandon the well and be responsible for the reabandonment.

2. The person or entity causing construction over or near the well - If the well was plugged and abandoned in conformance with Division requirements at the time of plugging and abandonment, and the property owner, developer, or local agency permitting the construction failed either to obtain an opinion from the supervisor or district deputy as to whether the previously abandoned well is required to be reabandoned, or to follow the advice of the supervisor or district deputy not to undertake the construction, then the person or entity causing the construction over or near the well shall obtain all rights necessary to reabandon the well and be responsible for the reabandonment.

3. The party or parties responsible for disturbing the integrity of the abandonment - If the well was plugged and abandoned in conformance with Division requirements at the time of plugging and abandonment, and after that time someone other than the operator or an affiliate of the operator disturbed the integrity of the abandonment in the course of developing the property, then the party or parties responsible for disturbing the integrity of the abandonment shall be responsible for the reabandonment.

No well work may be performed on any oil, gas, or geothermal well without written approval from the Division. Well work requiring approval includes, but is not limited to, mitigating leaking gas or other fluids from abandoned wells, modifications to well casings, and/or any other re-abandonment work. The Division also regulates the top of a plugged and abandoned well's minimum and maximum depth below final grade. CCR §1723.5 states well casings shall be cut off at least 5 feet but no more than 10 feet below grade. If any well needs to be lowered or raised (i.e. casing cut down or casing riser added) to meet this regulation, a permit from the Division is required before work can start.

The Division makes the following additional recommendations to the local permitting agency, property owner, and developer:

1. To ensure that present and future property owners are aware of (a) the existence of all wells located on the property, and (b) potentially significant issues associated with any improvements near oil or gas wells, the Division recommends that information regarding the above identified

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well(s), and any other pertinent information obtained after the issuance of this letter, be communicated to the appropriate county recorder for inclusion in the title information of the subject real property.

2. The Division recommends that any soil containing hydrocarbons be disposed of in accordance with local, state, and federal laws. Please notify the appropriate authorities if soil containing significant amounts of hydrocarbons is discovered during development.

As indicated in PRC § 3106, the Division has statutory authority over the drilling, operation, maintenance, and abandonment of oil, gas, and geothermal wells, and attendant facilities, to prevent, as far as possible, damage to life, health, property, and natural resources; damage to underground oil, gas, and geothermal deposits; and damage to underground and surface waters suitable for irrigation or domestic purposes. In addition to the Division's authority to order work on wells pursuant to PRC §§ 3208.1 and 3224, it has authority to issue civil and criminal penalties under PRC §§ 3236, 3236.5, and 3359 for violations within the Division's jurisdictional authority. The Division does not regulate grading, excavations, or other land use issues.

If during development activities, any wells are encountered that were not part of this review, the property owner is expected to immediately notify the Division's construction site well review engineer in the Northern district office, and file for Division review an amended site plan with well casing diagrams. The District office will send a follow-up well evaluation letter to the property owner and local permitting agency.

Should you have any questions, please contact me at (805) 937-7246 or via email at Bruce.Weihs@conservation.ca.gov.

Sincerely,

B

Senior Oil and Gas Engineer

cc: Blake Foreshee - Submitter

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Wells Not Abandoned to Current Division Requirements as Prescribed by Law & Not Projected to be Built Over or Have Future Access Impeded

The wells listed below are not abandoned to current Division requirements as prescribed by law, and based upon information provided, are not projected to be built over or have future access impeded.

API	Well Designation	Operator	Well Evaluations
0411106146	Little Siberia 1		Records indicate that this well was intended to be converted to a water well. The well was drilled and left as-is with no casing installed. CalGEM has no record of this well being plugged and abandoned.
0403706211	Bullock 1		- Surface plug does not meet requirements of § 1723.5. - Hole Fluids do not meet the requirements of § 1723 (b). - Casing shoe plug does not meet the requirements of § 1723.3. NOTE: This well is on APN 3251005045, adjacent to and outside of the project area.
0403706217	Ralphsanch 1		- Surface plug does not meet requirements of § 1723.5. - Casing shoe plug does not meet the requirements of § 1723.3. - Base of fresh water

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			plug does not meet the requirements of § 1723.2 (a). - Hole Fluids do not meet the requirements of § 1723 (b). Records indicate that this well was intended to be converted to a water well. CalGEM has no record of this well being fully plugged and abandoned.
0403706218	Ralphsanch 2		- Casing shoe plug does not meet the requirements of § 1723.3.
0411106147	Schmidt 1		-Casing shoe plug does not meet the requirements of § 1723.3. -Surface plug does not meet the requirements of § 1723.5.

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
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San Diego, CA 92123
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GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

December 18, 2023

Katie Metraux
Project Manager
California Department of Parks and Recreation
Off-Highway Motor Vehicle Recreation Division
Post Office Box 942896
Sacramento, CA 92496
Via email to: info@PlanHungryValley.com

SUBJECT: NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE HUNGRY VALLEY STATE VEHICULAR RECREATION AREA GENERAL PLAN UPDATE, SCH #2023110034

Dear Katie Metraux:

The California Department of Fish and Wildlife (CDFW) received a Notice of Preparation (NOP) from California Department of Parks and Recreation (State Parks) for the Hungry Valley State Vehicular Recreation Area General Plan Update (Project) pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory

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authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.) or the Native Plant Protection Act (NPPA; Fish & G. Code, §1900 et seq.), the Project proponent may seek related take authorization as provided by the Fish and Game Code.

PROJECT DESCRIPTION SUMMARY

Proponent: California Department of Parks and Recreation, Off-Highway Motor Vehicle Recreation Division

Objective: The objective of the Project is to establish the long-range purpose and vision for Hungry Valley State Vehicular Recreation Area (SVRA) and update the current General Plan, which was adopted in 1981. Hungry Valley SVRA includes six land use areas with different characteristics, activities or allowable uses, resources, and related management mandates. The proposed General Plan Update would maintain the existing land use designations while modifying allowable off-highway vehicle (OHV) recreation boundaries of select areas. State Parks would manage natural, cultural, and physical resources to protect the resources' integrity in alignment with the goals and guidelines established in the proposed General Plan Update.

Discrete improvements throughout Hungry Valley SVRA are envisioned with the proposed General Plan Update. These improvements include an additional vehicular access entry, new community event area, and new recreational vehicle (RV) campground with full hookups in the Condor Mesa Area along Frazier Mountain Park Road; a new visitor center, reservable group campground, skills track, and staging area near Smith Forks Campground; a designated unmanned aerial vehicle area within the Quail Canyon Special Event Area; a new kid's track near the Edison Canyon Campground; and formalization of existing trail connections, construction of new trail connections, and paving or repaving of Gold Hill, Hungry Valley, and Quail Canyon roads.

Location: The Hungry Valley SVRA is located in Los Angeles, Kern, and Ventura counties near the communities of Gorman and Lebec, adjacent to Interstate 5 at Tejon Pass. Lands of the Los Padres National Forest are to the west and the Angeles National Forest is to the south and east.

Background: Hungry Valley SVRA was acquired by the state with money from the Off-Highway-Vehicle Fund and has been in operation as an officially recognized SVRA since approximately 1980. Prior to its acquisition by the state, most of the land was privately owned, and control of unlawful riding was difficult. When the state purchased SVRA lands in 1978, OHV activity was heavy in the upper end of Hungry Valley proper, and moderate in the hills overlooking Gorman and on the southern border of the unit.

Biological Setting: Hungry Valley SVRA encompasses approximately 19,625 acres of land dominated by a desert environment. Major vegetation communities include chaparral, pinyon-juniper woodland, native and non-native grasslands, riparian, juniper-yucca open woodland, oak woodland, and rabbitbrush-sagebrush shrubland.

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Hungry Valley SVRA currently includes a unique six-square-mile area along the northern boundary that is covered by native valley grasslands. A management plan formulated in 1981 created the Hungry Valley Native Grasslands Management Area. The recently acquired 845-acre Condor Mesa Area is proposed for inclusion in the Native Grasslands Management Area and would be managed accordingly. With the inclusion of this new area, the Native Grasslands Management Area would increase to almost eight square miles in size. Camping is not permitted in the Native Grasslands Management Area except in the proposed RV campground in the Condor Mesa Area along Frazier Mountain Park Road.

Most of the grassland community on the floor of Hungry Valley is dominated by exotic grasses, including soft chess, cheatgrass, blue grass, and foxtail.

Hungry Valley SVRA also contains a 60-acre Oak Woodland Natural Preserve, which protects an oak woodland habitat and natural seep that provides water for immense valley oaks, with an understory of native grasses. This extremely rare and unique habitat is closed permanently to motorized recreation.

Hungry Valley SVRA has the potential to support various sensitive species, including Crotch's bumble bee (*Bombus crotchii*; CESA candidate endangered), arroyo toad (*Anaxyrus californicus*; Endangered Species Act (ESA)-listed endangered, California Species of Special Concern (SSC)), blunt-nosed leopard lizard (*Gambelia sila*; ESA-and CESA-listed endangered, State Fully Protected Species), California glossy snake (*Arizona elegans occidentalis*; SSC), California legless lizard (*Anniella stebbinsi*; SSC), coast horned lizard (*Phrynosoma blainvillii*; SSC), coastal whiptail (*Aspidoscelis tigris stejnegeri*; SSC), loggerhead shrike (*Lanius ludovicianus*; SSC), burrowing owl (*Athene cunicularia*; SSC), grasshopper sparrow (*Ammodramus savannarum*; SSC), coastal California gnatcatcher (*Polioptila californica californica*; ESA-listed threatened, SSC), tricolored blackbird (*Agelaius tricolor*; CESA-listed threatened), American badger (*Taxidea taxus*; SSC), southern grasshopper mouse (*Onychomys torridus ramona*; SSC), Tehachapi pocket mouse (*Perognathus alticola inexpectatus*; SSC), Townsend's big-eared bat (*Corynorhinus townsendii*; SSC), and pallid bat (*Antrozous pallidus*; SSC).

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist State Parks in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

1) **Crotch's Bumble Bee:** Recently, the California Fish and Game Commission accepted a petition to list the Crotch's bumble bee as endangered under CESA, determining the listing "may be warranted" and advancing the species to the candidacy stage of the CESA listing process. CDFW considers adverse impacts to a species protected by CESA, for the purposes of CEQA, to be significant without mitigation. There is potential for Crotch's bumble bee to occur within the SVRA. Crotch's bumble bees primarily nest in late February through late October underground in abandoned small mammal burrows but may also nest under perennial bunch grasses or thatched annual grasses,

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under-brush piles, in old bird nests, and in dead trees or hollow logs (Williams et al., 2014; Hatfield et al., 2018). Overwintering sites utilized by Crotch's bumble bee queens include soft, disturbed soil (Goulson, 2010), or under leaf litter or other debris (Williams et al., 2014).

CDFW recommends that a qualified entomologist familiar with the species' behavior and life history conduct surveys within one year prior to vegetation removal and/or ground disturbance to determine the presence/absence of Crotch's bumble bee. CDFW has published a Survey Considerations document for CESA Candidate Bumble Bees, which can be found at the following link: https://wildlife.ca.gov/Conservation/CESA. This document describes factors such as evaluating potential for presence, habitat assessment, and survey methods.

2) **Project Description and Alternatives:** To enable CDFW to adequately review and comment on the proposed Project from the standpoint of the protection of plants, fish, wildlife, and natural habitats, we recommend the following information be included in the EIR:

   a. The document should contain a complete discussion of the purpose and need for, and description of, the proposed Project, including all staging areas and access routes to the construction and staging areas.

   b. A range of feasible alternatives should be included to ensure that alternatives to the proposed project are fully considered and evaluated; the alternatives should avoid or otherwise minimize impacts to sensitive biological resources. Specific alternative locations should be evaluated in areas with lower resource sensitivity where appropriate.

3) **Historical Context:** State Parks has been managing Hungry Valley as a SVRA for over 40 years under the guidance of various management plans and programs, including those for soil conservation, wildlife habitat protection, the Native Grasslands Management Area, and invasive plant control. The document should include a discussion of the history of the property, including a comparison of the current condition to that in existence when the original General Plan was adopted in 1981. The document should include the most recent updates to any management plans, as well as a discussion of known management challenges and successful solutions encountered over the years. The document should include a discussion of methods used for control of Dalmatian toadflax (*Linaria dalmatica*), including the use of weevils as biocontrol.

4) **Siting of Facilities and Trails:** The document should include a discussion of the criteria used to select the locations of new facilities, and best management practices for trail siting and design. The discussion should, in particular, address the considerations for natural resources used in the decision making process. Comprehensive biological surveys should be conducted at each proposed facility and trail site, and the survey results should be included in the document.

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5) **Lighting Design:** Artificial night lighting can affect plants and wildlife through attraction and disorientation, loss of connectivity, interference with pollination and foraging, and disruption of circadian rhythms and lunar and seasonal cycles (Barrientos et al 2023). Methods for minimizing adverse effects of artificial night lighting include lighting only where light is necessary, turning lights off when they are not in use (e.g., motion detector), only using as much light as is needed, directing the light only where it is needed, and using the lowest possible correlated color temperature for the goal of the lighting.

   CDFW recommends State Parks prepare a lighting plan that discusses the criteria used in selecting the various types of lighting fixtures, a schedule detailing the hours the various lights will be on, and steps taken by State Parks to minimize adverse effects. If State Parks has developed best management practices for lighting design, those protocols should be discussed in the EIR. If protocols do not yet exist, CDFW recommends State Parks consider adapting the guidance provided in the Bureau of Land Management's Night Sky and Dark Environments: Best Management Practices for Artificial Light at Night on BLM-Managed Lands Technical Note 457 (Sullivan et al., 2023), or other examples of best management practices such as can be found on DarkSky International's website (https://darksky.org/).

6) **Biological Resource Inventory:** The document should provide a complete assessment of the flora and fauna within and adjacent to the Project area, with particular emphasis upon identifying endangered, threatened, sensitive, and locally unique species and sensitive habitats. This should include a complete floral and faunal species compendium of the entire Project site, undertaken at the appropriate time of year. Particular detail should be provided for areas proposed for a change in use or construction activities, and for the newly acquired Condor Mesa Area. The EIR should include the following information.

   a. CEQA Guidelines, section 15125(c), specifies that knowledge on the regional setting is critical to an assessment of environmental impacts and that special emphasis should be placed on resources that are rare or unique to the region.

   b. A thorough, recent floristic-based assessment of special status plants and natural communities, following CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (see https://www.wildlife.ca.gov/Conservation/Plants/Info). CDFW recommends that floristic, alliance-based and/or association-based mapping and vegetation impact assessments be conducted at the Project site and neighboring vicinity. The Manual of California Vegetation, second edition, should also be used to inform this mapping and assessment (Sawyer et al. 2008). Adjoining habitat areas should be included in this assessment where site activities could lead to direct or indirect impacts offsite. Habitat mapping at the alliance level will help establish baseline vegetation conditions.

   c. A current inventory of the biological resources associated with each habitat type on site and within the area of potential effect. CDFW's California Natural Diversity Data

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Base in Sacramento should be contacted at https://www.wildlife.ca.gov/Data/BIOS to obtain current information on any previously reported sensitive species and habitat, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code.

d. An inventory of rare, threatened, endangered, and other sensitive species on site and within the area of potential effect. Species to be addressed should include all those which meet the CEQA definition (see CEQA Guidelines, § 15380). This should include sensitive fish, wildlife, reptile, and amphibian species. Seasonal variations in use of the Project area should also be addressed. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with CDFW and the U.S. Fish and Wildlife Service.

7) **Biological Impacts:** To provide a thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts, the following should be addressed in the EIR.

a. A discussion of potential adverse impacts from lighting, noise, human activity, exotic species, recreational uses, and drainage. Mitigation measures proposed to alleviate such impacts should be included.

b. A discussion regarding indirect Project impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed or existing reserve lands.

8) **Mitigation for Project-related Biological Impacts:** The EIR should include mitigation measures for Project-related impacts to sensitive plants, animals, and habitats. Mitigation measures should emphasize avoidance and reduction of Project impacts. For unavoidable impacts, compensatory mitigation should be discussed in detail.

9) **Incidental Take Authorization:** Take of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.) or the Native Plant Protection Act (NPPA; Fish & G. Code, §1900 et seq.) is prohibited, except as authorized by state law (Fish & G. Code, §§ 2080, 2085).

If the Project, Project construction, or any Project-related activity during the life of the Project will result in take of any such species, CDFW recommends that State Parks seek appropriate take authorization prior to implementing the Project. Appropriate authorization may include an incidental take permit (ITP), a consistency determination, or other options (Fish & G. Code §§ 2080.1, 2081, subds. (b), (c)). Early consultation is encouraged, as significant modification to a Project and mitigation measures may be required to obtain a CESA Permit. Biological mitigation, monitoring, and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA ITP. CDFW may be required to prepare a separate CEQA document for the issuance of an ITP unless the Project CEQA document addresses all Project impacts to

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CESA-listed species and specifies a mitigation, monitoring, and reporting program that will meet the requirements of an ITP.

10) **Wetlands, Streams, and Riparian Areas:** It is the policy of CDFW to strongly discourage development in wetlands or conversion of wetlands to uplands. We oppose any development or conversion that would result in a reduction of wetland acreage or wetland habitat values, unless, at a minimum, Project mitigation assures there will be "no net loss" of either wetland habitat values or acreage. Development and conversion include but are not limited to conversion to subsurface drains, placement of fill or building of structures within the wetland, and channelization or removal of materials from the streambed. All wetlands and watercourses, whether ephemeral, intermittent, or perennial, should be retained and provided with substantial setbacks that preserve the riparian and aquatic values and maintain their value to on-site and off-site wildlife populations. Mitigation measures to compensate for impacts to mature riparian corridors must be included in the EIR and must compensate for the loss of function and value of a wildlife corridor.

CDFW has regulatory authority over activities in streams and/or lakes that will substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank (which may include associated riparian resources) of any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. For any such activities, the Project applicant (or "entity") must provide written notification to CDFW pursuant to section 1600 et seq. of the Fish and Game Code. Based on this notification and other information, CDFW determines whether a Lake and Streambed Alteration Agreement (LSAA) with the applicant is required prior to conducting the proposed activities. CDFW's issuance of a LSAA will require CEQA compliance actions by CDFW as a Responsible Agency. CDFW as a Responsible Agency under CEQA may consider State Parks' Environmental Impact Report for the Project. To minimize additional requirements by CDFW pursuant to section 1600 et seq. and/or under CEQA, the document should fully identify the potential impacts to any stream or riparian resources and provide adequate avoidance, mitigation, monitoring, and reporting commitments for issuance of the LSAA.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). Instructions for submittal are available online at https://wildlife.ca.gov/Data/CNDDB. Additionally, information on special status native plant populations and sensitive natural communities should be submitted to CDFW's Vegetation Classification and Mapping Program. Instructions for submittal are available online at https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities/Submit.

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ENVIRONMENTAL DOCUMENT FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of environmental document filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the environmental document filing fee is required in order for the underlying Project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

CDFW appreciates the opportunity to comment on the NOP to assist State Parks in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Kelly Fisher, Environmental Scientist, (858) 354-5083 or Kelly.Fisher@wildlife.ca.gov.

Sincerely,

DocuSigned by:
David Mayer
D700B4520375406...

David Mayer
Environmental Program Manager
South Coast Region

ec: CDFW
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REFERENCES

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APPENDIX B

Goals and Guidelines

Hungry Valley SVRA General Plan Update – Parkwide Goals and Guidelines

OHV Recreation

OHV GOAL 1: Allow opportunities for distributed OHV recreation in land use areas designated as Distributed Riding.

OHV Guideline 1.1: Manage OHV recreation areas not limited to trails to allow for exploration of the terrain and landscape of Hungry Valley SVRA.

OHV Guideline 1.2: Ensure a variety of recreation opportunities for visitors of different vehicle types and skill levels to participate in distributed OHV recreation.

OHV Guideline 1.3: Evaluate current Distributed Riding Areas and include riding opportunities for a variety of OHV types.

OHV Guideline 1.4: Provide specialty and training tracks for OHV recreation; evaluate the opportunity for additional OHV obstacles and OHV training facilities for visitor use within Distributed Riding Areas.

OHV GOAL 2: Provide opportunities for trails-only OHV recreation in designated areas.

OHV Guideline 2.1: Provide a variety of opportunities for visitors using different vehicle types and with a range of skill levels in trails-only areas.

OHV Guideline 2.2: Evaluate existing specialty, obstacle, and training tracks and identify potential connection points to these facilities from the trail network.

OHV Guideline 2.3: Delineate locations where trails-only OHV recreation is allowed, using maps, wayfinding signs, barricades, best available technology, or other measures so that the locations are clearly known to visitors.

OHV Guideline 2.4: Incorporate interpretive messaging, panels, and educational content that provide information about trails-only areas.

OHV GOAL 3: Prepare a Road and Trail Management Plan that prioritizes a sustainable network of connected OHV trails, promotes maintained OHV trails as the primary means of circulation and connection to recreational opportunities on adjacent public lands, and provides specific guidance and direction for implementing the goals and objectives of the General Plan Update.

OHV Guideline 3.1: Take inventory of existing trails, define a network of open and closed trails (temporarily or permanently), and identify sustainable future trails that incorporate public safety needs and response times.

OHV Guideline 3.2: Follow DPR's best management practices (BMPs) for trail construction, maintenance, and operations and the latest version of the Soil Conservation Standards and Guidelines (DPR 2020).

OHV Guideline 3.3: Evaluate circulation patterns and the need for one-way and vehicle-specific trails.

OHV Guideline 3.4: Include provisions and guidelines in the Road and Trail Management Plan that address the removal or rehabilitation of trails that are not a part of the designated trails system.

OHV Guideline 3.5: Manage the network of trails and areas as a flexible system, to allow changes in the environment from weather, wind, and other natural forces that may shift the location of trails on the ground and create obstacles and barriers that are impassible or present a safety hazard, requiring new routes to be established.

OHV Guideline 3.6: Use all tools (e.g., restoration, signage, interpretation, education, design, enforcement, fencing, barricades) to reduce redundant trails and the proliferation of new trails, and manage trails that have increased in width to meet statutory requirements and ensure the sustainability of Hungry Valley SVRA.

OHV Guideline 3.7: Establish a viable network of State Parks-designated and connected trails and areas that enhance connectivity and improve access to and from unique features and popular destinations.

OHV Guideline 3.8: Ensure that the network of trails and areas provides access to and from established camping areas. Provide varied access and trails whenever possible.

OHV Guideline 3.9: Conduct regular and routine maintenance of the trails network in compliance with the SVRA's Soil Conservation Plan.

OHV Guideline 3.10: Conduct maintenance when natural and unnatural hazards are identified on trails and prioritize areas with high use.

OHV Guideline 3.11: Perform regular maintenance of the trail network and OHV areas to increase visitor and staff use and minimize trail creep (unintended widening or erosion on the outer edges of trails due to frequent use).

OHV Guideline 3.12: Reduce and mitigate impacts on resources that may occur from maintaining and using the trail network.

OHV Guideline 3.13: Strive to minimize emergency response times through trail network maintenance.

OHV GOAL 4: Continue to foster partnerships and coordination with Hungry Valley SVRA adjacent landowners to ensure trail access and connectivity.

OHV Guideline 4.1: Maintain partnerships with adjacent landowners, including the Gorman Joint School District, El Tejon Unified School District, Southern California Edison, USFS, and private landowners to ensure an accessible and connected trails system.

OHV GOAL 5: Evaluate OHV activities for compatibility with surrounding land uses.

OHV Guideline 5.1: Collaborate with the Los Padres and Angeles National Forest managers about regional OHV opportunities, public safety, and trail connectivity to ensure a seamless delivery of recreation services.

OHV Guideline 5.2: Routinely evaluate visitor use and determine what actions, if any, need to be taken to address any adjacent land use issues, such as unauthorized access and incursions in sensitive resource areas.

OHV GOAL 7: Evaluate emerging OHV technology to determine an appropriate management policy for public safety and protection of natural, cultural, and physical resources.

OHV Guideline 7.1: Stay informed about trends and changes in the different types of OHV equipment, including technologies, designs, and interests. Collaborate with OHV clubs, organizations, and industry leaders to learn about OHV recreation trends and visitor interests.

OHV Guideline 7.2: Promote the use of low-emission OHVs to minimize greenhouse gas emissions through interpretation and education programs and social media messaging.

Camping

CP GOAL 1: Provide a variety of camping opportunities and amenities.

CP Guideline 1.1: Provide accessible accommodations so that all visitors can enjoy Hungry Valley SVRA.

CP Guideline 1.2: Keep the public informed about the State Park camping reservation system and other ways to reserve a single or group campsite at the SVRA.

CP Guideline 1.3: Ensure that the availability of camping facilities meets visitor demand while being sustainable and still protecting resources.

CP Guideline 1.4: Develop opportunities for camping in appropriate areas, informal group camping, and additional facilities for group camping.

CP Guideline 1.5: Consider ways of enhancing the camping experience for visitors, such as adding concessions and other camping amenities.

CP Guideline 1.6: Investigate and implement the use of solar and other innovative and renewable technologies to provide power and/or electric vehicle charging stations at or near camp sites.

CP Guideline 1.7: Allow camping activities in the Quail Canyon Special Event Area during special events, with approval of a special permit. These camping activities must be self-contained and adhere to applicable conditions of approval.

CP GOAL 2: Continue to provide opportunities for semi-developed camping while protecting sensitive natural, cultural, and physical resources.

CP Guideline 2.1: Provide amenities and basic facilities that create a semi-developed camping experience for visitors, which may include picnic tables, shade ramadas, gathering areas, vault toilets, and fire rings.

CP Guideline 2.2: Install interpretive and regulatory signage as needed within semi-developed camping areas.

CP Guideline 2.3: Provide and maintain roadways and trails that provide access to and from semi-developed camping areas and can accommodate RVs.

CP Guideline 2.4: Continue maintaining existing semi-developed campsites, including Edison Canyon, Sterling Canyon, Circle Canyon, Cottonwood, Upper Scrub Oaks, Lower Scrub Oaks, Smith Forks, ATV, Aliklik, and Lane Ranch campgrounds.

CP GOAL 3: Create developed camping areas that provide amenities to visitors and attract recreational activity.

CP Guideline 3.1: Construct facilities that offer a more developed camping experience for visitors, including restrooms and showers, RV hookups, gathering areas, amphitheaters,

concessions, picnic tables, and shade ramadas. Proposed areas include the Condor Mesa RV Campground and the ATV Campground.

CP Guideline 3.2: Explore opportunities for support facilities within the developed camping areas of the Honey Valley Group Campground, the Smith Forks Group Campground, and the proposed Condor Mesa RV Campground.

CP Guideline 3.3: Provide and maintain roadways and trails that provide access to and from developed camping areas and can accommodate RVs.

CP Guideline 3.4: Prioritize group camping sites for organizations that support low-income and underserved groups and organizations when possible.

Visitor Experiences and Opportunities

VEO GOAL 1: Allow and encourage a range of recreational uses that are compatible with OHV recreation and the vision for Hungry Valley SVRA.

VEO Guideline 1.1: Encourage uses that are compatible with OHV recreation, including hiking, radio-controlled cars, stargazing, nature viewing, and photography.

VEO GOAL 2: Establish an area for responsible UAV (drone) experiences in Quail Canyon.

VEO Guideline 2.1: Allow drone use in the Quail Canyon Special Event Area in accordance with a restricted schedule and geofencing policies.

VEO Guideline 2.2: Operate drones, including recreational, commercial, and research and public agency UAVs, in compliance with the applicable Superintendent Order which regulates drone use in Hungry Valley SVRA.

VEO GOAL 3: Strive to provide state-of-the-art visitor and management facilities to enhance the operation of Hungry Valley SVRA and visitor experiences.

VEO Guideline 3.1: Continue to provide information about Hungry Valley SVRA to the public, improving access and availability by using online platforms.

VEO Guideline 3.2: Provide adequate visitor orientation with wayfinding, information kiosks, and general signage.

VEO Guideline 3.3: Evaluate the location of facilities to allow effective and efficient visitor use and provide opportunities for social interaction between user groups while minimizing potential user conflicts.

VEO GOAL 4: Continue to develop and expand volunteer programs and partnerships with organizations and agencies to help enhance the visitor experience.

VEO Guideline 4.1: Provide opportunities for visitors to volunteer for management and/or resource protection activities.

VEO Guideline 4.2: Continue collaborating with other public agencies, such as the Los Angeles County Department of Parks and Recreation and the USFS, to offer visitors seamless delivery of recreational experiences.

VEO Guideline 4.3: Foster connections with public agencies and private landowners to enhance recreation opportunities in the region.

VEO Guideline 4.4: Create partnerships that connect Hungry Valley SVRA to the broader region. Consider partnerships with OHV groups, community groups, and local organizations.

VEO GOAL 5: Evaluate opportunities for non-motorized activities in land use areas not designated for OHV recreation.

VEO Guideline 5.1: Evaluate and explore opportunities for non-motorized activities in areas not designated for OHV recreation that do not conflict with OHV recreation.

VEO Guideline 5.2: Continue to promote and encourage visitors to experience the seasonal wildflowers in the SVRA with self-guided tours and viewing areas.

Park Operations

PO GOAL 1: Grow support facilities and provide equipment consistent with the historical and future growth of staffing and Hungry Valley SVRA operations.

PO Guideline 1.1: Assess and prioritize land acquisition opportunities adjacent to Hungry Valley SVRA.

PO Guideline 1.2: Evaluate the need for new or upgraded facilities to increase the effectiveness and visibility of park operations.

PO GOAL 2: Incorporate sustainable design standards and accessible features in the construction of new support facilities.

PO Guideline 2.1: Promote opportunities to incorporate sustainability into Hungry Valley SVRA development, operations, and maintenance. Sustainability initiatives may include

incorporating alternative energy and promoting energy efficiency, water-saving devices and technology, applying Leadership in Energy and Environmental Design (LEED) standards to new construction, incorporating solar panels on existing facilities, and other sustainability initiatives.

PO GOAL 3: Improve facilities while preserving the natural and historical character of the area.

PO Guideline 3.1: Continue to maintain existing facilities, including administrative office buildings, maintenance buildings, storage facilities, visitor centers, and entrance stations, so that park operations are adequate, efficient, and uninterrupted.

PO Guideline 3.2: Routinely evaluate structures to assess the need for upgrades to those facilities.

PO Guideline 3.3: Plan for a new visitor entrance from Frazier Mountain Park Road into the Condor Mesa Area.

PO Guideline 3.4: Prepare a Facilities Management Plan to manage current and future facilities. This plan should be updated on an ongoing basis as needed.

PO GOAL 4: Consider making improvements to existing administrative facilities to support efficient park operations.

PO Guideline 4.1: Evaluate the need for consolidating administrative facilities, and constructing new operational support facilities, in Hungry Valley SVRA. These facilities should be in an area that is easy for staff and visitors to access.

PO GOAL 5: Promote the use of technology and BMPs to improve park operations and the visitor experience.

PO Guideline 5.1: Explore the use of new and emerging technologies for park operations, to enhance the visitor experience. For example, create a GPS-enabled map tools or applications to help staff and visitors navigate, integrate barcodes, quick response (QR) codes, or other technology into interpretive, regulatory, and navigational signage to increase interaction with visitors, enhance understanding, and provide additional information.

PO Guideline 5.2: Support the procurement of technology that improves the effectiveness and efficiency of park operations, such as updating trail mapping using Geographic Information System (GIS) and GPS as needed.

PO Guideline 5.3: Implement the use of drones by State Parks staff for enforcement, research, public safety, education, mapping, and management t, and procure funding for equipment and training.

PO Guideline 5.4: Continue to add improvements such as automatic payment systems at entrance points and electric vehicle charging stations throughout Hungry Valley SVRA.

PO GOAL 6: Continue to develop wayfinding and interpretive signage to communicate with visitors and support the navigation of OHV recreation.

PO Guideline 6.1: Evaluate existing wayfinding and interpretive signage by preparing a unit-wide signage plan, to improve park operations and contribute to a positive visitor experience.

PO Guideline 6.2: Evaluate existing interpretative signage and install additional signage to educate visitors about resource protection, different themes, sharing park rules and regulations, and delineating boundaries.

PO Guideline 6.3: Evaluate existing wayfinding signage and install additional wayfinding signage to reinforce the network of maintained trails and areas and assist in navigation.

PO GOAL 7: Use the appropriate permitting process to regulate non-visitor use and access. A non-visitor is considered a user who visits the park for purposes other than recreational activities, such as filming and other purposes.

PO Guideline 7.1: Continue to issue film permits to allow non-visitors entry. Ensure that the film permits stipulate the standards and regulations for facilitating filming, without compromising the experience for visitors or harming any resources.

PO Guideline 7.2: Use scientific collection permits to regulate access to, and research being performed on State Parks land.

PO GOAL 8: Provide additional staffing and training for park operations staff.

PO Guideline 8.1: Provide and encourage staff to complete appropriate trainings to perform their duties and ensure effective operations.

PO Guideline 8.2: Continue to cross-train seasonal staff with other State Parks units, to increase District efficiency, encourage employee growth, and meet the varying needs of seasonal visitation.

PO Guideline 8.3: Provide on-site housing to support employee needs and increase staff recruitment and retention.

PO Guideline 8.4: Continue specialized safety training for exempt and rank-and-file staff about OHVs and their operation.

PO Guideline 8.5: Hire additional staff, as needed, to support park operations.

Public Safety

PS GOAL 1: Promote staff and visitor safety through a variety of programs, education, and messaging. Make effective public safety a priority.

PS Guideline 1.1*:* Continually evaluate, expand, and adapt the public safety program to increase safety throughout the SVRA (e.g., communicate extreme climate conditions and park closures to the public when they occur).

PS Guideline 1.2: Develop and update public safety messaging about where visitors can seek help in an emergency (e.g., Park contact information, locations with cell phone connectivity) and how to recreate safely. Place public safety messaging at campgrounds, kiosks, and areas where people gather, like day-use picnic and parking/staging areas.

PS Guideline 1.3: Consider a program to train volunteers to promote public safety by assisting with patrols, emergency reporting, and educating the public about safe recreation.

PS Guideline 1.4: Improve and enhance wireless communications facilities and infrastructure for emergency response as needed.

PS Guideline 1.5: Provide adequate staffing to support effective public safety operations, as determined by the District Superintendent or their designee. Staffing should include medical staff, such as first-aid and emergency medical staff, who can provide aid to visitors.

PS Guideline 1.6: Provide training courses for public safety staff to train on Emergency Medical Services (EMS), incident command, search and rescue, high-angle rescue, hoist, land navigation, air operations, active shooter response, communications, OHV operations, and other needs or trends that may emerge.

PS Guideline 1.7: Train public safety staff to seek assistance as needed and/or appropriate from local law enforcement, fire, and Emergency Medical Systems, to respond to medical and other emergencies, conduct search and rescue operations, and conduct in-depth criminal investigations.

PS Guideline 1.8: Monitor and enforce visitor use of appropriate OHV types on trails, based on their respective trail designations.

PS GOAL 2: Ensure the highest standards of public safety within Hungry Valley SVRA, fostering a secure environment for all visitors while accommodating recreational activities.

PS Guideline 2.1: Deploy park rangers for regular patrols, ensuring the safety of visitors and adherence to park rules. Coordinate drone operation with ground patrols for a comprehensive safety approach.

PS Guideline 2.2: Establish protocols for drone usage, including flight paths, altitude limits, and data storage, to ensure privacy and minimize disturbances.

PS Guideline 2.3: Use drones to monitor hard-to-reach areas, large gatherings, or potential hazard zones within the park.

PS Guideline 2.4: Organize periodic "safety blitzes" where enforcement is intensified and presence of State Parks Peace Officers is increased, especially during peak visitor times such as holidays.

PS GOAL 3: Provide specialized training, infrastructure, vehicles, and equipment for law enforcement to implement public safety as appropriate.

PS Guideline 3.1: Continue to offer ATV safety training to staff, in collaboration with the Specialty Vehicle Institute of America (SVIA) and the ATV Safety Institute (ASI), to ensure responsible recreation at Hungry Valley SVRA.

PS Guideline 3.2: Make sure that staff are kept informed and stay up to date with all vehicle safety requirements by facilitating access to courses and training.

PS Guideline 3.3: Continue employing the principles of crime prevention through environmental design (CPTED) to improve safety and security.

PS Guideline 3.4: Provide infrastructure and staging locations to support public safety operations, air medical services, and emergency vehicles.

PS Guideline 3.5: Maintain a fleet of specialized vehicles and equipment that are responsive to the unique needs of Hungry Valley SVRA, including four-wheel drive trucks and sport utility vehicles (SUVs), motorcycles, ATVs, ROVs (side-by-sides), and other similar vehicles.

PS GOAL 4: Maintain and improve coordination between surrounding first responders and State Parks Peace Officers.

PS Guideline 4.1: Coordinate with Hungry Valley SVRA rangers and local dispatch offices in Kern, Los Angeles, and Ventura counties to facilitate emergency and ranger response.

PS Guideline 4.2: Annually review the efficacy of emergency response protocols between Hungry Valley SVRA rangers and local emergency responders to proactively identify and implement any improvements to existing processes.

PS Guideline 4.3: Continue to use support from other non-State Parks individuals and agencies, including supporting responders to medical emergencies, and those who conduct search and rescue operations.

PS GOAL 5: Promote safe and responsible OHV use in educational and interpretive programs that also enforce park rules and encourage responsible visitor use of Hungry Valley SVRA.

PS Guideline 5.1: Adopt safety policies and enforcement mechanisms for the Condor Mesa Area, considering the OHV activities within this area. Safety policies should consider addressing issues such as access, hosting events, hours of operation, lighting, and noise.

PS Guideline 5.2: Continue to promote responsible recreation for visitors by promoting prevention measures and safety education campaigns. These measures should include learning the restrictions and guidelines of the park before visiting, taking precautions when exploring outdoors, and leaving areas improved by picking up trash and not disturbing wildlife and plants.

PS GOAL 6: Encourage OHV riders to complete OHV operation training and adhere to OHV laws, as identified in the applicable California Vehicle Code.

PS Guideline 6.1: Continue to offer visitors OHV training, regarding use of ATVs, motorcycles, and ROVs.

PS Guideline 6.2: Enforce OHV California Vehicle Code Division 16.5 to reinforce safe and responsible OHV operation by users and riders.

PS Guideline 6.3: Promote and enforce OHV requirements (e.g., spark arresters, sound monitoring, emissions requirements) on park visitors for the safe and legal operation of motorized OHVs on public lands.

PS GOAL 7: Ensure adequate access for emergency vehicles at entrances and exits to Hungry Valley SVRA.

PS Guideline 7.1: Design and maintain all access roads and points to enter and exit Hungry Valley SVRA according to applicable safety standards. Public access points include the North Entrance Station, the South Entrance Station, and the Quail Canyon Special Event Area.

PS Guideline 7.2: Evaluate the need for new facilities, additional staging areas, and access routes to support emergency responders and any cooperative agencies providing emergency response services.

PS Guideline 7.3: Install wayfinding and other regulatory signage that increase public safety.

Resource Management

RM GOAL 1: Provide quality OHV recreation while protecting natural and cultural resources. Evaluate and manage current and future designated land use areas to avoid and limit potential impacts on high-quality, sensitive, rare, fragile, significant, or other important natural, cultural, and physical resources

RM Guideline 1.1: Focus OHV recreation in existing high-use areas that already have been disturbed, such as the Distributed Riding Area, Trails-Only Area, and Quail Canyon Special Event Area, and to other areas with low resource value to minimize disturbance to high-quality and undisturbed natural, cultural, and physical resources, such as the Oak Woodland Natural Preserve.

RM Guideline 1.2: When developing the Road and Trail Management Plan, incorporate historical information and the most current monitoring data, and/or complete additional surveys when needed for natural, cultural, and physical resources. Identify adaptive measures based on method, location, sensitivity, or immediate need, and include them in the Road and Trail Management Plan.

RM Guideline 1.3: Apply adaptive management strategies to protect resources while allowing continued high-quality OHV recreation and camping opportunities. Management strategies should consider best available science, statutory requirements, usage patterns, and the results of ongoing monitoring and research. Qualified resource specialists should identify avoidance and mitigation measures as part of all adaptive management efforts and tailor them to the resource(s) in question.

RM Guideline 1.4: Conduct regular resource management training for staff to promote BMPs and ensure compliance with applicable regulations related to natural, cultural, and physical resources. Maintain consistent guidance for appropriate resource management, and communicate any updates based on adaptive management measures at shorter intervals, as needed.

RM GOAL 2: Support ongoing research and collaboration with other organizations that contribute to effective resource management.

RM Guideline 2.1: Promote collaborative research opportunities within Hungry Valley SVRA, ensuring that projects undertaken by external organizations align with SVRA policies and adaptive management techniques, and mitigate impacts on natural, cultural, and physical resources. Evaluate project benefits against potential resource impacts and train external staff in environmental awareness programs before permitting work within the area. Continue to support scientific research and collecting permits and archaeological investigation permits.

RM GOAL 3: Ensure that natural, cultural, and physical material and object collections have a specific connection to Hungry Valley SVRA's natural, cultural, and physical history.

RM Guideline 3.1: Develop a Scope of Collections Statement that describes the existing museum, interpretive, and archaeological collections, their history, and uses, as well as development and management goals for these and future collections. Provide clear guidelines on which objects to seek, acquire, decline, or de-access. Limit collections to those deemed necessary to further the understanding of Hungry Valley SVRA and increase educational and scientific opportunities.

RM Guideline 3.2: Acquire, collect, curate, and when necessary, preserve the archaeological, historic, and natural history materials, objects, and specimens that support interpretive themes and programs relevant to Hungry Valley SVRA's prehistory, ethnography, history, and natural resources, in accordance with the guidelines established in the Scope of Collections Statement.

RM Guideline 3.3: Update collection records, photograph objects, and assign a unique number and affix it to each object following State Parks' guidelines.

RM Guideline 3.4: Transfer to a more suitable location or de-access previously acquired collection items that do not meet State Parks' guidelines or the Scope of Collections Statement guidelines.

RM GOAL 4: Protect sensitive resources by maintaining existing barriers and installing new barriers when appropriate.

RM Guideline 4.1: Barriers should be designed so that they do not attract unwanted attention, detract from the aesthetics of the landscape, or inadvertently impact sensitive resources. Place signage and interpretive materials at all fenced areas to explain the purpose of a closure.

RM Guideline 4.2: Reroute trails when necessary to avoid and protect sensitive resources.

RM Guideline 4.3: Monitor visitor use patterns using UAVs to assess effectiveness of barriers. Monitor for user-created trails and address as soon as possible. Ensure that riders keep off protected landscapes by repairing barriers when damaged and taking necessary enforcement actions when violations are observed in the field.

RM Guideline 4.4: Enhance the protection of sensitive resources by installing new barriers along the existing trail network during natural disasters or after impacts from natural disasters, including fires, floods, landslides, or other similar events. These barriers will serve to safeguard vulnerable areas and prevent further degradation.

RM GOAL 5: Continue to preserve, protect, and maintain the existing preserves, including the Freeman Canyon Cultural Preserve, Gorman Cultural Preserve, Tataviam Cultural Preserve, and Hungry Valley Oak Woodland Natural Preserve.

RM Guideline 5.1: Conduct monitoring of areas that are identified as resource protection areas, including the preserves, and implement adaptive management measures if an observed decline in resource values occurs. If tribal cultural resources have potential to be affected during monitoring and adaptive management actions, tribal coordination will be initiated.

RM Guideline 5.2: Incorporate conservation of natural preserves into the WHPP reporting, so that the ongoing health of sensitive natural resources within them is tracked accurately and responses to any declines occur quickly and appropriately.

RM GOAL 6: Recognize the role of wildland fire as an essential ecological process and natural change agent, and plan fire response accordingly.

RM Guideline 6.1: Prepare a Wildland Fire Management Plan and update it every five years as needed based on new research, technologies, and lessons learned from fire activity in the area.

RM Guideline 6.2: Ensure that mutual aid and local operating agreements cover fire suppression operations and allow scaling based on needs.

RM Guideline 6.3: Minimize impacts on significant natural and cultural resources and essential infrastructure and facilities when conducting fire suppression activities by adhering to local, state, and federal regulations, conducting pre- and post- fire impact assessments to evaluate strategy effectiveness, and maintaining rapid response times throughout the park.

RM Guideline 6.4: Employ suppression techniques that cause the least amount of damage to the environment, such as targeted water drops and controlled burns. Use hand tools and minimal mechanical equipment in sensitive areas to reduce soil disturbance and vegetation damage. Use fire retardants that minimize impacts to human health and the environment.

RM Guideline 6.5: Minimize suppression costs by conducting fire suppression operations when significant threats occur to human life, property, or surrounding communities. Conduct fire suppression operations with consideration for natural fire regimes and potential benefits provided by small-scale, localized and contained wildland fire for ecosystems.

RM Guideline 6.6: Proactively evaluate the risk of fire for infrastructure, property, and other improvements, and implement measures to reduce and mitigate risk of wildfire. Prepare an emergency management and response plan for potential emergencies. This plan should cover wildfire and building fire, earthquakes, and other potential emergencies.

RM Guideline 6.7: Coordinate fire planning for publicly managed lands with adjacent land uses and agencies, while also working closely with local Native American tribes to incorporate traditional wildfire management practices.

RM Guideline 6.8: Conduct management of fuel loading to reduce the severity of wildfires using state-of-the-art sustainable forest management techniques.

Natural Resource Management

NR GOAL 1: Manage Hungry Valley SVRA to maintain a high-quality OHV recreational experience and foster protection and stewardship of natural resources.

NR Guideline 1.1: Locate visitor-serving facilities and trails in areas already subject to disturbance to minimize disturbance to existing intact or sensitive habitat areas. New facilities should be located in areas where disturbance to sensitive resources can be avoided.

NR Guideline 1.2: Route new trails around the edges of high-quality habitat and include appropriately sized buffers from disturbance to avoid direct impacts and habitat fragmentation. Determine the size of the buffers based on site conditions and the habitat requirements of the species known to occupy the habitat.

NR Guideline 1.3: Conduct surveys and mapping of sensitive biological resources, such as special-status species and sensitive habitats, before planning new facilities and trails or expanding or relocating existing facilities and trails.

NR Guideline 1.4: When disturbance to sensitive biological resources is unavoidable, identify and implement appropriate measures to offset those impacts in consultation with a qualified biologist and the appropriate resource agencies depending on the listing or protection status of the resource.

NR Guideline 1.5: Prioritize habitat conservation and improvement when data, trends, and studies indicate declining resource values, such as a reduction in species population or habitat degradation. Consider how impacts may be limited and mitigated through adaptive management actions. Refer to the goals and objectives in the WHPP.

NR Guideline 1.6: Participate in multi-agency groups to coordinate, study, and research management activities for listed species or species of special concern to be responsible protectors and stewards of these resources.

NR Guideline 1.7: Explore the use of management tools on a trial basis to proactively avoid, minimize, and/or mitigate impacts on special-status species while continuing to allow OHV recreation, camping, and other recreational activities where appropriate.

NR GOAL 2: Conduct ongoing inventories of natural resources (flora and fauna).

NR Guideline 2.1: Complete the requirements of the WHPP annually and provide results to State Parks' Off-Highway Motor Vehicle Recreation Division for reporting. Implement the WHPP to develop informed land management decisions affecting natural resources.

NR Guideline 2.2: Conduct surveys for special-status species and identify areas where populations occur as part of the WHPP. Notify appropriate regulatory agencies if a special-status species is found to ensure ongoing statutory compliance and protection of special-status species.

NR Guideline 2.3: Incorporate use of the WHPP data management system to accumulate, standardize, and analyze records of vegetation, wildlife, and habitats in Hungry Valley SVRA and guide adaptive management to sustain populations.

NR Guideline 2.4: Continue to maintain a CDFW permit for collections in the WHPP to conduct monitoring activities with proper handling of wildlife using a collect-and-release approach.

NR GOAL 3: Use an appropriate adaptive management response based on historical and recent data, trends, usage patterns, and required compliance to minimize the loss of native flora and fauna.

NR Guideline 3.1: Adhere to the existing WHPP and update as needed to ensure ongoing protection of plant and wildlife species.

NR Guideline 3.2: If OHV use is determined to be the primary factor in the loss or degradation of a specific habitat, implement a variety of tools to change OHV recreation patterns, including restoration, signage, interpretation and education materials, barriers, fencing, and temporary and permanent closures.

NR Guideline 3.3: Maintain a thriving on-site native plant nursery to support park restoration, landscaping, and the genetic integrity of species found in the park.

NR GOAL 4: Prevent the introduction or spread of non-native invasive and state and federally listed noxious weed species and promote the reduction of existing invasive species populations.

NR Guideline 4.1: Monitor for existing and/or incipient populations of invasive species annually. If new invasive species are documented, implement actions (such as early detection - rapid response [EDRR]) to prevent their establishment and spread before they become established or occupy large portions of Hungry Valley SVRA. Maintain weed management practices consistent with OHMVR Division policies, the Natural Resources chapter of the DOM, or other applicable guidance, based on the best available science.

NR Guideline 4.2: Continue to maintain partnerships with local agricultural commissioners to stay informed and be aware of new invasive species. Participate in parkwide, local, and regional invasive species eradication programs and research to remain informed about non-native invasive species populations and treatment options.

NR Guideline 4.3: Use an integrated pest management (IPM) approach to ensure that the best available methods are implemented to prevent the introduction and control the spread of non-native, invasive species and noxious weeds.

NR Guideline 4.4: Educate visitors and staff about identification of invasive species and appropriate prevention and removal methods.

NR GOAL 5: Protect the Oak Woodland Natural Preserve ecosystem as a rare and sensitive vegetation community and visitor amenity.

NR Guideline 5.1: Continue monitoring activities in the Oak Woodland Natural Preserve such as gathering data and updating the species list.

NR Guideline 5.2: Prepare a hydrologic study to assess the aquifer condition in the Oak Woodland Natural Preserve and provide a baseline for future management.

NR Guideline 5.3: Avoid or minimize activities that may impact the aquifer that sustains the unique habitat in the Oak Woodland Natural Preserve.

NR Guideline 5.4: Develop and implement strategies for the conservation and restoration of the Oak Woodland Natural Preserve to protect native species and prevent habitat loss. This should include identification and protection of key habitat areas, removal of invasive species, and promotion of native plant species' diversity.

NR Guideline 5.5: Educate visitors about the potential impacts of their activities on sensitive vegetation in the Oak Woodland Natural Preserve and encourage practices that minimize harm, such as staying on designated trails and respecting wildlife and plants.

NR Guideline 5.6: Limit visitor use in the Oak Woodland Natural Preserve to non-OHV activities so that natural ecological and scenic values are not altered or disturbed.

NR Guideline 5.7: Conduct management of fuel loading in the Oak Woodland Preserve to reduce the severity of wildfires using state-of-the-art sustainable forest management practices.

NR GOAL 6: Maintain and protect the Native Grasslands Management Area as a sensitive resource and for visitor use.

NR Guideline 6.1: Avoid or minimize activities that have the potential to affect the native grasslands in the Native Grasslands Management Area. Maintain trails-only use in this area.

NR Guideline 6.2: Conduct regular monitoring and assessment of the Native Grasslands Management Area to evaluate the health of the habitat and track changes over time. Use these data to inform adaptive management practices to sustain the unique habitat and ensure the long-term preservation of this valuable resource.

NR Guideline 6.3: Limit intensive fire suppression activities in this sensitive area, such as dozer lines, which have high potential for resource impacts. Use existing OHV trails, retardant drops, and/or handlining to suppress fire or hold fire lines.

NR Guidelines 6.4: Establish designated trails and recreational areas in the Native Grasslands Management Area to guide visitor activities and minimize potential impacts on sensitive habitat. Clearly mark boundaries and provide educational signage to inform visitors about the importance of this resource and the need for responsible behavior.

NR Guideline 6.5: Develop strategies to protect and preserve cultural resources while ensuring their compatibility with the conservation goals of the Native Grasslands Management Area.

NR GOAL 7: Encourage balanced uses that allow for the restoration or enhancement of natural habitats while maintaining a quality OHV recreational experience.

NR Guideline 7.1: As part of the WHPP and ongoing monitoring, identify high-quality or sensitive habitat areas that have been most affected by OHV use or other land uses. Define adaptive management actions to protect these areas from ongoing disturbances. Identify opportunities for local or off-site restoration of analogous habitat types for continued viability of sensitive habitats in Hungry Valley SVRA and the larger ecosystem.

NR Guideline 7.2: Proactively implement adaptive management- including temporary or rotating closures, invasive species management, and habitat enhancement- to allow natural regenerative processes to occur. Use signage to inform visitors of areas that contain sensitive biological resources or are closed. Use interpretive materials to inform visitors of habitat enhancement and restoration activities to promote awareness of environmental stewardship.

NR Guideline 7.3: Continue restoration activities to improve and maintain the health of sensitive habitats.

NR Guidelines 7.4: Continue to work with other local organizations and partners for restoration projects and stewardship activities.

NR Guideline 7.5: Collaborate with local Native American tribes to apply traditional practices for vegetation management, habitat restoration, and fuel reduction.

NR GOAL 8: Build on existing resource management programs with the ongoing collection of information and data, monitoring and analysis of changes, and implementation of measures to help limit habitat degradation and improve ecosystem health.

NR Guideline 8.1: Manage landscapes to preserve natural vegetation and enhance native California plant communities and associated habitat functions and values. Management strategies may include habitat restoration and enhancement, invasive species management, propagation of desired species, fencing or other barriers to protect habitats and encourage recruitment of desired species, prescribed burns, or other management techniques proven beneficial to the maintenance of healthy ecosystems.

NR Guideline 8.2: Apply best available science and ecological knowledge to the management of natural communities and associated habitat functions in Hungry Valley SVRA. Management strategies should take current science and results from ongoing management and research into consideration.

NR Guideline 8.3: Conduct resource protection and habitat rehabilitation after natural disasters, such as a fire or flood, using barriers and exclusions of the affected areas as needed to protect public safety.

Cultural Resource Management

CR GOAL 1: Design and maintain trails and facilities to avoid cultural resources.

CR Guideline 1.1: Design all trails and facilities to avoid or minimize significant impacts on all cultural resources (either as yet undetermined for eligibility, listed resources, or resources determined eligible for listing in the National Register of Historic Properties [NRHP] and California Register of Historic Resources [CRHR]) and all Native American ethnographic resources identified as sacred or culturally significant.

CR Guideline 1.2: Ensure that the maintenance of trails and facilities avoids impacts on cultural resources, particularly when subsurface disturbance is required.

CR Guideline 1.3: Implement appropriate measures, based on project-specific environmental review and consultations, to protect cultural resources during development of the Condor Mesa Area with new trails and facilities.

CR Guideline 1.4: Establish protocols for restoring volunteer trails, based on method, location, sensitivity, or immediate need to minimize impacts on cultural resources. Incorporate protocols into the Road and Trail Management Plan.

CR Guideline 1.5: Prepare and implement an adaptive management strategy for areas of known sensitive cultural resources, based on method, location, sensitivity, or immediate need. Adaptive management measures may include avoidance, rerouting trails, barriers, signage, interpretation and education materials, and enforcement.

CR GOAL 2: Conduct ongoing surveys and inventories for cultural resources and preserve and protect all existing or discovered cultural resources as appropriate.

CR Guideline 2.1: Conduct formal evaluations of cultural resources for significance and integrity, to determine their eligibility for listing in the NRHP and/or CRHR. Consider nominating significant cultural resources, including any potential cultural landscapes, traditional cultural properties, or sacred sites, for listing in the NRHP or CRHR.

CR Guideline 2.2: Prioritize surveys in locations where cultural resources are known to be present, including the Condor Mesa Area and high-use areas.

CR Guideline 2.3: Conduct comprehensive cultural resource assessments within and adjacent to the Oak Woodland Natural Preserve to identify and protect any culturally significant sites. Develop strategies to preserve and interpret these resources in a manner that respects their historical and cultural value.

CR Guideline 2.4: Incorporate all known cultural resources listed or eligible for listing in the NRHP or CRHR into cultural resource management efforts.

CR Guideline 2.5: Develop a Cultural Resources Management Plan, including archaeological, ethnographical, and historical resources, and implement the recommendations of such a plan.

CR Guideline 2.6: Continue to protect and preserve known archeological resources, including those in the Condor Mesa Area.

CR Guideline 2.7: Maintain the boundaries of the Gorman Cultural Preserve, Freeman Canyon Cultural Preserve, and Tataviam Cultural Preserve. Continue to manage these preserves for protection of the unique cultural resources within them.

CR Guideline 2.8: Incorporate information obtained from ongoing local Native American Tribal consultation, ethnographic research, and involvement in programs identifying, documenting, and evaluating cultural resources into the Cultural Resources Management Plan. Identify and evaluate additional Native American cultural resources that may be disclosed or discovered during ongoing consultation and research efforts.

CR Guideline 2.9: Develop an ongoing program to maintain and update the existing cultural resource inventory through site recordation; formal evaluation; GPS recordation; and historical, archaeological, and ethnographic research. Describe this program in detail in the cultural resource management plan.

CR Guideline 2.10: Include all Native American cultural resources that have been identified by local tribes and individuals as sacred or culturally significant into an ongoing cultural resources condition monitoring/assessment program that examines and documents the effects of visitor use and natural erosion. Adaptive management mitigation measures should be developed where considerable damage to sites is identified.

CR Guideline 2.11: Preserve significant cultural resources in place if no future disturbance is foreseen.

CR Guideline 2.12: If curation of cultural resources is warranted, curate these collections at a local curatorial facility or State Parks' State Archaeological Collections Research Facility (SACRF) if appropriate space is not available in the district. Ensure appropriate treatment, preservation, and curation of collections through compliance with State Parks' curation standards and State laws, including Section 5097.991 of the Public Resources Code and Sections 8010 and 8011 of the Health and Safety Code (California Native American Graves Protection and Repatriation Act).

CR Guideline 2.13: Establish an appropriate curation space for archaeological collections if desired to keep archaeological and historical collections at Hungry Valley SVRA. Such a curation space should be large enough to store existing collections and contain enough space for future collections. The space should be climate-controlled and secure, at such locations as the Visitor Center, Cultural/Archaeological Interpretive Center, or other construction, reconstruction, or rehabilitation facilities.

CR GOAL 3: Promote visitor awareness of archaeological resources and proper procedures to be followed if resources are discovered.

CR Guideline 3.1: Raise awareness and promote understanding of archaeological resources by visitors, so that these resources are preserved and valued by visitors and staff alike.

CR Guideline 3.2: Continue ongoing site monitoring of known cultural resources, conducted by trained volunteers. Volunteers should be screened, trained, and evaluated by the State Parks' District Archaeologist. Involve local Native American tribes and industry professionals in training opportunities.

CR Guideline 3.3: Halt work, follow coroner protocol, and notify the District archaeologists in the event that human remains are discovered during operations. If the remains are determined to be Native American, notify the NAHC, which will notify the most likely descendants, who will provide recommendations for treatment of the remains to the District.

CR Guideline 3.4: Develop protection measures for unanticipated discoveries and incorporate these into ongoing resource management efforts, including the Cultural Resources Management Plan. This will include, at minimum, pausing ground-disturbing activities within 50 feet of a find until an approved archaeologist can evaluate the find and recommend appropriate treatment measures.

CR Guideline 3.5: Maintain appropriate confidentiality of all cultural resource locations and the results of Native American consultation, as well as archaeological site information maintained by State Parks, the State Historical Resources Commission, and the State Lands Commission.

CR GOAL 4: Provide cultural resource training, including all current regulatory laws and procedures, to appropriate rangers, managers, and staff.

CR Guideline 4.1: Continue to adhere to the statewide cultural resources program as defined by State Parks' Cultural Resources Division.

CR Guideline 4.2: Actively consult with local Native American tribes and concerned individuals regarding the protection, preservation, and/or mitigation of culturally significant resources. Incorporate recommendations from tribes into ongoing training programs.

CR Guideline 4.3: Provide annual cultural resource training to staff. Include procedures for what to do if cultural resources, and most importantly human remains, are discovered during a project or by a visitor.

CR Guideline 4.4: Involve local Native American guest speakers as participants in cultural resource training for staff.

CR GOAL 5: Work with local California Native American tribes to maintain their continued use of Hungry Valley SVRA for ceremonial and traditional practices and streamline the permitting procedures for such practices.

CR Guideline 5.1: Inform and communicate with the local California Native American tribes and concerned individuals who access and use culturally significant and sacred sites

in Hungry Valley SVRA, in compliance with State Parks' California Native American consultation policy (Departmental Notice, Assembly Bill No. 52, and Implementation Procedures) and with Section 5097.9 of the Public Resources Code.

CR Guideline 5.2: Inform State Parks' Peace Officers about the location of known cultural resources that are most susceptible to looting, vandalism, or damage by visitors. The Peace Officers and cultural staff will coordinate monitoring and enforcement efforts to minimize site impacts, and the Peace Officers will have the latest information on current cultural resource laws.

CR Guideline 5.3: Collaborate with local California Native American tribes to learn about traditional land management and gathering practices, and how to incorporate them into the cultural resource management program.

CR Guideline 5.4: Encourage and facilitate local California Native American tribal use of traditional places for tribal heritage and educational activities, such as tribal gatherings, storytelling, and ceremonies.

CR Guideline 5.5: Develop protocols, agreements, or memorandums of understanding with local California Native American tribes to handle the administration of the permitting process. Such protocols may include annual permitting by a tribal unit/band for members with a tribal identification card, a parking permit, or other letters of authorization for the use of Hungry Valley SVRA for traditional non-recreational activities without having to pay a day-use/parking fee.

Physical Resource Management

PR GOAL 1: Manage Hungry Valley SVRA to conserve water resources while maintaining a quality OHV recreational experience.

PR Guideline 1.1: Prepare a detailed existing conditions hydraulic and hydrologic study, including sediment transport modeling. This study should focus on current sedimentation and hydromodification impacts, particularly as they pertain to sensitive areas.

PR Guideline 1.2: Plan for a new well water treatment center to meet demands and needs of the public and comply with State regulations.

PR Guideline 1.3: Coordinate with the National Weather Service (NWS) to receive data and maintain the existing weather station, which measures rainfall, wind, and other weather data. Consider installing additional weather stations to record microclimates.

PR Guideline 1.4: Prioritize ideal areas for recontouring and natural drainage restoration, detention systems, and erosion control BMPs, with the ultimate goals of shortening slope lengths, reducing runoff velocities, preventing subsequent channel incision and hydromodification impacts, and preventing sediment discharge to a water body.

PR Guideline 1.5: Focus on conservation of water resources, and specifically on Type II watercourses as defined by the Soil Conservation Standard and Guidelines (DPR 2020) and include watercourse protection zones with particular focus on intermittent streams.

PR Guideline 1.6: Implement Soil Conservation Standard and Guidelines recommendations for springs, marshes, and other wet areas and include avoidance of such areas by prohibiting or limiting OHV travel in these areas.

PR Guideline 1.7: Incorporate self-sustaining features to limit water-based erosion in trail management. Identify BMP solutions in the Road and Trail Management Plan to return drainage paths to a more natural hydrologic state, such as modification of existing berms, levees, and/or incised channels, to reduce runoff velocity, enhance sediment control, and minimize trail placement in areas prone to erosion and runoff.

PR Guideline 1.8: Identify locations susceptible to high-velocity runoff during rainfall events and monitor those locations after heavy rainfall to determine whether implementation of restoration measures is needed or if temporary/permanent closure of the area is warranted.

PR Guideline 1.9: Minimize water-based erosion or sedimentation of downstream water bodies by implementing trail closures of more susceptible trails during precipitation events. A list of trails closed during precipitation events is in the Hungry Valley SVRA Soil Conservation Plan. The list should be updated as necessary.

PR Guideline 1.10: Before, during, and after the construction of future facilities, implement all water quality control measures required under the National Pollutant Discharge Elimination System Construction General Permit. Develop a stormwater pollution prevention plan, including the identification of BMPs that must be implemented to reduce water quality degradation of receiving waters during and after construction activities. Incorporate construction BMPs from the OHV BMP Manual (DPR 2007b) or subsequent applicable documents, as appropriate.

PR Guideline 1.11: Manage facilities to accommodate periods of drought or low water supply. Limit the use of water for dust control and use alternative dust suppression methods when appropriate.

PR Guideline 1.12: Restore hydrological systems that may have been severed or rerouted because of OHV activity. This could include restoring hill climbs.

PR GOAL 2: Limit potential air quality impacts within the designated land use areas that could result from construction, maintenance, and OHV recreation activities.

PR Guideline 2.1: Control mobile source emissions using best available control technology. Ensure that OHVs meet adopted State emission standards, set forth by the ARB.

PR Guideline 2.2: Minimize generation of fugitive dust through dust control measures, such as limited watering of trails in high-use areas.

PR Guideline 2.3: Post speed limit signs in non-OHV areas with high erosion potential, to reduce fugitive dust.

PR Guideline 2.4: Implement applicable control measures as identified by the South Coast Air Quality Management District, Ventura County Air Pollution Control District, and San Joaquin Valley Air Pollution Control District, whichever is most restrictive for particulate matter with a diameter of 10 microns or less (PM_{10}).

PR Guideline 2.5: Implement construction BMPs for fugitive dust during construction and maintenance projects (e.g., water to increase soil moisture content, cease dust-generating construction activities when wind speeds exceed 25 miles per hour, construct wind barriers, cover haul trucks). Incorporate construction BMPs from the OHV BMP Manual (DPR 2007b) or subsequent applicable document, as appropriate.

PR Guideline 2.6: Implement South Coast Air Quality Management District, Ventura County Air Pollution Control District, and San Joaquin Valley Air Pollution Control District (whichever is most restrictive) standard construction equipment mitigation measures to reduce exhaust emissions for all projects. Assess the need for additional mitigation measures during project-specific environmental review.

PR Guideline 2.7: Limit idling of construction equipment to no longer than 5 minutes. Promote the limitation on OHV idling through signage and instruction.

PR GOAL 3: Implement strategies to reduce greenhouse gases through adaptation, mitigation, and education strategies.

PR Guideline 3.1: Consider use of alternative-fueled construction equipment and staff vehicles in place of fossil-fueled equipment when feasible.

PR Guideline 3.2: Evaluate the feasibility of providing infrastructure for renewable energy resources, such as electric vehicle charging and solar panels.

PR Guideline 3.3: Prioritize passive heating and cooling in all new facilities, to minimize use of energy resources.

PR Guideline 3.4: Reduce, re-use, and recycle waste generated by operations and visitor activities. Educate visitors on the importance of waste reduction and provide waste and recycling receptacles at convenient locations.

PR Guideline 3.5: Provide accessible and clear wayfinding to minimize unnecessary fuel consumption from visitors getting lost and driving to find their intended destination.

PR GOAL 4: Implement measures to control erosion and conserve soil resources.

PR Guideline 4.1: Implement erosion control measures and guidance as identified in the OHV BMP Manual (DPR 2007b), especially in sensitive areas such as the Condor Mesa Area, along I-5, and in the Oak Woodland Natural Preserve.

PR Guideline 4.2: Prepare and continually update the soil conservation plan, consistent with Section 5090.35(a) of the Public Resources Code and the Soil Conservation Standard and Guidelines (DPR 2020) or subsequent amendments or replacement documents. Incorporate the tools and techniques identified as appropriate to site conditions and use adaptive management to respond to changing site conditions.

PR Guideline 4.3: Manage facilities to meet the Soil Conservation Standard and Guidelines (DPR 2020) or subsequent amendments or replacement documents.

PR Guideline 4.4: Implement various natural and artificial soil enhancements (including soil stabilizers, native vegetation, and geosynthetic materials) to help stabilize slopes. Use natural slope stabilizer materials, such as straw bales or wind fencing, that are certified as free of noxious weed seeds.

PR Guideline 4.5: Identify and monitor locations that may experience erosion or sedimentation significantly affecting resources. Consider all factors contributing to the erosion or soil loss, including natural elements (rainfall, wind) and recreational activities, to determine appropriate conservation tools and techniques to manage erosion potential.

PR Guideline 4.6: Assess, maintain, and monitor OHV use areas with high erosion potential, so that OHV facilities, areas, and trails are managed for sustainable use without generating soil loss beyond repair. Implement measures, such as restricted access, stabilization, or restoration, in areas of concern before substantial or irreparable damage.

PR Guideline 4.7: Prohibit hill climbing in sensitive areas with soil types and conditions susceptible to erosion.

PR GOAL 5: Prohibit degradation of unique geological features and minimize impacts related to geological conditions.

PR Guideline 5.1: Conduct required studies before construction of any structure for human occupancy in Alquist-Priolo fault zones, in accordance with State law.

PR Guideline 5.2: Incorporate the guidance provided in the OHV BMP Manual, or subsequent replacement document, when planning for development of new facilities. Select, implement, and maintain BMPs during and after construction activities, to avoid soil loss and geologic instability.

PR Guideline 5.3: Develop and implement the Facilities Management Plan and make decisions with respect to facilities development, visitor access, and recreation, while recognizing and protecting unique geological features.

PR Guideline 5.4: When feasible, conduct annual surveys of geologic conditions and stability in conjunction with other resource areas, to allow comparison and monitoring of resources. Re-evaluate visitor activities and park operations that have negative impacts on the local soil and geology and limit those activities as necessary.

PR Guideline 5.5: Identify specific locations that show adverse and potentially irreversible geologic damage because of recreational activities or natural causes and prohibit visitor access using signage and installation of gates or other barriers that physically block access to the damaged area, until the area has recovered or been restored.

PR Guideline 5.6: Conduct geologic and soil evaluations before any trail rerouting or trail creation, so that geologic stability is appropriately considered with development of quality OHV experiences.

PR Guideline 5.7: Identify and monitor significant geological features. Consider both natural and human influence on geologic features and take protective measures where necessary**.**

PR GOAL 6: Protect and preserve paleontological resources.

PR Guideline 6.1: Continue to update an inventory of paleontological resources as new resources are found.

PR Guideline 6.2: Consult with paleontological professionals to determine whether unique paleontological resources should be preserved in-place or removed for curation. When in-place protection of a paleontological resource is determined the appropriate protective action, consider if the resource will be best preserved through minimizing public exposure and knowledge of the resource and its location or through physical restriction of access. Base management decisions on the sensitivity of the resource and susceptibility to damage from recreational activities.

PR Guideline 6.3: Avoid construction activities which require substantial ground disturbance (e.g., trenching and/or excavation to depths greater than 5 feet) in areas mapped as high paleontological sensitivity.

PR Guideline 6.4: If paleontological resources are discovered inadvertently during construction activities, cease construction activities within and in the vicinity of the find and consult a DPR archaeologist or other qualified paleontological resource professional to determine the significance of the find. If the fossil is determined to be a unique paleontological resource, develop and implement a recovery plan consistent with Society of Vertebrate Paleontology (SVP 2010) criteria. The recovery plan may include but is not limited to a field survey, construction monitoring, sampling and data recovery procedures, curation for any specimen recovered, and a report of findings.

PR GOAL 7: Promote staff education and visitor awareness of paleontological resources and proper procedures to be followed if fossils are discovered.

PR Guideline 7.1: Continue to implement the CASSP for paleontological and archaeological finds.

PR Guideline 7.2: Provide annual paleontological resource training for staff. Educate field staff (e.g., maintenance staff, trails team members) on what to do if paleontological resources are inadvertently discovered during a project or regular recreation activities. All staff should be educated on immediate actions to take if staff or visitors find a paleontological object.

PR Guideline 7.3: Inform State Parks Peace Officers about areas most likely to contain unique paleontological resources that would be most susceptible to looting, vandalism, damage, or other illegal activities by visitors. Educate State Parks Peace Officers on current laws related to paleontological resources.

PR Guideline 7.4: When protective measures create heightened public awareness of a paleontological resource site (e.g., fencing, other visible measures), consider the opportunity for a public interpretation and education program to educate visitors about the

importance of the resource, the scientific information gained from the resource, and its uniqueness to the local area. Inform visitors of legal recourse for damages or other illegal activities associated with paleontological resources.

PR GOAL 8: Manage Hungry Valley SVRA to maintain current rugged and open aesthetic qualities and reduce visual impacts on surrounding areas that can result from construction, maintenance, and OHV recreation activities.

PR Guideline 8.1: Roads and trails visible from I-5, Gorman, and other surrounding areas should be designed with a low profile to avoid degradation of the public viewshed.

PR Guideline 8.2: Design any new structures to be similar in height, scale, and architectural style to existing structures. Locate structures with minimal impact on the viewshed, particularly from scenic vistas such as the Condor Mesa and Freeman Overlook, and from public vantage points from I-5 and Gorman.

PR Guideline 8.3: Design new structures so that they repeat the basic elements of form, line, color, and texture found in the predominant natural features of the landscape.

PR Guideline 8.4: Minimize potential light pollution or glare from new development, by including shielding on any new light fixtures, angling new light fixtures downward, and avoiding the use of reflective surfaces on any new structures, such as tin roofs or reflective glass, that can produce glare. Ensure interpretation and education programs on the night sky can continue with the addition of new lighting.

PR Guideline 8.5: While maintaining roads and trails, use materials and equipment that does not detract from the aesthetics of the area.

PR Guideline 8.6: Design and construct any new signage in a theme similar to the natural color and characteristics of the landscape.

PR GOAL 9: Manage Hungry Valley SVRA to limit noise levels at surrounding sensitive land uses, both within and outside its boundaries, that may result from construction, maintenance, and OHV recreation activities.

PR Guideline 9.1: Continue to prepare noise studies to assess potential noise impacts from Hungry Valley SVRA uses on nearby properties.

PR Guideline 9.2: Require that noise levels not exceed applicable Los Angeles County, Ventura County, or Kern County (whichever is most restrictive) noise standards for 24-hour exposure at or beyond the Hungry Valley SVRA boundaries.

PR Guideline 9.3: Consider noise impacts on noise-sensitive land uses when developing new trails or OHV use areas.

PR Guideline 9.4: Provide information to Hungry Valley SVRA users about noise regulations that are applicable to the SVRA, and actively enforce those regulations.

PR Guideline 9.5: Make information available to Hungry Valley SVRA users and surrounding communities regarding how to report noise complaints related to SVRA activities.

PR Guideline 9.6: Implement appropriate noise-minimizing measures during construction activities near noise-sensitive land uses (e.g., limiting work to daytime hours, safety alarms only, enclosure of generators). Evaluate the need for specific measures during project--specific environmental review for future projects.

PR Guideline 9.7: Monitor and help reduce potential conflicts between campers, particularly loud music and noise during quiet hours.

Interpretation and Education

IE GOAL 1: Increase visitors' knowledge, understanding, and appreciation of the history of OHV use and current recreational opportunities unique to Hungry Valley SVRA and in the region.

IE Guideline 1.1: Include Hungry Valley SVRA's history of OHV use and current recreational opportunities in all appropriate interpretation materials and programs.

IE Guideline 1.2: Educate visitors about the diversity of recreational experiences offered in Hungry Valley SVRA and the region.

IE Guideline 1.3: Provide information about the region's recreational opportunities, especially on adjacent public lands.

IE Guideline 1.4: Create an environment that allows visitors to find their own value in the stories of past and current recreational opportunities.

IE Guideline 1.5: Collaborate with USFS (Los Padres and Angeles National Forests), DWR, and regional parks and recreation programs to create interpretive materials, orientation signage, and online materials that identify connecting trails and recreational opportunities.

IE Guideline 1.6: Conduct regular visitor surveys to learn about visitor needs and demographics. Use the data to identify target audiences and customize interpretive services and messaging.

IE GOAL 2: Increase visitors' knowledge, understanding, and appreciation for the natural, cultural, and physical resources unique to Hungry Valley SVRA.

IE Guideline 2.1: Allow visitors to understand Hungry Valley SVRA's diverse natural resources. Interpret local ecology and explain the vulnerabilities of sensitive biological resources to human disturbance.

IE Guideline 2.2: Promote understanding of why protection is needed for sensitive natural, cultural, and physical resources, and how visitors' recreational opportunities can be negatively influenced if protection is not afforded to these resources.

IE Guideline 2.3: Interpret the unique ecosystems in the Transverse Range and the plants and wildlife that inhabit it.

IE Guideline 2.4: Highlight opportunities for OHV recreationists, to minimize their impacts on natural resources through engaging, creative interpretive programs that may include the following:

- Information about temporary and rotating area closures, to encourage visitors to allow natural regenerative processes to occur in these areas and foster an understanding of these closures' benefits.
- An explanation of how exotic species have altered the landscape and natural processes.
- The significance of habitat buffers and resource management areas, such as the Native Grasslands Management Area and the Oak Woodland Preserve.

IE Guideline 2.5: Educate visitors to be responsible stewards by interpreting resource management strategies, techniques, and practices.

IE Guideline 2.6: Work with interested parties to provide education about natural ecosystem processes.

IE Guideline 2.7: Provide relevant and thematic interpretive materials that address the sense of place and history.

IE Guideline 2.8: Collaborate with academic institutions, historical societies, and subject matter experts to develop interpretive content on cultural history themes.

IE Guideline 2.9: Develop cultural resource content that explores how and what can be learned from consulting with Native American tribes about the material culture, cultural landscapes, traditional cultural sites, and cultural site management. Consult regularly with these tribes and encourage partnerships to develop and present interpretive programs.

IE Guideline 2.10: Provide programs highlighting astronomy, using various interpretive methods and programs. Include opportunities for day and nighttime observations of the sky.

IE Guideline 2.11: Develop Science, Technology, Engineering, Art, and Math (STEAM) related content about Hungry Valley SVRA's natural history, including paleontology, archaeology, geology, and hydrology.

IE Guideline 2.12: Interpret specific ways that global climate change may affect Hungry Valley's resources and identify measures that visitors can take to reduce climate change.

IE Guideline 2.13: Create special activities year-round, tied to natural history, history, and/or cultural traditions.

IE GOAL 3: Increase visitor's knowledge, understanding, and appreciation for the early history of Hungry Valley SVRA and the surrounding area.

IE Guideline 3.1: Educate visitors on the importance of the early history of Hungry Valley SVRA including Native American habitation, Spanish exploration, and early ranching settlements.

IE Guideline 3.2: Highlight the significance of the Gorman Ranch and other cattle ranches from the late 1800s.

IE Guideline 3.3: Develop a section of the Hungry Valley SVRA website dedicated to the history of the area.

IE Guideline 3.4: Organize interpretive workshops that delve into specific historical topics, such as tribal traditions, Spanish exploration, and the cattle ranching in the late 1800s.

IE Guideline 3.5: Create interactive exhibits at the Visitor Center that delve into the history of the area and showcase artifacts, photographs, and documents demonstrating its role in the region's development.

IE GOAL 4: Provide interpretive and education materials and programs that respond to the available resources and meet the individual needs and interests of a diverse visitor population.

IE Guideline 4.1: Provide relevant and thematic interpretive content, materials, and programs that meet visitors' specific needs and interests.

IE Guideline 4.2: Offer interpretive facilities, programming, and services to people with visual, hearing, mobility, or other special needs.

IE Guideline 4.3: Ensure that interpretive content and material meet State Park's Interpretation and Education standards, policies, and BMPs.

IE Guideline 4.4: Ensure that interpretation programs and materials address multiple learning styles, incorporate modern technology, and accommodate people with diverse abilities through varied interpretive techniques and media.

IE Guideline 4.5: Produce printed materials as needed to educate visitors on Hungry Valley SVRA's history, natural history, and programs, and enhance their learning experience.

IE Guideline 4.6: When possible, offer interpretive and education materials, programs, brochures, maps, and online content in Spanish and other languages, as appropriate.

IE Guideline 4.7: Identify strategies and implementation methods for overcoming language, education, and economic barriers during interpretive and education planning and development phases.

IE Guideline 4.8: Provide in-person interpretation, when possible, via permanent and seasonal staff, volunteers, and partner organizations.

IE Guideline 4.9: Develop a variety of entertaining, innovative interpretive and education services to capture visitor attention and involve visitors of all ages and backgrounds.

IE Guideline 4.10: Continually develop and redefine programs to use current and future technologies to interpret park resources while preserving effective traditional methods and techniques of interpretation.

IE GOAL 5: Expand the understanding and increase the awareness of the ecological relationships and diversity of human activities, past and present, unique to Hungry Valley SVRA.

IE Guideline 5.1: Consult with local Native American tribes, community organizations, academic institutions, schools, and subject matter experts, so that the interpretive and education content is relevant, accurate, and appropriate.

IE Guideline 5.2: Create opportunities for ongoing research, capturing new information about the area's resources and historical events or traditions that may be interpreted.

IE Guideline 5.3: Develop content for historical resources that expands on the General Plan Update's cultural resource themes.

IE Guideline 5.4: Provide programs that identify how cultures have used or developed technologies to use area resources, resulting in changes to the environment.

IE Guideline 5.5: Provide programs that identify how the environment has shaped the cultures of the people who lived in the Hungry Valley SVRA vicinity.

IE GOAL 6: Promote outreach efforts and partnerships with local organizations that develop and implement interpretive planning, programming, and education.

IE Guideline 6.1: Attend local and regional special events to promote Hungry Valley SVRA and its interpretive and recreational offerings.

IE Guideline 6.2: Collaborate with schools and colleges to develop educational curricula, programs, and opportunities for young people to learn about Hungry Valley SVRA's cultural and natural resources.

IE Guideline 6.3: Coordinate the interpretation of local resources through collaborative partnerships with other interpretation and education providers.

IE Guideline 6.4: Partner with local resorts, chambers of commerce, organizations with similar or complementary goals, concessionaires, and government agencies to include information about Hungry Valley SVRA on their websites.

IE Guideline 6.5: Partner with OHV clubs and organizations to promote Hungry Valley SVRA's recreational opportunities, safe and responsible OHV recreation, and interpretive services.

IE Guideline 6.6: Encourage recreational organizations to assist in developing interpretive and education programs in Hungry Valley SVRA, emphasizing the contributions of recreational groups and OHV clubs.

IE Guideline 6.7: Encourage cultural organizations to develop interpretive and education programs in Hungry Valley SVRA, emphasizing the contributions of ethnic and cultural groups.

IE Guideline 6.8: Focus outreach efforts on providing OHV opportunities for youth, especially underserved youth.

IE Guideline 6.9: Provide camping facilities (i.e., cabins) to support environmental learning programs and camping for youth, underserved communities, or other groups.

IE Guideline 6.10: Work with other organizations to provide programs for underserved community members and youth for educational and recreational experiences.

IE GOAL 7: Review existing interpretive and education programs and implement new programs, identified through the interpretive planning process.

IE Guideline 7.1*:* Develop an interpretation master plan (IMP) and action plan for Hungry Valley SVRA as a long-range master plan for interpretation. The IMP should expand on the goals and guidelines identified in this General Plan Update and provide greater background and context. It should define the objectives, methodologies, and concepts for achieving the goals stated in the General Plan Update. Furthermore, the IMP should analyze existing interpretive conditions and explore opportunities for expanding interpretation, safety, conservation, and visitor outreach.

IE Guideline 7.2: Evaluate traditional, new, and innovative technologies and techniques to determine the most effective methods of communications in interpretive and education programs and facilities.

IE Guideline 7.3: Alter interpretive and education programs to keep pace with any changes in resources, facilities, and visitor demographics.

IE GOAL 8: Provide support and services that address recreational, interpretive, and education needs.

IE Guideline 8.1: Train all staff—including maintenance staff, park rangers, park aides, volunteers, and concessionaires—in using effective interpretive techniques and sound park practices.

IE Guideline 8.2: Maintain an up-to-date, well-organized reference library, accessible to staff, volunteers, concessionaires, and businesses on Special Event Permits.

IE Guideline 8.3: Develop interpretive resources for concessions that feature park resources, visitor safety information, and recreational opportunities that will guide interpretive programs and help answer frequently asked questions.

IE Guideline 8.4: Provide staff and volunteers with ongoing interpretive and resource learning opportunities.

IE Guideline 8.5: Provide adequate office and storage space for interpretive staff and volunteers to maintain their equipment, collections, objects, and supplies.

IE Guideline 8.6: Provide adequate transportation of staff and volunteers and their interpretive equipment and displays into the field for mobile field exhibits and outreach programs.

IE GOAL 9: Develop facilities to address the interpretive needs of Hungry Valley SVRA and its visitors to enhance each visitor's recreational experience.

IE Guideline 9.1*:* Provide trailside interpretive panels at key destinations, overlooks, and popular gathering areas. Develop wayside exhibits and orientation panels near trails that offer opportunities to observe the natural and cultural landscape. Consider offering these panels as digital media on Hungry Valley SVRA's website, relevant social media sites, and as printed media for outreach events and interpretive programs.

IE Guideline 9.2: Improve wayfinding signage along trails and at trailheads, using a consistent signage format.

IE Guideline 9.3: Consider using interpretive kiosks at campgrounds and places where people gather, to provide updated park information and messages about trail conditions, closures, and safety. Consider developing LED message boards at entrance kiosks, radio messaging in Hungry Valley SVRA, and phone applications to reach visitors on site.

IE Guideline 9.4: Regularly update park information online and on social media platforms.

IE Guideline 9.5: Develop interpretive spaces/facilities that are designed for different modes of interpretation and education, to provide permanent and/or temporary exhibit spaces for highlighting Hungry Valley SVRA's resources.

IE Guideline 9.6: Use mobile exhibits to increase the flexibility and mobility of interpretive services.

IE GOAL 10: Continue to support interpretation and education efforts to increase the safety and awareness of visitors participating in OHV recreation.

IE Guideline 10.1: Work with interested parties to develop interpretive resources, programs, and opportunities regarding safe and responsible OHV recreation.

IE Guideline 10.2: Use a broad range of interpretive techniques to deliver general information and OHV recreation safety messages by developing educational campaigns for social media platforms; using established safety campaign media and materials that are customized for specific use; developing short informative videos around safety gear, what to bring on a ride, trail etiquette, using hand signals, and what to do in case of an accident; using hands-on and interactive interpretive programs to demonstrate OHV safety; and attending outreach events (e.g., community and regional special events).

IE Guideline 10.3: Explore training programs that lead to ATV Safety Institute safety certification for adults and youth.

IE Guideline 10.4: Collaborate with organizations such as the Motorcycle Safety Foundation and the ATV Safety Institute to provide additional opportunities for safety certification. Include safety training opportunities for ROVs and other vehicle types.

IE Guideline 10.5: Expand opportunities for underserved youth, to learn about safe, responsible OHV operation. .

IE Guideline 10.6: Develop an effective and comprehensive education program to promote visitor safety that recognizes the inherent hazards of the area's climate, geology, wildlife, and vegetation.

IE Guideline 10.7: Customize safety messaging for diverse cultural groups and languages.

IE GOAL 11: Create a comprehensive strategy for interpretation and educational programs that will help to establish a culture of sustainability in which practices that preserve the environment and enhance individuals' quality of life become part of everyday living.

IE Guideline 11.1: Provide interpretation and education on topics such as climate change, cultural and natural resources, and ecological relationships.

IE Guideline 11.2: Develop content about the effects of climate change on Hungry Valley SVRA and the Transverse Range ecosystem.

IE Guideline 11.3: Interpret sustainability initiatives and inspire visitors to adopt similar measures in their daily lives, including during OHV recreation.

IE Guideline 11.4: Provide opportunities for visitors to gain an understanding of regional and local water quality issues, including the importance of water quality protection

measures being implemented at Hungry Valley SVRA. Interpret the on-site surface water drainage system and potential water quality pollution sources, infiltration properties of the local soils, and the importance of on-site treatment measures (e.g., sediment basins and vegetative buffers).

IE Guideline 11.5: Promote on-site water conservation to visitors.

IE Guideline 11.6: Highlight opportunities for OHV recreationists to minimize their impacts on natural and cultural resources through engaging and creative interpretive and education programs. Seek assistance in developing creative interpretive programs from outside organizations.

IE Guideline 11.7: Interpret the OHMVR Division carbon reduction goals and inspire visitors to adopt similar measures in their daily lives, including during OHV recreation.

Concessions

CO GOAL 1: Continue to allow mobile concessions and promote permanent concession contracts consistent with the purpose and vision of Hungry Valley SVRA to enhance the visitor experience.

CO Guideline 1.1: Evaluate existing and proposed concessions so that they advance the mission of State Parks and the OHMVR Program and support the vision for Hungry Valley SVRA in the General Plan Update.

CO Guideline 1.2: Consider preserving the character of Hungry Valley SVRA by having the Hungry Valley SVRA District Superintendent or designee limit the overall number and areas for concessions.

CO Guideline 1.3: Consolidate the number of Special Event Permits issued by offering concession contracts compatible with services provided in Gorman, thus enhancing available services for park visitors.

CO GOAL 2: Evaluate and implement new types of concessions.

CO Guideline 2.1: Follow the standard process established by State Parks and any applicable sections of the California Public Resources Code, including §5080.02 et seq., or any local, State, and federal regulations to establish new concessions.

CO Guideline 2.2: Explore new opportunities for adding new types of concessions, in response to recreational trends and demographic changes that address needs at the regional and statewide levels.

CO GOAL 3: Continue to allow mobile concessions within Quail Canyon.

CO Guideline 3.1: Continue to allow mobile concessions within Quail Canyon only in designated areas. Allow operation of mobile concessions outside these areas only after the approvals of the State Parks Concession Program and Hungry Valley SVRA District Superintendent or designee.

CO Guideline 3.2: Restrict staging areas for mobile concessions to designated areas within Quail Canyon, to minimize impacts on the visitor experience and natural and cultural resources.

CO Guideline 3.3: Maintain a catalog of preapproved staging areas for mobile concessions, following the approval of the State Parks Concession Program and Hungry Valley SVRA District Superintendent or designee.

CO Guideline 3.4: Ensure that new mobile concessions within Quail Canyon adhere to the requirements in the State Parks Concession Program.

CO GOAL 4: Continue to allow permanent existing concessions within the designated "Activity Center" near the ATV Campground.

CO Guideline 4.1: Continue to only allow permanent concessions adjacent to the ATV Campground and in those areas that are designated for concessions.

CO Guideline 4.2: Evaluate the suitability of potential new locations for permanent concessions by conducting preliminary surveys for significant natural, cultural, and physical resources.

CO Guideline 4.3: Ensure that new permanent concessions adhere to the requirements of the State Parks Concession Program, including environmental review before approval. Require applicants to be responsible for conducting environmental review and/or covering the costs of services, including technical review, implementation, monitoring, administration, and ensuring compliance with permit conditions.

CO GOAL 5: Effectively manage mobile and permanent concessions.

CO Guideline 5.1: Ensure that staff work with concession applicants to accurately exchange information and streamline the review process, and that a clear understanding exists about the application process among the involved parties.

CO Guideline 5.2: Establish operational restrictions for concessions, to limit and control lighting and sound as well as the hours, days, and seasons of operation, to preserve the

natural, cultural, rugged, and open qualities for visitors as established by the Hungry Valley SVRA District Superintendent or designee.

CO Guideline 5.3: Enforce product and service restrictions for concessions, which may include limitations on the types of goods and services offered, so that they enhance the visitor experience and minimize redundancy among concessionaires.

Special Events

SE GOAL 1: Provide opportunities for a wide range of special events that minimize impacts on natural, cultural, and physical resources, and are compatible with overall management of Hungry Valley SVRA.

SE Guideline 1.1: Review the type, nature, and size of special events, so that they are compatible with the purpose and vision established in this General Plan Update.

SE Guideline 1.2: Explore and assess opportunities to offer new and/or expanded special events, to enhance offerings to diverse groups of visitors.

SE Guideline 1.3: Continue to allow a range of special events that promote Hungry Valley SVRA and foster its presence as a community asset and resource to a variety of users.

SE Guideline 1.4: Pursue partnerships with organizations to augment the overall visitor experience for special events, including those for children or OHV races, among others.

SE GOAL 2: Regularly evaluate the special event permitting process, so that it remains efficient, streamlined, and up-to-date, to continue to meet the needs of visitors.

SE Guideline 2.1: Ensure that staff working with special event applicants accurately exchange information for a streamlined review process, and that a clear understanding exists of the permitting process among the involved parties.

SE Guideline 2.2: Ensure that all staff collaborate in issuance of special event permits, to adhere to the conditions of permits comprehensively, collectively, and independently, and that staff follow internal policies and BMPs to achieve safe and successful events.

SE Guideline 2.3: Routinely assess the existing permit application forms, systems, and processes, to identify any inefficiencies, improve the overall permitting process, and standardize it for all those involved.

SE GOAL 3: Ensure that the special event permitting process includes safety, resource protection, and appropriate fee requirements.

SE Guideline 3.1: Ensure that special event permits include fees for the full cost recovery of services provided by State Parks, including trash containment, crowd and traffic management, and resource management (i.e., review, implementation, monitoring, administration, and mitigation of events, as determined by the Hungry Valley SVRA District Superintendent or designee).

SE Guideline 3.2: Ensure that special events remain consistent with the standards included in the Soil Conservation Plan, the WHPP, noise monitoring, and other applicable management actions. Special events also may require approval of an emergency management and response plan (including a layout map detailing emergency service routes, a parking plan, and a traffic management plan). The parking and traffic management plans should be designed and implemented by the applicant to accommodate an increase in parking demand and traffic flow during the proposed special event, as well as including dust control measures. Additionally, large events will need to have either a wildfire mitigation plan or onsite fire personnel and emergency medical response to minimize impacts on existing SVRA personnel and ensure visitor safety.

SE Guideline 3.3: Stipulate additional conditions for proposed special events that do not meet the requirements of the State Parks special event permit, to mitigate potential impacts identified as part of CEQA review.

SE Guideline 3.4: Review special events for the need to administer additional fees and/or complete additional CEQA review, including events which use vendors, include services, food, and/or alcohol, or activities that restrict public access, or request exclusive use of an area. Additional review may be required by other permitting agencies.

SE GOAL 4: Continue to allow opportunities to host special events within the Quail Canyon Special Event area and the proposed community event area in Condor Mesa.

SE Guideline 4.1: Limit the quantity, extent, and location of special events within the Quail Canyon and Condor Mesa Special Event areas during peak use times, to maintain adequate capacity for both special events and public use.

SE Guideline 4.2: Consider allowing the use of special event facilities and areas at Quail Canyon and Condor Mesa for other activities when they are not in use for special events, if those activities do not affect sensitive resources or the enjoyment of visitors.

SE GOAL 5: Coordinate with special event sponsors, so that special events are well managed and appropriate visitor services are available.

SE Guideline 5.1: Coordinate with sponsoring organizations regarding scheduling, operations, and management of special events. Issue a special event permit to event coordinators, in compliance with applicable regulations and policies that detail sponsor obligations.

SE Guideline 5.2: Delineate the locations for special events, including staging areas, using maps, signs, barricades, best available technology, or other measures, so that the locations are easily identifiable to visitors and guests and minimize potential resource impacts.

SE Guideline 5.3: Encourage the use of preapproved staging areas, routes, and facilities by special event permittees, to help minimize the need for additional staff review and fees.

SE Guideline 5.4: Maintain a catalog of preapproved routes, staging areas, and facilities.

SE Guidelines 5.5: Manage special events by implementing necessary control measures for safety and to reduce impacts. Special event permit conditions may include addressing overflow, restroom facilities, speed limits for staging areas, noise compliance, and parking management, among others.

SE Guidelines 5.6: Evaluate existing utilities and the need for upgrades to accommodate a special event and any concessionaires associated with the special event.

SE Guidelines 5.7: Assess the need to plan, design, and implement new facilities in designated special event areas that can support increased demand for parking, emergency evacuation, and concessions.

APPENDIX C

Development Assumptions

Hungry Valley SVRA General Plan EIR
Project Details and Assumptions Used for Analysis

Development Assumptions

The table below shows assumptions about the proposed improvements in Hungry Valley SVRA which provide the basis of the technical analysis in the EIR.

Table 1. Development Assumptions for Proposed Hungry Valley SVRA Facilities

Use/Facility	Estimated Size (square feet, # of campsites, etc)	General Disturbance Area	Other amenities, improvements, or details?
Operational support offices near Gorman	10,000 sf	100,000 sf	Access already available from Gorman School Road. Parking improvements assumed to be made behind existing Ranger Station separate from the General Plan.
Visitor center	1,000 sf Assumed slight increase beyond size of existing visitor center	2,000 sf	Disturbance area assumed to include any access improvements. Assumed to be in existing disturbed areas next to Smith Forks Campground. No utility connections.
New group campground near ATV campground	Max 50 vehicles, 161,000 sf Assumed to be similar size as existing Honey Valley Group Campground	161,000 sf	Disturbance area assumed to include any access improvements. Facilities would include vault toilets, shade ramadas, fire rings.
New RV campground with full hook-ups	Max 20 vehicles; 200,000 sf Assumed to be a similar capacity as other RV campgrounds in State Parks system and limited by terrain and size of available space in Condor Mesa Area next to Frazier Mountain Park Road.	200,000 sf	Disturbance area assumed to include any access improvements from Frazier Mountain Park Road. Utility hook-ups for RVs would be provided by connecting to existing utilities in Frazier Mountain Park Road. Facilities would include vault toilets.
New skill track	3-5 acres Estimated to be similar size to existing ATV	No excavation or grading needed; obstacles would be placed on-grade.	N/A

Use/Facility	Estimated Size (square feet, # of campsites, etc)	General Disturbance Area	Other amenities, improvements, or details?
	Practice Track in Hungry Valley SVRA.		
New kid's practice track	1 acre Estimated to be similar size to existing mini-track near Smith Forks Campground in Hungry Valley SVRA.	No excavation or grading needed; obstacles would be placed on-grade.	N/A
Condor Mesa Community Event Area	Assumed to be captured in disturbance area for RV campground.	Assumed to overlap with disturbance area estimated for RV campground.	Shade ramadas and picnic tables anticipated. No large-scale special events are anticipated. Expected to be a community gathering area, used for smaller interpretive events or group gatherings.
New staging area	0.75 acre	0.75 acre	Designated parking area, shade ramadas, and OHV loading/off-loading ramps.
New trails	New OHV trails would be located within previously disturbed road or trail footprints. No new development or disturbance proposed.	Trails already exist. No new development or disturbance proposed.	Signage would be installed at junction of new trails to indicate extent of trails, safety information, and any other restrictions.
Shade ramadas and picnic tables	40 total Expected to be constructed in proposed RV campground, group campground, and Condor Mesa Community Event Area.	Included in disturbance area above for new campgrounds	N/A
Restrooms (vault toilets)	5 vault toilets, 50 sf per toilet = 250 sf total	75 CY of excavated material, 0.1 acre graded area. Included in disturbance area above for new campgrounds, with minor added excavation.	N/A
EV charging stations	Approximately 3,000 square feet each (enough for about 10-12	12,000 square feet in total	Solar-powered; no utility connections required.

Use/Facility	Estimated Size (square feet, # of campsites, etc)	General Disturbance Area	Other amenities, improvements, or details?
	charging slots), 4 proposed in total across the park = 12,000 sf.		
Paving of Hungry Valley Road	12.5 acres of paving (estimated area of existing road based on width/length)	Improvements would occur largely within the existing road footprint. No expansion of road or new vehicle access.	Drainage improvements along road to convey and/or treat additional runoff would be required and included in road area.
Paving of Quail Canyon Road	3.3 acres of paving (estimated area of existing road based on width/length)	Improvements would occur largely within the existing road footprint. No expansion of road or new vehicle access.	Drainage improvements along road to convey and/or treat additional runoff would be required and included in road area.

General Plan Implementation Timeline

- A 30-year planning horizon through 2054 was assumed for the General Plan.
- Only one site element is expected to be constructed per year based on funding and staffing limitations.
- The earliest possible year of construction was 2025, which is more conservative than later years of construction and use. This is due to expected improvements in fuel and energy efficiency which would be phased in over time in response to state mandates.

Visitation and Vehicle Use Estimates

- Baseline annual attendance for 2021 and 2022 recorded by State Parks using standard DPR 449 forms was 137,918 visitors and 106,986 visitors, respectively.
- Maximum attendance on peak day in recent years was approximately 2,200 visitors (on January 31, 2021, when there were 856 paid day-use vehicles and 12 overnight campsites)
- Estimated increase in visitation was based on size of proposed facilities, as outlined in Table 1 above, and potential for some of these facilities to attract new visitors to Hungry Valley SVRA.
- No increase in staffing beyond baseline conditions was assumed.
- Vehicle trips and OHV use was extrapolated from projected visitation increases based on standardized methodologies used in SVRAs across California. This includes:
    - 2.5 visitors per paid day-use vehicle
    - 2.5 visitors per overnight campsite
    - 1.5 OHVs per vehicle
    - OHV mix of 35% ATVs, 45% motorcycles, 10% utility vehicles, and 10% 4x4s.
    - Average of 1.5 hours of OHV riding at an average of 15 miles per hour (i.e., 22.5 miles per OHV per day)

- Visitors assumed to travel from three major population centers in the bordering counties (City of Los Angeles, City of Ventura, and City of Bakersfield). Travel distances from these cities was assumed to calculate vehicle miles traveled from potential new visitors to the park. An equal split between these three cities was assumed for potential new visitors.

Table 2 below shows the estimated visitation increase due to proposed facilities under the General Plan Update.

Table 2. Projected visitation Increases due to proposed facilities (peak day)

Use/Facility	Estimated # of vehicles at maximum capacity	# of Visitors (peak day)[1]	# of OHVs[2]	Vehicle Trips[3]
RV Campground	20	50	30	40
New group campground	50	125	75	100
Condor Mesa Community Event Area/new access from Frazier Mtn Park Rd	20	50	30	40
New skill track/practice track/trails	10	25	15	20
Total:	**100**	**250**	**150**	**200**

Notes:
[1]Assumes 2.5 visitors per vehicle consistent with formal State Parks attendance reports (DPR 449s)
[2]Assumes 1.5 OHVs per vehicle
[3]Daily vehicle trips assumes one trip to and from the site (i.e., double the # of vehicles observed on-site).

Table 3 below shows the projected visitation increases calculated above for a peak day, compared to baseline attendance numbers.

Table 3. Projected visitation increases compared to existing attendance (peak day)

	# of Vehicles (peak)	# of Visitors (peak)[1]	# of OHVs[2]	Vehicle Trips (peak)[3]
Existing Hungry Valley SVRA	868	2170	1302	1736
Proposed w/ GP Update	968	2420	1452	1936
Net change:	*100*	*250*	*150*	*200*
Percent change:	*+11.5%*			

Notes:
[1]Assumes 2.5 visitors per vehicle consistent with formal State Parks attendance reports (DPR 449s)
[2]Assumes 1.5 OHVs per vehicle
[3]Daily vehicle trips assumes one trip to and from the site (i.e., double the # of vehicles observed on-site).

Additionally, average daily visitation under the General Plan Update was calculated based on an estimated 10 percent increase from baseline over the life of the plan (through 2054). This corresponds with the estimated visitor increases from the new facilities detailed in Table 1, when compared to baseline peak day conditions. It was reduced slightly from the percent increase calculated for peak days because it's expected that the new facilities would not operate at max capacity year-round and the average daily increase in visitors would be less than that experienced on peak days.

APPENDIX D

Air Quality Calculations

Operational Emissions Summary

Hungry Valley General Plan Update

Operational Emissions Criteria Air Pollutants Summary (lbs/day) - Maximum

Project	Source	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ Operational Support Offices	Area	0.304161	0.298192	0.00366	0.434927	2.59431E-05	0.000772514		0.000772514	0.000583984		0.000583984		1.788467	1.788467	7.50291E-05	1.53446E-05		1.794915
	Energy	0.007845	0.003922	0.071316	0.059906	0.000427897	0.005420036		0.005420036	0.005420036		0.005420036		211.3274	211.3274	0.02350436	0.002096437		212.5397
	Water												3.806788	9.662313	13.4691	0.391565151	0.009422616		26.06617
	Waste												5.012131	0	5.012131	0.500944472	0		17.53574
	Refrig.																	0.02432	0.02432
	Total Emissions	0.312006	0.302114	0.074976	0.494833	0.00045384	0.00619255	0	0.00619255	0.00600402	0	0.00600402	8.818918	222.7781	231.5971	0.916089013	0.011534397	0.02432	257.9609
HV GPU_ Visitor Center	Area	0.030416	0.029819	0.000366	0.043493	2.59431E-06	7.72514E-05		7.72514E-05	5.83984E-05		5.83984E-05		0.178847	0.178847	7.50291E-06	1.53446E-06		0.179491
	Energy																		
	Water												0.34058	0.962486	1.303065	0.035044345	0.000844512		2.430838
	Waste												0.501213	0	0.501213	0.050094447	0		1.753574
	Refrig.																	0.002432	0.002432
	Total Emissions	0.030416	0.029819	0.000366	0.043493	2.59431E-06	7.72514E-05	0	7.72514E-05	5.83984E-05	0	5.83984E-05	0.841793	1.141332	1.983125	0.085146295	0.000846046	0.002432	4.366336
HV GPU_ New Group Campground	Area	0.004385	0.004385	0	0	0	0		0	0		0		0	0	0	0		0
	Energy	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Water												0	0	0	0	0		0
	Waste												0	0	0	0	0		0
	Total Emissions	0.004385	0.004385	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HV GPU_ New RV Campground	Area	0.005397	0.005397	0	0	0	0		0	0		0		0	0	0	0		0
	Energy	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Water												0	0	0	0	0		0
	Waste												0	0	0	0	0		0
	Total Emissions	0.005397	0.005397	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HV GPU_ New Skill Track and Kid's Practice Track	Area	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Energy	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Water												0	0	0	0	0		0
	Waste												0	0	0	0	0		0
	Total Emissions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HV GPU_ New Staging Area	Area	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Energy	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Water												0	0	0	0	0		0
	Waste												0	0	0	0	0		0
	Total Emissions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HV GPU_ EV Charging Stations	Area	0.001858	0.001858	0	0	0	0		0	0		0		0	0	0	0		0
	Energy	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Water												0	0	0	0	0		0
	Waste												0	0	0	0	0		0
	Total Emissions	0.001858	0.001858	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		TOG	**ROG**	**NOx**	**CO**	**SO_2**	**PM10E**	**PM10D**	**PM10T**	**PM2.5E**	**PM2.5D**	**PM2.5T**	**BCO_2**	**$NBCO_2$**	**CO_2T**	**CH_4**	**N_2O**	**R**	**CO_2e**
	Total Non-Mobile Operational Emissions	**0.354062**	**0.343573**	**0.075342**	**0.538326**	**0.000456435**	**0.006269801**	**0**	**0.006269801**	**0.006062418**	**0**	**0.006062418**	**9.660711**	**223.9195**	**233.5802**	**1.001235308**	**0.012380443**	**0.026752**	**262.3272**
	Total Area	0.346217	0.34	0.00	0.48	0.00	0.000849765	0	0.000849765	0.000642382	0	0.000642382	0	1.967313	1.967313	8.2532E-05	1.68791E-05	0	1.974406
	Total Energy	0.007845	0.00	0.07	0.06	0.00	0.005420036	0	0.005420036	0.005420036	0	0.005420036	0	211.3274	211.3274	0.02350436	0.002096437	0	212.5397
	Mobile Exhaust		5.30	3.43	148.69	0.07			0.88			0.43							
	Fugitive Dust		0.00	0.00	0.00	0.00			419.98			42.00							
	Total Daily Operational		5.65	3.51	149.23	0.07			420.87			42.44							

Hungry Valley General Plan Update

Operational Emissions Criteria Air Pollutants Summary (lbs/day) - Average

Project	Source	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ Operational Support Offices	Area	0.304161	0.298192	0.00366	0.434927	2.59431E-05	0.000772514		0.000772514	0.000583984		0.000583984		1.788467	1.788467	7.50291E-05	1.53446E-05		1.794915
	Energy	0.007845	0.003922	0.071316	0.059906	0.000427897	0.005420036		0.005420036	0.005420036		0.005420036		211.3274	211.3274	0.02350436	0.002096437		212.5397
	Water												3.806788	9.662313	13.4691	0.391565151	0.009422616		26.06617
	Waste												5.012131	0	5.012131	0.500944472	0		17.53574
	Refrig.																	0.02432	0.02432
	Total Emissions	0.312006	0.302114	0.074976	0.494833	0.00045384	0.00619255	0	0.00619255	0.00600402	0	0.00600402	8.818918	222.7781	231.5971	0.916089013	0.011534397	0.02432	257.9609
HV GPU_ Visitor Center	Area	0.030416	0.029819	0.000366	0.043493	2.59431E-06	7.72514E-05		7.72514E-05	5.83984E-05		5.83984E-05		0.178847	0.178847	7.50291E-06	1.53446E-06		0.179491
	Energy	0.000784	0.000392	0.007132	0.005991	4.27897E-05	0.000542004		0.000542004	0.000542004		0.000542004		21.13274	21.13274	0.002350436	0.000209644		21.25397
	Water												0.34058	0.962486	1.303065	0.035044345	0.000844512		2.430838
	Waste												0.501213	0	0.501213	0.050094447	0		1.753574
	Refrig.																	0.002432	0.002432
	Total Emissions	0.031201	0.030211	0.007498	0.049483	4.5384E-05	0.000619255	0	0.000619255	0.000600402	0	0.000600402	0.841793	22.27407	23.11586	0.087496731	0.00105569	0.002432	25.62031
HV GPU_ New Group Campground	Area	0.004385	0.004385	0	0	0	0		0	0		0		0	0	0	0		0
	Energy	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Water												0	0	0	0	0		0
	Waste												0	0	0	0	0		0
	Total Emissions	0.004385	0.004385	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HV GPU_ New RV Campground	Area	0.005397	0.005397	0	0	0	0		0	0		0		0	0	0	0		0
	Energy	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Water												0	0	0	0	0		0
	Waste												0	0	0	0	0		0
	Total Emissions	0.005397	0.005397	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HV GPU_ New Skill Track and Kid's Practice Track	Area	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Energy	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Water												0	0	0	0	0		0
	Waste												0	0	0	0	0		0
	Total Emissions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HV GPU_ New Staging Area	Area	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Energy	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Water												0	0	0	0	0		0
	Waste												0	0	0	0	0		0
	Total Emissions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HV GPU_ EV Charging Stations	Area	0.001858	0.001858	0	0	0	0		0	0		0		0	0	0	0		0
	Energy	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Water												0	0	0	0	0		0
	Waste												0	0	0	0	0		0
	Total Emissions	0.001858	0.001858	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Total Non-Mobile Operational Emissions	**0.354847**	**0.343966**	**0.082474**	**0.544316**	**0.000499225**	**0.006811805**	**0**	**0.006811805**	**0.006604422**	**0**	**0.006604422**	**9.660711**	**245.0522**	**254.7129**	**1.003585744**	**0.012590086**	**0.026752**	**283.5812**
Total Area	0.346217	0.339651	0.004026	0.47842	2.85374E-05	0.000849765	0	0.000849765	0.000642382	0	0.000642382	0	1.967313	1.967313	8.2532E-05	1.68791E-05	0	1.974406
Total Energy	0.008629	0.004315	0.078448	0.065896	0.000470687	0.005962039	0	0.005962039	0.005962039	0	0.005962039	0	232.4601	232.4601	0.025854796	0.00230608	0	233.7937
Mobile Exhaust		0.80	0.52	22.47	0.01			0.13			0.06							
Fugitive Dust		0.00	0.00	0.00	0.00			65.91			6.95							
Total Daily Operational		1.15	0.60	23.02	0.01			66.05			7.02							

Hungry Valley General Plan Update

Operational Emissions Criteria Air Pollutants Summary (tons/year for criteria air pollutants; MT for GHG emissions) - Annual

Project	Source	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ Operational Support Offices	Area	0.048344	0.047807	0.000329378	0.039143	2.33488E-06	6.95263E-05		6.95263E-05	5.25586E-05		5.25586E-05		0.146022	0.146022	6.12588E-06	1.25284E-06		0.146549
	Energy	0.001432	0.000716	0.013015218	0.010933	7.80913E-05	0.000989157		0.000989157	0.000989157		0.000989157		34.98766	34.98766	0.003891415	0.000347089		35.18837
	Water												0.630257	1.599706	2.229963	0.064828079	0.001560022		4.315552
	Waste												0.829815	0	0.829815	0.082937074	0		2.903242
	Refrig.																	0.004026	0.004026
	Total Emissions	0.049776	0.048523	0.013344596	0.050076	8.04261E-05	0.001058683	0	0.001058683	0.001041715	0	0.001041715	1.460073	36.73339	38.19346	0.151662694	0.001908363	0.004026	42.55774
HV GPU_ Visitor Center	Area	0.004834	0.004781	3.29378E-05	0.003914	2.33E-07	6.95263E-06		6.95263E-06	5.25586E-06		5.25586E-06		0.014602	0.014602	6.13E-07	1.25E-07		0.014655
	Energy																		0
	Water												0.056387	0.15935	0.215737	0.005801991	0.000139819		0.402453
	Waste												0.082982	0	0.082982	0.008293707	0		0.290324
	Refrig.																	0.000403	0.000403
	Total Emissions	0.004834	0.004781	3.29378E-05	0.003914	2.33488E-07	6.95263E-06	0	6.95263E-06	5.25586E-06	0	5.25586E-06	0.139368	0.173953	0.313321	0.014096311	0.000139944	0.000403	0.707835
HV GPU_ New Group Campground	Area	0.0008	0.0008	0	0	0	0		0	0		0		0	0	0	0		0
	Energy	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Water												0	0	0	0	0		0
	Waste												0	0	0	0	0		0
	Total Emissions	0.0008	0.0008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HV GPU_ New RV Campground	Area	0.000985	0.000985	0	0	0	0		0	0		0		0	0	0	0		0
	Energy	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Water												0	0	0	0	0		0
	Waste												0	0	0	0	0		0
	Total Emissions	0.000985	0.000985	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HV GPU_ New Skill Track and Kid's Practice Track	Area	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Energy	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Water												0	0	0	0	0		0
	Waste												0	0	0	0	0		0
	Total Emissions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HV GPU_ New Staging Area	Area	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Energy	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Water												0	0	0	0	0		0
	Waste												0	0	0	0	0		0
	Total Emissions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HV GPU_ EV Charging Stations	Area	0.000339	0.000339	0	0	0	0		0	0		0		0	0	0	0		0
	Energy	0	0	0	0	0	0		0	0		0		0	0	0	0		0
	Water												0	0	0	0	0		0
	Waste												0	0	0	0	0		0
	Total Emissions	0.000339	0.000339	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		TOG	**ROG**	**NOx**	**CO**	**SO_2**	**PM10E**	**PM10D**	**PM10T**	**PM2.5E**	**PM2.5D**	**PM2.5T**	**BCO_2**	**$NBCO_2$**	**CO_2T**	**CH_4**	**N_2O**	**R**	**CO_2e**
	Total Non-Mobile Operational Emissions	**0.056735**	**0.055428**	**0.013377534**	**0.053991**	**8.06596E-05**	**0.001065635**	**0**	**0.001065635**	**0.001046971**	**0**	**0.001046971**	**1.599441**	**36.90734**	**38.50678**	**0.165759006**	**0.002048307**	**0.004429**	**43.26558**
	Total Area	0.055303	0.054712	0.000362316	0.043058	2.56837E-06	7.64789E-05	0	7.64789E-05	5.78144E-05	0	5.78144E-05	0	0.160625	0.160625	6.73847E-06	1.37812E-06	0	**0.161204**
	Total Energy	0.001432	0.000716	0.013015218	0.010933	7.80913E-05	0.000989157	0	0.000989157	0.000989157	0	0.000989157	0	34.98766	34.98766	0.003891415	0.000347089	0	**35**
	Total Water																		**5**
	Total Waste																		**3**
	Mobile Exhaust		0.15	3.69	12.54	0.00			0.02			0.01							**198.31**
	Fugitive Dust		0.00	0.00	0.00				29.58			2.94							
	Total Annual Operational		0.20	3.70	12.60	0.00			29.61			2.95							**242**

Construction Emissions Summary

Hungry Valley General Plan Update

Unmitigated Construction Emissions Criteria Air Pollutants Summary (lbs/day)

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ Operational Support Offices	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	0.560276	0.470787	4.160862	5.567513	0.00793	0.212686		0.212686	0.195671		0.195671		858.9385	858.9385	0.034842	0.006968		861.8862
		Dust From Material Movement							0.206798	0.206798		0.022329	0.022329							
		Worker	0.023645	0.020944	0.026731	0.285223	0	0	0.065355	0.065355	0	0.015319	0.015319		63.87801	63.87801	0.003252	0.00248	0.006999	64.7054
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.560276	0.470787	4.160862	5.567513	0.00793	0.212686	0.206798	0.419483	0.195671	0.022329	0.218	0	858.9385	858.9385	0.034842	0.006968	0	861.8862
		Max Daily Total	0.58392	0.491731	4.187593	5.852736	0.00793	0.212686	0.272152	0.484838	0.195671	0.037648	0.233319	0	922.8166	922.8166	0.038094	0.009449	0.006999	926.5916
HV GPU_ Operational Support Offices	3.3 Grading (2025) - Unmitigated	Off-Road Equipment	1.293226	1.086669	10.06696	10.04956	0.015819	0.463789		0.463789	0.426686		0.426686		1713.898	1713.898	0.069523	0.013905		1719.78
		Dust From Material Movement							2.089746	2.089746		1.004475	1.004475							
		Worker	0.035467	0.031416	0.040097	0.427835	0	0	0.098032	0.098032	0	0.022979	0.022979		95.81701	95.81701	0.004878	0.00372	0.010498	97.0581
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	1.293226	1.086669	10.06696	10.04956	0.015819	0.463789	2.089746	2.553535	0.426686	1.004475	1.431161	0	1713.898	1713.898	0.069523	0.013905	0	1719.78
		Max Daily Total	1.328692	1.118085	10.10706	10.47739	0.015819	0.463789	2.187778	2.651567	0.426686	1.027453	1.454139	0	1809.715	1809.715	0.074401	0.017625	0.010498	1816.838
HV GPU_ Operational Support Offices	3.5 Building Construction (2025) - Unmitigated	Off-Road Equipment	0.619493	0.520547	5.140012	6.939117	0.01205	0.217626		0.217626	0.200216		0.200216		1304.758	1304.758	0.052927	0.010585		1309.236
		Worker	0.015203	0.013616	0.017108	0.201097	0	0	0.041827	0.041827	0	0.009804	0.009804	0	42.77663	42.77663	0.002081	0.001587	0.172637	43.47079
		Vendor	0.002486	0.00146	0.065474	0.020235	0.000369	0.000737	0.014023	0.01476	0.000737	0.003874	0.004611	0	50.54041	50.54041	0.00099	0.007624	0.14283	52.96183
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.619493	0.520547	5.140012	6.939117	0.01205	0.217626		0.217626	0.200216		0.200216		1304.758	1304.758	0.052927	0.010585		1309.236
		Max Daily Total	0.637182	0.535622	5.222594	7.160449	0.012419	0.218363	0.05585	0.274213	0.200953	0.013679	0.214631	0	1398.075	1398.075	0.055998	0.019797	0.315467	1405.668
HV GPU_ Operational Support Offices	3.7 Paving (2025) - Unmitigated	Off-Road Equipment	0.60748	0.507709	4.373764	5.311636	0.008574	0.193886		0.193886	0.178376		0.178376		823.4262	823.4262	0.033402	0.00668		826.252
		Worker	0.082756	0.073304	0.093559	0.998281	0	0	0.228741	0.228741	0	0.053617	0.053617		223.573	223.573	0.011381	0.008681	0.024496	226.4689
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.60748	0.507709	4.373764	5.311636	0.008574	0.193886		0.193886	0.178376		0.178376		823.4262	823.4262	0.033402	0.00668		826.252
		Max Daily Total	0.690236	0.581013	4.467322	6.309917	0.008574	0.193886	0.228741	0.422628	0.178376	0.053617	0.231992	0	1046.999	1046.999	0.044783	0.015361	0.024496	1052.721
HV GPU_ Operational Support Offices	3.9 Architectural Coating (2025) - Unmitigated	Off-Road Equipment	0.154832	0.12796	0.88228	1.139843	0.001726	0.027427		0.027427	0.025232		0.025232		133.5224	133.5224	0.005416	0.001083		133.9806
		Architectural Coatings	4.636334	4.636334																
		Worker	0.003027	0.002681	0.003422	0.036509	0	0	0.008365	0.008365	0	0.001961	0.001961		8.176385	8.176385	0.000416	0.000317	0.000896	8.282291
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	4.791165	4.764294	0.88228	1.139843	0.001726	0.027427	0	0.027427	0.025232	0	0.025232	0	133.5224	133.5224	0.005416	0.001083	0	133.9806
		Max Daily Total	4.794192	4.766974	0.885701	1.176352	0.001726	0.027427	0.008365	0.035792	0.025232	0.001961	0.027193	0	141.6988	141.6988	0.005832	0.001401	0.000896	142.2629
HV GPU_ Operational Support Offices		**Max Daily Localized**	**4.79**	**4.76**	**10.07**	**10.05**	**0.02**	**0.46**	**2.09**	**2.55**	**0.43**	**1.00**	**1.43**	**0**	**1713.898**	**1713.898**	**0.069523**	**0.013905**	**0**	**1719.78**
		Max Daily Total	**4.79**	**4.77**	**10.11**	**10.48**	**0.02**	**0.46**	**2.19**	**2.65**	**0.43**	**1.03**	**1.45**	**0**	**1809.715**	**1809.715**	**0.074401**	**0.019797**	**0.315467**	**1816.838**

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ Visitor Center	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	0.560276	0.470787	4.160862	5.567513	0.00793	0.212686		0.212686	0.195671		0.195671		858.9385	858.9385	0.034842	0.006968		861.8862
		Dust From Material Movement							0.206798	0.206798		0.022329	0.022329							
		Worker	0.023645	0.020944	0.026731	0.285223	0	0	0.065355	0.065355	0	0.015319	0.015319		63.87801	63.87801	0.003252	0.00248	0.006999	64.7054
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.560276	0.470787	4.160862	5.567513	0.00793	0.212686	0.206798	0.419483	0.195671	0.022329	0.218	0	858.9385	858.9385	0.034842	0.006968	0	861.8862
		Max Daily Total	0.58392	0.491731	4.187593	5.852736	0.00793	0.212686	0.272152	0.484838	0.195671	0.037648	0.233319	0	922.8166	922.8166	0.038094	0.009449	0.006999	926.5916
HV GPU_ Visitor Center	3.3 Grading (2025) - Unmitigated	Off-Road Equipment	1.293226	1.086669	10.06696	10.04956	0.015819	0.463789		0.463789	0.426686		0.426686		1713.898	1713.898	0.069523	0.013905		1719.78
		Dust From Material Movement							2.072018	2.072018		1.00179	1.00179							
		Worker	0.035467	0.031416	0.040097	0.427835	0	0	0.098032	0.098032	0	0.022979	0.022979		95.81701	95.81701	0.004878	0.00372	0.010498	97.0581
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	1.293226	1.086669	10.06696	10.04956	0.015819	0.463789	2.072018	2.535807	0.426686	1.00179	1.428476	0	1713.898	1713.898	0.069523	0.013905	0	1719.78
		Max Daily Total	1.328692	1.118085	10.10706	10.47739	0.015819	0.463789	2.17005	2.633839	0.426686	1.024769	1.451455	0	1809.715	1809.715	0.074401	0.017625	0.010498	1816.838
HV GPU_ Visitor Center	3.5 Building Construction (2025) - Unmitigated	Off-Road Equipment	0.619493	0.520547	5.140012	6.939117	0.01205	0.217626		0.217626	0.200216		0.200216		1304.758	1304.758	0.052927	0.010585		1309.236
		Worker	0.009502	0.00851	0.010692	0.125686	0	0	0.026142	0.026142	0	0.006128	0.006128	0	26.73539	26.73539	0.001301	0.000992	0.107898	27.16925
		Vendor	0.000249	0.000146	0.006547	0.002023	3.69E-05	7.37E-05	0.001402	0.001476	7.37E-05	0.000387	0.000461	0	5.054041	5.054041	9.9E-05	0.000782	0.014283	5.296183
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.619493	0.520547	5.140012	6.939117	0.01205	0.217626	0	0.217626	0.200216	0	0.200216	0	1304.758	1304.758	0.052927	0.010585	0	1309.236
		Max Daily Total	0.629244	0.529202	5.157252	7.066827	0.012087	0.217699	0.027544	0.245243	0.200289	0.006515	0.206804	0	1336.547	1336.547	0.054326	0.01234	0.122181	1341.701
HV GPU_ Visitor Center	3.7 Paving (2025) - Unmitigated	Off-Road Equipment	0.60748	0.507709	4.373764	5.311636	0.008574	0.193886		0.193886	0.178376		0.178376		823.4262	823.4262	0.033402	0.00668		826.252
		Worker	0.082756	0.073304	0.093559	0.998281	0	0	0.228741	0.228741	0	0.053617	0.053617		223.573	223.573	0.011381	0.008681	0.024496	226.4689
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.60748	0.507709	4.373764	5.311636	0.008574	0.193886		0.193886	0.178376		0.178376		823.4262	823.4262	0.033402	0.00668		826.252
		Max Daily Total	0.690236	0.581013	4.467322	6.309917	0.008574	0.193886	0.228741	0.422628	0.178376	0.053617	0.231992	0	1046.999	1046.999	0.044783	0.015361	0.024496	1052.721
HV GPU_ Visitor Center	3.9 Architectural Coating (2025) - Unmitigated	Off-Road Equipment	0.154832	0.12796	0.88228	1.139843	0.001726	0.027427		0.027427	0.025232		0.025232		133.5224	133.5224	0.005416	0.001083		133.9806
		Architectural Coatings	0.463633	0.463633																
		Worker	0.009458	0.008378	0.010692	0.114089	0	0	0.026142	0.026142	0	0.006128	0.006128		25.5512	25.5512	0.001301	0.000992	0.0028	25.88216
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.618465	0.591593	0.88228	1.139843	0.001726	0.027427	0	0.027427	0.025232	0	0.025232	0	133.5224	133.5224	0.005416	0.001083	0	133.9806
		Max Daily Total	0.627923	0.599971	0.892972	1.253932	0.001726	0.027427	0.026142	0.053568	0.025232	0.006128	0.03136	0	159.0736	159.0736	0.006717	0.002075	0.0028	159.8628
HV GPU_ Visitor Center		**Max Daily Localized**	**1.29**	**1.09**	**10.07**	**10.05**	**0.02**	**0.46**	**2.07**	**2.54**	**0.43**	**1.00**	**1.43**	**0**	**1713.898**	**1713.898**	**0.069523**	**0.013905**	**0**	**1719.78**
		Max Daily Total	**1.33**	**1.12**	**10.11**	**10.48**	**0.02**	**0.46**	**2.17**	**2.63**	**0.43**	**1.02**	**1.45**	**0**	**1809.715**	**1809.715**	**0.074401**	**0.017625**	**0.122181**	**1816.838**

Hungry Valley General Plan Update

Unmitigated Construction Emissions Criteria Air Pollutants Summary (lbs/day)

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ New Group Campground	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	3.939589	3.310349	31.64078	30.17547	0.048876	1.365553		1.365553	1.256308		1.256308		5295.344	5295.344	0.214802	0.04296		5313.517
		Dust From Material Movement							7.666233	7.666233		3.939954	3.939954							
		Worker	0.082756	0.073304	0.093559	0.998281	0	0	0.228741	0.228741	0	0.053617	0.053617		223.573	223.573	0.011381	0.008681	0.024496	226.4689
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	3.939589	3.310349	31.64078	30.17547	0.048876	1.365553	7.666233	9.031786	1.256308	3.939954	5.196262	0	5295.344	5295.344	0.214802	0.04296	0	5313.517
		Max Daily Total	4.022345	3.383653	31.73434	31.17375	0.048876	1.365553	7.894975	9.260527	1.256308	3.993571	5.249879	0	5518.917	5518.917	0.226184	0.051641	0.024496	5539.985
	3.3 Grading (2025) - Unmitigated	Off-Road Equipment	2.074117	1.742834	16.27371	17.91435	0.027317	0.721973		0.721973	0.664215		0.664215		2959.346	2959.346	0.120044	0.024009		2969.502
		Dust From Material Movement							2.789181	2.789181		1.339732	1.339732							
		Worker	0.070934	0.062832	0.080193	0.855669	0	0	0.196064	0.196064	0	0.045957	0.045957		191.634	191.634	0.009755	0.007441	0.020996	194.1162
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	2.074117	1.742834	16.27371	17.91435	0.027317	0.721973	2.789181	3.511154	0.664215	1.339732	2.003946	0	2959.346	2959.346	0.120044	0.024009	0	2969.502
		Max Daily Total	2.145051	1.805666	16.3539	18.77002	0.027317	0.721973	2.985245	3.707218	0.664215	1.385689	2.049903	0	3150.98	3150.98	0.129799	0.031449	0.020996	3163.618
	3.5 Building Construction (2025) - Unmitigated	Off-Road Equipment	1.346698	1.126902	10.44422	13.04008	0.0234	0.431841		0.431841	0.397293		0.397293		2397.68	2397.68	0.09726	0.019452		2405.908
		Worker	0.070934	0.062832	0.080193	0.855669	0	0	0.196064	0.196064	0	0.045957	0.045957		191.634	191.634	0.009755	0.007441	0.020996	194.1162
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	1.346698	1.126902	10.44422	13.04008	0.0234	0.431841	0	0.431841	0.397293	0	0.397293	0	2397.68	2397.68	0.09726	0.019452	0	2405.908
		Max Daily Total	1.417632	1.189734	10.52441	13.89575	0.0234	0.431841	0.196064	0.627905	0.397293	0.045957	0.443251	0	2589.314	2589.314	0.107016	0.026893	0.020996	2600.025
	3.7 Paving (2025) - Unmitigated	Off-Road Equipment	0.813585	0.682266	6.233694	8.814532	0.012952	0.260171		0.260171	0.239358		0.239358		1350.032	1350.032	0.054763	0.010953		1354.665
		Paving	0.34715	0.34715																
		Worker	0.091051	0.080689	0.097885	1.061526	0	0	0.261419	0.261419	0	0.061276	0.061276		250.5022	250.5022	0.004409	0.009921	0.025429	253.5943
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	1.160735	1.029416	6.233694	8.814532	0.012952	0.260171	0	0.260171	0.239358	0	0.239358	0	1350.032	1350.032	0.054763	0.010953	0	1354.665
		Max Daily Total	1.251785	1.110106	6.33158	9.876058	0.012952	0.260171	0.261419	0.52159	0.239358	0.061276	0.300634	0	1600.535	1600.535	0.059172	0.020873	0.025429	1608.26
	3.9 Architectural Coating (2026) - Unmitigated	Off-Road Equipment	0.145573	0.120309	0.85645	1.132827	0.001726	0.023153		0.023153	0.021301		0.021301		133.5045	133.5045	0.005416	0.001083		133.9626
		Architectural Coatings	1.969097	1.969097																
		Worker	0.009105	0.008069	0.009789	0.106153	0	0	0.026142	0.026142	0	0.006128	0.006128		25.05022	25.05022	0.000441	0.000992	0.002543	25.35943
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	2.114671	2.089406	0.85645	1.132827	0.001726	0.023153	0	0.023153	0.021301	0	0.021301	0	133.5045	133.5045	0.005416	0.001083	0	133.9626
		Max Daily Total	2.123776	2.097475	0.866239	1.23898	0.001726	0.023153	0.026142	0.049295	0.021301	0.006128	0.027429	0	158.5547	158.5547	0.005856	0.002075	0.002543	159.3221
HV GPU_ New Group Campground		**Max Daily Localized**	**3.94**	**3.31**	**31.64**	**30.18**	**0.05**	**1.37**	**7.67**	**9.03**	**1.26**	**3.94**	**5.20**	**0**	**5295.344**	**5295.344**	**0.214802**	**0.04296**	**0**	**5313.517**
		Max Daily Total	**4.02**	**3.38**	**31.73**	**31.17**	**0.05**	**1.37**	**7.89**	**9.26**	**1.26**	**3.99**	**5.25**	**0**	**5518.917**	**5518.917**	**0.226184**	**0.051641**	**0.025429**	**5539.985**

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ New RV Campground	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	3.939589	3.310349	31.64078	30.17547	0.048876	1.365553		1.365553	1.256308		1.256308		5295.344	5295.344	0.214802	0.04296		5313.517
		Dust From Material Movement							7.681412	7.681412		3.942252	3.942252							
		Worker	0.082756	0.073304	0.093559	0.998281	0	0	0.228741	0.228741	0	0.053617	0.053617		223.573	223.573	0.011381	0.008681	0.024496	226.4689
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	3.939589	3.310349	31.64078	30.17547	0.048876	1.365553	7.681412	9.046964	1.256308	3.942252	5.198561	0	5295.344	5295.344	0.214802	0.04296	0	5313.517
		Max Daily Total	4.022345	3.383653	31.73434	31.17375	0.048876	1.365553	7.910153	9.275706	1.256308	3.995869	5.252177	0	5518.917	5518.917	0.226184	0.051641	0.024496	5539.985
	3.3 Grading (2025) - Unmitigated	Off-Road Equipment	2.074117	1.742834	16.27371	17.91435	0.027317	0.721973		0.721973	0.664215		0.664215		2959.346	2959.346	0.120044	0.024009		2969.502
		Dust From Material Movement							2.777387	2.777387		1.337946	1.337946							
		Worker	0.070934	0.062832	0.080193	0.855669	0	0	0.196064	0.196064	0	0.045957	0.045957		191.634	191.634	0.009755	0.007441	0.020996	194.1162
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	2.074117	1.742834	16.27371	17.91435	0.027317	0.721973	2.777387	3.49936	0.664215	1.337946	2.00216	0	2959.346	2959.346	0.120044	0.024009	0	2969.502
		Max Daily Total	2.145051	1.805666	16.3539	18.77002	0.027317	0.721973	2.973451	3.695424	0.664215	1.383903	2.048118	0	3150.98	3150.98	0.129799	0.031449	0.020996	3163.618
	3.5 Building Construction (2025) - Unmitigated	Off-Road Equipment	1.346698	1.126902	10.44422	13.04008	0.0234	0.431841		0.431841	0.397293		0.397293		2397.68	2397.68	0.09726	0.019452		2405.908
		Worker	0.071264	0.063824	0.080193	0.942642	0	0	0.196064	0.196064	0	0.045957	0.045957	0	200.5155	200.5155	0.009755	0.007441	0.809236	203.7693
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	1.346698	1.126902	10.44422	13.04008	0.0234	0.431841	0	0.431841	0.397293	0	0.397293	0	2397.68	2397.68	0.09726	0.019452	0	2405.908
		Max Daily Total	1.417963	1.190726	10.52441	13.98272	0.0234	0.431841	0.196064	0.627905	0.397293	0.045957	0.443251	0	2598.196	2598.196	0.107016	0.026893	0.809236	2609.678
	3.7 Paving (2025) - Unmitigated	Off-Road Equipment	0.813585	0.682266	6.233694	8.814532	0.012952	0.260171		0.260171	0.239358		0.239358		1350.032	1350.032	0.054763	0.010953		1354.665
		Paving	0.34584	0.34584																
		Worker	0.091051	0.08113	0.078925	1.1733	0	0	0.261419	0.261419	0	0.061276	0.061276		262.0983	262.0983	0.003527	0.00948	0.983331	265.9949
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	1.159425	1.028106	6.233694	8.814532	0.012952	0.260171	0	0.260171	0.239358	0	0.239358	0	1350.032	1350.032	0.054763	0.010953	0	1354.665
		Max Daily Total	1.250475	1.109236	6.31262	9.987832	0.012952	0.260171	0.261419	0.52159	0.239358	0.061276	0.300634	0	1612.131	1612.131	0.058291	0.020433	0.983331	1620.66
	3.9 Architectural Coating (2026) - Unmitigated	Off-Road Equipment	0.145573	0.120309	0.85645	1.132827	0.001726	0.023153		0.023153	0.021301		0.021301		133.5045	133.5045	0.005416	0.001083		133.9626
		Architectural Coatings	1.938803	1.938803																
		Worker	0.068288	0.060848	0.059194	0.879975	0	0	0.196064	0.196064	0	0.045957	0.045957		196.5737	196.5737	0.002646	0.00711	0.737498	199.4961
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	2.084377	2.059112	0.85645	1.132827	0.001726	0.023153	0	0.023153	0.021301	0	0.021301	0	133.5045	133.5045	0.005416	0.001083	0	133.9626
		Max Daily Total	2.152665	2.11996	0.915644	2.012802	0.001726	0.023153	0.196064	0.219218	0.021301	0.045957	0.067258	0	330.0782	330.0782	0.008061	0.008193	0.737498	333.4588
HV GPU_ New RV Campground		**Max Daily Localized**	**3.94**	**3.31**	**31.64**	**30.18**	**0.05**	**1.37**	**7.68**	**9.05**	**1.26**	**3.94**	**5.20**	**0**	**5295.344**	**5295.344**	**0.214802**	**0.04296**	**0**	**5313.517**
		Max Daily Total	**4.02**	**3.38**	**31.73**	**31.17**	**0.05**	**1.37**	**7.91**	**9.28**	**1.26**	**4.00**	**5.25**	**0**	**5518.917**	**5518.917**	**0.226184**	**0.051641**	**0.983331**	**5539.985**

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ New Skill Track and Kid's Practice Track	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	0.127861	0.107439	1.101577	1.908506	0.002683	0.042415		0.042415	0.039022		0.039022		290.4481	290.4481	0.011782	0.002356		291.4449
		Dust From Material Movement							0	0		0	0							
		Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Vendor	0.003737	0.002116	0.099869	0.030865	0.000562	0.001124	0.02139	0.022514	0.001124	0.00591	0.007034		77.09032	77.09032	0.00151	0.011629	0.005652	80.59928
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.127861	0.107439	1.101577	1.908506	0.002683	0.042415	0	0.042415	0.039022	0	0.039022	0	290.4481	290.4481	0.011782	0.002356	0	291.4449
		Max Daily Total	0.131598	0.109555	1.201446	1.939371	0.003245	0.043539	0.02139	0.064929	0.040146	0.00591	0.046056	0	367.5385	367.5385	0.013292	0.013986	0.005652	372.0442
HV GPU_ New Skill Track and Kid's Practice Track		**Max Daily Localized**	**0.13**	**0.11**	**1.10**	**1.91**	**0.00**	**0.04**	**0.00**	**0.04**	**0.04**	**0.00**	**0.04**	**0**	**290.4481**	**290.4481**	**0.011782**	**0.002356**	**0**	**291.4449**
		Max Daily Total	**0.13**	**0.11**	**1.20**	**1.94**	**0.00**	**0.04**	**0.02**	**0.06**	**0.04**	**0.01**	**0.05**	**0**	**367.5385**	**367.5385**	**0.013292**	**0.013986**	**0.005652**	**372.0442**

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ New Staging Area	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	0.560276	0.470787	4.160862	5.567513	0.00793	0.212686		0.212686	0.195671		0.195671		858.9385	858.9385	0.034842	0.006968		861.8862
		Dust From Material Movement							0.158162	0.158162		0.016113	0.016113							
		Worker	0.023645	0.020944	0.026731	0.285223	0	0	0.065355	0.065355	0	0.015319	0.015319		63.87801	63.87801	0.003252	0.00248	0.006999	64.7054
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.560276	0.470787	4.160862	5.567513	0.00793	0.212686	0.158162	0.370848	0.195671	0.016113	0.211784	0	858.9385	858.9385	0.034842	0.006968	0	861.8862
		Max Daily Total	0.58392	0.491731	4.187593	5.852736	0.00793	0.212686	0.223517	0.436203	0.195671	0.031432	0.227103	0	922.8166	922.8166	0.038094	0.009449	0.006999	926.5916
HV GPU_ New Staging Area		**Max Daily Localized**	**0.56**	**0.47**	**4.16**	**5.57**	**0.01**	**0.21**	**0.16**	**0.37**	**0.20**	**0.02**	**0.21**	**0**	**858.9385**	**858.9385**	**0.034842**	**0.006968**	**0**	**861.8862**
		Max Daily Total	**0.58**	**0.49**	**4.19**	**5.85**	**0.01**	**0.21**	**0.22**	**0.44**	**0.20**	**0.03**	**0.23**	**0**	**922.8166**	**922.8166**	**0.038094**	**0.009449**	**0.006999**	**926.5916**

Hungry Valley General Plan Update

Unmitigated Construction Emissions Criteria Air Pollutants Summary (lbs/day)

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ EV Charging Stations	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	0.560276	0.470787	4.160862	5.567513	0.00793	0.212686		0.212686	0.195671		0.195671		858.9385	858.9385	0.034842	0.006968		861.8862
		Dust From Material Movement							0.208484	0.208484		0.022585	0.022585							
		Worker	0.023645	0.020944	0.026731	0.285223	0	0	0.065355	0.065355	0	0.015319	0.015319		63.87801	63.87801	0.003252	0.00248	0.006999	64.7054
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0.00974	0.004527	0.295615	0.070372	0.00144	0.002744	0.056308	0.059052	0.002744	0.015792	0.018535		215.6702	215.6702	0.005007	0.033745	0.012594	225.8641
		Max Daily Localized	0.560276	0.470787	4.160862	5.567513	0.00793	0.212686	0.208484	0.42117	0.195671	0.022585	0.218256	0	858.9385	858.9385	0.034842	0.006968	0	861.8862
		Max Daily Total	0.59366	0.496258	4.483208	5.923107	0.00937	0.215429	0.330147	0.545576	0.198414	0.053695	0.25211	0	1138.487	1138.487	0.043101	0.043194	0.019592	1152.456
HV GPU_ EV Charging Stations	3.7 Paving (2025) - Unmitigated	Off-Road Equipment	0.60748	0.507709	4.373764	5.311636	0.008574	0.193886		0.193886	0.178376		0.178376		823.4262	823.4262	0.033402	0.00668		826.252
		Paving	0.031381	0.031381																
		Worker	0.082756	0.073304	0.093559	0.998281	0	0	0.228741	0.228741	0	0.053617	0.053617		223.573	223.573	0.011381	0.008681	0.024496	226.4689
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.638861	0.53909	4.373764	5.311636	0.008574	0.193886	0	0.193886	0.178376	0	0.178376	0	823.4262	823.4262	0.033402	0.00668	0	826.252
		Max Daily Total	0.721617	0.612394	4.467322	6.309917	0.008574	0.193886	0.228741	0.422628	0.178376	0.053617	0.231992	0	1046.999	1046.999	0.044783	0.015361	0.024496	1052.721
HV GPU_ EV Charging Stations	3.9 Architectural Coating (2026) - Unmitigated	Off-Road Equipment	0.154832	0.12796	0.88228	1.139843	0.001726	0.027427		0.027427	0.025232		0.025232		133.5224	133.5224	0.005416	0.001083		133.9806
		Architectural Coatings	0.145137	0.145137																
		Worker	0.082756	0.073304	0.093559	0.998281	0	0	0.228741	0.228741	0	0.053617	0.053617		223.573	223.573	0.011381	0.008681	0.024496	226.4689
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.299969	0.273097	0.88228	1.139843	0.001726	0.027427	0	0.027427	0.025232	0	0.025232	0	133.5224	133.5224	0.005416	0.001083	0	133.9806
		Max Daily Total	0.382725	0.346401	0.975838	2.138124	0.001726	0.027427	0.228741	0.256168	0.025232	0.053617	0.078849	0	357.0954	357.0954	0.016798	0.009764	0.024496	360.4495
HV GPU_ EV Charging Stations		**Max Daily Localized**	**0.64**	**0.54**	**4.37**	**5.57**	**0.01**	**0.21**	**0.21**	**0.42**	**0.20**	**0.02**	**0.22**	**0**	**858.9385**	**858.9385**	**0.034842**	**0.006968**	**0**	**861.8862**
		Max Daily Total	**0.72**	**0.61**	**4.48**	**6.31**	**0.01**	**0.22**	**0.33**	**0.55**	**0.20**	**0.05**	**0.25**	**0**	**1138.487**	**1138.487**	**0.044783**	**0.043194**	**0.024496**	**1152.456**

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ Paving of Hungry Valley Road	3.1 Linear, Grubbing & Land Clearing (2025) - Unmitigated	Off-Road Equipment	0.463528	0.389492	3.388764	3.488211	0.004524	0.209586		0.209586	0.192819		0.192819		490.346	490.346	0.019891	0.003978		492.0288
		Dust From Material Movement							0.206798	0.206798		0.022329	0.022329							
		Worker	0.141867	0.125663	0.160386	1.711338	0	0	0.392128	0.392128	0	0.091914	0.091914		383.268	383.268	0.019511	0.014881	0.041993	388.2324
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0.219139	0.101854	6.651346	1.58336	0.032408	0.061729	1.266935	1.328664	0.061729	0.355315	0.417044		4852.58	4852.58	0.112656	0.759272	0.283357	5081.943
		Max Daily Localized	0.463528	0.389492	3.388764	3.488211	0.004524	0.209586	0.206798	0.416383	0.192819	0.022329	0.215148	0	490.346	490.346	0.019891	0.003978	0	492.0288
		Max Daily Total	0.824535	0.617009	10.2005	6.782909	0.036932	0.271315	1.86586	2.137176	0.254548	0.469558	0.724106	0	5726.194	5726.194	0.152058	0.778131	0.325349	5962.204
HV GPU_ Paving of Hungry Valley Road	3.3 Linear, Grading & Excavation (2025) - Unmitigated	Off-Road Equipment	3.705983	3.114055	27.28985	29.39567	0.059979	1.207074		1.207074	1.110508		1.110508		6495.675	6495.675	0.263493	0.052699		6517.967
		Dust From Material Movement							1.240785	1.240785		0.133976	0.133976							
		Worker	0.26009	0.230383	0.294042	3.137454	0	0	0.718902	0.718902	0	0.168509	0.168509		702.6581	702.6581	0.03577	0.027282	0.076987	711.7594
		Vendor	0.001495	0.000847	0.039948	0.012346	0.000225	0.00045	0.008556	0.009006	0.00045	0.002364	0.002814		30.83613	30.83613	0.000604	0.004652	0.002261	32.23971
		Hauling	0.219139	0.101854	6.651346	1.58336	0.032408	0.061729	1.266935	1.328664	0.061729	0.355315	0.417044		4852.58	4852.58	0.112656	0.759272	0.283357	5081.943
		Max Daily Localized	3.705983	3.114055	27.28985	29.39567	0.059979	1.207074	1.240785	2.44786	1.110508	0.133976	1.244484	0	6495.675	6495.675	0.263493	0.052699	0	6517.967
		Max Daily Total	4.186707	3.447138	34.27519	34.12883	0.092611	1.269253	3.235178	4.504431	1.172987	0.660164	1.832851	0	12081.75	12081.75	0.412523	0.843905	0.362604	12343.91
HV GPU_ Paving of Hungry Valley Road	3.5 Linear, Drainage, Utilities, & Sub-Grade (2025) - Unmitigated	Off-Road Equipment	2.992607	2.508173	22.92871	23.6311	0.054363	0.913859		0.913859	0.840751		0.840751		5693.709	5693.709	0.230962	0.046192		5713.249
		Dust From Material Movement							1.148893	1.148893		0.129046	0.129046							
		Worker	0.236446	0.209439	0.26731	2.852231	0	0	0.653547	0.653547	0	0.15319	0.15319		638.7801	638.7801	0.032518	0.024802	0.069988	647.054
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0.219139	0.101854	6.651346	1.58336	0.032408	0.061729	1.266935	1.328664	0.061729	0.355315	0.417044		4852.58	4852.58	0.112656	0.759272	0.283357	5081.943
		Max Daily Localized	2.992607	2.508173	22.92871	23.6311	0.054363	0.913859	1.148893	2.062752	0.840751	0.129046	0.969797	0	5693.709	5693.709	0.230962	0.046192	0	5713.249
		Max Daily Total	3.448193	2.819465	29.84737	28.06669	0.086771	0.975589	3.069374	4.044963	0.90248	0.637551	1.540031	0	11185.07	11185.07	0.376136	0.830266	0.353345	11442.25
HV GPU_ Paving of Hungry Valley Road	3.7 Linear, Paving (2025) - Unmitigated	Off-Road Equipment	1.057074	0.888236	7.705091	10.79256	0.014954	0.339416		0.339416	0.312263		0.312263		1619.826	1619.826	0.065707	0.013141		1625.385
		Worker	0.200979	0.178023	0.227214	2.424396	0	0	0.555515	0.555515	0	0.130212	0.130212		542.963	542.963	0.02764	0.021082	0.05949	549.9959
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0.219139	0.101854	6.651346	1.58336	0.032408	0.061729	1.266935	1.328664	0.061729	0.355315	0.417044		4852.58	4852.58	0.112656	0.759272	0.283357	5081.943
		Max Daily Localized	1.057074	0.888236	7.705091	10.79256	0.014954	0.339416	0	0.339416	0.312263	0	0.312263	0	1619.826	1619.826	0.065707	0.013141	0	1625.385
		Max Daily Total	1.477192	1.168112	14.58365	14.80032	0.047362	0.401146	1.82245	2.223596	0.373993	0.485526	0.859519	0	7015.37	7015.37	0.206004	0.793495	0.342846	7257.324
HV GPU_ Paving of Hungry Valley Road		**Max Daily Localized**	**3.705983**	**3.11**	**27.29**	**29.40**	**0.06**	**1.21**	**1.24**	**2.45**	**1.11**	**0.13**	**1.24**	**0**	**6495.675**	**6495.675**	**0.263493**	**0.052699**	**0**	**6517.967**
		Max Daily Total	**4.186707**	**3.45**	**34.28**	**34.13**	**0.09**	**1.27**	**3.24**	**4.50**	**1.17**	**0.66**	**1.83**	**0**	**12081.75**	**12081.75**	**0.412523**	**0.843905**	**0.362604**	**12343.91**

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ Paving of Quail Canyon Road	3.1 Linear, Grubbing & Land Clearing (2025) - Unmitigated	Off-Road Equipment	0.463528	0.389492	3.388764	3.488211	0.004524	0.209586		0.209586	0.192819		0.192819		490.346	490.346	0.019891	0.003978		492.0288
		Dust From Material Movement							0.206798	0.206798		0.022329	0.022329							
		Worker	0.047289	0.041888	0.053462	0.570446	0	0	0.130709	0.130709	0	0.030638	0.030638		127.756	127.756	0.006504	0.00496	0.013998	129.4108
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0.05635	0.026191	1.710346	0.40715	0.008333	0.015873	0.325783	0.341656	0.015873	0.091367	0.10724		1247.806	1247.806	0.028969	0.195241	0.072863	1306.785
		Max Daily Localized	0.463528	0.389492	3.388764	3.488211	0.004524	0.209586	0.206798	0.416383	0.192819	0.022329	0.215148	0	490.346	490.346	0.019891	0.003978	0	492.0288
		Max Daily Total	0.567167	0.457571	5.152573	4.465807	0.012857	0.225459	0.66329	0.888749	0.208692	0.144334	0.353026	0	1865.908	1865.908	0.055363	0.20418	0.086861	1928.225
HV GPU_ Paving of Quail Canyon Road	3.3 Linear, Grading & Excavation (2025) - Unmitigated	Off-Road Equipment	3.705983	3.114055	27.28985	29.39567	0.059979	1.207074		1.207074	1.110508		1.110508		6495.675	6495.675	0.263493	0.052699		6517.967
		Dust From Material Movement							1.240785	1.240785		0.133976	0.133976							
		Worker	0.165512	0.146607	0.187117	1.996561	0	0	0.457483	0.457483	0	0.107233	0.107233		447.146	447.146	0.022763	0.017361	0.048992	452.9378
		Vendor	0.001495	0.000847	0.039948	0.012346	0.000225	0.00045	0.008556	0.009006	0.00045	0.002364	0.002814		30.83613	30.83613	0.000604	0.004652	0.002261	32.23971
		Hauling	0.05635	0.026191	1.710346	0.40715	0.008333	0.015873	0.325783	0.341656	0.015873	0.091367	0.10724		1247.806	1247.806	0.028969	0.195241	0.072863	1306.785
		Max Daily Localized	3.705983	3.114055	27.28985	29.39567	0.059979	1.207074	1.240785	2.44786	1.110508	0.133976	1.244484	0	6495.675	6495.675	0.263493	0.052699	0	6517.967
		Max Daily Total	3.92934	3.2877	29.22726	31.81173	0.068537	1.223397	2.032607	3.256005	1.126831	0.334939	1.461771	0	8221.464	8221.464	0.315829	0.269953	0.124115	8309.93
HV GPU_ Paving of Quail Canyon Road	3.5 Linear, Drainage, Utilities, & Sub-Grade (2025) - Unmitigated	Off-Road Equipment	2.992607	2.508173	22.92871	23.6311	0.054363	0.913859		0.913859	0.840751		0.840751		5693.709	5693.709	0.230962	0.046192		5713.249
		Dust From Material Movement							1.063401	1.063401		0.1161	0.1161							
		Worker	0.141867	0.125663	0.160386	1.711338	0	0	0.392128	0.392128	0	0.091914	0.091914		383.268	383.268	0.019511	0.014881	0.041993	388.2324
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0.05635	0.026191	1.710346	0.40715	0.008333	0.015873	0.325783	0.341656	0.015873	0.091367	0.10724		1247.806	1247.806	0.028969	0.195241	0.072863	1306.785
		Max Daily Localized	2.992607	2.508173	22.92871	23.6311	0.054363	0.913859	1.063401	1.977261	0.840751	0.1161	0.956851	0	5693.709	5693.709	0.230962	0.046192	0	5713.249
		Max Daily Total	3.190825	2.660027	24.79944	25.74959	0.062697	0.929733	1.781313	2.711045	0.856624	0.299381	1.156005	0	7324.784	7324.784	0.279441	0.256315	0.114856	7408.266
HV GPU_ Paving of Quail Canyon Road	3.7 Linear, Paving (2025) - Unmitigated	Off-Road Equipment	1.057074	0.888236	7.705091	10.79256	0.014954	0.339416		0.339416	0.312263		0.312263		1619.826	1619.826	0.065707	0.013141		1625.385
		Worker	0.106401	0.094248	0.12029	1.283504	0	0	0.294096	0.294096	0	0.068936	0.068936		287.451	287.451	0.014633	0.011161	0.031495	291.1743
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0.05635	0.026191	1.710346	0.40715	0.008333	0.015873	0.325783	0.341656	0.015873	0.091367	0.10724		1247.806	1247.806	0.028969	0.195241	0.072863	1306.785
		Max Daily Localized	1.057074	0.888236	7.705091	10.79256	0.014954	0.339416	0	0.339416	0.312263	0	0.312263	0	1619.826	1619.826	0.065707	0.013141	0	1625.385
		Max Daily Total	1.219825	1.008674	9.535727	12.48321	0.023288	0.35529	0.619879	0.975169	0.328136	0.160302	0.488439	0	3155.084	3155.084	0.109309	0.219544	0.104358	3223.345
HV GPU_ Paving of Quail Canyon Road		**Max Daily Localized**	**3.705983**	**3.11**	**27.29**	**29.40**	**0.06**	**1.21**	**1.24**	**2.45**	**1.11**	**0.13**	**1.24**	**0**	**6495.675**	**6495.675**	**0.263493**	**0.052699**	**0**	**6517.967**
		Max Daily Total	**3.92934**	**3.29**	**29.23**	**31.81**	**0.07**	**1.22**	**2.03**	**3.26**	**1.13**	**0.33**	**1.46**	**0**	**8221.464**	**8221.464**	**0.315829**	**0.269953**	**0.124115**	**8309.93**

	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
OVERALL MAX	**Max Daily Localized**	**4.79**	**4.76**	**31.64**	**30.18**	**0.06**	**1.37**	**7.68**	**9.05**	**1.26**	**3.94**	**5.20**	**0**	**6495.675**	**6495.675**	**0.263493**	**0.052699**	**0**	**6517.967**
	Max Daily Total	**4.79**	**4.77**	**34.28**	**34.13**	**0.09**	**1.37**	**7.91**	**9.28**	**1.26**	**4.00**	**5.25**	**0**	**12081.75**	**12081.75**	**0.412523**	**0.843905**	**0.983331**	**12343.91**

Hungry Valley General Plan Update

Mitigated Construction Emissions Criteria Air Pollutants Summary (lbs/day)

green highlight indicates project elements that require mitigation (Tier 4 Interim/Tier 4 Final for equipment >25 HP)

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ Operational Support Offices	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	0.560276	0.470787	4.160862	5.567513	0.00793	0.212686		0.212686	0.195671		0.195671		858.9385	858.9385	0.034842	0.006968		861.8862
		Dust From Material Movement							0.206798	0.206798		0.022329	0.022329							
		Worker	0.023645	0.020944	0.026731	0.285223	0	0	0.065355	0.065355	0	0.015319	0.015319		63.87801	63.87801	0.003252	0.00248	0.006999	64.7054
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.560276	0.470787	4.160862	5.567513	0.00793	0.212686	0.206798	0.419483	0.195671	0.022329	0.218	0	858.9385	858.9385	0.034842	0.006968	0	861.8862
		Max Daily Total	0.58392	0.491731	4.187593	5.852736	0.00793	0.212686	0.272152	0.484838	0.195671	0.037648	0.233319	0	922.8166	922.8166	0.038094	0.009449	0.006999	926.5916
HV GPU_ Operational Support Offices	3.3 Grading (2025) - Unmitigated	Off-Road Equipment	1.293226	1.086669	10.06696	10.04956	0.015819	0.463789		0.463789	0.426686		0.426686		1713.898	1713.898	0.069523	0.013905		1719.78
		Dust From Material Movement							2.089746	2.089746		1.004475	1.004475							
		Worker	0.035467	0.031416	0.040097	0.427835	0	0	0.098032	0.098032	0	0.022979	0.022979		95.81701	95.81701	0.004878	0.00372	0.010498	97.0581
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	1.293226	1.086669	10.06696	10.04956	0.015819	0.463789	2.089746	2.553535	0.426686	1.004475	1.431161	0	1713.898	1713.898	0.069523	0.013905	0	1719.78
		Max Daily Total	1.328692	1.118085	10.10706	10.47739	0.015819	0.463789	2.187778	2.651567	0.426686	1.027453	1.454139	0	1809.715	1809.715	0.074401	0.017625	0.010498	1816.838
HV GPU_ Operational Support Offices	3.5 Building Construction (2025) - Unmitigated	Off-Road Equipment	0.619493	0.520547	5.140012	6.939117	0.01205	0.217626		0.217626	0.200216		0.200216		1304.758	1304.758	0.052927	0.010585		1309.236
		Worker	0.015203	0.013616	0.017108	0.201097	0	0	0.041827	0.041827	0	0.009804	0.009804	0	42.77663	42.77663	0.002081	0.001587	0.172637	43.47079
		Vendor	0.002486	0.00146	0.065474	0.020235	0.000369	0.000737	0.014023	0.01476	0.000737	0.003874	0.004611	0	50.54041	50.54041	0.00099	0.007624	0.14283	52.96183
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.619493	0.520547	5.140012	6.939117	0.01205	0.217626		0.217626	0.200216		0.200216		1304.758	1304.758	0.052927	0.010585		1309.236
		Max Daily Total	0.637182	0.535622	5.222594	7.160449	0.012419	0.218363	0.05585	0.274213	0.200953	0.013679	0.214631	0	1398.075	1398.075	0.055998	0.019797	0.315467	1405.668
HV GPU_ Operational Support Offices	3.7 Paving (2025) - Unmitigated	Off-Road Equipment	0.60748	0.507709	4.373764	5.311636	0.008574	0.193886		0.193886	0.178376		0.178376		823.4262	823.4262	0.033402	0.00668		826.252
		Worker	0.082756	0.073304	0.093559	0.998281	0	0	0.228741	0.228741	0	0.053617	0.053617		223.573	223.573	0.011381	0.008681	0.024496	226.4689
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.60748	0.507709	4.373764	5.311636	0.008574	0.193886		0.193886	0.178376		0.178376		823.4262	823.4262	0.033402	0.00668		826.252
		Max Daily Total	0.690236	0.581013	4.467322	6.309917	0.008574	0.193886	0.228741	0.422628	0.178376	0.053617	0.231992	0	1046.999	1046.999	0.044783	0.015361	0.024496	1052.721
HV GPU_ Operational Support Offices	3.9 Architectural Coating (2025) - Unmitigated	Off-Road Equipment	0.154832	0.12796	0.88228	1.139843	0.001726	0.027427		0.027427	0.025232		0.025232		133.5224	133.5224	0.005416	0.001083		133.9806
		Architectural Coatings	4.636334	4.636334																
		Worker	0.003027	0.002681	0.003422	0.036509	0	0	0.008365	0.008365	0	0.001961	0.001961		8.176385	8.176385	0.000416	0.000317	0.000896	8.282291
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	4.791165	4.764294	0.88228	1.139843	0.001726	0.027427	0	0.027427	0.025232	0	0.025232	0	133.5224	133.5224	0.005416	0.001083	0	133.9806
		Max Daily Total	4.794192	4.766974	0.885701	1.176352	0.001726	0.027427	0.008365	0.035792	0.025232	0.001961	0.027193	0	141.6988	141.6988	0.005832	0.001401	0.000896	142.2629
HV GPU_ Operational Support Offices		**Max Daily Localized**	**4.791165**	**4.764294**	**10.06696**	**10.04956**	**0.015819**	**0.463789**	**2.089746**	**2.553535**	**0.426686**	**1.004475**	**1.431161**	**0**	**1713.898**	**1713.898**	**0.069523**	**0.013905**	**0**	**1719.78**
		Max Daily Total	**4.794192**	**4.766974**	**10.10706**	**10.47739**	**0.015819**	**0.463789**	**2.187778**	**2.651567**	**0.426686**	**1.027453**	**1.454139**	**0**	**1809.715**	**1809.715**	**0.074401**	**0.019797**	**0.315467**	**1816.838**

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ Visitor Center	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	0.560276	0.470787	4.160862	5.567513	0.00793	0.212686		0.212686	0.195671		0.195671		858.9385	858.9385	0.034842	0.006968		861.8862
		Dust From Material Movement							0.206798	0.206798		0.022329	0.022329							
		Worker	0.023645	0.020944	0.026731	0.285223	0	0	0.065355	0.065355	0	0.015319	0.015319		63.87801	63.87801	0.003252	0.00248	0.006999	64.7054
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.560276	0.470787	4.160862	5.567513	0.00793	0.212686	0.206798	0.419483	0.195671	0.022329	0.218	0	858.9385	858.9385	0.034842	0.006968	0	861.8862
		Max Daily Total	0.58392	0.491731	4.187593	5.852736	0.00793	0.212686	0.272152	0.484838	0.195671	0.037648	0.233319	0	922.8166	922.8166	0.038094	0.009449	0.006999	926.5916
HV GPU_ Visitor Center	3.3 Grading (2025) - Unmitigated	Off-Road Equipment	1.293226	1.086669	10.06696	10.04956	0.015819	0.463789		0.463789	0.426686		0.426686		1713.898	1713.898	0.069523	0.013905		1719.78
		Dust From Material Movement							2.072018	2.072018		1.00179	1.00179							
		Worker	0.035467	0.031416	0.040097	0.427835	0	0	0.098032	0.098032	0	0.022979	0.022979		95.81701	95.81701	0.004878	0.00372	0.010498	97.0581
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	1.293226	1.086669	10.06696	10.04956	0.015819	0.463789	2.072018	2.535807	0.426686	1.00179	1.428476	0	1713.898	1713.898	0.069523	0.013905	0	1719.78
		Max Daily Total	1.328692	1.118085	10.10706	10.47739	0.015819	0.463789	2.17005	2.633839	0.426686	1.024769	1.451455	0	1809.715	1809.715	0.074401	0.017625	0.010498	1816.838
HV GPU_ Visitor Center	3.5 Building Construction (2025) - Unmitigated	Off-Road Equipment	0.619493	0.520547	5.140012	6.939117	0.01205	0.217626		0.217626	0.200216		0.200216		1304.758	1304.758	0.052927	0.010585		1309.236
		Worker	0.009502	0.00851	0.010692	0.125686	0	0	0.026142	0.026142	0	0.006128	0.006128	0	26.73539	26.73539	0.001301	0.000992	0.107898	27.16925
		Vendor	0.000249	0.000146	0.006547	0.002023	3.69E-05	7.37E-05	0.001402	0.001476	7.37E-05	0.000387	0.000461	0	5.054041	5.054041	9.9E-05	0.000762	0.014283	5.296183
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.619493	0.520547	5.140012	6.939117	0.01205	0.217626	0	0.217626	0.200216	0	0.200216	0	1304.758	1304.758	0.052927	0.010585	0	1309.236
		Max Daily Total	0.629244	0.529202	5.157252	7.066827	0.012087	0.217699	0.027544	0.245243	0.200289	0.006515	0.206804	0	1336.547	1336.547	0.054326	0.01234	0.122181	1341.701
HV GPU_ Visitor Center	3.7 Paving (2025) - Unmitigated	Off-Road Equipment	0.60748	0.507709	4.373764	5.311636	0.008574	0.193886		0.193886	0.178376		0.178376		823.4262	823.4262	0.033402	0.00668		826.252
		Worker	0.082756	0.073304	0.093559	0.998281	0	0	0.228741	0.228741	0	0.053617	0.053617		223.573	223.573	0.011381	0.008681	0.024496	226.4689
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.60748	0.507709	4.373764	5.311636	0.008574	0.193886		0.193886	0.178376		0.178376		823.4262	823.4262	0.033402	0.00668		826.252
		Max Daily Total	0.690236	0.581013	4.467322	6.309917	0.008574	0.193886	0.228741	0.422628	0.178376	0.053617	0.231992	0	1046.999	1046.999	0.044783	0.015361	0.024496	1052.721
HV GPU_ Visitor Center	3.9 Architectural Coating (2025) - Unmitigated	Off-Road Equipment	0.154832	0.12796	0.88228	1.139843	0.001726	0.027427		0.027427	0.025232		0.025232		133.5224	133.5224	0.005416	0.001083		133.9806
		Architectural Coatings	0.463633	0.463633																
		Worker	0.009458	0.008378	0.010692	0.114089	0	0	0.026142	0.026142	0	0.006128	0.006128		25.5512	25.5512	0.001301	0.000992	0.0028	25.88216
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.618465	0.591593	0.88228	1.139843	0.001726	0.027427	0	0.027427	0.025232	0	0.025232	0	133.5224	133.5224	0.005416	0.001083	0	133.9806
		Max Daily Total	0.627923	0.599971	0.892972	1.253932	0.001726	0.027427	0.026142	0.053568	0.025232	0.006128	0.03136	0	159.0736	159.0736	0.006717	0.002075	0.0028	159.8628
HV GPU_ Visitor Center		**Max Daily Localized**	**1.293226**	**1.086669**	**10.06696**	**10.04956**	**0.015819**	**0.463789**	**2.072018**	**2.535807**	**0.426686**	**1.00179**	**1.428476**	**0**	**1713.898**	**1713.898**	**0.069523**	**0.013905**	**0**	**1719.78**
		Max Daily Total	**1.328692**	**1.118085**	**10.10706**	**10.47739**	**0.015819**	**0.463789**	**2.17005**	**2.633839**	**0.426686**	**1.024769**	**1.451455**	**0**	**1809.715**	**1809.715**	**0.074401**	**0.017625**	**0.122181**	**1816.838**

Hungry Valley General Plan Update

Mitigated Construction Emissions Criteria Air Pollutants Summary (lbs/day)

green highlight indicates project elements that require mitigation (Tier 4 Interim/Tier 4 Final for equipment >25 HP)

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ New Group Campground	3.1 Site Preparation (2025) - Mitigated	Off-Road Equipment	0.64145	0.64145	14.734	28.30778	0.048876	0.0996		0.0996	0.0996		0.0996		5295.344	5295.344	0.214802	0.04296		5313.517
		Dust From Material Movement							7.666233	7.666233		3.939954	3.939954							
		Worker	0.082756	0.073304	0.093559	0.998281	0	0	0.228741	0.228741	0	0.053617	0.053617		223.573	223.573	0.011381	0.008681	0.024496	226.4689
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.64145	0.64145	14.734	28.30778	0.048876	0.0996	7.666233	7.765833	0.0996	3.939954	4.039554	0	5295.344	5295.344	0.214802	0.04296	0	5313.517
		Max Daily Total	0.724206	0.714754	14.82756	29.30606	0.048876	0.0996	7.894975	7.994574	0.0996	3.993571	4.09317	0	5518.917	5518.917	0.226184	0.051641	0.024496	5539.985
HV GPU_ New Group Campground	3.3 Grading (2025) - Mitigated	Off-Road Equipment	0.394236	0.394236	10.27432	17.76524	0.027317	0.084404		0.084404	0.081991		0.081991		2959.346	2959.346	0.120044	0.024009		2969.502
		Dust From Material Movement							2.789181	2.789181		1.339732	1.339732							
		Worker	0.070934	0.062832	0.080193	0.855669	0	0	0.196064	0.196064	0	0.045957	0.045957		191.634	191.634	0.009755	0.007441	0.020996	194.1162
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.394236	0.394236	10.27432	17.76524	0.027317	0.084404	2.789181	2.873585	0.081991	1.339732	1.421722	0	2959.346	2959.346	0.120044	0.024009	0	2969.502
		Max Daily Total	0.46517	0.457068	10.35451	18.62091	0.027317	0.084404	2.985245	3.069649	0.081991	1.385689	1.46768	0	3150.98	3150.98	0.129799	0.031449	0.020996	3163.618
HV GPU_ New Group Campground	3.5 Building Construction (2025) - Mitigated	Off-Road Equipment	0.435819	0.415013	9.533434	14.82617	0.0234	0.119259		0.119259	0.113024		0.113024		2397.68	2397.68	0.09726	0.019452		2405.908
		Worker	0.070934	0.062832	0.080193	0.855669	0	0	0.196064	0.196064	0	0.045957	0.045957		191.634	191.634	0.009755	0.007441	0.020996	194.1162
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.435819	0.415013	9.533434	14.82617	0.0234	0.119259	0	0.119259	0.113024	0	0.113024	0	2397.68	2397.68	0.09726	0.019452	0	2405.908
		Max Daily Total	0.506753	0.477845	9.613627	15.68184	0.0234	0.119259	0.196064	0.315323	0.113024	0.045957	0.158981	0	2589.314	2589.314	0.107016	0.026893	0.020996	2600.025
HV GPU_ New Group Campground	3.7 Paving (2025) - Mitigated	Off-Road Equipment	0.291332	0.274133	6.55957	9.3505	0.012952	0.091202		0.091202	0.085648		0.085648		1350.032	1350.032	0.054763	0.010953		1354.665
		Paving	0.34715	0.34715																
		Worker	0.091051	0.080689	0.097885	1.061526	0	0	0.261419	0.261419	0	0.061276	0.061276		250.5022	250.5022	0.004409	0.009921	0.025429	253.5943
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.638482	0.621283	6.55957	9.3505	0.012952	0.091202	0	0.091202	0.085648	0	0.085648	0	1350.032	1350.032	0.054763	0.010953	0	1354.665
		Max Daily Total	0.729533	0.701973	6.657455	10.41203	0.012952	0.091202	0.261419	0.352621	0.085648	0.061276	0.146924	0	1600.535	1600.535	0.059172	0.020873	0.025429	1608.26
HV GPU_ New Group Campground	3.9 Architectural Coating (2026) - Mitigated	Off-Road Equipment	0.021143	0.021143	1.068907	0.963191	0.001726	0.03054		0.03054	0.028191		0.028191		133.5045	133.5045	0.005416	0.001083		133.9626
		Architectural Coatings	1.969097	1.969097																
		Worker	0.009105	0.008069	0.009789	0.106153	0	0	0.026142	0.026142	0	0.006128	0.006128		25.05022	25.05022	0.000441	0.000992	0.002543	25.35943
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	1.99024	1.99024	1.068907	0.963191	0.001726	0.03054	0	0.03054	0.028191	0	0.028191	0	133.5045	133.5045	0.005416	0.001083	0	133.9626
		Max Daily Total	1.999346	1.998309	1.078695	1.069343	0.001726	0.03054	0.026142	0.056682	0.028191	0.006128	0.034319	0	158.5547	158.5547	0.005856	0.002075	0.002543	159.3221
HV GPU_ New Group Campground		**Max Daily Localized**	**1.99**	**1.99**	**14.73**	**28.31**	**0.05**	**0.12**	**7.67**	**7.77**	**0.11**	**3.94**	**4.04**	**0**	**5295.344**	**5295.344**	**0.214802**	**0.04296**	**0**	**5313.517**
		Max Daily Total	**2.00**	**2.00**	**14.83**	**29.31**	**0.05**	**0.12**	**7.89**	**7.99**	**0.11**	**3.99**	**4.09**	**0**	**5518.917**	**5518.917**	**0.226184**	**0.051641**	**0.025429**	**5539.985**

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ New RV Campground	3.1 Site Preparation (2025) - Mitigated	Off-Road Equipment	0.64145	0.64145	14.734	28.30778	0.048876	0.0996		0.0996	0.0996		0.0996		5295.344	5295.344	0.214802	0.04296		5313.517
		Dust From Material Movement							7.681412	7.681412		3.942252	3.942252							
		Worker	0.082756	0.073304	0.093559	0.998281	0	0	0.228741	0.228741	0	0.053617	0.053617		223.573	223.573	0.011381	0.008681	0.024496	226.4689
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.64145	0.64145	14.734	28.30778	0.048876	0.0996	7.681412	7.781011	0.0996	3.942252	4.041852	0	5295.344	5295.344	0.214802	0.04296	0	5313.517
		Max Daily Total	0.724206	0.714754	14.82756	29.30606	0.048876	0.0996	7.910153	8.009753	0.0996	3.995869	4.095469	0	5518.917	5518.917	0.226184	0.051641	0.024496	5539.985
HV GPU_ New RV Campground	3.3 Grading (2025) - Mitigated	Off-Road Equipment	0.394236	0.394236	10.27432	17.76524	0.027317	0.084404		0.084404	0.081991		0.081991		2959.346	2959.346	0.120044	0.024009		2969.502
		Dust From Material Movement							2.777387	2.777387		1.337946	1.337946							
		Worker	0.070934	0.062832	0.080193	0.855669	0	0	0.196064	0.196064	0	0.045957	0.045957		191.634	191.634	0.009755	0.007441	0.020996	194.1162
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.394236	0.394236	10.27432	17.76524	0.027317	0.084404	2.777387	2.861791	0.081991	1.337946	1.419937	0	2959.346	2959.346	0.120044	0.024009	0	2969.502
		Max Daily Total	0.46517	0.457068	10.35451	18.62091	0.027317	0.084404	2.973451	3.057855	0.081991	1.383903	1.465894	0	3150.98	3150.98	0.129799	0.031449	0.020996	3163.618
HV GPU_ New RV Campground	3.5 Building Construction (2025) - Mitigated	Off-Road Equipment	0.435819	0.415013	9.533434	14.82617	0.0234	0.119259		0.119259	0.113024		0.113024		2397.68	2397.68	0.09726	0.019452		2405.908
		Worker	0.071264	0.063824	0.080193	0.942642	0	0	0.196064	0.196064	0	0.045957	0.045957		200.5155	200.5155	0.009755	0.007441	0.809236	203.7693
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.435819	0.415013	9.533434	14.82617	0.0234	0.119259	0	0.119259	0.113024	0	0.113024	0	2397.68	2397.68	0.09726	0.019452	0	2405.908
		Max Daily Total	0.507083	0.478837	9.613627	15.76881	0.0234	0.119259	0.196064	0.315323	0.113024	0.045957	0.158981	0	2598.196	2598.196	0.107016	0.026893	0.809236	2609.678
HV GPU_ New RV Campground	3.7 Paving (2025) - Mitigated	Off-Road Equipment	0.291332	0.274133	6.55957	9.3505	0.012952	0.091202		0.091202	0.085648		0.085648		1350.032	1350.032	0.054763	0.010953		1354.665
		Paving	0.34584	0.34584																
		Worker	0.091051	0.08113	0.078925	1.1733	0	0	0.261419	0.261419	0	0.061276	0.061276		262.0983	262.0983	0.003527	0.00948	0.983331	265.9949
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.637172	0.619973	6.55957	9.3505	0.012952	0.091202	0	0.091202	0.085648	0	0.085648	0	1350.032	1350.032	0.054763	0.010953	0	1354.665
		Max Daily Total	0.728223	0.701103	6.638495	10.5238	0.012952	0.091202	0.261419	0.352621	0.085648	0.061276	0.146924	0	1612.131	1612.131	0.058291	0.020433	0.983331	1620.66
HV GPU_ New RV Campground	3.9 Architectural Coating (2026) - Mitigated	Off-Road Equipment	0.021143	0.021143	1.068907	0.963191	0.001726	0.03054		0.03054	0.028191		0.028191		133.5045	133.5045	0.005416	0.001083		133.9626
		Architectural Coatings	1.938803	1.938803																
		Worker	0.068288	0.060848	0.059194	0.879975	0	0	0.196064	0.196064	0	0.045957	0.045957		196.5737	196.5737	0.002646	0.00711	0.737498	199.4961
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	1.959947	1.959947	1.068907	0.963191	0.001726	0.03054	0	0.03054	0.028191	0	0.028191	0	133.5045	133.5045	0.005416	0.001083	0	133.9626
		Max Daily Total	2.028235	2.020794	1.128101	1.843166	0.001726	0.03054	0.196064	0.226604	0.028191	0.045957	0.074148	0	330.0782	330.0782	0.008061	0.008193	0.737498	333.4588
HV GPU_ New RV Campground		**Max Daily Localized**	**1.959947**	**1.959947**	**14.734**	**28.30778**	**0.048876**	**0.119259**	**7.681412**	**7.781011**	**0.113024**	**3.942252**	**4.041852**	**0**	**5295.344**	**5295.344**	**0.214802**	**0.04296**	**0**	**5313.517**
		Max Daily Total	**2.03**	**2.02**	**14.83**	**29.31**	**0.05**	**0.12**	**7.91**	**8.01**	**0.11**	**4.00**	**4.10**	**0**	**5518.917**	**5518.917**	**0.226184**	**0.051641**	**0.983331**	**5539.985**

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ New Skill Track and Kid's Practice Track	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	0.127861	0.107439	1.101577	1.908506	0.002683	0.042415		0.042415	0.039022		0.039022		290.4481	290.4481	0.011782	0.002356		291.4449
		Dust From Material Movement							0	0		0	0							
		Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Vendor	0.003737	0.002116	0.099869	0.030865	0.000562	0.001124	0.02139	0.022514	0.001124	0.00591	0.007034		77.09032	77.09032	0.00151	0.011629	0.005652	80.59928
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.127861	0.107439	1.101577	1.908506	0.002683	0.042415	0	0.042415	0.039022	0	0.039022	0	290.4481	290.4481	0.011782	0.002356	0	291.4449
		Max Daily Total	0.131598	0.109555	1.201446	1.939371	0.003245	0.043539	0.02139	0.064929	0.040146	0.00591	0.046056	0	367.5385	367.5385	0.013292	0.013986	0.005652	372.0442
HV GPU_ New Skill Track and Kid's Practice Track		**Max Daily Localized**	**0.127861**	**0.107439**	**1.101577**	**1.908506**	**0.002683**	**0.042415**	**0**	**0.042415**	**0.039022**	**0**	**0.039022**	**0**	**290.4481**	**290.4481**	**0.011782**	**0.002356**	**0**	**291.4449**
		Max Daily Total	**0.131598**	**0.109555**	**1.201446**	**1.939371**	**0.003245**	**0.043539**	**0.02139**	**0.064929**	**0.040146**	**0.00591**	**0.046056**	**0**	**367.5385**	**367.5385**	**0.013292**	**0.013986**	**0.005652**	**372.0442**

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ New Staging Area	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	0.560276	0.470787	4.160862	5.567513	0.00793	0.212686		0.212686	0.195671		0.195671		858.9385	858.9385	0.034842	0.006968		861.8862
		Dust From Material Movement							0.158162	0.158162		0.016113	0.016113							
		Worker	0.023645	0.020944	0.026731	0.285223	0	0	0.065355	0.065355	0	0.015319	0.015319		63.87801	63.87801	0.003252	0.00248	0.006999	64.7054
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.560276	0.470787	4.160862	5.567513	0.00793	0.212686	0.158162	0.370848	0.195671	0.016113	0.211784	0	858.9385	858.9385	0.034842	0.006968	0	861.8862
		Max Daily Total	0.58392	0.491731	4.187593	5.852736	0.00793	0.212686	0.223517	0.436203	0.195671	0.031432	0.227103	0	922.8166	922.8166	0.038094	0.009449	0.006999	926.5916
HV GPU_ New Staging Area		**Max Daily Localized**	**0.560276**	**0.470787**	**4.160862**	**5.567513**	**0.00793**	**0.212686**	**0.158162**	**0.370848**	**0.195671**	**0.016113**	**0.211784**	**0**	**858.9385**	**858.9385**	**0.034842**	**0.006968**	**0**	**861.8862**
		Max Daily Total	**0.58392**	**0.491731**	**4.187593**	**5.852736**	**0.00793**	**0.212686**	**0.223517**	**0.436203**	**0.195671**	**0.031432**	**0.227103**	**0**	**922.8166**	**922.8166**	**0.038094**	**0.009449**	**0.006999**	**926.5916**

Hungry Valley General Plan Update

Mitigated Construction Emissions Criteria Air Pollutants Summary (lbs/day)

green highlight indicates project elements that require mitigation (Tier 4 Interim/Tier 4 Final for equipment >25 HP)

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ EV Charging Stations	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	0.560276	0.470787	4.160862	5.567513	0.00793	0.212686		0.212686	0.195671		0.195671		858.9385	858.9385	0.034842	0.006968		861.8862
		Dust From Material Movement							0.208484	0.208484		0.022585	0.022585							
		Worker	0.023645	0.020944	0.026731	0.285223	0	0	0.065355	0.065355	0	0.015319	0.015319		63.87801	63.87801	0.003252	0.00248	0.006999	64.7054
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0.00974	0.004527	0.295615	0.070372	0.00144	0.002744	0.056308	0.059052	0.002744	0.015792	0.018535		215.6702	215.6702	0.005007	0.033745	0.012594	225.8641
		Max Daily Localized	0.560276	0.470787	4.160862	5.567513	0.00793	0.212686	0.208484	0.42117	0.195671	0.022585	0.218256	0	858.9385	858.9385	0.034842	0.006968	0	861.8862
		Max Daily Total	0.59366	0.496258	4.483208	5.923107	0.00937	0.215429	0.330147	0.545576	0.198414	0.053695	0.25211	0	1138.487	1138.487	0.043101	0.043194	0.019592	1152.456
HV GPU_ EV Charging Stations	3.7 Paving (2025) - Unmitigated	Off-Road Equipment	0.60748	0.507709	4.373764	5.311636	0.008574	0.193886		0.193886	0.178376		0.178376		823.4262	823.4262	0.033402	0.00668		826.252
		Paving	0.031381	0.031381																
		Worker	0.082756	0.073304	0.093559	0.998281	0	0	0.228741	0.228741	0	0.053617	0.053617		223.573	223.573	0.011381	0.008681	0.024496	226.4689
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.638861	0.53909	4.373764	5.311636	0.008574	0.193886	0	0.193886	0.178376	0	0.178376	0	823.4262	823.4262	0.033402	0.00668	0	826.252
		Max Daily Total	0.721617	0.612394	4.467322	6.309917	0.008574	0.193886	0.228741	0.422628	0.178376	0.053617	0.231992	0	1046.999	1046.999	0.044783	0.015361	0.024496	1052.721
HV GPU_ EV Charging Stations	3.9 Architectural Coating (2026) - Unmitigated	Off-Road Equipment	0.154832	0.12796	0.88228	1.139843	0.001726	0.027427		0.027427	0.025232		0.025232		133.5224	133.5224	0.005416	0.001083		133.9806
		Architectural Coatings	0.145137	0.145137																
		Worker	0.082756	0.073304	0.093559	0.998281	0	0	0.228741	0.228741	0	0.053617	0.053617		223.573	223.573	0.011381	0.008681	0.024496	226.4689
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Max Daily Localized	0.299969	0.273097	0.88228	1.139843	0.001726	0.027427	0	0.027427	0.025232	0	0.025232	0	133.5224	133.5224	0.005416	0.001083	0	133.9806
		Max Daily Total	0.382725	0.346401	0.975838	2.138124	0.001726	0.027427	0.228741	0.256168	0.025232	0.053617	0.078849	0	357.0954	357.0954	0.016798	0.009764	0.024496	360.4495
HV GPU_ EV Charging Stations		**Max Daily Localized**	**0.638861**	**0.53909**	**4.373764**	**5.567513**	**0.008574**	**0.212686**	**0.208484**	**0.42117**	**0.195671**	**0.022585**	**0.218256**	**0**	**858.9385**	**858.9385**	**0.034842**	**0.006968**	**0**	**861.8862**
		Max Daily Total	**0.721617**	**0.612394**	**4.483208**	**6.309917**	**0.00937**	**0.215429**	**0.330147**	**0.545576**	**0.198414**	**0.053695**	**0.25211**	**0**	**1138.487**	**1138.487**	**0.044783**	**0.043194**	**0.024496**	**1152.456**

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ Paving of Hungry Valley Road	3.1 Linear, Grubbing & Land Clearing (2025) - Mitigated	Off-Road Equipment	0.054705	0.054705	0.835051	3.430481	0.004524	0.009011		0.009011	0.009011		0.009011		490.346	490.346	0.019891	0.003978		492.0288
		Dust From Material Movement							0.206798	0.206798		0.022329	0.022329							
		Worker	0.141867	0.125663	0.160386	1.711338	0	0	0.392128	0.392128	0	0.091914	0.091914		383.268	383.268	0.019511	0.014881	0.041993	388.2324
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0.219139	0.101854	6.651346	1.58336	0.032408	0.061729	1.266935	1.328664	0.061729	0.355315	0.417044		4852.58	4852.58	0.112656	0.759272	0.283357	5081.943
		Max Daily Localized	0.054705	0.054705	0.835051	3.430481	0.004524	0.009011	0.206798	0.215808	0.009011	0.022329	0.03134	0	490.346	490.346	0.019891	0.003978	0	492.0288
		Max Daily Total	0.415712	0.282222	7.646784	6.725179	0.036932	0.07074	1.86586	1.936601	0.07074	0.469558	0.540298	0	5726.194	5726.194	0.152058	0.778131	0.325349	5962.204
HV GPU_ Paving of Hungry Valley Road	3.3 Linear, Grading & Excavation (2025) - Mitigated	Off-Road Equipment	0.655611	0.655611	6.162111	37.54866	0.059979	0.121471		0.121471	0.121471		0.121471		6495.675	6495.675	0.263493	0.052699		6517.967
		Dust From Material Movement							1.240785	1.240785		0.133976	0.133976							
		Worker	0.26009	0.230383	0.294042	3.137454	0	0	0.718902	0.718902	0	0.168509	0.168509		702.6581	702.6581	0.03577	0.027282	0.076987	711.7594
		Vendor	0.001495	0.000847	0.039948	0.012346	0.000225	0.00045	0.008556	0.009006	0.00045	0.002364	0.002814		30.83613	30.83613	0.000604	0.004652	0.002261	32.23971
		Hauling	0.219139	0.101854	6.651346	1.58336	0.032408	0.061729	1.266935	1.328664	0.061729	0.355315	0.417044		4852.58	4852.58	0.112656	0.759272	0.283357	5081.943
		Max Daily Localized	0.655611	0.655611	6.162111	37.54866	0.059979	0.121471	1.240785	1.362257	0.121471	0.133976	0.255447	0	6495.675	6495.675	0.263493	0.052699	0	6517.967
		Max Daily Total	1.136335	0.988694	13.14745	42.28182	0.092611	0.18365	3.235178	3.418828	0.18365	0.660164	0.843814	0	12081.75	12081.75	0.412523	0.843905	0.362604	12343.91
HV GPU_ Paving of Hungry Valley Road	3.5 Linear, Drainage, Utilities, & Sub-Grade (2025) - Mitigated	Off-Road Equipment	0.78828	0.743191	5.130781	31.59326	0.054363	0.171258		0.171258	0.165813		0.165813		5693.709	5693.709	0.230962	0.046192		5713.249
		Dust From Material Movement							1.148893	1.148893		0.129046	0.129046							
		Worker	0.236446	0.209439	0.26731	2.852231	0	0	0.653547	0.653547	0	0.15319	0.15319		638.7801	638.7801	0.032518	0.024802	0.069988	647.054
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0.219139	0.101854	6.651346	1.58336	0.032408	0.061729	1.266935	1.328664	0.061729	0.355315	0.417044		4852.58	4852.58	0.112656	0.759272	0.283357	5081.943
		Max Daily Localized	0.78828	0.743191	5.130781	31.59326	0.054363	0.171258	1.148893	1.320151	0.165813	0.129046	0.294859	0	5693.709	5693.709	0.230962	0.046192	0	5713.249
		Max Daily Total	1.243865	1.054484	12.04944	36.02885	0.086771	0.232988	3.069374	3.302262	0.227542	0.637551	0.865094	0	11185.07	11185.07	0.376136	0.830266	0.353345	11442.25
HV GPU_ Paving of Hungry Valley Road	3.7 Linear, Paving (2025) - Mitigated	Off-Road Equipment	0.178215	0.178215	2.578477	11.3349	0.014954	0.029852		0.029852	0.029852		0.029852		1619.826	1619.826	0.065707	0.013141		1625.385
		Worker	0.200979	0.178023	0.227214	2.424396	0	0	0.555515	0.555515	0	0.130212	0.130212		542.963	542.963	0.02764	0.021082	0.05949	549.9959
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0.219139	0.101854	6.651346	1.58336	0.032408	0.061729	1.266935	1.328664	0.061729	0.355315	0.417044		4852.58	4852.58	0.112656	0.759272	0.283357	5081.943
		Max Daily Localized	0.178215	0.178215	2.578477	11.3349	0.014954	0.029852	0	0.029852	0.029852	0	0.029852	0	1619.826	1619.826	0.065707	0.013141	0	1625.385
		Max Daily Total	0.598333	0.458091	9.457038	15.34266	0.047362	0.091582	1.82245	1.914031	0.091582	0.485526	0.577108	0	7015.37	7015.37	0.206004	0.793495	0.342846	7257.324
HV GPU_ Paving of Hungry Valley Road		**Max Daily Localized**	**0.78828**	**0.743191**	**6.162111**	**37.54866**	**0.059979**	**0.171258**	**1.240785**	**1.362257**	**0.165813**	**0.133976**	**0.294859**	**0**	**6495.675**	**6495.675**	**0.263493**	**0.052699**	**0**	**6517.967**
		Max Daily Total	**1.24**	**1.05**	**13.15**	**42.28**	**0.09**	**0.23**	**3.24**	**3.42**	**0.23**	**0.66**	**0.87**	**0**	**12081.75**	**12081.75**	**0.412523**	**0.843905**	**0.362604**	**12343.91**

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ Paving of Quail Canyon Road	3.1 Linear, Grubbing & Land Clearing (2025) - Mitigated	Off-Road Equipment	0.054705	0.054705	0.835051	3.430481	0.004524	0.009011		0.009011	0.009011		0.009011		490.346	490.346	0.019891	0.003978		492.0288
		Dust From Material Movement							0.206798	0.206798		0.022329	0.022329							
		Worker	0.047289	0.041888	0.053462	0.570446	0	0	0.130709	0.130709	0	0.030638	0.030638		127.756	127.756	0.006504	0.00496	0.013998	129.4108
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0.05635	0.026191	1.710346	0.40715	0.008333	0.015873	0.325783	0.341656	0.015873	0.091367	0.10724		1247.806	1247.806	0.028969	0.195241	0.072863	1306.785
		Max Daily Localized	0.054705	0.054705	0.835051	3.430481	0.004524	0.009011	0.206798	0.215808	0.009011	0.022329	0.03134	0	490.346	490.346	0.019891	0.003978	0	492.0288
		Max Daily Total	0.158344	0.122783	2.598859	4.408077	0.012857	0.024884	0.66329	0.688174	0.024884	0.144334	0.169218	0	1865.908	1865.908	0.055363	0.20418	0.086861	1928.225
HV GPU_ Paving of Quail Canyon Road	3.3 Linear, Grading & Excavation (2025) - Mitigated	Off-Road Equipment	0.655611	0.655611	6.162111	37.54866	0.059979	0.121471		0.121471	0.121471		0.121471		6495.675	6495.675	0.263493	0.052699		6517.967
		Dust From Material Movement							1.240785	1.240785		0.133976	0.133976							
		Worker	0.165512	0.146607	0.187117	1.996561	0	0	0.457483	0.457483	0	0.107233	0.107233		447.146	447.146	0.022763	0.017361	0.048992	452.9378
		Vendor	0.001495	0.000847	0.039948	0.012346	0.000225	0.00045	0.008556	0.009006	0.00045	0.002364	0.002814		30.83613	30.83613	0.000604	0.004652	0.002261	32.23971
		Hauling	0.05635	0.026191	1.710346	0.40715	0.008333	0.015873	0.325783	0.341656	0.015873	0.091367	0.10724		1247.806	1247.806	0.028969	0.195241	0.072863	1306.785
		Max Daily Localized	0.655611	0.655611	6.162111	37.54866	0.059979	0.121471	1.240785	1.362257	0.121471	0.133976	0.255447	0	6495.675	6495.675	0.263493	0.052699	0	6517.967
		Max Daily Total	0.878968	0.829256	8.099522	39.96471	0.068537	0.137794	2.032607	2.170402	0.137794	0.334939	0.472734	0	8221.464	8221.464	0.315829	0.269953	0.124115	8309.93
HV GPU_ Paving of Quail Canyon Road	3.5 Linear, Drainage, Utilities, & Sub-Grade (2025) - Mitigated	Off-Road Equipment	0.78828	0.743191	5.130781	31.59326	0.054363	0.171258		0.171258	0.165813		0.165813		5693.709	5693.709	0.230962	0.046192		5713.249
		Dust From Material Movement							1.063401	1.063401		0.1161	0.1161							
		Worker	0.141867	0.125663	0.160386	1.711338	0	0	0.392128	0.392128	0	0.091914	0.091914		383.268	383.268	0.019511	0.014881	0.041993	388.2324
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0.05635	0.026191	1.710346	0.40715	0.008333	0.015873	0.325783	0.341656	0.015873	0.091367	0.10724		1247.806	1247.806	0.028969	0.195241	0.072863	1306.785
		Max Daily Localized	0.78828	0.743191	5.130781	31.59326	0.054363	0.171258	1.063401	1.234659	0.165813	0.1161	0.281913	0	5693.709	5693.709	0.230962	0.046192	0	5713.249
		Max Daily Total	0.986498	0.895045	7.001513	33.71175	0.062697	0.187132	1.781313	1.968444	0.181686	0.299381	0.481067	0	7324.784	7324.784	0.279441	0.256315	0.114856	7408.266
HV GPU_ Paving of Quail Canyon Road	3.7 Linear, Paving (2025) - Mitigated	Off-Road Equipment	0.178215	0.178215	2.578477	11.3349	0.014954	0.029852		0.029852	0.029852		0.029852		1619.826	1619.826	0.065707	0.013141		1625.385
		Worker	0.106401	0.094248	0.12029	1.283504	0	0	0.294096	0.294096	0	0.068936	0.068936		287.451	287.451	0.014633	0.011161	0.031495	291.1743
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0.05635	0.026191	1.710346	0.40715	0.008333	0.015873	0.325783	0.341656	0.015873	0.091367	0.10724		1247.806	1247.806	0.028969	0.195241	0.072863	1306.785
		Max Daily Localized	0.178215	0.178215	2.578477	11.3349	0.014954	0.029852	0	0.029852	0.029852	0	0.029852	0	1619.826	1619.826	0.065707	0.013141	0	1625.385
		Max Daily Total	0.340965	0.298653	4.409113	13.02555	0.023288	0.045726	0.619879	0.665605	0.045726	0.160302	0.206028	0	3155.084	3155.084	0.109309	0.219544	0.104358	3223.345
HV GPU_ Paving of Quail Canyon Road		**Max Daily Localized**	**0.78828**	**0.743191**	**6.162111**	**37.54866**	**0.059979**	**0.171258**	**1.240785**	**1.362257**	**0.165813**	**0.133976**	**0.281913**	**0**	**6495.675**	**6495.675**	**0.263493**	**0.052699**	**0**	**6517.967**
		Max Daily Total	**0.99**	**0.90**	**8.10**	**39.96**	**0.07**	**0.19**	**2.03**	**2.17**	**0.18**	**0.33**	**0.48**	**0**	**8221.464**	**8221.464**	**0.315829**	**0.269953**	**0.124115**	**8309.93**

	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
OVERALL MAX	**Max Daily Localized**	**4.791165**	**4.764294**	**14.734**	**37.54866**	**0.059979**	**0.463789**	**7.681412**	**7.781011**	**0.426686**	**3.942252**	**4.041852**	**0**	**6495.675**	**6495.675**	**0.263493**	**0.052699**	**0**	**6517.967**
	Max Daily Total	**4.79**	**4.77**	**14.83**	**42.28**	**0.09**	**0.46**	**7.91**	**8.01**	**0.43**	**4.00**	**4.10**	**0**	**12081.75**	**12081.75**	**0.412523**	**0.843905**	**0.983331**	**12343.91**

Hungry Valley General Plan Update

Construction Emissions Criteria Air Pollutants Summary (tons/year for criteria air pollutants; MT for GHG emissions)

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ Operational Support Offices	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	0.003361654	0.002824723	0.024965171	0.033405	4.75778E-05	0.001276114		0.001276114	0.001174025		0.001174025		4.675301	4.675301	0.000189651	3.79301E-05		4.691346
		Dust From Material Movement							0.001240785	0.001240785		0.000133976	0.000133976							
		Worker	0.000139883	0.000124341	0.000158402	0.001711	0	0	0.00038689	0.00038689	0	9.06048E-06	9.06048E-06		0.350232	0.350232	1.71E-05	1.35E-05	0.000633333	0.355315
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.003501538	0.002949064	0.025123574	0.035116	4.75778E-05	0.001276114	0.001627676	0.00290379	0.001174025	0.00022458	0.001398606	0	5.025533	5.025533	0.000206751	5.14302E-05	0.000633333	5.046661
HV GPU_ Operational Support Offices	3.3 Grading (2025) - Unmitigated	Off-Road Equipment	0.009052579	0.007606681	0.070468728	0.070347	0.000110732	0.003246525		0.003246525	0.002986803		0.002986803		10.88377	10.88377	0.000441493	8.82986E-05		10.92112
		Dust From Material Movement							0.014628219	0.014628219		0.007031323	0.007031323							
		Worker	0.000244796	0.000217596	0.000277204	0.002994	0	0	0.000677058	0.000677058	0	0.000158558	0.000158558		0.612905	0.612905	2.9925E-05	2.3625E-05	0.001108334	0.621802
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.009297375	0.007824277	0.070745931	0.073341	0.000110732	0.003246525	0.015305277	0.018551803	0.002986803	0.00718988	0.010176684	0	11.49667	11.49667	0.000471418	0.000111924	0.001108334	11.54292
HV GPU_ Operational Support Offices	3.5 Building Construction (2025) - Unmitigated	Off-Road Equipment	0.06194934	0.052054654	0.514001216	0.693912	0.001205023	0.021762558		0.021762558	0.020021553		0.020021553		118.3658	118.3658	0.004801435	0.000960287		118.772
		Worker	0.001492089	0.001326301	0.001689623	0.018251	0	0	0.00412683	0.00412683	0	0.000966451	0.000966451		3.735803	3.735803	0.0001824	0.000144	0.006755557	3.790031
		Vendor	0.0002486	0.000142367	0.006548161	0.001991	3.68564E-05	7.37129E-05	0.001386536	0.001460249	7.37129E-05	0.00038349	0.000457203		4.583971	4.583971	8.98173E-05	0.000691659	0.005594117	4.797925
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.063690029	0.053523322	0.522238999	0.714153	0.001241879	0.02183627	0.005513366	0.027349637	0.020095266	0.00134994	0.021445207	0	126.6856	126.6856	0.005073652	0.001795946	0.012349674	127.36
HV GPU_ Operational Support Offices	3.7 Paving (2025) - Unmitigated	Off-Road Equipment	0.003037401	0.002538545	0.021868818	0.026558	4.28716E-05	0.000969432		0.000969432	0.000891878		0.000891878		3.735003	3.735003	0.000151508	3.03016E-05		3.74782
		Worker	0.000407993	0.00036266	0.000462006	0.00499	0	0	0.00112843	0.00112843	0	0.000264264	0.000264264		1.021509	1.021509	4.98751E-05	3.9375E-05	0.001847223	1.036336
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.003445394	0.002901205	0.022330825	0.031549	4.28716E-05	0.000969432	0.00112843	0.002097863	0.000891878	0.00026426	0.001156142	0	4.756511	4.756511	0.000201383	6.96767E-05	0.001847223	4.784157
HV GPU_ Operational Support Offices	3.9 Architectural Coating (2025) - Unmitigated	Off-Road Equipment	0.000774158	0.0006398	0.004411398	0.005699	8.63056E-06	0.000137133		0.000137133	0.000126162		0.000126162		0.605648	0.605648	2.45677E-05	4.91355E-06		0.607727
		Architectural Coatings	0.023181668	0.023181668																
		Worker	1.49209E-05	1.3263E-05	1.68962E-05	0.000183	0	0	4.12683E-05	4.12683E-05	0	9.66451E-06	9.66451E-06		0.037358	0.037358	1.824E-06	1.44E-06	6.75556E-05	0.0379
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.023970747	0.023834731	0.004428295	0.005882	8.63056E-06	0.000137133	4.12683E-05	0.000178401	0.000126162	9.66451E-06	0.000135827	0	0.643006	0.643006	2.63917E-05	6.35355E-06	6.75556E-05	0.645627
		Total Annual Emissions	**0.10**	**0.09**	**0.64**	**0.86**	**0.00**	**0.03**	**0.02**	**0.05**	**0.03**	**0.01**	**0.03**	**0**	**148.6073**	**148.6073**	**0.005979596**	**0.00203533**	**0.016006119**	**149.3793**

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ Visitor Center	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	0.003361654	0.002824723	0.024965171	0.033405	4.75778E-05	0.001276114		0.001276114	0.001174025		0.001174025		4.675301	4.675301	0.000189651	3.79301E-05		4.691346
		Dust From Material Movement							0.001240785	0.001240785		0.000133976	0.000133976							
		Worker	0.000139883	0.000124341	0.000158402	0.001711	0	0	0.00038689	0.00038689	0	9.06048E-06	9.06048E-06		0.350232	0.350232	1.71E-05	1.35E-05	0.000633333	0.355315
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.003501538	0.002949064	0.025123574	0.035116	4.75778E-05	0.001276114	0.001627676	0.00290379	0.001174025	0.00022458	0.001398606	0	5.025533	5.025533	0.000206751	5.14302E-05	0.000633333	5.046661
HV GPU_ Visitor Center	3.3 Grading (2025) - Unmitigated	Off-Road Equipment	0.009052579	0.007606681	0.070468728	0.070347	0.000110732	0.003246525		0.003246525	0.002986803		0.002986803		10.88377	10.88377	0.000441493	8.82986E-05		10.92112
		Dust From Material Movement							0.014504125	0.014504125		0.007012531	0.007012531							
		Worker	0.000244796	0.000217596	0.000277204	0.002994	0	0	0.000677058	0.000677058	0	0.000158558	0.000158558		0.612905	0.612905	2.9925E-05	2.3625E-05	0.001108334	0.621802
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.009297375	0.007824277	0.070745931	0.073341	0.000110732	0.003246525	0.015181184	0.018427709	0.002986803	0.00717109	0.010157893	0	11.49667	11.49667	0.000471418	0.000111924	0.001108334	11.54292
HV GPU_ Visitor Center	3.5 Building Construction (2025) - Unmitigated	Off-Road Equipment	0.06194934	0.052054654	0.514001216	0.693912	0.001205023	0.021762558		0.021762558	0.020021553		0.020021553		118.3658	118.3658	0.004801435	0.000960287		118.772
		Worker	0.000932555	0.000828938	0.001056014	0.011407	0	0	0.002579269	0.002579269	0	0.000604032	0.000604032		2.334877	2.334877	0.000114	9.00001E-05	0.004222223	2.368769
		Vendor	2.486E-05	1.42367E-05	0.000654816	0.000199	3.68564E-06	7.37129E-06	0.000138654	0.000146025	7.37129E-06	3.8349E-05	4.57203E-05		0.458397	0.458397	8.98173E-06	6.91659E-05	0.000559412	0.479793
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.062956756	0.052897329	0.515712046	0.705518	0.001208709	0.02176929	0.002717923	0.024487251	0.020028924	0.00064238	0.020671305	0	121.1591	121.1591	0.004924416	0.001119453	0.004781635	121.8206
HV GPU_ Visitor Center	3.7 Paving (2025) - Unmitigated	Off-Road Equipment	0.003037401	0.002538545	0.021868818	0.026558	4.28716E-05	0.000969432		0.000969432	0.000891878		0.000891878		3.735003	3.735003	0.000151508	3.03016E-05		3.74782
		Worker	0.000407993	0.00036266	0.000462006	0.00499	0	0	0.00112843	0.00112843	0	0.000264264	0.000264264		1.021509	1.021509	4.98751E-05	3.9375E-05	0.001847223	1.036336
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.003445394	0.002901205	0.022330825	0.031549	4.28716E-05	0.000969432	0.00112843	0.002097863	0.000891878	0.00026426	0.001156142	0	4.756511	4.756511	0.000201383	6.96767E-05	0.001847223	4.784157
HV GPU_ Visitor Center	3.9 Architectural Coating (2025) - Unmitigated	Off-Road Equipment	0.000774158	0.0006398	0.004411398	0.005699	8.63056E-06	0.000137133		0.000137133	0.000126162		0.000126162		0.605648	0.605648	2.45677E-05	4.91355E-06		0.607727
		Architectural Coatings	0.002318167	0.002318167																
		Worker	4.66278E-05	4.14468E-05	5.28007E-05	0.00057	0	0	0.000128963	0.000128963	0	3.02016E-05	3.02016E-05		0.116744	0.116744	5.70001E-06	4.50001E-06	0.000211111	0.118438
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.003138953	0.002999414	0.004464199	0.00627	8.63056E-06	0.000137133	0.000128963	0.000266096	0.000126162	3.02016E-05	0.000156364	0	0.722392	0.722392	3.02677E-05	9.41355E-06	0.000211111	0.726165
		Total Annual Emissions	**0.082290015**	**0.07**	**0.64**	**0.85**	**0.00**	**0.03**	**0.02**	**0.05**	**0.03**	**0.01**	**0.03**	**0**	**143.1602**	**143.1602**	**0.005834236**	**0.001361897**	**0.008581635**	**143.7205**

Hungry Valley General Plan Update

Construction Emissions Criteria Air Pollutants Summary (tons/year for criteria air pollutants; MT for GHG emissions)

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ New Group Campground	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	0.003939589	0.003310349	0.031640778	0.030175	4.8876E-05	0.001365553		0.001365553	0.001256308		0.001256308		4.803861	4.803861	0.000194866	3.89731E-05		4.820347
		Dust From Material Movement							0.007666233	0.007666233		0.003939954	0.003939954							
		Worker	8.15986E-05	7.25321E-05	9.24012E-05	0.000998	0	0	0.000225686	0.000225686	0	5.28528E-05	5.28528E-05		0.204302	0.204302	9.97501E-06	7.87501E-06	0.000369445	0.207267
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.004021188	0.003382882	0.03173318	0.031174	4.8876E-05	0.001365553	0.007891919	0.009257472	0.001256308	0.003992807	0.005249115	0	5.008163	5.008163	0.000204841	4.68481E-05	0.000369445	5.027614
HV GPU_ New Group Campground	3.3 Grading (2025) - Unmitigated	Off-Road Equipment	0.002074117	0.001742834	0.016273706	0.017914	2.73174E-05	0.000721973		0.000721973	0.000664215		0.000664215		2.684677	2.684677	0.000108902	2.17805E-05		2.69389
		Dust From Material Movement							0.002789181	0.002789181		0.001339732	0.001339732							
		Worker	6.99417E-05	6.21704E-05	7.92011E-05	0.000856	0	0	0.000193445	0.000193445	0	4.53024E-05	4.53024E-05		0.175116	0.175116	8.55001E-06	6.75001E-06	0.000316667	0.177658
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.002144059	0.001805005	0.016352907	0.01877	2.73174E-05	0.000721973	0.002982626	0.003704599	0.000664215	0.001385034	0.002049249	0	2.859793	2.859793	0.000117452	2.85305E-05	0.000316667	2.871548
HV GPU_ New Group Campground	3.5 Building Construction (2025) - Unmitigated	Off-Road Equipment	0.035014157	0.029299461	0.271549672	0.339042	0.0006084	0.011227858		0.011227858	0.010329629		0.010329629		56.55368	56.55368	0.002294065	0.000458813		56.74776
		Worker	0.001818483	0.001616429	0.002059228	0.022243	0	0	0.005029575	0.005029575	0	0.001177862	0.001177862		4.55301	4.55301	0.0002223	0.0001755	0.008233335	4.6191
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.03683264	0.030915891	0.2736089	0.361285	0.0006084	0.011227858	0.005029575	0.016257432	0.010329629	0.001177862	0.011507491	0	61.10669	61.10669	0.002516365	0.000634313	0.008233335	61.36686
HV GPU_ New Group Campground	3.7 Paving (2025) - Unmitigated	Off-Road Equipment	0.001627169	0.001364533	0.012467389	0.017629	2.59035E-05	0.000520343		0.000520343	0.000478716		0.000478716		2.449461	2.449461	9.93608E-05	1.98722E-05		2.457866
		Paving	0.0006943	0.0006943																
		Worker	0.00018122	0.000160497	0.000194007	0.002125	0	0	0.000515854	0.000515854	0	0.000120806	0.000120806		0.457831	0.457831	7.20001E-06	1.8E-05	0.000770371	0.464146
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.002502689	0.002219329	0.012661395	0.019754	2.59035E-05	0.000520343	0.000515854	0.001036197	0.000478716	0.000120806	0.000599522	0	2.907292	2.907292	0.000106561	3.78722E-05	0.000770371	2.922012
HV GPU_ New Group Campground	3.9 Architectural Coating (2026) - Unmitigated	Off-Road Equipment	0.000291147	0.000240617	0.0017129	0.002266	3.45176E-06	4.63068E-05		4.63068E-05	4.26023E-05		4.26023E-05		0.242227	0.242227	9.82578E-06	1.96516E-06		0.243058
		Architectural Coatings	0.003938195	0.003938195																
		Worker	1.8122E-05	1.60497E-05	1.94007E-05	0.000213	0	0	5.15854E-05	5.15854E-05	0	1.20806E-05	1.20806E-05		0.045783	0.045783	7.20E-07	1.8E-06	7.70371E-05	0.046415
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.004247463	0.004194861	0.001732301	0.002478	3.45176E-06	4.63068E-05	5.15854E-05	9.78922E-05	4.26023E-05	1.20806E-05	5.46829E-05	0	0.28801	0.28801	1.05458E-05	3.76516E-06	7.70371E-05	0.289473
		Total Annual Emissions	**0.049748038**	**0.04**	**0.34**	**0.43**	**0.00**	**0.01**	**0.02**	**0.03**	**0.01**	**0.01**	**0.02**	**0**	**72.16995**	**72.16995**	**0.002955764**	**0.000751329**	**0.009766854**	**72.4775**

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ New RV Campground	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	0.003939589	0.003310349	0.031640778	0.030175	4.8876E-05	0.001365553		0.001365553	0.001256308		0.001256308		4.803861	4.803861	0.000194866	3.89731E-05		4.820347
		Dust From Material Movement							0.007681412	0.007681412		0.003942252	0.003942252							
		Worker	8.15986E-05	7.25321E-05	9.24012E-05	0.000998	0	0	0.000225686	0.000225686	0	5.28528E-05	5.28528E-05		0.204302	0.204302	9.97501E-06	7.87501E-06	0.000369445	0.207267
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.004021188	0.003382882	0.03173318	0.031174	4.8876E-05	0.001365553	0.007907098	0.00927265	0.001256308	0.003995105	0.005251414	0	5.008163	5.008163	0.000204841	4.68481E-05	0.000369445	5.027614
HV GPU_ New RV Campground	3.3 Grading (2025) - Unmitigated	Off-Road Equipment	0.002074117	0.001742834	0.016273706	0.017914	2.73174E-05	0.000721973		0.000721973	0.000664215		0.000664215		2.684677	2.684677	0.000108902	2.17805E-05		2.69389
		Dust From Material Movement							0.002777387	0.002777387		0.001337946	0.001337946							
		Worker	6.99417E-05	6.21704E-05	7.92011E-05	0.000856	0	0	0.000193445	0.000193445	0	4.53024E-05	4.53024E-05		0.175116	0.175116	8.55001E-06	6.75001E-06	0.000316667	0.177658
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.002144059	0.001805005	0.016352907	0.01877	2.73174E-05	0.000721973	0.002970832	0.003692805	0.000664215	0.001383248	0.002047463	0	2.859793	2.859793	0.000117452	2.85305E-05	0.000316667	2.871548
HV GPU_ New RV Campground	3.5 Building Construction (2025) - Unmitigated	Off-Road Equipment	0.046461092	0.038878132	0.360325526	0.449883	0.0008073	0.014898503		0.014898503	0.013706623		0.013706623		75.04238	75.04238	0.003044047	0.000608809		75.29991
		Worker	0.002412987	0.002144877	0.002732437	0.029515	0	0	0.006673859	0.006673859	0	0.001562932	0.001562932		6.041494	6.041494	0.000294975	0.000232875	0.010925002	6.12919
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.048874079	0.041023009	0.363057963	0.479398	0.0008073	0.014898503	0.006673859	0.021572362	0.013706623	0.001562932	0.015269555	0	81.08388	81.08388	0.003339023	0.000841685	0.010925002	81.4291
HV GPU_ New RV Campground	3.7 Paving (2025) - Unmitigated	Off-Road Equipment	0.002033961	0.001705666	0.015584236	0.022036	3.23794E-05	0.000650429		0.000650429	0.000598394		0.000598394		3.061826	3.061826	0.000124201	2.48402E-05		3.072333
		Paving	0.0008646	0.0008646																
		Worker	0.000226525	0.000200621	0.000242508	0.002657	0	0	0.000644817	0.000644817	0	0.000151008	0.000151008		0.572289	0.572289	9.00001E-06	2.25E-05	0.000962963	0.580182
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.003125086	0.002770887	0.015826744	0.024693	3.23794E-05	0.000650429	0.000644817	0.001295246	0.000598394	0.000151008	0.000749402	0	3.634115	3.634115	0.000133201	4.73402E-05	0.000962963	3.652515
HV GPU_ New RV Campground	3.9 Architectural Coating (2026) - Unmitigated	Off-Road Equipment	0.000363933	0.000300771	0.002141125	0.002832	4.3147E-06	5.78836E-05		5.78836E-05	5.32529E-05		5.32529E-05		0.302783	0.302783	1.22822E-05	2.45644E-06		0.303823
		Architectural Coatings	0.004847009	0.004847009																
		Worker	0.000169894	0.000150465	0.000181881	0.001992	0	0	0.000483613	0.000483613	0	0.000113256	0.000113256		0.429217	0.429217	6.75001E-06	1.6875E-05	0.000722222	0.435137
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.005380836	0.005298245	0.002323007	0.004824	4.3147E-06	5.78836E-05	0.000483613	0.000541496	5.32529E-05	0.000113256	0.000166509	0	0.732	0.732	1.90322E-05	1.93315E-05	0.000722222	0.738959
		Total Annual Emissions	**0.06**	**0.05**	**0.43**	**0.56**	**0.00**	**0.02**	**0.02**	**0.04**	**0.02**	**0.01**	**0.02**	**0**	**93.31795**	**93.31795**	**0.003813549**	**0.000983735**	**0.013296299**	**93.71974**

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ New Skill Track and Kid's Practice Track	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	0.001598265	0.001342987	0.013769713	0.023856	3.35334E-05	0.000530187		0.000530187	0.000487772		0.000487772		3.29363	3.29363	0.000133604	2.67208E-05		3.304933
		Dust From Material Movement							0	0		0	0							
		Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Vendor	4.73994E-05	2.71444E-05	0.001248505	0.00038	7.02723E-06	1.40545E-05	0.000264364	0.000278418	1.40545E-05	7.31182E-05	8.71727E-05		0.874003	0.874003	1.7125E-05	0.000131875	0.001066603	0.914797
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.001645665	0.001370131	0.015018219	0.024236	4.05607E-05	0.000544241	0.000264364	0.000808605	0.000501826	7.31182E-05	0.000574945	0	4.167633	4.167633	0.000150729	0.000158596	0.001066603	4.21973
		Total Annual Emissions	**0.00**	**0.00**	**0.02**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0**	**4.167633**	**4.167633**	**0.000150729**	**0.000158596**	**0.001066603**	**4.21973**

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ New Staging Area	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	0.004202068	0.003530904	0.031206464	0.041756	5.94723E-05	0.001595143		0.001595143	0.001467531		0.001467531		5.844127	5.844127	0.000237063	4.74127E-05		5.864182
		Dust From Material Movement							0.001186217	0.001186217		0.000120845	0.000120845							
		Worker	0.000174854	0.000155426	0.000198003	0.002139	0	0	0.000483613	0.000483613	0	0.000113256	0.000113256		0.437789	0.437789	2.1375E-05	1.6875E-05	0.000791667	0.444144
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.004376922	0.00368633	0.031404467	0.043895	5.94723E-05	0.001595143	0.00166983	0.003264973	0.001467531	0.000234101	0.001701633	0	6.281916	6.281916	0.000258438	6.42877E-05	0.000791667	6.308326
		Total Annual Emissions	**0.00**	**0.00**	**0.03**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0**	**6.281916**	**6.281916**	**0.000258438**	**6.42877E-05**	**0.000791667**	**6.308326**

Hungry Valley General Plan Update

Construction Emissions Criteria Air Pollutants Summary (tons/year for criteria air pollutants; MT for GHG emissions)

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ EV Charging Stations	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	0.005042481	0.004237085	0.037447757	0.050108	7.13668E-05	0.001914171		0.001914171	0.001761038		0.001761038		7.012952	7.012952	0.000284476	5.68952E-05		7.037018
		Dust From Material Movement							0.001876357	0.001876357		0.000203262	0.000203262							
		Worker	0.000209825	0.000186511	0.000237603	0.002567	0	0	0.000580336	0.000580336	0	0.000135907	0.000135907		0.525347	0.525347	2.565E-05	2.025E-05	0.00095	0.532973
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	8.88804E-05	4.1976E-05	0.002663008	0.000627	1.29632E-05	2.46918E-05	0.000501489	0.000526181	2.46918E-05	0.000140805	0.000165496		1.760616	1.760616	4.144E-05	0.00027552	0.001713714	1.845471
		Total Annual Emissions	0.005341197	0.004465572	0.040348368	0.053301	8.43299E-05	0.001938863	0.002958181	0.004897044	0.00178573	0.000479974	0.002265703	0	9.298915	9.298915	0.000351566	0.000352666	0.002663714	9.415462
HV GPU_ EV Charging Stations	3.7 Paving (2025) - Unmitigated	Off-Road Equipment	0.006986022	0.005838653	0.050298282	0.061084	9.86047E-05	0.002229695		0.002229695	0.002051319		0.002051319		8.590507	8.590507	0.000348469	6.96937E-05		8.619987
		Paving	0.000360882	0.000360882																
		Worker	0.000938384	0.000834119	0.001062614	0.011478	0	0	0.002595389	0.002595389	0	0.000607807	0.000607807		2.34947	2.34947	0.000114713	9.05626E-05	0.004248612	2.383574
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.008285287	0.007033653	0.051360896	0.072562	9.86047E-05	0.002229695	0.002595389	0.004825084	0.002051319	0.000607807	0.002659126	0	10.93998	10.93998	0.000463181	0.000160256	0.004248612	11.00356
HV GPU_ EV Charging Stations	3.9 Architectural Coating (2026) - Unmitigated	Off-Road Equipment	0.001780564	0.001471541	0.010146217	0.013108	1.98503E-05	0.000315405		0.000315405	0.000290173		0.000290173		1.392991	1.392991	5.6505BE-05	1.13012E-05		1.397771
		Architectural Coatings	0.00166908	0.00166908																
		Worker	0.000938384	0.000834119	0.001062614	0.011478	0	0	0.002595389	0.002595389	0	0.000607807	0.000607807		2.34947	2.34947	0.000114713	9.05626E-05	0.004248612	2.383574
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Total Annual Emissions	0.004388028	0.00397474	0.011208831	0.024586	1.98503E-05	0.000315405	0.002595389	0.002910795	0.000290173	0.000607807	0.00089798	0	3.742461	3.742461	0.000171218	0.000101864	0.004248612	3.781345
		Total Annual Emissions	**0.018014512**	**0.02**	**0.10**	**0.15**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.01**	**0**	**23.98135**	**23.98135**	**0.000965966**	**0.000614798**	**0.011160938**	**24.20037**

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ Paving of Hungry Valley Road	3.1 Linear, Grubbing & Land Clearing (2025) - Unmitigated	Off-Road Equipment	0.000463528	0.000389492	0.003388764	0.003488	4.52384E-06	0.000209586		0.000209586	0.000192819		0.000192819		0.444835	0.444835	1.80445E-05	3.60889E-06		0.446362
		Dust From Material Movement							0.000206798	0.000206798		2.23293E-05	2.23293E-05							
		Worker	0.000139883	0.000124341	0.000158402	0.001711	0	0	0.00038689	0.00038689	0	9.06048E-05	9.06048E-05		0.350232	0.350232	1.71E-05	1.35E-05	0.000633333	0.355315
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0.000222226	0.00010494	0.006657519	0.001568	3.2408E-05	6.17294E-05	0.001253722	0.001315452	6.17294E-05	0.000352011	0.000413741		4.401539	4.401539	0.0001036	0.000688801	0.004284285	4.613676
		Total Annual Emissions	**0.000825637**	**0.000619773**	**0.010204686**	**0.006767**	**3.69318E-05**	**0.000271315**	**0.00184741**	**0.002118725**	**0.000254548**	**0.000464945**	**0.000719494**	**0**	**5.196606**	**5.196606**	**0.000138745**	**0.00070591**	**0.004917619**	**5.415353**
HV GPU_ Paving of Hungry Valley Road	3.3 Linear, Grading & Excavation (2025) - Unmitigated	Off-Road Equipment	0.012970939	0.010899192	0.095514474	0.102885	0.000209925	0.004224759		0.004224759	0.003886779		0.003886779		20.62475	20.62475	0.00083663	0.000167326		20.69552
		Dust From Material Movement							0.004342749	0.004342749		0.000468915	0.000468915							
		Worker	0.000897585	0.000797853	0.001016414	0.010979	0	0	0.002482546	0.002482546	0	0.000581381	0.000581381		2.247319	2.247319	0.000109725	8.66251E-05	0.00406389	2.27994
		Vendor	5.30873E-06	3.04017E-06	0.000139833	4.25E-05	7.87E-07	1.5741E-06	2.96088E-05	3.11829E-05	1.5741E-06	8.18924E-06	9.76334E-06		0.097888	0.097888	1.918E-06	1.477E-05	0.000119459	0.102457
		Hauling	0.000777791	0.00036729	0.023301318	0.005488	0.000113428	0.000216053	0.004388027	0.004604408	0.000216053	0.01232204	0.001448093		15.40539	15.40539	0.0003626	0.002410803	0.014994898	16.14787
		Total Annual Emissions	**0.014651623**	**0.012067375**	**0.119972039**	**0.119394**	**0.00032414**	**0.004442387**	**0.011242931**	**0.015685318**	**0.004104406**	**0.002290525**	**0.006394931**	**0**	**38.37534**	**38.37534**	**0.001310873**	**0.002679524**	**0.019178347**	**39.22579**
HV GPU_ Paving of Hungry Valley Road	3.5 Linear, Drainage, Utilities, & Sub-Grade (2025) - Unmitigated	Off-Road Equipment	0.007481518	0.006270431	0.057321776	0.059078	0.000135908	0.002284649		0.002284649	0.002101877		0.002101877		12.91313	12.91313	0.000523813	0.000104763		12.95745
		Dust From Material Movement							0.002872231	0.002872231		0.000322616	0.000322616							
		Worker	0.000582847	0.000518086	0.000660009	0.007129	0	0	0.001612043	0.001612043	0	0.00037752	0.00037752		1.459298	1.459298	7.12501E-05	5.62501E-05	0.002638889	1.480481
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0.000555565	0.00026235	0.016643799	0.00392	8.10199E-05	0.000154324	0.003134305	0.003288629	0.000154324	0.000880029	0.001034353		11.00385	11.00385	0.000259	0.001723002	0.010710713	11.53419
		Total Annual Emissions	**0.00861993**	**0.007058868**	**0.074625583**	**0.070127**	**0.000216928**	**0.002438872**	**0.00761858**	**0.010057552**	**0.0022562**	**0.001580164**	**0.003836364**	**0**	**25.37628**	**25.37628**	**0.000854063**	**0.001883015**	**0.013349602**	**25.97212**
HV GPU_ Paving of Hungry Valley Road	3.7 Linear, Paving (2025) - Unmitigated	Off-Road Equipment	0.001057074	0.000888236	0.007705091	0.010793	1.49541E-05	0.000339416		0.000339416	0.000312263		0.000312263		1.469484	1.469484	5.96087E-05	1.19217E-05		1.474526
		Worker	0.000198168	0.000176149	0.000224403	0.002424	0	0	0.000548095	0.000548095	0	0.000128357	0.000128357		0.496161	0.496161	2.4225E-05	1.9125E-05	0.000897222	0.503363
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0.000222226	0.00010494	0.006657519	0.001568	3.2408E-05	6.17294E-05	0.001253722	0.001315452	6.17294E-05	0.000352011	0.000413741		4.401539	4.401539	0.0001036	0.000688801	0.004284285	4.613676
		Total Annual Emissions	**0.001477468**	**0.001169325**	**0.014582704**	**0.014784**	**4.7362E-05**	**0.000401146**	**0.001081817**	**0.002202963**	**0.000373993**	**0.000480368**	**0.000854361**	**0**	**6.367184**	**6.367184**	**0.000187434**	**0.000719848**	**0.005181507**	**6.591566**
		HV GPU_ Paving of Hungry Valley Road	**Total Annual Emissions**	**0.025574658**	**0.02**	**0.22**	**0.21**	**0.00**	**0.01**	**0.02**	**0.03**	**0.01**	**0.00**	**0.01**	**0**	**75.31541**	**75.31541**	**0.002491115**	**0.005982296**	**0.042627075**	**77.20483**

Project	Phase	Description	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
HV GPU_ Paving of Quail Canyon Road	3.1 Linear, Grubbing & Land Clearing (2025) - Unmitigated	Off-Road Equipment	0.000463528	0.000389492	0.003388764	0.003488	4.52384E-06	0.000209586		0.000209586	0.000192819		0.000192819		0.444835	0.444835	1.80445E-05	3.60889E-06		0.446362
		Dust From Material Movement							0.000206798	0.000206798		2.23293E-05	2.23293E-05							
		Worker	4.66278E-05	4.14469E-05	5.28007E-05	0.00057	0	0	0.000128963	0.000128963	0	3.02016E-05	3.02016E-05		0.116744	0.116744	5.70001E-06	4.50001E-06	0.000211111	0.118438
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	5.71438E-05	2.69846E-05	0.001711934	0.000403	8.33347E-06	1.58733E-05	0.000322386	0.000338259	1.58733E-05	9.05172E-05	0.000106391		1.131824	1.131824	2.664E-05	0.00017712	0.001101673	1.186374
		Total Annual Emissions	**0.0005673**	**0.000457924**	**0.005153499**	**0.004462**	**1.28573E-05**	**0.000225459**	**0.000658147**	**0.000883606**	**0.000208692**	**0.000143048**	**0.00035174**	**0**	**1.693403**	**1.693403**	**5.03845E-05**	**0.000185229**	**0.001312784**	**1.751174**
HV GPU_ Paving of Quail Canyon Road	3.3 Linear, Grading & Excavation (2025) - Unmitigated	Off-Road Equipment	0.012970939	0.010899192	0.095514474	0.102885	0.000209925	0.004224759		0.004224759	0.003886779		0.003886779		20.62475	20.62475	0.00083663	0.000167326		20.69552
		Dust From Material Movement							0.004342749	0.004342749		0.000468915	0.000468915							
		Worker	0.00057119	0.000507725	0.000646809	0.006987	0	0	0.001579802	0.001579802	0	0.000369969	0.000369969		1.430112	1.430112	6.98251E-05	5.51251E-05	0.002586112	1.450871
		Vendor	5.30873E-06	3.04017E-06	0.000139833	4.25E-05	7.87E-07	1.5741E-06	2.96088E-05	3.11829E-05	1.5741E-06	8.18924E-06	9.76334E-06		0.097888	0.097888	1.918E-06	1.477E-05	0.000119459	0.102457
		Hauling	0.000200003	9.4446E-05	0.005991767	0.001411	2.91672E-05	5.55565E-05	0.00112835	0.001183906	5.55565E-05	0.00031681	0.000372367		3.961385	3.961385	9.32401E-05	0.000619921	0.003855857	4.152309
		Total Annual Emissions	**0.013747441**	**0.011504403**	**0.102292883**	**0.111325**	**0.000239679**	**0.00428189**	**0.00708051**	**0.0113624**	**0.003943909**	**0.001163884**	**0.005107793**	**0**	**26.11413**	**26.11413**	**0.001001613**	**0.000857142**	**0.006561428**	**26.40116**
HV GPU_ Paving of Quail Canyon Road	3.5 Linear, Drainage, Utilities, & Sub-Grade (2025) - Unmitigated	Off-Road Equipment	0.007481518	0.006270431	0.057321776	0.059078	0.000135908	0.002284649		0.002284649	0.002101877		0.002101877		12.91313	12.91313	0.000523813	0.000104763		12.95745
		Dust From Material Movement							0.002658503	0.002658503		0.000290251	0.000290251							
		Worker	0.000349708	0.000310852	0.000396005	0.004278	0	0	0.000967226	0.000967226	0	0.000226512	0.000226512		0.875579	0.875579	4.27501E-05	3.375E-05	0.001583334	0.888288
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	0.00014286	6.74615E-05	0.004279834	0.001008	2.08337E-05	3.96832E-05	0.000805964	0.000845647	3.96832E-05	0.000226293	0.000265976		2.829561	2.829561	6.66001E-05	0.000442801	0.002754183	2.965935
		Total Annual Emissions	**0.007974086**	**0.006648745**	**0.061997615**	**0.064363**	**0.000156742**	**0.002324332**	**0.004431693**	**0.006756925**	**0.00214156**	**0.00074305**	**0.002884616**	**0**	**16.61827**	**16.61827**	**0.000633163**	**0.000581313**	**0.004337517**	**16.81187**
HV GPU_ Paving of Quail Canyon Road	3.7 Linear, Paving (2025) - Unmitigated	Off-Road Equipment	0.001057074	0.000888236	0.007705091	0.010793	1.49541E-05	0.000339416		0.000339416	0.000312263		0.000312263		1.469484	1.469484	5.96087E-05	1.19217E-05		1.474526
		Worker	0.000104912	9.32555E-05	0.000118802	0.001283	0	0	0.000290168	0.000290168	0	6.79536E-05	6.79536E-05		0.262674	0.262674	1.2825E-05	1.0125E-05	0.000475	0.266487
		Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
		Hauling	5.71438E-05	2.69846E-05	0.001711934	0.000403	8.33347E-06	1.58733E-05	0.000322386	0.000338259	1.58733E-05	9.05172E-05	0.000106391		1.131824	1.131824	2.664E-05	0.00017712	0.001101673	1.186374
		Total Annual Emissions	**0.00121913**	**0.001008476**	**0.009535826**	**0.012479**	**2.32875E-05**	**0.00035529**	**0.000612553**	**0.000967843**	**0.000328136**	**0.000158471**	**0.000486607**	**0**	**2.863982**	**2.863982**	**9.90737E-05**	**0.000199167**	**0.001576673**	**2.927387**
		HV GPU_ Paving of Quail Canyon Road	**Total Annual Emissions**	**0.023507957**	**0.02**	**0.18**	**0.19**	**0.00**	**0.01**	**0.01**	**0.02**	**0.01**	**0.00**	**0.01**	**0**	**47.28979**	**47.28979**	**0.001784235**	**0.001822851**	**0.013788402**	**47.89139**

	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Maximum Annual Emissions	**0.10**	**0.09**	**0.64**	**0.86**	**0.00**	**0.03**	**0.02**	**0.05**	**0.03**	**0.01**	**0.03**	**0**	**148.6073**	**148.6073**	**0.005979596**	**0.005982296**	**0.042627075**	**149.3793**
Total Construction Emissions	**0.372608098**	**0.318458699**	**2.596336607**	**3.326436**	**0.005865294**	**0.107805121**	**0.124928767**	**0.232733888**	**0.099240215**	**0.040292255**	**0.13953247**	**0**	**614.2915**	**614.2915**	**0.024253628**	**0.013781107**	**0.117085592**	**619.1217**

Project and Existing Mobile Source Emissions

Hungry Valley General Plan Update Vehicle Emissions

Projected Future Year (2054) Net Increase in Mobile Source Operational Emissions

MAXIMUM DAILY EMISSIONS																										
										Emission Factors (g/mile)										Emissions (lb/day)					
	Vehicles	OHVs	OHV Counts	Avg Activity Time		Avg Speed		Total VMT		Vehicle Type	Tech Group	HP Group	% of Population	HC	NOX	CO	Total PM	PM2.5	CO2	HC	NOX	CO	PM10	PM2.5	CO2
On-Site OHV Activity	100	150	OHMCs	1.5	hours	15.0	mi/hr	1,519	mi/day	OHMC	G2	All	0.0%	34.2	0.01	54.1	0.42	0.2856	133.17	0.034612	1.01E-05	0.054751	0.000425	0.000289	0.134773
			68								G4-CARB 1998+	5	16.5%	1.003	0.205	19.8	0.06	0.0408	79.58	0.553174	0.113062	10.92009	0.033091	0.022502	43.88994
											G4-CARB 1998+	15	21.9%	0.769	0.329	19.8	0.06	0.0408	79.58	0.564519	0.241517	14.53507	0.044046	0.029951	58.41923
											G4-CARB 1998+	25	2.8%	0.625	0.356	19.8	0.06	0.0408	79.58	0.059641	0.033971	1.889412	0.005725	0.003893	7.593908
											G4-CARB 1998+	50	14.6%	0.9	0.509	19.8	0.06	0.0408	142.69	0.44052	0.249139	9.691439	0.029368	0.01997	69.84199
											G4-CARB 1998+	120	1.3%	1.229	0.212	19.8	0.06	0.0408	133.17	0.051937	0.008959	0.836744	0.002536	0.001724	5.627738
											G4-FI 1998+	50	4.0%	1.279	0.428	19.8	0.06	0.0408	142.69	0.170145	0.056937	2.633986	0.007982	0.005428	18.982
											G4-FI 1998+	120	38.9%	0.689	0.315	19.8	0.06	0.0408	133.17	0.896708	0.409961	25.76898	0.078088	0.0531	173.3159
			ATVs/UTVs								G2	All	0.0%	34.2	0.01	54.1	0.42	0.2856	109.63	2.11E-05	6.17E-09	3.34E-05	2.59E-07	1.76E-07	6.76E-05
			68								G4-CARB 1998+	15	6.1%	0.68	0.49	19.8	0.06	0.0408	109.63	0.137796	0.099294	4.012292	0.012158	0.008268	22.21553
				2	hours	15	mi/hr	1,519	mi/day	ATV/UTV	G4-CARB 1998+	25	1.8%	0.68	0.49	19.8	0.06	0.0408	109.63	0.040597	0.029254	1.182099	0.003582	0.002436	6.545129
											G4-CARB 1998+	50	9.0%	0.68	0.49	19.8	0.06	0.0408	237.52	0.205726	0.148243	5.990243	0.018152	0.012344	71.85872
											G4-CARB 1998+	120	8.2%	0.68	0.49	19.8	0.06	0.0408	232.95	0.18762	0.135197	5.463057	0.016555	0.011257	64.27369
											G4-FI 1998+	15	0.2%	0.68	0.49	19.8	0.06	0.0408	109.63	0.00382	0.002752	0.11122	0.000337	0.000229	0.615811
											G4-FI 1998+	25	43.4%	0.68	0.49	19.8	0.06	0.0408	109.63	0.988346	0.712191	28.77832	0.087207	0.059301	159.3418
											G4-FI 1998+	120	31.3%	0.68	0.49	19.8	0.06	0.0408	232.95	0.712919	0.513721	20.75852	0.062905	0.042775	244.2271
			4X4								LDT1/LDT2	-	-	0.004	0.02	0.56	0.0005	0.0005	263.46	0.003086	0.015366	0.417505	0.000405	0.000375	196.0304
			15	1.5	hours	15	mi/hr	338	mi/day	4X4																

LOCALIZED MAXIMUM DAILY EMISSIONS																										
										Emission Factors (g/mile)										Emissions (lb/day)					
	Vehicles	OHVs	OHV Counts	Avg Activity Time		Avg Speed		Total VMT		Vehicle Type	Tech Group	HP Group	% of Population	HC	NOX	CO	Total PM	PM2.5	CO2	HC	NOX	CO	PM10	PM2.5	CO2
On-Site OHV Activity	100	150	OHMCs	0.0	hours	5.0	mi/hr	11.3	mi/day	OHMC	G2	All	0%	34.2	0.01	54.1	0.42	0.2856	133.17	0.000256	7.5E-08	0.000406	3.15E-06	2.14E-06	0.000998
			68								G4-CARB 1998+	5	16%	1.003	0.205	19.8	0.06	0.0408	79.58	0.004098	0.000837	0.08089	0.000245	0.000167	0.325111
											G4-CARB 1998+	15	22%	0.769	0.329	19.8	0.06	0.0408	79.58	0.004182	0.001789	0.107667	0.000326	0.000222	0.432735
											G4-CARB 1998+	25	3%	0.625	0.356	19.8	0.06	0.0408	79.58	0.000442	0.000252	0.013996	4.24E-05	2.88E-05	0.056251
											G4-CARB 1998+	50	15%	0.9	0.509	19.8	0.06	0.0408	142.69	0.003263	0.001845	0.071788	0.000218	0.000148	0.517348
											G4-CARB 1998+	120	1%	1.229	0.212	19.8	0.06	0.0408	133.17	0.000385	6.64E-05	0.006198	1.88E-05	1.28E-05	0.041687
											G4-FI 1998+	50	4%	1.279	0.428	19.8	0.06	0.0408	142.69	0.00126	0.000422	0.019511	5.91E-05	4.02E-05	0.140607
											G4-FI 1998+	120	39%	0.689	0.315	19.8	0.06	0.0408	133.17	0.006642	0.003037	0.190881	0.000578	0.000393	1.283822
			ATVs/UTVs								G2	All	0%	34.2	0.01	54.1	0.42	0.2856	109.63	1.56E-07	4.57E-11	2.47E-07	1.92E-09	1.31E-09	5.01E-07
			68								G4-CARB 1998+	15	6%	0.68	0.49	19.8	0.06	0.0408	109.63	0.001021	0.000736	0.029721	9.01E-05	6.12E-05	0.16456
				0	hours	5	mi/hr	11	mi/day	ATV/UTV	G4-CARB 1998+	25	2%	0.68	0.49	19.8	0.06	0.0408	109.63	0.000301	0.000217	0.008756	2.65E-05	1.8E-05	0.048482
											G4-CARB 1998+	50	9%	0.68	0.49	19.8	0.06	0.0408	237.52	0.001524	0.001098	0.044372	0.000134	9.14E-05	0.532287
											G4-CARB 1998+	120	8%	0.68	0.49	19.8	0.06	0.0408	232.95	0.00139	0.001001	0.040467	0.000123	8.34E-05	0.476101
											G4-FI 1998+	15	0%	0.68	0.49	19.8	0.06	0.0408	109.63	2.83E-05	2.04E-05	0.000824	2.5E-06	1.7E-06	0.004562
											G4-FI 1998+	25	43%	0.68	0.49	19.8	0.06	0.0408	109.63	0.007321	0.005275	0.213173	0.000646	0.000439	1.180309
											G4-FI 1998+	120	31%	0.68	0.49	19.8	0.06	0.0408	232.95	0.005281	0.003805	0.153767	0.000466	0.000317	1.809089
			4X4								LDT1/LDT2	-	-	0.004148	0.020652	0.561117	0.000544	0.000505	263.46042	0.003086	0.015366	0.417505	0.000405	0.000375	196.0304
			15	0.03	hours	5	mi/hr	3	mi/day	4X4																

**Localized emissions assume 2 minutes of activity occurs near campgrounds/populated areas at lower speeds (5 mph) for the purposes of estimating localized emissions.*

ANNUAL EMISSIONS																										
										Emission Factors (g/mile)										Emissions (tons/year)					(metric tons/year)	
	Vehicles	OHVs	OHV Counts	Avg Activity Time		Avg Speed		Total VMT		Vehicle Type	Tech Group	HP Group	% of Population	HC	CO	NOX	Total PM	PM2.5	CO2	HC	NOX	CO	PM10	PM2.5	CO2	CO2e
On-Site OHV Activity	15	23	OHMCs	1.5	hours	15	mi/hr	230	mi/day	OHMC	G2	All	0.0%	34.2	54.1	0.01	0.42	0.2856	133.17	9.55E-04	1.51E-03	2.79E-07	1.17E-05	7.97E-06	3.37E-03	0.00
			10								G4-CARB 1998+	5	16.5%	1.003	19.8	0.205	0.06	0.0408	79.58	1.53E-02	3.01E-01	3.12E-03	9.13E-04	6.21E-04	1.10E+00	1.16
											G4-CARB 1998+	15	21.9%	0.769	19.8	0.329	0.06	0.0408	79.58	1.56E-02	4.01E-01	6.66E-03	1.21E-03	8.26E-04	1.46E+00	1.54
											G4-CARB 1998+	25	2.8%	0.625	19.8	0.356	0.06	0.0408	79.58	1.65E-03	5.21E-02	9.37E-04	1.58E-04	1.07E-04	1.90E-01	0.20
											G4-CARB 1998+	50	14.6%	0.9	19.8	0.509	0.06	0.0408	142.69	1.22E-02	2.67E-01	6.87E-03	8.10E-04	5.51E-04	1.75E+00	1.84
											G4-CARB 1998+	120	1.3%	1.229	19.8	0.212	0.06	0.0408	133.17	1.43E-03	2.31E-02	2.47E-04	6.99E-05	4.76E-05	1.41E-01	0.15
											G4-FI 1998+	50	4.0%	1.279	19.8	0.428	0.06	0.0408	142.69	4.69E-03	7.27E-02	1.57E-03	2.20E-04	1.50E-04	4.75E-01	0.50
											G4-FI 1998+	120	38.9%	0.689	19.8	0.315	0.06	0.0408	133.17	2.47E-02	7.11E-01	1.13E-02	2.15E-03	1.46E-03	4.34E+00	4.57
			ATVs/UTVs								G2	All	0.0%	34.2	54.1	0.01	0.42	0.2856	109.63	5.82E-07	9.21E-07	1.70E-10	7.15E-09	4.86E-09	1.69E-06	0.00
			10								G4-CARB 1998+	15	6.1%	0.68	19.8	0.49	0.06	0.0408	109.63	3.80E-03	1.11E-01	2.74E-03	3.35E-04	2.28E-04	5.56E-01	0.59
											G4-CARB 1998+	25	1.8%	0.68	19.8	0.49	0.06	0.0408	109.63	1.12E-03	3.26E-02	8.07E-04	9.88E-05	6.72E-05	1.64E-01	0.17
				1.5	hours	15	mi/hr	230	mi/day	ATV/UTV	G4-CARB 1998+	50	9.0%	0.68	19.8	0.49	0.06	0.0408	237.52	5.67E-03	1.65E-01	4.09E-03	5.01E-04	3.40E-04	1.80E+00	1.89
											G4-CARB 1998+	120	8.2%	0.68	19.8	0.49	0.06	0.0408	232.95	5.18E-03	1.51E-01	3.73E-03	4.57E-04	3.11E-04	1.61E+00	1.69
											G4-FI 1998+	15	0.2%	0.68	19.8	0.49	0.06	0.0408	109.63	1.05E-04	3.07E-03	7.59E-05	9.30E-06	6.32E-06	1.54E-02	0.02
											G4-FI 1998+	25	43.4%	0.68	19.8	0.49	0.06	0.0408	109.63	2.73E-02	7.94E-01	1.96E-02	2.41E-03	1.64E-03	3.99E+00	4.20
											G4-FI 1998+	120	31.3%	0.68	19.8	0.49	0.06	0.0408	232.95	1.97E-02	5.73E-01	1.42E-02	1.74E-03	1.18E-03	6.11E+00	6.43
			4X4								LDT1/LDT2	-	-	0.004	0.561	0.021	0.001	0.001	263.460	8.51E-05	1.15E-02	4.24E-04	1.12E-05	1.04E-05	4.91E+00	5.16
			2	1.5	hours	15	mi/hr	51	mi/day	4X4																		

MAXIMUM DAILY FUGITIVE DUST EMISSIONS					Emission Factors (lb/VMT)		Emissions (lb/day)		MIT Emissions (lb/day)	
	OHVs	Mean OHV Speed		Mean OHV VMT		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
On-Site Fugitive Dust	150	15.0	mi/hr	3375.0	miles	0.316893796	0.031376	1069.517	105.8953	417.1115	41.29916

**Maximum daily emissions assume watering twice daily (61% fugitive dust reduction) as watering is anticipated to occur during large/special events (periods when it is possible to have 150 OHVs at the park).*

LOCALIZED MAXIMUM DAILY FUGITIVE DUST EMISSIONS					Emission Factors (lb/VMT)		Emissions (lb/day)		MIT Emissions (lb/day)	
	OHVs	Mean OHV Speed		Mean OHV VMT		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
On-Site Fugitive Dust	150	5.0	mi/hr	25.0	miles	0.182760073	0.017963	4.569002	0.449075	1.781911	0.175139

**Localized emissions assume 2 minutes of activity occurs near campgrounds/populated areas at lower speeds (5 mph) for the purposes of estimating localized emissions.*

ANNUAL FUGITIVE DUST EMISSIONS					Emission Factors (lb/VMT)		Emissions (tons/year)	
	OHVs	Mean OHV Speed		Mean OHV VMT		PM10	PM2.5	PM10	PM2.5
On-Site Fugitive Dust	23	15.0	mi/hr	510.1	miles	0.316893796	0.031376	29.50112	2.920973

**Annual emissions conservatively do not incorporate fugitive dust reduction practices due to the variability/large park area where these trips may occur.*

MAXIMUM DAILY EMISSIONS				Emissions Factors (g/mi for RunEx, BW, TW and g/trip for StartEx)																		Maximum Daily Emissions (lb/day)						MT/day			
Category	Vehicle Trips	Daily VMT	Unit	ROG_RUNEX	ROG_STREX	NOx_RUNEX	NOx_STREX	CO_RUNEX	CO_STREX	SOx_RUNEX	SOx_STREX	PM10_RUNEX	PM10_STREX	PM10_PMTW	PM10_PMBW	PM2.5_RUNEX	PM2.5_STREX	PM2.5_PMTW	PM2.5_PMBW	CO2_RUNEX	CO2_STREX	CH4_RUNEX	CH4_STREX	N2O_RUNEX	N2O_STREX	ROG	NOX	CO	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2e
On-Road Vehicles	200	12,627	mi/day	0.00698865	0.1294219	0.021295	0.15745	0.5362	1.641860379	0.002374859	0.000556108	0.000521	0.000761371	0.007989	0.008772	0.000479	0.000701	0.001997	0.0030701	240.2943	0.840031	0.001742	0.014436	0.003339	0.024302	0.251608	0.662215	15.65016	0.066354	0.481405	0.154718	3.0342844	2.489E-05	4.702E-05	3.048917

ANNUAL EMISSIONS				Emissions Factors (g/mi for RunEx, BW, TW and g/trip for StartEx)																		Annual Emissions (tons/year)						MT/year			
Category	Vehicle Trips	Daily VMT	Unit	ROG_RUNEX	ROG_STREX	NOx_RUNEX	NOx_STREX	CO_RUNEX	CO_STREX	SOx_RUNEX	SOx_STREX	PM10_RUNEX	PM10_STREX	PM10_PMTW	PM10_PMBW	PM2.5_RUNEX	PM2.5_STREX	PM2.5_PMTW	PM2.5_PMBW	CO2_RUNEX	CO2_STREX	CH4_RUNEX	CH4_STREX	N2O_RUNEX	N2O_STREX	ROG	NOX	CO	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2e
On-Road Vehicles	30	1,908	mi/day	0.00698865	0.1294219	0.021295	0.15745	0.5362	1.641860379	0.002374859	0.000556108	0.000521	0.000761371	0.007989	0.008772	0.000479	0.000701	0.001997	0.0030701	240.2943	0.840031	0.001742	0.014436	0.003339	0.024302	0.00694	0.018266	12.46566	0.00183	0.013279	0.004268	167.39298	0.001373	0.0025937	168.2002

Maximum Daily Emissions	ROG	NOx	CO	SOx	PM10	PM2.5
Total OHMC Emissions =	2.77	1.11	66.33	-	0.20	0.14
Total ATV/UTVs Emissions =	2.28	1.64	66.30	-	0.20	0.14
Total 4x4 Emissions =	0.00	0.02	0.42	-	0.00	0.00
On-Site Fugitive Dust Emissions =	-	-	-	-	417.1	41.3
On-Road Vehicle Emissions =	0.25	0.66	15.65	0.07	0.48	0.15
On-Road Fugitive Dust Emissions =	-	-	-	-	2.87	0.70
OHV Exhaust Emissions (lbs/day) =	**5.05**	**2.8**	**133.04**	**0.00**	**0.40**	**0.3**
Total Mobile Exhaust Emissions (lbs/day) =	**5.30**	**3.43**	**148.69**	**0.07**	**0.88**	**0.43**
Total Fugitive Dust Emissions (lbs/day) =	**0.00**	**0.00**	**0.00**	**0.00**	**419.98**	**42.00**
Total Mobile Source Emissions (lbs/day) =	**5.30**	**3.43**	**148.69**	**0.07**	**420.86**	**42.43**

***accounts for watering twice per day (61% fugitive dust reduction) based on assumption that max daily vehicle activity occurs during special event days which typically have an on-site water tank.*

99.11%

Localized Maximum Daily Emissions	ROG	NOx	CO	SOx	PM10	PM2.5
Total OHMC Emissions =	0.02	0.01	0.49	-	0.00	0.00
Total ATV/UTVs Emissions =	0.02	0.01	0.49	-	0.00	0.00
Total 4x4 Emissions =	0.00	0.02	0.42	-	0.00	0.00
On-Site Fugitive Dust Emissions =	-	-	-	-	1.8	0.2
OHV Exhaust Emissions (lbs/day) =	**0.04**	**0.0**	**1.40**	**0.00**	**0.00**	**0.0**
Total Localized Mobile Source Emissions (lbs/day) =	**0.04**	**0.04**	**1.40**	**0.00**	**1.79**	**0.18**

Annual Emissions	ROG	NOx	CO	SOx	PM10	PM2.5	GHG Emissions (MT CO2e/year)	
Total OHMC Emissions =	0.08	1.83	0.03	-	0.01	0.00	Total OHMC Emissions =	10
Total ATV/UTVs Emissions =	0.06	1.83	0.05	-	0.01	0.00	Total ATV/UTVs Emissions =	15
Total 4x4 Emissions =	0.00	0.01	0.00	-	0.00	0.00	Total 4x4 Emissions =	5
On-Site Fugitive Dust Emissions =	-	-	-	-	29.5	2.9	On-Site Fugitive Dust Emissions =	-
On-Road Vehicle Emissions =	0.01	0.02	12.47	1.83E-03	0.01	0.00	On-Road Vehicle Emissions =	168
On-Road Fugitive Dust Emissions =	-	-	-	-	0.08	0.02	On-Road Fugitive Dust Emissions =	-
OHV Exhaust Emissions (tons/year) =	**0.14**	**3.7**	**0.08**	**0.00**	**0.01**	**0.0**	**OHV Exhaust Emissions (MT/yr) =**	**30.11**
Total Mobile Exhaust Emissions (tons/year) =	**0.15**	**3.69**	**12.54**	**0.00**	**0.02**	**0.01**	**Total Mobile Exhaust Emissions (MT/yr) =**	**198.31**
Total Fugitive Dust Emissions (tons/year) =	**0.00**	**0.00**	**0.00**	**0.00**	**29.58**	**2.94**	**Total Fugitive Dust Emissions (MT/yr) =**	**0.00**
Total Mobile Source Emissions (tons/year) =	**0.15**	**3.69**	**12.54**	**0.00**	**29.60**	**2.95**	**Total Mobile Source Emissions (MT/yr) =**	**198.31**

Conversion Factors and Assumptions:

1 metric ton =	2204.62	pounds
Population split of G2/G4-CARB/G4-FI based on RV2018 outputs.		
OHV Vehicle Composition		*Based on Clay Pit DEIR assumptions
ATVs	35%	
Motorcycles	45%	
UTVs	10%	
4x4s	10%	

AP-42, Section 13.2.2 - Unpaved Road Fugitive Dust Equation Inputs

surface material silt content - public (%) =	5	
surface material silt content - industrial (%) =	13.5	
surface material moisture content (%) =	6.515	
emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear (PM2.5) =	0.00036	lb/VMT
emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear (PM10) =	0.00047	lb/VMT
fugitive dust constant k (PM2.5) =	0.18	lb/VMT
fugitive dust constant k (PM10) =	1.8	lb/VMT
fugitive dust constant a =	1	
fugitive dust constant c =	0.2	
fugitive dust constant d =	0.5	

Hungry Valley General Plan Update Vehicle Emissions

Projected Future Year (2054) Net Increase in Mobile Source Operational Emissions

AVERAGE DAILY EMISSIONS																										
										Emission Factors (g/mile)										Emissions (lb/day)					
	Vehicles	OHVs	OHV Counts	Avg Activity Time		Avg Speed		Total VMT		Vehicle Type	Tech Group	HP Group	% of Population	HC	NOX	CO	Total PM	PM2.5	CO2	HC	NOX	CO	PM10	PM2.5	CO2
On-Site OHV Activity	15	23	OHMCs	1.5	hours	15.0	mi/hr	230	mi/day	OHMC	G2	All	0.0%	34.2	0.01	54.1	0.42	0.2856	133.17	0.005231	1.53E-06	0.008275	6.42E-05	4.37E-05	0.02037
			10								G4-CARB 1998+	5	16.5%	1.003	0.205	19.8	0.06	0.0408	79.58	0.083608	0.017088	1.650495	0.005002	0.003401	6.633657
											G4-CARB 1998+	15	21.9%	0.769	0.329	19.8	0.06	0.0408	79.58	0.085323	0.036504	2.196874	0.006657	0.004527	8.829659
											G4-CARB 1998+	25	2.8%	0.625	0.356	19.8	0.06	0.0408	79.58	0.009014	0.005135	0.285571	0.000865	0.000588	1.147766
											G4-CARB 1998+	50	14.6%	0.9	0.509	19.8	0.06	0.0408	142.69	0.066582	0.037656	1.464793	0.004439	0.003018	10.55613
											G4-CARB 1998+	120	1.3%	1.229	0.212	19.8	0.06	0.0408	133.17	0.00785	0.001354	0.126468	0.000383	0.000261	0.850593
											G4-FI 1998+	50	4.0%	1.279	0.428	19.8	0.06	0.0408	142.69	0.025716	0.008606	0.398109	0.001206	0.00082	2.868996
											G4-FI 1998+	120	38.9%	0.689	0.315	19.8	0.06	0.0408	133.17	0.135531	0.061963	3.894801	0.011802	0.008026	26.19549
			ATVs/UTVs								G2	All	0.0%	34.2	0.01	54.1	0.42	0.2856	109.63	3.19E-06	9.32E-10	5.04E-06	3.92E-08	2.66E-08	1.02E-05
			10								G4-CARB 1998+	15	6.1%	0.68	0.49	19.8	0.06	0.0408	109.63	0.020827	0.015008	0.60643	0.001838	0.00125	3.357723
											G4-CARB 1998+	25	1.8%	0.68	0.49	19.8	0.06	0.0408	109.63	0.006136	0.004422	0.178666	0.000541	0.000368	0.989251
				2	hours	15	mi/hr	230	mi/day	ATV/UTV	G4-CARB 1998+	50	9.0%	0.68	0.49	19.8	0.06	0.0408	237.52	0.031094	0.022406	0.905383	0.002744	0.001866	10.86094
											G4-CARB 1998+	120	8.2%	0.68	0.49	19.8	0.06	0.0408	232.95	0.028357	0.020434	0.825703	0.002502	0.001701	9.714519
											G4-FI 1998+	15	0.2%	0.68	0.49	19.8	0.06	0.0408	109.63	0.000577	0.000416	0.01681	5.09E-05	3.46E-05	0.093076
											G4-FI 1998+	25	43.4%	0.68	0.49	19.8	0.06	0.0408	109.63	0.149382	0.107643	4.349642	0.013181	0.008963	24.0834
											G4-FI 1998+	120	31.3%	0.68	0.49	19.8	0.06	0.0408	232.95	0.107753	0.077645	3.137505	0.009508	0.006465	36.91322
			4X4								LDT1/LDT2	-	-	0.004	0.02	0.56	0.0005	0.0005	263.46	0.000466	0.002322	0.063103	6.12E-05	5.68E-05	29.62862
			2	1.5	hours	15	mi/hr	51	mi/day	4X4																

LOCALIZED AVERAGE DAILY EMISSIONS																										
										Emission Factors (g/mile)										Emissions (lb/day)					
	Vehicles	OHVs	OHV Counts	Avg Activity Time		Avg Speed		Total VMT		Vehicle Type	Tech Group	HP Group	% of Population	HC	NOX	CO	Total PM	PM2.5	CO2	HC	NOX	CO	PM10	PM2.5	CO2
On-Site OHV Activity	15	23	OHMCs	0.03	hours	5.0	mi/hr	2	mi/day	OHMC	G2	All	0%	34.2	0.01	54.1	0.42	0.2856	133.17	3.88E-05	1.13E-08	6.13E-05	4.76E-07	3.24E-07	0.000151
			10								G4-CARB 1998+	5	16%	1.003	0.205	19.8	0.06	0.0408	79.58	0.000619	0.000127	0.012226	3.7E-05	2.52E-05	0.049138
											G4-CARB 1998+	15	22%	0.769	0.329	19.8	0.06	0.0408	79.58	0.000632	0.00027	0.016273	4.93E-05	3.35E-05	0.065405
											G4-CARB 1998+	25	3%	0.625	0.356	19.8	0.06	0.0408	79.58	6.68E-05	3.8E-05	0.002115	6.41E-06	4.36E-06	0.008502
											G4-CARB 1998+	50	15%	0.9	0.509	19.8	0.06	0.0408	142.69	0.000493	0.000279	0.01085	3.29E-05	2.24E-05	0.078194
											G4-CARB 1998+	120	1%	1.229	0.212	19.8	0.06	0.0408	133.17	5.81E-05	1E-05	0.000937	2.84E-06	1.93E-06	0.006301
											G4-FI 1998+	50	4%	1.279	0.428	19.8	0.06	0.0408	142.69	0.00019	6.37E-05	0.002949	8.94E-06	6.08E-06	0.021252
											G4-FI 1998+	120	39%	0.689	0.315	19.8	0.06	0.0408	133.17	0.001004	0.000459	0.02885	8.74E-05	5.94E-05	0.194041
			ATVs/UTVs								G2	All	0%	34.2	0.01	54.1	0.42	0.2856	109.63	2.36E-08	6.91E-12	3.74E-08	2.9E-10	1.97E-10	7.57E-08
			10								G4-CARB 1998+	15	6%	0.68	0.49	19.8	0.06	0.0408	109.63	0.000154	0.000111	0.004492	1.36E-05	9.26E-06	0.024872
											G4-CARB 1998+	25	2%	0.68	0.49	19.8	0.06	0.0408	109.63	4.55E-05	3.28E-05	0.001323	4.01E-06	2.73E-06	0.007328
				0.03	hours	5	mi/hr	2	mi/day	ATV/UTV	G4-CARB 1998+	50	9%	0.68	0.49	19.8	0.06	0.0408	237.52	0.00023	0.000166	0.006707	2.03E-05	1.38E-05	0.080451
											G4-CARB 1998+	120	8%	0.68	0.49	19.8	0.06	0.0408	232.95	0.00021	0.000151	0.006116	1.85E-05	1.26E-05	0.071959
											G4-FI 1998+	15	0%	0.68	0.49	19.8	0.06	0.0408	109.63	4.28E-06	3.08E-06	0.000125	3.77E-07	2.57E-07	0.000689
											G4-FI 1998+	25	43%	0.68	0.49	19.8	0.06	0.0408	109.63	0.001107	0.000797	0.03222	9.76E-05	6.64E-05	0.178396
											G4-FI 1998+	120	31%	0.68	0.49	19.8	0.06	0.0408	232.95	0.000798	0.000575	0.023241	7.04E-05	4.79E-05	0.273431
			4X4								LDT1/LDT2	-	-	0.004148	0.020652	0.561117	0.000544	0.000505	263.46042	0.000466	0.002322	0.063103	6.12E-05	5.68E-05	29.62862
			2	0.03	hours	5	mi/hr	0.4	mi/day	4X4																

**Localized emissions assume 2 minutes of activity occurs near campgrounds/populated areas at lower speeds (5 mph) for the purposes of estimating localized emissions.*

ANNUAL EMISSIONS																										
											Emission Factors (g/mile)										Emissions (tons/year)						(metric tons/year)	
	Vehicles	OHVs	OHV Counts	Avg Activity Time		Avg Speed		Total VMT		Vehicle Type	Tech Group	HP Group	% of Population	HC	CO	NOX	Total PM	PM2.5	CO2	HC	NOX	CO	PM10	PM2.5	CO2	CO2e
On-Site OHV Activity	15	23	OHMCs	1.5	hours	15	mi/hr	230	mi/day	OHMC	G2	All	0.0%	34.2	54.1	0.01	0.42	0.2856	133.17	9.55E-04	1.51E-03	2.79E-07	1.17E-05	7.97E-06	3.37E-03	0.00
			10								G4-CARB 1998+	5	16.5%	1.003	19.8	0.205	0.06	0.0408	79.58	1.53E-02	3.01E-01	3.12E-03	9.13E-04	6.21E-04	1.10E+00	1.16
											G4-CARB 1998+	15	21.9%	0.769	19.8	0.329	0.06	0.0408	79.58	1.56E-02	4.01E-01	6.66E-03	1.21E-03	8.26E-04	1.46E+00	1.54
											G4-CARB 1998+	25	2.8%	0.625	19.8	0.356	0.06	0.0408	79.58	1.65E-03	5.21E-02	9.37E-04	1.58E-04	1.07E-04	1.90E-01	0.20
											G4-CARB 1998+	50	14.6%	0.9	19.8	0.509	0.06	0.0408	142.69	1.22E-02	2.67E-01	6.87E-03	8.10E-04	5.51E-04	1.75E+00	1.84
											G4-CARB 1998+	120	1.3%	1.229	19.8	0.212	0.06	0.0408	133.17	1.43E-03	2.31E-02	2.47E-04	6.99E-05	4.76E-05	1.41E-01	0.15
											G4-FI 1998+	50	4.0%	1.279	19.8	0.428	0.06	0.0408	142.69	4.69E-03	7.27E-02	1.57E-03	2.20E-04	1.50E-04	4.75E-01	0.50
											G4-FI 1998+	120	38.9%	0.689	19.8	0.315	0.06	0.0408	133.17	2.47E-02	7.11E-01	1.13E-02	2.15E-03	1.46E-03	4.34E+00	4.57
			ATVs/UTVs								G2	All	0.0%	34.2	54.1	0.01	0.42	0.2856	109.63	5.82E-07	9.21E-07	1.70E-10	7.15E-09	4.86E-09	1.69E-06	0.00
			10								G4-CARB 1998+	15	6.1%	0.68	19.8	0.49	0.06	0.0408	109.63	3.80E-03	1.11E-01	2.74E-03	3.35E-04	2.28E-04	5.56E-01	0.59
											G4-CARB 1998+	25	1.8%	0.68	19.8	0.49	0.06	0.0408	109.63	1.12E-03	3.26E-02	8.07E-04	9.88E-05	6.72E-05	1.64E-01	0.17
				1.5	hours	15	mi/hr	230	mi/day	ATV/UTV	G4-CARB 1998+	50	9.0%	0.68	19.8	0.49	0.06	0.0408	237.52	5.67E-03	1.65E-01	4.09E-03	5.01E-04	3.40E-04	1.80E+00	1.89
											G4-CARB 1998+	120	8.2%	0.68	19.8	0.49	0.06	0.0408	232.95	5.18E-03	1.51E-01	3.73E-03	4.57E-04	3.11E-04	1.61E+00	1.69
											G4-FI 1998+	15	0.2%	0.68	19.8	0.49	0.06	0.0408	109.63	1.05E-04	3.07E-03	7.59E-05	9.30E-06	6.32E-06	1.54E-02	0.02
											G4-FI 1998+	25	43.4%	0.68	19.8	0.49	0.06	0.0408	109.63	2.73E-02	7.94E-01	1.96E-02	2.41E-03	1.64E-03	3.99E+00	4.20
											G4-FI 1998+	120	31.3%	0.68	19.8	0.49	0.06	0.0408	232.95	1.97E-02	5.73E-01	1.42E-02	1.74E-03	1.18E-03	6.11E+00	6.43
			4X4								LDT1/LDT2	-	-	0.004	0.561	0.021	0.001	0.001	263.460	8.51E-05	1.15E-02	4.24E-04	1.12E-05	1.04E-05	4.91E+00	5.16
			2	1.5	hours	15	mi/hr	51	mi/day	4X4																		

AVERAGE DAILY FUGITIVE DUST EMISSIONS					Emission Factors (lb/VMT)		Emissions (lb/day)		MIT Emissions (lb/day)	
	OHVs	Mean OHV Speed		Mean OHV VMT		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
On-Site Fugitive Dust	23	15.0	mi/hr	510.1	miles	0.316893796	0.031376	161.65	16.00533	63.04348	6.242079

**Maximum daily emissions assume watering twice daily (61% fugitive dust reduction) as watering is anticipated to occur during large/special events (periods when it is possible to have 150 OHVs at the park).*

LOCALIZED AVERAGE DAILY FUGITIVE DUST EMISSIONS					Emission Factors (lb/VMT)		Emissions (lb/day)		MIT Emissions (lb/day)	
	OHVs	Mean OHV Speed		Mean OHV VMT		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
On-Site Fugitive Dust	23	5.0	mi/hr	3.8	miles	0.182760073	0.017963	0.690573	0.067875	0.269323	0.026471

**Localized emissions assume 2 minutes of activity occurs near campgrounds/populated areas at lower speeds (5 mph) for the purposes of estimating localized emissions.*

ANNUAL FUGITIVE DUST EMISSIONS					Emission Factors (lb/VMT)		Emissions (tons/year)	
	OHVs	Mean OHV Speed		Mean OHV VMT		PM10	PM2.5	PM10	PM2.5
On-Site Fugitive Dust	23	15.0	mi/hr	510.1	miles	0.316893796	0.031376	29.50112	2.920973

**Annual emissions conservatively do not incorporate fugitive dust reduction practices due to the variability/large park area where these trips may occur.*

AVERAGE DAILY EMISSIONS				Emissions Factors (g/mi for RunEx, BW, TW and g/trip for StartEx)																		Average Daily Emissions (lb/day)						MT/day			
Category	Vehicle Trips	Daily VMT	Unit	ROG_RUNEX	ROG_STREX	NOx_RUNEX	NOx_STREX	CO_RUNEX	CO_STREX	SOx_RUNEX	SOx_STREX	PM10_RUNEX	PM10_STREX	PM10_PMTW	PM10_PMBW	PM2.5_RUNEX	PM2.5_STREX	PM2.5_PMTW	PM2.5_PMBW	CO2_RUNEX	CO2_STREX	CH4_RUNEX	CH4_STREX	N2O_RUNEX	N2O_STREX	ROG	NOX	CO	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2e
On-Road Vehicles	30	1,908	mi/day	0.00698865	0.1294219	0.021295	0.15745	0.5362	1.641860379	0.002374859	0.000556108	0.000521	0.000761371	0.007989	0.008772	0.000479	0.000701	0.001997	0.0030701	240.2943	0.840031	0.001742	0.014436	0.003339	0.024302	0.038029	0.100089	2.365412	0.010029	0.072761	0.023385	0.4586109	3.762E-06	7.106E-06	0.460823

ANNUAL EMISSIONS				Emissions Factors (g/mi for RunEx, BW, TW and g/trip for StartEx)																		Annual Emissions (tons/year)						MT/year			
Category	Vehicle Trips	Daily VMT	Unit	ROG_RUNEX	ROG_STREX	NOx_RUNEX	NOx_STREX	CO_RUNEX	CO_STREX	SOx_RUNEX	SOx_STREX	PM10_RUNEX	PM10_STREX	PM10_PMTW	PM10_PMBW	PM2.5_RUNEX	PM2.5_STREX	PM2.5_PMTW	PM2.5_PMBW	CO2_RUNEX	CO2_STREX	CH4_RUNEX	CH4_STREX	N2O_RUNEX	N2O_STREX	ROG	NOX	CO	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2e
On-Road Vehicles	30	1,908	mi/day	0.00698865	0.1294219	0.021295	0.15745	0.5362	1.641860379	0.002374859	0.000556108	0.000521	0.000761371	0.007989	0.008772	0.000479	0.000701	0.001997	0.0030701	240.2943	0.840031	0.001742	0.014436	0.003339	0.024302	0.00694	0.018266	12.46566	0.00183	0.013279	0.004268	167.39298	0.001373	0.0025937	168.2002

Average Daily Emissions	ROG	NOx	CO	SOx	PM10	PM2.5
Total OHMC Emissions =	0.42	0.17	10.03	-	0.03	0.02
Total ATV/UTVs Emissions =	0.34	0.25	10.02	-	0.03	0.02
Total 4x4 Emissions =	0.00	0.00	0.06	-	0.00	0.00
On-Site Fugitive Dust Emissions =	-	-	-	-	63.0	6.2
On-Road Vehicle Emissions =	0.04	0.10	2.37	0.01	0.07	0.02
On-Road Fugitive Dust Emissions =	-	-	-	-	2.87	0.70
OHV Exhaust Emissions (lbs/day) =	**0.76**	**0.4**	**20.11**	**0.00**	**0.06**	**0.0**
Total Mobile Exhaust Emissions (lbs/day) =	**0.80**	**0.52**	**22.47**	**0.01**	**0.13**	**0.06**
Total Fugitive Dust Emissions (lbs/day) =	**0.00**	**0.00**	**0.00**	**0.00**	**65.91**	**6.95**
Total Mobile Source Emissions (lbs/day) =	**0.80**	**0.52**	**22.47**	**0.01**	**66.05**	**7.01**

95.45%

***accounts for watering twice per day (61% fugitive dust reduction) based on assumption that max daily vehicle activity occurs during special event days which typically have an on-site water tank.*

Localized Average Daily Emissions	ROG	NOx	CO	SOx	PM10	PM2.5
Total OHMC Emissions =	0.00	0.00	0.07	-	0.00	0.00
Total ATV/UTVs Emissions =	0.00	0.00	0.07	-	0.00	0.00
Total 4x4 Emissions =	0.00	0.00	0.06	-	0.00	0.00
On-Site Fugitive Dust Emissions =	-	-	-	-	0.3	0.0
OHV Exhaust Emissions (lbs/day) =	**0.01**	**0.0**	**0.21**	**0.00**	**0.00**	**0.0**
Total Localized Mobile Source Emissions (lbs/day) =	**0.01**	**0.01**	**0.21**	**0.00**	**0.27**	**0.03**

Annual Emissions	ROG	NOx	CO	SOx	PM10	PM2.5	GHG Emissions (MT CO2e/year)	
Total OHMC Emissions =	0.08	1.83	0.03	-	0.01	0.00	Total OHMC Emissions =	10
Total ATV/UTVs Emissions =	0.06	1.83	0.05	-	0.01	0.00	Total ATV/UTVs Emissions =	15
Total 4x4 Emissions =	0.00	0.01	0.00	-	0.00	0.00	Total 4x4 Emissions =	5
On-Site Fugitive Dust Emissions =	-	-	-	-	29.5	2.9	On-Site Fugitive Dust Emissions =	-
On-Road Vehicle Emissions =	0.01	0.02	12.47	1.83E-03	0.01	0.00	On-Road Vehicle Emissions =	168
On-Road Fugitive Dust Emissions =	-	-	-	-	0.08	0.02	On-Road Fugitive Dust Emissions =	-
OHV Exhaust Emissions (tons/year) =	**0.14**	**3.7**	**0.08**	**0.00**	**0.01**	**0.0**	**OHV Exhaust Emissions (MT/yr) =**	**30.11**
Total Mobile Exhaust Emissions (tons/year) =	**0.15**	**3.69**	**12.54**	**0.00**	**0.02**	**0.01**	**Total Mobile Exhaust Emissions (MT/yr) =**	**198.31**
Total Fugitive Dust Emissions (tons/year) =	**0.00**	**0.00**	**0.00**	**0.00**	**29.58**	**2.94**	**Total Fugitive Dust Emissions (MT/yr) =**	**0.00**
Total Mobile Source Emissions (tons/year) =	**0.15**	**3.69**	**12.54**	**0.00**	**29.60**	**2.95**	**Total Mobile Source Emissions (MT/yr) =**	**198.31**

Conversion Factors and Assumptions:

1 metric ton =	2204.62	pounds
Population split of G2/G4-CARB/G4-FI based on RV2018 outputs.		
OHV Vehicle Composition		*Based on Clay Pit DEIR assumptions
ATVs	35%	
Motorcycles	45%	
UTVs	10%	
4x4s	10%	

AP-42, Section 13.2.2 - Unpaved Road Fugitive Dust Equation Inputs

surface material silt content - public (%) =	5	
surface material silt content - industrial (%) =	13.5	
surface material moisture content (%) =	6.515	
emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear (PM2.5) =	0.00036	lb/VMT
emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear (PM10) =	0.00047	lb/VMT
fugitive dust constant k (PM2.5) =	0.18	lb/VMT
fugitive dust constant k (PM10) =	1.8	lb/VMT
fugitive dust constant a =	1	
fugitive dust constant c =	0.2	
fugitive dust constant d =	0.5	

Hungry Valley General Plan Update Vehicle Emissions

Paved Roads Fugitive Dust Emissions

Paved Roads (Visitor Trips)	100%

Notes/Assumptions:

Assumes 100% paved roads in Ventura/Los Angeles/Kern Counties.

Paved Road Dust $EF_{DUST} = [(k(sL)^{0.91} \times (W)^{1.02}](1 - P/4N))$

Source: AP-42 Section 13.2.1 (Paved Roads) - http://www.epa.gov/ttnchie1/ap42/ch13/final/c13s0201.pdf

Variable	Value	Description
k (PM10)	0.0022	particle size multiplier for particle size range and units of interest (lb/VMT)
k (PM2.5)	0.00054	particle size multiplier for particle size range and units of interest (lb/VMT)
sL	0.032	road surface silt loading (g/m^2) default for collector streets (https://ww3.arb.ca.gov/ei/areasrc/fullpdf/2021_paved_roads_7_9.pdf, Table 4)
W	2.40	average weight of vehicles (https://ww3.arb.ca.gov/ei/areasrc/fullpdf/2021_paved_roads_7_9.pdf, Table 4)
P	44.5	number of "wet" days with at least 0.254 mm (0.01 inches) of precipitation (https://ww3.arb.ca.gov/ei/areasrc/fullpdf/2021_paved_roads_7_9.pdf, Table 5)
N	365	number of days in averaging period

All Vehicle Trip Types

EF (PM10)	0.1031	g/mi
EF (PM2.5)	0.0253	g/mi

Maximum Daily Emissions		Paved Road Dust Emissions	
Vehicle Type	**Daily VMT**	**PM_{10} (lbs)**	**$PM_{2.5}$ (lbs)**
Visitor Trips	12,627	2.87	0.70

Annual Emissions		Paved Road Dust Emissions	
Vehicle Type	**Annual VMT**	**PM_{10} (tons)**	**$PM_{2.5}$ (tons)**
Visitor Trips	696,578	0.08	0.02

Hungry Valley General Plan Update Vehicle Emissions

Existing Mobile Source Operational Emissions

ANNUAL EMISSIONS										Emission Factors (g/mile)				Emissions (metric tons/year)
	Vehicles	OHVs	OHV Counts	Avg Activity Time		Avg Speed		Total VMT		Vehicle Type	Tech Group	HP Group	% of Population	CO2	CO2
On-Site OHV Activity	151	227	OHMCs	1.5	hours	15	mi/hr	2,295	mi/day	OHMC	G2	All	0.03%	133.17	0.0337
			102								G4-CARB 1998+	5	16.47%	79.58	10.9859
											G4-CARB 1998+	15	21.92%	79.58	14.6226
											G4-CARB 1998+	25	2.85%	79.58	1.9008
											G4-CARB 1998+	50	14.62%	142.69	17.4818
											G4-CARB 1998+	120	1.26%	133.17	1.4087
											G4-FI 1998+	50	3.97%	142.69	4.7513
											G4-FI 1998+	120	38.87%	133.17	43.3818
			ATVs/UTVs	1.5	hours	15	mi/hr	2,295	mi/yr	ATV/UTV	G2	All	0.00%	109.63	0.0000
			102								G4-CARB 1998+	15	6.05%	109.63	5.5607
											G4-CARB 1998+	25	1.78%	109.63	1.6383
											G4-CARB 1998+	50	9.04%	237.52	17.9866
											G4-CARB 1998+	120	8.24%	232.95	16.0880
											G4-FI 1998+	15	0.17%	109.63	0.1541
											G4-FI 1998+	25	43.41%	109.63	39.8840
											G4-FI 1998+	120	31.31%	232.95	61.1312
			4X4	1.5	hours	15	mi/hr	510	mi/yr	4X4	LDT1/LDT2			356.482	66.3918
			23												

Conversion Factors and Assumptions:

1 metric ton = 2204.62 pounds

Population split of G2/G4-CARB/G4-FI based on RV2018 outputs.

OHV Vehicle Composition		*Based on Clay Pit DEIR assumptions
ATVs	35%	
Motorcycles	45%	
UTVs	10%	
4x4s	10%	

AP-42, Section 13.2.2 - Unpaved Road Fugitive Dust Equation Inputs

surface material silt content - public (%) =	5	
surface material silt content - industrial (%) =	13.5	
surface material moisture content (%) =	6.515	
emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear (PM2.5) =	0.00036	lb/VMT
emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear (PM10) =	0.00047	lb/VMT
fugitive dust constant k (PM2.5) =	0.18	lb/VMT
fugitive dust constant k (PM10) =	1.8	lb/VMT
fugitive dust constant a =	1	
fugitive dust constant c =	0.2	
fugitive dust constant d =	0.5	

https://ww2.arb.ca.gov/sites/default/files/2023-08/rv2018_inventory_document.pdf
Off-Highway Gasoline-Fueled Equipment - Recreational Vehicles: Inventory Documentation (Attachment C)

Exhaust Emission Factors for RV2018

Vehicle Type	Tech Group	HP	Model Year	HC	NOX	CO	PM	CO2
OHMC (g/mile)	G2	All	All	34.2	0.01	54.1	0.42	133.17
	G4-CARB	5	1998 and later	1.003	0.205	19.8	0.06	79.58
		15		0.769	0.329	19.8	0.06	79.58
		25		0.625	0.356	19.8	0.06	79.58
		50		0.9	0.509	19.8	0.06	142.69
		120		1.229	0.212	19.8	0.06	133.17
	G4-FI	50	1998 and later	1.279	0.428	19.8	0.06	142.69
		120		0.689	0.315	19.8	0.06	133.17
ATV/UTV (g/mile)	G2	All	All	34.2	0.01	54.1	0.42	109.63
	G4-CARB	15	1998+	0.68	0.49	19.8	0.06	109.63
		25		0.68	0.49	19.8	0.06	109.63
		50		0.68	0.49	19.8	0.06	237.52
		120		0.68	0.49	19.8	0.06	232.95
	G4-FI	15	1998 and later	0.68	0.49	19.8	0.06	109.63
		25		0.68	0.49	19.8	0.06	109.63
		120		0.68	0.49	19.8	0.06	232.95

OHMC emission factors: scenario_emissionfactors_green.xlsx
ATV emission factors: scenario_emissionfactors_ATV.xlsx

Table III-7. Annual Activity for OHRVs (CSUS phone survey of 1,123 OHV owners)

Vehicle Type	Activity Range	Average
OMCs (miles/year)	717 to 20	350
ATVs (miles/year)	687 to 5	303
Mini Bikes (miles/year)	233 to 10	56

The text noted that minibikes are used sparingly

ATV Population Split - Statewide CY 2050

Tech Group	HP Group	% of Population
G2-CARB	15	0%
G4-CARB	15	6%
G4-CARB	25	2%
G4-CARB	50	9%
G4-CARB	120	8%
G4-FI	15	0%
G4-FI	50	43%
G4-FI	120	31%

Source: RV2018 statewide

OHMC Population Split - Statewide CY 2050

Tech Group	HP Group	% of Population
G2-CARB	120	0%
G4-CARB	5	16%
G4-CARB	15	22%
G4-CARB	25	3%
G4-CARB	50	15%
G4-CARB	120	1%
G4-FI	50	4%
G4-FI	120	39%

Source: RV2018 statewide

Source: EMFAC2021 (v1.0.2) Emission Rates
Region Type: County
Region: Kern, Los Angeles, Ventura
Calendar Year: 2050
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated based on total VMT.

Region	Calendar Ye	Vehicle Cat	Model Year	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	%VMT	%Trips	ROG_RUNEX	ROG_STRE	NOx_RUNEX	NOx_STREX	CO_RUNEX	CO_STREX	SOx_RUNE	SOx_STREX	PM10_RUN	PM10_STRE	PM10_PMT	PM10_PMB	PM2.5_RUN	PM2.5_STR	PM2.5_PMT	PM2.5_PMBW		CO2_RUNE	CO2_STRE	CH4_RUNE	CH4_STRE	N2O_RUNE	N2O_STREX
Los Angeles	2050	LDA	Aggregate	Aggregate	Gasoline	2853741.3	107569154.9	107569154.9	0	13331591.66	34.58%	34.16%	0.003223503	0.11122	0.019209231	0.151476	0.508184	1.503051	0.002289	0.000525	0.00056	0.000784	0.008	0.008712	0.000515	0.000721	0.002	0.003049		231.589	53.091663	0.001115	0.0297056	0.003166	0.024195
Ventura	2050	LDA	Aggregate	Aggregate	Gasoline	214436.438	8790261.514	8790261.514	0	994548.4346	2.83%	2.55%	0.002784236	0.117303	0.019104821	0.159958	0.431555	1.60172	0.002198	0.000527	0.000483	0.000789	0.008	0.006739	0.000444	0.000725	0.002	0.002359		222.3261	53.335308	0.000973	0.031474	0.003175	0.025573
Kern	2050	LDA	Aggregate	Aggregate	Gasoline	373932.776	14597697.75	14597697.75	0	1742776.729	4.69%	4.46%	0.002606553	0.11294	0.018884969	0.156096	0.48698	1.551112	0.002236	0.000525	0.000442	0.00078	0.008	0.006224	0.000406	0.000717	0.002	0.002178		226.1926	53.135614	0.000909	0.0304490	0.003125	0.025066
Los Angeles	2050	LDA	Aggregate	Aggregate	Diesel	1747.1970	62369.5526	62369.5526	0	7962.501266	0.02%	0.02%	0.005513823	0	0.010556526	0	0.177246	0	0.001799	0	0.000915	0	0.008	0.008724	0.000875	0	0.002	0.003053		189.8736	0	0.000256	0	0.029915	0
Ventura	2050	LDA	Aggregate	Aggregate	Diesel	146.060756	5183.724665	5183.724665	0	640.2295509	0.00%	0.00%	0.00382883	0	0.009485958	0	0.120624	0	0.001757	0	0.000896	0	0.008	0.006756	0.000858	0	0.002	0.002365		185.4576	0	0.000178	0	0.029219	0
Kern	2050	LDA	Aggregate	Aggregate	Diesel	232.98849	8520.32297	8520.32297	0	1053.240109	0.00%	0.00%	0.003426837	0	0.009758196	0	0.108566	0	0.001652	0	0.000839	0	0.008	0.006236	0.000803	0	0.002	0.002183		174.3519	0	0.000159	0	0.027469	0
Kern	2050	LDA	Aggregate	Aggregate	Electricity	52055.010	2085086.143	0	2085086.143	244208.1376	0.67%	0.63%	0	0	0	0	0	0	0	0	0	0	0.008	0.004393	0	0	0.002	0.001538		0	0	0	0	0	0
Los Angeles	2050	LDA	Aggregate	Aggregate	Electricity	396658.49	15266512.27	0	15266512.27	1866351.446	4.91%	4.78%	0	0	0	0	0	0	0	0	0	0	0.008	0.004391	0	0	0.002	0.001537		0	0	0	0	0	0
Ventura	2050	LDA	Aggregate	Aggregate	Electricity	29683.062	1289106.401	0	1289106.401	138844.6471	0.41%	0.36%	0	0	0	0	0	0	0	0	0	0	0.008	0.004393	0	0	0.002	0.001538		0	0	0	0	0	0
Ventura	2050	LDA	Aggregate	Aggregate	Plug-in Hyb	10084.167	419950.9347	171058.6904	248892.2443	41698.03199	0.13%	0.11%	0.001063998	0.170591	0.002497726	0.114626	0.162404	1.316017	0.001071	0.000548	0.000197	0.000826	0.008	0.003887	0.000181	0.000759	0.002	0.001361		108.3092	55.402169	0.000327	0.0404014	0.00043	0.019314
Kern	2050	LDA	Aggregate	Aggregate	Plug-in Hyb	17655.136	694689.1013	282939.5559	411749.5454	73003.98925	0.22%	0.19%	0.001034943	0.166042	0.002470027	0.112707	0.181384	1.273718	0.001093	0.000546	0.00018	0.000814	0.008	0.003834	0.000166	0.000748	0.002	0.001342		110.533	55.247740	0.000317	0.039234	0.00042	0.018851
Los Angeles	2050	LDA	Aggregate	Aggregate	Plug-in Hyb	134516.766	5115046.875	2083706.36	3031340.514	556226.831	1.64%	1.43%	0.001383772	0.163064	0.002824246	0.111555	0.201129	1.24065	0.001217	0.000546	0.000228	0.000819	0.008	0.004198	0.00021	0.000753	0.002	0.001469		123.0994	55.216113	0.000421	0.038338	0.000474	0.018421
Ventura	2050	LDT1	Aggregate	Aggregate	Gasoline	14553.355	562439.9981	562439.9981	0	65378.04069	0.18%	0.17%	0.003037188	0.127339	0.020510867	0.17462	0.461225	1.684134	0.002544	0.000615	0.000518	0.000859	0.008	0.008041	0.000476	0.00079	0.002	0.002814		257.3254	62.165261	0.001044	0.033644	0.003306	0.027251
Kern	2050	LDT1	Aggregate	Aggregate	Gasoline	29346.745	1065439.485	1065439.485	0	132459.0917	0.34%	0.34%	0.002834075	0.121295	0.020314005	0.172903	0.520983	1.62709	0.002567	0.00061	0.000466	0.000836	0.008	0.007453	0.000429	0.000769	0.002	0.002608		259.6639	61.684711	0.000974	0.032144	0.003252	0.02685
Los Angeles	2050	LDT1	Aggregate	Aggregate	Gasoline	261047.364	9277239.593	9277239.593	0	1180714.013	2.98%	3.02%	0.003591277	0.119979	0.02100129	0.168104	0.552262	1.579408	0.002647	0.00061	0.000605	0.000843	0.008	0.01066	0.000556	0.000775	0.002	0.003731		267.7754	61.725806	0.001222	0.031626	0.003338	0.026147
Los Angeles	2050	LDT1	Aggregate	Aggregate	Diesel	3.0281599	110.277363	110.277363	0	13.93770771	0.00%	0.00%	0.017499492	0	0.032158597	0	0.187709	0	0.003375	0	0.004647	0	0.008	0.010601	0.004446	0	0.002	0.00371		356.1572	0	0.000813	0	0.056113	0
Ventura	2050	LDT1	Aggregate	Aggregate	Diesel	0.1653691	6.684426885	6.684426885	0	0.760848544	0.00%	0.00%	0.011411003	0	0.02617316	0	0.121344	0	0.003269	0	0.004052	0	0.008	0.007995	0.003877	0	0.002	0.002798		344.9601	0	0.00053	0	0.054349	0
Kern	2050	LDT1	Aggregate	Aggregate	Diesel	0.3436148	12.81194901	12.81194901	0	1.573298037	0.00%	0.00%	0.010369221	0	0.025139828	0	0.111781	0	0.00308	0	0.003966	0	0.008	0.007425	0.003794	0	0.002	0.002599		325.0768	0	0.000482	0	0.051216	0
Los Angeles	2050	LDT1	Aggregate	Aggregate	Electricity	8153.27452	302348.9507	0	302348.9507	37932.12094	0.10%	0.10%	0	0	0	0	0	0	0	0	0	0	0.008	0.004397	0	0	0.002	0.001539		0	0	0	0	0	0
Ventura	2050	LDT1	Aggregate	Aggregate	Electricity	445.126058	18995.60971	0	18995.60971	2070.138677	0.01%	0.01%	0	0	0	0	0	0	0	0	0	0	0.008	0.004398	0	0	0.002	0.001539		0	0	0	0	0	0
Kern	2050	LDT1	Aggregate	Aggregate	Electricity	922.610078	35535.51286	0	35535.51286	4271.939256	0.01%	0.01%	0	0	0	0	0	0	0	0	0	0	0.008	0.0044	0	0	0.002	0.00154		0	0	0	0	0	0
Los Angeles	2050	LDT1	Aggregate	Aggregate	Plug-in Hyb	6204.7410	229781.6624	93502.81193	136278.8505	25656.60417	0.07%	0.07%	0.001384667	0.162974	0.002822253	0.111526	0.20086	1.239818	0.001216	0.000627	0.000227	0.000797	0.008	0.004207	0.000209	0.000733	0.002	0.001473		123.0176	63.386699	0.00042	0.038244	0.000469	0.018343
Ventura	2050	LDT1	Aggregate	Aggregate	Plug-in Hyb	338.711868	14015.03212	5702.254947	8312.777176	1400.573575	0.00%	0.00%	0.001062788	0.170591	0.002494886	0.114626	0.162205	1.316017	0.001069	0.000628	0.000195	0.000797	0.008	0.003893	0.000179	0.000733	0.002	0.001362		108.183	63.534266	0.000326	0.040435	0.000427	0.019341
Kern	2050	LDT1	Aggregate	Aggregate	Plug-in Hyb	703.709788	26817.02681	10910.88506	15906.14175	2909.839974	0.01%	0.01%	0.00103384	0.166068	0.002467221	0.112715	0.181067	1.273948	0.001091	0.000627	0.000179	0.000797	0.008	0.003841	0.000164	0.000733	0.002	0.001344		110.3902	63.450132	0.000315	0.0390867	0.000416	0.018706
Los Angeles	2050	LDT2	Aggregate	Aggregate	Gasoline	1933398.96	71887003.76	71887003.76	0	8971654.987	23.11%	22.99%	0.004540246	0.149094	0.021875644	0.192058	0.602318	1.935964	0.002745	0.000642	0.000574	0.000795	0.008	0.010493	0.000528	0.000731	0.002	0.003673		277.7036	64.928316	0.001505	0.03835	0.003397	0.029311
Ventura	2050	LDT2	Aggregate	Aggregate	Gasoline	105906.106	4375421.632	4375421.632	0	490092.4653	1.41%	1.26%	0.00385033	0.156224	0.021399101	0.198067	0.503996	2.050458	0.00264	0.000645	0.000492	0.0008	0.008	0.00792	0.000453	0.000735	0.002	0.002772		267.0867	65.25568	0.001292	0.040532	0.003379	0.030555
Kern	2050	LDT2	Aggregate	Aggregate	Gasoline	247376.132	9305368.91	9305368.91	0	1134462.596	2.99%	2.91%	0.003678371	0.154005	0.021609585	0.201763	0.578891	2.015733	0.002667	0.000644	0.000454	0.000805	0.008	0.007392	0.000417	0.00074	0.002	0.002587		269.7588	65.145329	0.001227	0.039715	0.003355	0.030578
Los Angeles	2050	LDT2	Aggregate	Aggregate	Diesel	7394.5615	275399.499	275399.499	0	34364.30603	0.09%	0.09%	0.017345837	0	0.032181577	0	0.181813	0	0.002497	0	0.00454	0	0.008	0.010488	0.004343	0	0.002	0.003671		263.5597	0	0.000806	0	0.041524	0
Ventura	2050	LDT2	Aggregate	Aggregate	Diesel	412.41058	16904.12451	16904.12451	0	1901.166858	0.01%	0.00%	0.011344127	0	0.026425853	0	0.118515	0	0.002425	0	0.003985	0	0.008	0.007929	0.003812	0	0.002	0.002775		255.9751	0	0.000527	0	0.040329	0
Kern	2050	LDT2	Aggregate	Aggregate	Diesel	945.028816	35654.02604	35654.02604	0	4341.935534	0.01%	0.01%	0.010332805	0	0.025264197	0	0.110262	0	0.00228	0	0.003926	0	0.008	0.007389	0.003757	0	0.002	0.002586		240.582	0	0.00048	0	0.037904	0
Los Angeles	2050	LDT2	Aggregate	Aggregate	Electricity	79437.7	2093710.721	0	2093710.721	373012.6847	0.67%	0.96%	0	0	0	0	0	0	0	0	0	0	0.008	0.004395	0	0	0.002	0.001538		0	0	0	0	0	0
Ventura	2050	LDT2	Aggregate	Aggregate	Electricity	4317.40169	131051.1178	0	131051.1178	20271.13142	0.04%	0.05%	0	0	0	0	0	0	0	0	0	0	0.008	0.004395	0	0	0.002	0.001538		0	0	0	0	0	0
Kern	2050	LDT2	Aggregate	Aggregate	Electricity	10069.108	271554.6447	0	271554.6447	46809.76299	0.09%	0.12%	0	0	0	0	0	0	0	0	0	0	0.008	0.004399	0	0	0.002	0.00154		0	0	0	0	0	0
Los Angeles	2050	LDT2	Aggregate	Aggregate	Plug-in Hyb	53822.716	2003119.881	815793.5933	1187326.288	222556.9319	0.64%	0.57%	0.001385845	0.162973	0.002824627	0.111526	0.201066	1.239813	0.001217	0.000658	0.000228	0.000802	0.008	0.004204	0.00021	0.000738	0.002	0.001472		123.1284	66.541982	0.00042	0.038277	0.00047	0.018375
Ventura	2050	LDT2	Aggregate	Aggregate	Plug-in Hyb	2925.6926	122159.6697	49736.62816	72423.04153	12097.73891	0.04%	0.03%	0.001063513	0.170591	0.002496587	0.114626	0.162329	1.316017	0.00107	0.000659	0.000196	0.000803	0.008	0.00389	0.00018	0.000738	0.002	0.001361		108.2595	66.69174	0.000327	0.040497	0.000428	0.019399
Kern	2050	LDT2	Aggregate	Aggregate	Plug-in Hyb	6847.0172	259496.9371	105688.889	153808.0481	28312.41632	0.08%	0.07%	0.0010349	0.166063	0.002469704	0.112713	0.181268	1.2739	0.001092	0.000659	0.000181	0.00081	0.008	0.003839	0.000166	0.000744	0.002	0.001344		110.5062	66.646369	0.000315	0.0390672	0.000416	0.018688
Los Angeles	2050	MCY	Aggregate	Aggregate	Gasoline	202544.74	1109792.956	1109792.956	0	405089.4831	0.36%	1.04%	0.877458566	0.793341	0.462959177	0.052131	10.38361	7.139917	0.001902	0.000331	0.002524	0.003657	0.004	0.012	0.002353	0.003409	0.001	0.0042		192.3473	33.503728	0.147333	0.1153996	0.035225	0.003708
Ventura	2050	MCY	Aggregate	Aggregate	Gasoline	12375.350	71762.30828	71762.30828	0	24750.70081	0.02%	0.06%	0.768066518	0.865193	0.458720922	0.059941	9.28629	7.608657	0.00183	0.000351	0.002146	0.003431	0.004	0.012	0.002	0.003198	0.001	0.0042		185.1316	35.526370	0.130409	0.1256111	0.03494	0.004097
Kern	2050	MCY	Aggregate	Aggregate	Gasoline	19580.914	109582.0489	109582.0489	0	39161.82898	0.04%	0.10%	0.700062646	0.823596	0.448700568	0.054413	9.071081	7.457921	0.001797	0.00034	0.001985	0.003598	0.004	0.012	0.00185	0.003354	0.001	0.0042		181.8088	34.393436	0.120201	0.1218323	0.034434	0.003851
Los Angeles	2050	MDV	Aggregate	Aggregate	Gasoline	1120394.70	39320563.06	39320563.06	0	5166494.414	12.64%	13.24%	0.004731331	0.152597	0.022836318	0.201864	0.625279	1.965759	0.003326	0.00078	0.000579	0.000799	0.008	0.010694	0.000532	0.000734	0.002	0.003743		336.3955	78.897384	0.001553	0.0389091	0.003463	0.030121
Ventura	2050	MDV	Aggregate	Aggregate	Gasoline	61967.0988	2379909.858	2379909.858	0	284072.4956	0.77%	0.73%	0.003973322	0.161121	0.022106255	0.208558	0.51839	2.088879	0.003204	0.000785	0.000496	0.00081	0.008	0.008033	0.000456	0.000745	0.002	0.002811		324.1423	79.448856	0.001319	0.041242	0.003413	0.031267
Kern	2050	MDV	Aggregate	Aggregate	Gasoline	145616.244	5308383.301	5308383.301	0	661399.5609	1.71%	1.69%	0.00381378	0.159779	0.02240192	0.212262	0.597175	2.059197	0.003227	0.000786	0.000459	0.000818	0.008	0.007504	0.000422	0.000752	0.002	0.002627		326.4647	79.473723	0.001263	0.040806	0.003419	0.031513
Kern	2050	MDV	Aggregate	Aggregate	Diesel	1628.0504	57985.45108	57985.45108	0	7308.700259	0.02%	0.02%	0.003783471	0	0.010611606	0	0.120561	0	0.002992	0	0.000923	0	0.008	0.007527	0.000883	0	0.002	0.002634		315.757	0	0.000176	0	0.049748	0
Los Angeles	2050	MDV	Aggregate	Aggregate	Diesel	12148.732	424493.2546	424493.2546	0	55865.6821	0.14%	0.14%	0.006011082	0	0.011328524	0	0.196575	0	0.003236	0	0.000958	0	0.008	0.010702	0.000917	0	0.002	0.003746		341.5487	0	0.000279	0	0.053811	0
Ventura	2050	MDV	Aggregate	Aggregate	Diesel	701.679258	26109.98822	26109.98822	0	3165.782797	0.01%	0.01%	0.004084603	0	0.011192714	0	0.129259	0	0.003169	0	0.000955	0	0.008	0.008064	0.000914	0	0.002	0.002823		334.4611	0	0.00019	0	0.052694	0
Ventura	2050	MDV	Aggregate	Aggregate	Electricity	3975.7265	118816.5067	0	118816.5067	18559.77146	0.04%	0.05%	0	0	0	0	0	0	0	0	0	0	0.008	0.0044	0	0	0.002	0.00154		0	0	0	0	0	0
Kern	2050	MDV	Aggregate	Aggregate	Electricity	9292.6779	247775.2484	0	247775.2484	43023.45816	0.08%	0.11%	0	0	0	0	0	0	0	0	0	0	0.008	0.004404	0	0	0.002	0.001542		0	0	0	0	0	0
Los Angeles	2050	MDV	Aggregate	Aggregate	Electricity	73135.538	1898182.448	0	1898182.448	341471.455	0.61%	0.87%	0	0	0	0	0	0	0	0	0	0	0.008	0.0044	0	0	0.002	0.00154		0	0	0	0	0	0
Los Angeles	2050	MDV	Aggregate	Aggregate	Plug-in Hyb	34375.685	1202756.305	490000.7573	712755.5476	142143.458	0.39%	0.36%	0.001386216	0.162973	0.002825532	0.111526	0.201113	1.239816	0.001218	0.000801	0.000231	0.000811	0.008	0.00421	0.000212	0.000746	0.002	0.001474		123.1633	80.984604	0.000417	0.037999	0.000463	0.018108
Ventura	2050	MDV	Aggregate	Aggregate	Plug-in Hyb	1872.9485	73015.69491	29739.87761	43275.8173	7744.64241	0.02%	0.02%	0.00106394	0.170591	0.00249759	0.114626	0.162396	1.316017	0.001071	0.000803	0.000198	0.000817	0.008	0.003894	0.000182	0.000751	0.002	0.001363		108.3033	81.180834	0.000324	0.040114	0.000422	0.019038
Kern	2050	MDV	Aggregate	Aggregate	Plug-in Hyb	4383.2520	161729.9445	65896.5418	95833.40265	18124.74733	0.05%	0.05%	0.001035258	0.166062	0.002470096	0.112713	0.181358	1.273888	0.001093	0.000802	0.000182	0.000821	0.008	0.003843	0.000168	0.000755	0.002	0.001345		110.5488	81.128238	0.000315	0.038918	0.000414	0.018548
Los Angeles	2050	MH	Aggregate	Aggregate	Gasoline	13259.785	137675.5558	137675.5558	0	1326.508894	0.04%	0.00%	0.006146007	0.1088	0.203478908	0.314687	0.140098	2.016578	0.01756	0.000288	0.001134	0.00038	0.012	0.043455	0.001043	0.000349	0.003	0.015209		1776.253	29.132183	0.002254	0.032768	0.017062	0.037114
Ventura	2050	MH	Aggregate	Aggregate	Gasoline	805.9939	9131.314106	9131.314106	0	80.63162961	0.00%	0.00%	0.005686818	0.112849	0.198839086	0.390483	0.129802	2.099602	0.01728	0.000289	0.001023	0.000368	0.012	0.042202	0.00094	0.000338	0.003	0.014771		1747.895	29.277514	0.002112	0.0341921	0.016878	0.04511
Kern	2050	MH	Aggregate	Aggregate	Gasoline	1148.7652	12557.97947	12557.97947	0	114.9224752	0.00%	0.00%	0.008012665	0.110029	0.217185685	0.346302	0.144983	2.037644	0.019252	0.000288	0.001488	0.000374	0.012	0.045051	0.001368	0.000344	0.003	0.015768		1947.376	29.169735	0.002842	0.032314	0.017862	0.039577
Los Angeles	2050	MH	Aggregate	Aggregate	Diesel	8205.0081	76368.4486	76368.4486	0	820.5008166	0.02%	0.00%	0.036511738	0	1.877942527	0	0.104659	0	0.009682	0	0.015636	0	0.016	0.043195	0.01496	0	0.004	0.015118		1021.807	0	0.001696	0	0.160986	0
Ventura	2050	MH	Aggregate	Aggregate	Diesel	576.23589	5535.564397	5535.564397	0	57.62358943	0.00%	0.00%	0.031384481	0	1.758092747	0	0.096183	0	0.00941	0	0.020916	0	0.016	0.042119	0.020011	0	0.004	0.014742		993.0885	0	0.001458	0	0.156462	0
Kern	2050	MH	Aggregate	Aggregate	Diesel	755.21687	7173.684587	7173.684587	0	75.52168752	0.00%	0.00%	0.083122922	0	2.483373486	0	0.238459	0	0.010315	0	0.020111	0	0.016	0.04481	0.019241	0	0.004	0.015684		1088.589	0	0.003861	0	0.171508	0
Los Angeles	2050	Motor Coac	Aggregate	Aggregate	Diesel	786.72571	99091.7138	99091.7138	0	18078.95703	0.03%	0.05%	0.009440793	0	0.984120065	0.96098	0.066867	0	0.014214	0	0.013839	0	0.012	0.09806	0.013241	0	0.003	0.034321		1501.091	0	0.000439	0	0.236498	0
Ventura	2050	Motor Coac	Aggregate	Aggregate	Diesel	13.644936	1718.761387	1718.761387	0	313.560646	0.00%	0.00%	0.009151228	0	0.886250272	0.96098	0.056187	0	0.014067	0	0.015297	0	0.012	0.092714	0.014636	0	0.003	0.03245		1485.513	0	0.000425	0	0.234043	0
Kern	2050	Motor Coac	Aggregate	Aggregate	Diesel	52.319972	6590.107613	6590.107613	0	1202.312966	0.00%	0.00%	0.010539198	0	0.919601888	0.96098	0.035681	0	0.014423	0	0.023515	0	0.012	0.081798	0.022498	0	0.003	0.028629		1523.089	0	0.00049	0	0.239963	0
							311079868.5			**39032039.35**																									
												Visitor Vehicle Weighted Average Emission Factors	0.0070	0.1294	0.0213	0.1574	0.5362	1.6419	0.0024	0.0006	0.0005	0.0008	0.0080	0.0088	0.0005	0.0007	0.0020	0.0031		240.2943	0.8400	0.0017	0.0144	0.0033	0.0243
												4X4 Weighted Average Emission Factors	0.0041	0.1409	0.0207	0.1809	0.5611	1.8148	0.0026	0.0006	0.0005	0.0008	0.0080	0.0097	0.0005	0.0007	0.0020	0.0034	0.0000	263.4604	2.5630	0.0014	0.0362	0.0033	0.0277

Source: EMFAC2021 (v1.0.2) Emission Rates
Region Type: County
Region: Kern, Ventura, Los Angeles
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated based on total VMT.

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	%VMT	%Trips	CO2_RUNEX
Los Angeles	2023	LDA	Aggregate	Aggregate	Gasoline	3441156.829	1.37E+08	1.37E+08	0	16009115	44.13%	43.95%	294.3977
Ventura	2023	LDA	Aggregate	Aggregate	Gasoline	241302.6373	9554628	9554628	0	1116345	3.08%	3.06%	281.9555
Kern	2023	LDA	Aggregate	Aggregate	Gasoline	334823.3561	12907152	12907152	0	1555216	4.16%	4.27%	289.2304
Los Angeles	2023	LDA	Aggregate	Aggregate	Diesel	9775.319042	293630.7	293630.7	0	40275.14	0.09%	0.11%	255.2289
Ventura	2023	LDA	Aggregate	Aggregate	Diesel	1172.07451	36535.38	36535.38	0	4968.097	0.01%	0.01%	240.8313
Kern	2023	LDA	Aggregate	Aggregate	Diesel	1107.638417	36426.45	36426.45	0	4794.902	0.01%	0.01%	232.7045
Los Angeles	2023	LDA	Aggregate	Aggregate	Electricity	151623.2415	7061879	0	7061879	760271.3	2.27%	2.09%	0
Ventura	2023	LDA	Aggregate	Aggregate	Electricity	10205.10816	496353.8	0	496353.8	51120.86	0.16%	0.14%	0
Kern	2023	LDA	Aggregate	Aggregate	Electricity	11798.59209	548527.4	0	548527.4	59491.21	0.18%	0.16%	0
Los Angeles	2023	LDA	Aggregate	Aggregate	Plug-in Hyb	86565.9777	4081875	2058404	2023471	357950.3	1.31%	0.98%	152.5936
Ventura	2023	LDA	Aggregate	Aggregate	Plug-in Hyb	5784.557154	281679.2	142598.1	139081.1	23919.14	0.09%	0.07%	136.217
Kern	2023	LDA	Aggregate	Aggregate	Plug-in Hyb	8122.509214	374123.1	189587.9	184535.2	33586.58	0.12%	0.09%	136.2327
Los Angeles	2023	LDT1	Aggregate	Aggregate	Gasoline	323318.13	11785010	11785010	0	1422834	3.79%	3.91%	351.4155
Ventura	2023	LDT1	Aggregate	Aggregate	Gasoline	25219.49442	862070	862070	0	109036.2	0.28%	0.30%	339.1473
Kern	2023	LDT1	Aggregate	Aggregate	Gasoline	34896.80052	1138488	1138488	0	150268.5	0.37%	0.41%	346.0969
Kern	2023	LDT1	Aggregate	Aggregate	Diesel	16.9081853	234.2063	234.2063	0	49.5106	0.00%	0.00%	417.8119
Los Angeles	2023	LDT1	Aggregate	Aggregate	Diesel	135.0073317	2742.332	2742.332	0	393.0172	0.00%	0.00%	441.0935
Ventura	2023	LDT1	Aggregate	Aggregate	Diesel	19.15423206	273.4719	273.4719	0	55.88545	0.00%	0.00%	422.485
Kern	2023	LDT1	Aggregate	Aggregate	Electricity	32.71166248	1402.947	0	1402.947	160.0249	0.00%	0.00%	0
Los Angeles	2023	LDT1	Aggregate	Aggregate	Electricity	742.9947618	27278.17	0	27278.17	3426.926	0.01%	0.01%	0
Ventura	2023	LDT1	Aggregate	Aggregate	Electricity	41.81146604	1602.613	0	1602.613	192.4935	0.00%	0.00%	0
Ventura	2023	LDT1	Aggregate	Aggregate	Plug-in Hyb	17.21982195	934.983	430.3989	504.5841	71.20396	0.00%	0.00%	123.9166
Kern	2023	LDT1	Aggregate	Aggregate	Plug-in Hyb	24.84841002	1301.731	601.2293	700.5019	102.7482	0.00%	0.00%	124.4087
Los Angeles	2023	LDT1	Aggregate	Aggregate	Plug-in Hyb	309.2990501	16045.7	7381.66	8664.036	1278.952	0.01%	0.00%	139.4568
Los Angeles	2023	LDT2	Aggregate	Aggregate	Gasoline	1558892.967	64432894	64432894	0	7331380	20.74%	20.13%	362.4525
Ventura	2023	LDT2	Aggregate	Aggregate	Gasoline	108720.9834	4438405	4438405	0	505931.2	1.43%	1.39%	350.997
Kern	2023	LDT2	Aggregate	Aggregate	Gasoline	161265.7318	6357732	6357732	0	752045.7	2.05%	2.06%	356.2785
Los Angeles	2023	LDT2	Aggregate	Aggregate	Diesel	4736.11341	207450.1	207450.1	0	22903.15	0.07%	0.06%	330.1384
Ventura	2023	LDT2	Aggregate	Aggregate	Diesel	496.747652	21498.33	21498.33	0	2367.489	0.01%	0.01%	324.6434
Kern	2023	LDT2	Aggregate	Aggregate	Diesel	469.3554971	20033.89	20033.89	0	2248.634	0.01%	0.01%	307.1182
Los Angeles	2023	LDT2	Aggregate	Aggregate	Electricity	7409.408484	275541.2	0	275541.2	38049.66	0.09%	0.10%	0
Ventura	2023	LDT2	Aggregate	Aggregate	Electricity	410.8955123	16023.89	0	16023.89	2110.807	0.01%	0.01%	0
Kern	2023	LDT2	Aggregate	Aggregate	Electricity	600.492299	21903.04	0	21903.04	3084.021	0.01%	0.01%	0
Los Angeles	2023	LDT2	Aggregate	Aggregate	Plug-in Hyb	11315.60501	568071.4	271382.3	296689.2	46790.03	0.18%	0.13%	144.7827
Ventura	2023	LDT2	Aggregate	Aggregate	Plug-in Hyb	637.4146715	33421.77	15993.9	17427.87	2635.71	0.01%	0.01%	128.8047
Kern	2023	LDT2	Aggregate	Aggregate	Plug-in Hyb	988.8711911	49865.31	23993.99	25871.32	4088.982	0.02%	0.01%	129.5267
Ventura	2023	MCY	Aggregate	Aggregate	Gasoline	14904.59391	88216.65	88216.65	0	29809.19	0.03%	0.08%	192.33
Kern	2023	MCY	Aggregate	Aggregate	Gasoline	19370.43998	108723.3	108723.3	0	38740.88	0.03%	0.11%	189.9903
Los Angeles	2023	MCY	Aggregate	Aggregate	Gasoline	147383.6235	966253.3	966253.3	0	294767.2	0.31%	0.81%	195.5163
Los Angeles	2023	MDV	Aggregate	Aggregate	Gasoline	951501.414	36274737	36274737	0	4402600	11.68%	12.09%	444.0112
Ventura	2023	MDV	Aggregate	Aggregate	Gasoline	80366.89043	2926023	2926023	0	366256.2	0.94%	1.01%	431.6637
Kern	2023	MDV	Aggregate	Aggregate	Gasoline	156027.1545	5596866	5596866	0	709520.5	1.80%	1.95%	441.8683
Los Angeles	2023	MDV	Aggregate	Aggregate	Diesel	10934.58248	433864.9	433864.9	0	51745.74	0.14%	0.14%	439.4925
Ventura	2023	MDV	Aggregate	Aggregate	Diesel	1439.662089	55619.13	55619.13	0	6723.679	0.02%	0.02%	433.4179
Kern	2023	MDV	Aggregate	Aggregate	Diesel	2446.552036	93800.2	93800.2	0	11407.97	0.03%	0.03%	420.6193
Los Angeles	2023	MDV	Aggregate	Aggregate	Electricity	7971.421029	296656.6	0	296656.6	40945.02	0.10%	0.11%	0
Ventura	2023	MDV	Aggregate	Aggregate	Electricity	440.6328163	17197.06	0	17197.06	2264.18	0.01%	0.01%	0
Kern	2023	MDV	Aggregate	Aggregate	Electricity	660.2308014	24036.93	0	24036.93	3388.698	0.01%	0.01%	0
Los Angeles	2023	MDV	Aggregate	Aggregate	Plug-in Hyb	6329.584869	286720.3	141006.3	145714	26172.83	0.09%	0.07%	148.9247
Ventura	2023	MDV	Aggregate	Aggregate	Plug-in Hyb	425.5174868	20374.85	10164.84	10210.01	1759.515	0.01%	0.00%	134.2519
Kern	2023	MDV	Aggregate	Aggregate	Plug-in Hyb	760.6070248	35857.91	18130.17	17727.74	3145.11	0.01%	0.01%	135.9191
Kern	2023	MH	Aggregate	Aggregate	Gasoline	2999.978044	25767.43	25767.43	0	300.1178	0.01%	0.00%	1950.739
Los Angeles	2023	MH	Aggregate	Aggregate	Gasoline	16465.34174	159232.4	159232.4	0	1647.193	0.05%	0.00%	1776.363
Ventura	2023	MH	Aggregate	Aggregate	Gasoline	3232.650802	29405.07	29405.07	0	323.3944	0.01%	0.00%	1738.413
Ventura	2023	MH	Aggregate	Aggregate	Diesel	1162.117488	11396.05	11396.05	0	116.2117	0.00%	0.00%	987.0636
Kern	2023	MH	Aggregate	Aggregate	Diesel	1312.345445	11347.41	11347.41	0	131.2345	0.00%	0.00%	1077.421
Los Angeles	2023	MH	Aggregate	Aggregate	Diesel	5471.272509	56805.36	56805.36	0	547.1273	0.02%	0.00%	1017.918
Los Angeles	2023	Motor Coach	Aggregate	Aggregate	Diesel	601.3027629	85670.05	85670.05	0	13817.94	0.03%	0.04%	1772.169
Ventura	2023	Motor Coach	Aggregate	Aggregate	Diesel	10.42910584	1485.96	1485.96	0	239.6609	0.00%	0.00%	1743.252
Kern	2023	Motor Coach	Aggregate	Aggregate	Diesel	39.98889866	5697.498	5697.498	0	918.9449	0.00%	0.00%	1780.855
							3.11E+08			**36425847**			

Visitor Vehicle Weighted Average Emission Factors	324.4051
4X4 Weighted Average Emission Factors	356.4817

Project and Existing Energy Calculations
Construction and Operation

Hungry Valley General Plan Update
Operational Energy Consumption Summary

Energy Demand by Land Use (CalEEMod output data)

Project	Electricity Demand (kWh/year)	Natural Gas Demand (kBTU/year)
HV GPU_ Operational Support Offices	176,679	265,510
HV GPU_ Visitor Center	0	0

Mobile Sources	Electricity (kWh/year)	Gasoline (gallons)	Diesel (gallons)
OHVs	0	3,531	0
Visitor Vehicles	27,524	19,889	110

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: County
Region: Kern, Ventura, Los Angeles
Calendar Year: 2050
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/year for CVMT and EVMT, trips/year for Trips, kWh/year for Energy Consumption, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Energy Consumption	Fuel Consumption	Kwh/mile	% VMT	Project Annual VMT	Project Annual Fuel Consumption (gallons)	Project Annual Electricity Consumption
Ventura	2050	LDA	Aggregate	Aggregate	Gasoline	214436.4384	3050220745	3050220745	0	345108306.8	0	80965.13592		2.83%	19,685.36	522.5286223	0
Los Angeles	2050	LDA	Aggregate	Aggregate	Gasoline	2853741.317	37326496734	37326496734	0	4626062306	0	1033351.068		34.58%	240,895.82	6668.987878	0
Kern	2050	LDA	Aggregate	Aggregate	Gasoline	373932.7768	5065401119	5065401119	0	604743524.8	0	136914.7551		4.69%	32,690.82	883.6133916	0
Kern	2050	LDA	Aggregate	Aggregate	Diesel	232.9884971	2956552.07	2956552.07	0	365474.3177	0	50.75885239		0.00%	19.08	0.327584866	0
Ventura	2050	LDA	Aggregate	Aggregate	Diesel	146.0607569	1798752.459	1798752.459	0	222159.6542	0	32.84849977		0.00%	11.61	0.211995955	0
Los Angeles	2050	LDA	Aggregate	Aggregate	Diesel	1747.197012	21642234.75	21642234.75	0	2762987.939	0	404.6376466		0.02%	139.67	2.611429594	0
Kern	2050	LDA	Aggregate	Aggregate	Electricity	52055.01013	723524891.8	0	723524891.8	84740223.75	279340324	0	0.386082534	0.67%	4,669.45	0	1802.792
Ventura	2050	LDA	Aggregate	Aggregate	Electricity	29683.06297	447319921	0	447319921	48179092.54	1727024098.8	0	0.386082534	0.41%	2,886.89	0	1114.578
Los Angeles	2050	LDA	Aggregate	Aggregate	Electricity	396658.491	5297479757	0	5297479757	647623951.7	2045264411	0	0.386082534	4.91%	34,188.60	0	13199.62
Los Angeles	2050	LDA	Aggregate	Aggregate	Plug-in Hyb	134516.7669	1774921266	723046107.1	1051875158	193010710.4	317697648.8	26635.67467	0.302029805	1.64%	11,454.90	171.8999447	3459.72
Kern	2050	LDA	Aggregate	Aggregate	Plug-in Hyb	17655.13646	241057118.1	98180025.9	142877092.2	25332384.27	43153140.28	3259.796114	0.302029805	0.22%	1,555.72	21.03790419	469.8744
Ventura	2050	LDA	Aggregate	Aggregate	Plug-in Hyb	10084.16735	145722974.4	59357365.58	86365608.77	14469217.1	26084987.96	1927.768726	0.302029805	0.14%	940.46	12.44133447	284.0468
Kern	2050	LDT1	Aggregate	Aggregate	Gasoline	29346.74518	369707501.4	369707501.4	0	45963304.83	0	11488.30484		0.34%	2,386.00	74.14262981	0
Ventura	2050	LDT1	Aggregate	Aggregate	Gasoline	14553.35508	195166679.3	195166679.3	0	22686180.12	0	6001.523353		0.18%	1,259.56	38.73232218	0
Los Angeles	2050	LDT1	Aggregate	Aggregate	Gasoline	261047.3647	3219202139	3219202139	0	409707762.4	0	103138.8573		2.98%	20,775.92	665.6322427	0
Ventura	2050	LDT1	Aggregate	Aggregate	Diesel	0.165369152	2319.496129	2319.496129	0	264.0144449	0	0.07878836		0.00%	0.01	0.00050848	0
Los Angeles	2050	LDT1	Aggregate	Aggregate	Diesel	3.028159906	38266.24495	38266.24495	0	4836.384574	0	1.342014119		0.00%	0.25	0.008661022	0
Kern	2050	LDT1	Aggregate	Aggregate	Diesel	0.343614859	4445.746308	4445.746308	0	545.9344188	0	0.142308309		0.00%	0.03	0.000918422	0
Los Angeles	2050	LDT1	Aggregate	Aggregate	Electricity	8153.274521	104915085.9	0	104915085.9	13162445.97	40505882.27	0	0.386082534	0.10%	677.10	0	261.4148
Kern	2050	LDT1	Aggregate	Aggregate	Electricity	922.6100783	12330822.96	0	12330822.96	1482362.922	4760715.381	0	0.386082534	0.01%	79.58	0	30.72446
Ventura	2050	LDT1	Aggregate	Aggregate	Electricity	445.1260582	6591476.57	0	6591476.57	718338.121	2544853.98	0	0.386082534	0.01%	42.54	0	16.42385
Kern	2050	LDT1	Aggregate	Aggregate	Plug-in Hyb	703.709788	9305508.302	3786077.116	5519431.186	1009714.471	1667032.724	126.8502246	0.302029805	0.01%	60.06	0.818659444	18.13852
Ventura	2050	LDT1	Aggregate	Aggregate	Plug-in Hyb	338.7118683	4863216.147	1978682.467	2884533.68	485999.0307	871215.1443	64.74361129	0.302029805	0.00%	31.39	0.417838982	9.4795
Los Angeles	2050	LDT1	Aggregate	Aggregate	Plug-in Hyb	6204.741032	79734236.85	32445475.74	47288761.11	8902841.647	14282615.29	1205.733732	0.302029805	0.07%	514.58	7.781502233	155.4199
Kern	2050	LDT2	Aggregate	Aggregate	Gasoline	247376.1328	3228963012	3228963012	0	393658520.8	0	104228.4124		2.99%	20,838.92	672.6639574	0
Ventura	2050	LDT2	Aggregate	Aggregate	Gasoline	105906.1067	1518271306	1518271306	0	170062085.5	0	48425.3514		1.41%	9,798.54	312.5250376	0
Los Angeles	2050	LDT2	Aggregate	Aggregate	Gasoline	1933398.962	24944790305	24944790305	0	3113164280	0	828701.274		23.11%	160,987.40	5348.229582	0
Ventura	2050	LDT2	Aggregate	Aggregate	Diesel	412.4105852	5865731.205	5865731.205	0	659704.8997	0	147.8493329		0.01%	37.86	0.954182407	0
Los Angeles	2050	LDT2	Aggregate	Aggregate	Diesel	7394.561554	95563626.14	95563626.14	0	11924414.19	0	2480.111733		0.09%	616.74	16.00601731	0
Kern	2050	LDT2	Aggregate	Aggregate	Diesel	945.028817	12371947.04	12371947.04	0	1506651.63	0	293.0898333		0.01%	79.85	1.891528064	0
Los Angeles	2050	LDT2	Aggregate	Aggregate	Electricity	79437.6969	726517620.3	0	726517620.3	129435401.6	280495764.2	0	0.386082534	0.67%	4,688.76	0	1810.249
Ventura	2050	LDT2	Aggregate	Aggregate	Electricity	4317.401696	45474737.86	0	45474737.86	7034082.604	17557002.05	0	0.386082534	0.04%	293.48	0	113.3085
Kern	2050	LDT2	Aggregate	Aggregate	Electricity	10069.10889	94229461.7	0	94229461.7	16242987.76	36380349.4	0	0.386082534	0.09%	608.13	0	234.7896
Kern	2050	LDT2	Aggregate	Aggregate	Plug-in Hyb	6847.017248	90045437.18	36674044.5	53371392.69	9824408.463	16119751.31	1232.736344	0.302029805	0.08%	581.13	7.955770298	175.5188
Los Angeles	2050	LDT2	Aggregate	Aggregate	Plug-in Hyb	53822.7163	695082598.8	283080376.9	412002221.9	77227255.38	124436950.6	10545.42507	0.302029805	0.64%	4,485.89	68.05752095	1354.872
Ventura	2050	LDT2	Aggregate	Aggregate	Plug-in Hyb	2925.692602	42389405.38	17258609.97	25130795.41	4197915.401	7590249.231	565.9620145	0.302029805	0.04%	273.57	3.652576487	82.62646
Kern	2050	MCY	Aggregate	Aggregate	Gasoline	19580.91449	38024970.98	38024970.98	0	13589154.66	0	857.9072621		0.04%	245.40	5.536717683	0
Ventura	2050	MCY	Aggregate	Aggregate	Gasoline	12375.35041	24901520.97	24901520.97	0	8588493.182	0	571.3267845		0.02%	160.71	3.687199363	0
Los Angeles	2050	MCY	Aggregate	Aggregate	Gasoline	202544.7415	385098155.6	385098155.6	0	140566050.6	0	9157.417622		0.36%	2,485.33	59.09966999	0
Los Angeles	2050	MDV	Aggregate	Aggregate	Gasoline	1120394.705	13644235381	13644235381	0	1792773562	0	549954.2163		12.64%	88,056.46	3549.266184	0
Kern	2050	MDV	Aggregate	Aggregate	Gasoline	145616.2448	1842009006	1842009006	0	229505647.6	0	72019.54854		1.71%	11,887.86	464.7960514	0
Ventura	2050	MDV	Aggregate	Aggregate	Gasoline	61967.09884	825828720.6	825828720.6	0	98573155.96	0	32025.42231		0.77%	5,329.69	206.6840203	0
Kern	2050	MDV	Aggregate	Aggregate	Diesel	1628.050446	20120951.52	20120951.52	0	2536118.99	0	625.606186		0.02%	129.86	4.037504967	0
Ventura	2050	MDV	Aggregate	Aggregate	Diesel	701.6792585	9060165.912	9060165.912	0	1098526.631	0	298.3879493		0.01%	58.47	1.925720772	0
Los Angeles	2050	MDV	Aggregate	Aggregate	Diesel	12148.73215	147299159.4	147299159.4	0	19385391.69	0	4953.959351		0.14%	950.63	31.97160759	0
Ventura	2050	MDV	Aggregate	Aggregate	Electricity	3975.726581	41229327.83	0	41229327.83	6440240.696	15917923.39	0	0.386082534	0.04%	266.08	0	102.7303
Los Angeles	2050	MDV	Aggregate	Aggregate	Electricity	73135.53873	658669309.4	0	658669309.4	118490594.9	254300716.4	0	0.386082534	0.61%	4,250.89	0	1641.193
Kern	2050	MDV	Aggregate	Aggregate	Electricity	9292.677921	85978011.2	0	85978011.2	14929139.98	33194608.47	0	0.386082534	0.08%	554.88	0	214.2297
Kern	2050	MDV	Aggregate	Aggregate	Plug-in Hyb	4383.252074	56120290.72	22866100	33254190.72	6289287.323	10043756.73	780.4489128	0.302029805	0.05%	362.19	5.036820979	109.391
Ventura	2050	MDV	Aggregate	Aggregate	Plug-in Hyb	1872.948588	25336446.13	10319737.53	15016708.6	2687390.916	4535493.568	344.3165086	0.302029805	0.02%	163.52	2.222132141	49.38642
Los Angeles	2050	MDV	Aggregate	Aggregate	Plug-in Hyb	34375.68513	417356437.8	170030262.8	247326175	49323779.93	74699876.36	6439.253773	0.302029805	0.39%	2,693.51	41.5573242	813.5213
Ventura	2050	MH	Aggregate	Aggregate	Gasoline	805.9938985	2985939.713	2985939.713	0	26366.54288	0	606.7449993		0.00%	19.27	3.915779613	0
Los Angeles	2050	MH	Aggregate	Aggregate	Gasoline	13259.78503	45019906.74	45019906.74	0	433768.4085	0	9296.591256		0.04%	290.55	59.99786162	0
Kern	2050	MH	Aggregate	Aggregate	Gasoline	1148.765246	4106459.286	4106459.286	0	37579.64939	0	929.6561945		0.00%	26.50	5.999767245	0
Kern	2050	MH	Aggregate	Aggregate	Diesel	755.2168752	2345794.86	2345794.86	0	24695.59182	0	251.451004		0.00%	15.14	1.622801533	0
Ventura	2050	MH	Aggregate	Aggregate	Diesel	576.2358943	1810129.558	1810129.558	0	18842.91374	0	177.0097466		0.00%	11.68	1.142376382	0
Los Angeles	2050	MH	Aggregate	Aggregate	Diesel	8205.008166	24972482.69	24972482.69	0	268303.767	0	2512.639981		0.02%	161.17	16.21594644	0
Los Angeles	2050	Motor Coach	Aggregate	Aggregate	Diesel	786.7257193	28934780.43	28934780.43	0	5279055.453	0	4464.086736		0.03%	186.74	28.81009296	0
Kern	2050	Motor Coach	Aggregate	Aggregate	Diesel	52.31997239	1924311.423	1924311.423	0	351075.3859	0	301.052533		0.02%	12.42	1.942917325	0
Ventura	2050	Motor Coach	Aggregate	Aggregate	Diesel	13.64493673	501878.325	501878.325	0	91559.70864	0	76.66018159		0.00%	3.24	0.49474553	0

Onroad Annual VMT: 696,578

Project Mobile Energy		
Gallons/year, Diesel	**110**	**Diesel**
Gallons/year, Gasoline	19,546	Gasoline
KWh/year, Electricity	20,542	Electricity
Gallons/year, Gasoline, Plug-in Hybrid	343	Plug-in Hybrid
KWh/year, Electricity, Plug-in Hybrid	6,982	Plug-in Hybrid
KWh/year, EV and Hybrid	**27,524**	**EV + Hybrid**
Gallons/year, Gasoline + Hybrid	**19,889**	**Gasoline + Hybrid**
Gallons/year, Natural Gas	-	Natural Gas

OHV Type	CO2 MT/yr	Fuel	Emission Factor (lb CO_2/gallon) [a]	Gallons
OHMC	9.46	Gas	17.86	1,167
ATV	14.24	Gas	17.86	1,758
4X4	4.91	Gas	17.86	606

a) U.S. Energy Information Administration released September 7, 2023 (https://www.eia.gov/environment/emissions/co2_vol_mass.php)

Hungry Valley General Plan Update
Construction Energy Consumption (MT for CO2)

Project	Phase	Description	CO_2T	Fuel	Emission Factor (lb CO_2/gallon) [b]	Gallons
HV GPU_ Operational Support Offices	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	4.675301	Diesel	22.45	459
		Dust From Material Movement	0	Diesel	22.45	0
		Worker	0.350232	Gas	17.86	43
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	5.025533			
HV GPU_ Operational Support Offices	3.3 Grading (2025) - Unmitigated	Off-Road Equipment	10.88377	Diesel	22.45	1,069
		Dust From Material Movement	0	Diesel	22.45	0
		Worker	0.612905	Gas	17.86	76
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	11.49667			
HV GPU_ Operational Support Offices	3.5 Building Construction (2025) - Unmitigated	Off-Road Equipment	118.3658	Diesel	22.45	11,624
		Worker	3.735803	Gas	17.86	461
		Vendor	4.583971	Diesel	22.45	450
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	126.6856			
HV GPU_ Operational Support Offices	3.7 Paving (2025) - Unmitigated	Off-Road Equipment	3.735003	Diesel	22.45	367
		Worker	1.021509	Gas	17.86	126
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	4.756511			
HV GPU_ Operational Support Offices	3.9 Architectural Coating (2025) - Unmitigated	Off-Road Equipment	0.605648	Diesel	22.45	59
		Architectural Coatings	0	Diesel	22.45	0
		Worker	0.037358	Gas	17.86	5
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	0.643006			
		Total Annual Emissions	**148.6073**			

HV GPU_ Operational Support Offices	Diesel	14,028
	Gas	711

Project	Phase	Description	CO_2T	Fuel	Emission Factor (lb CO_2/gallon) [b]	Gallons
HV GPU_ Visitor Center	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	4.675301	Diesel	22.45	459
		Dust From Material Movement	0	Diesel	22.45	0
		Worker	0.350232	Gas	17.86	43
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	5.025533			
HV GPU_ Visitor Center	3.3 Grading (2025) - Unmitigated	Off-Road Equipment	10.88377	Diesel	22.45	1,069
		Dust From Material Movement	0	Diesel	22.45	0
		Worker	0.612905	Gas	17.86	76
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	11.49667			
HV GPU_ Visitor Center	3.5 Building Construction (2025) - Unmitigated	Off-Road Equipment	118.3658	Diesel	22.45	11,624
		Worker	2.334877	Gas	17.86	288
		Vendor	0.458397	Diesel	22.45	45
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	121.1591			
HV GPU_ Visitor Center	3.7 Paving (2025) - Unmitigated	Off-Road Equipment	3.735003	Diesel	22.45	367
		Worker	1.021509	Gas	17.86	126
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	4.756511			
HV GPU_ Visitor Center	3.9 Architectural Coating (2025) - Unmitigated	Off-Road Equipment	0.605648	Diesel	22.45	59
		Architectural Coatings	0	Diesel	22.45	0
		Worker	0.116744	Gas	17.86	14
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	0.722392			
		Total Annual Emissions	**143.1602**			

HV GPU_ Visitor Center	Diesel	13,623
	Gas	548

Project	Phase	Description	CO_2T	Fuel	Emission Factor (lb CO_2/gallon) [b]	Gallons
HV GPU_ New Group Campground	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	4.803861	Diesel	22.45	472
		Dust From Material Movement	0	Diesel	22.45	0
		Worker	0.204302	Gas	17.86	25
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	5.008163			
HV GPU_ New Group Campground	3.3 Grading (2025) - Unmitigated	Off-Road Equipment	2.684677	Diesel	22.45	264
		Dust From Material Movement	0	Diesel	22.45	0
		Worker	0.175116	Gas	17.86	22
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	2.859793			
HV GPU_ New Group Campground	3.5 Building Construction (2025) - Unmitigated	Off-Road Equipment	56.55368	Diesel	22.45	5,554
		Worker	4.55301	Gas	17.86	562
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	61.10669			
HV GPU_ New Group Campground	3.7 Paving (2025) - Unmitigated	Off-Road Equipment	2.449461	Diesel	22.45	241
		Paving	0	Diesel	22.45	0
		Worker	0.457831	Gas	17.86	57
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	2.907292			
HV GPU_ New Group Campground	3.9 Architectural Coating (2026) - Unmitigated	Off-Road Equipment	0.242227	Diesel	22.45	24
		Architectural Coatings	0	Diesel	22.45	0
		Worker	0.045783	Gas	17.86	6
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	0.28801			
		Total Annual Emissions	**72.16995**			

HV GPU_ New Group Campground	Diesel	6,553
	Gas	671

Hungry Valley General Plan Update
Construction Energy Consumption (MT for CO2)

Project	Phase	Description	CO_2T	Fuel	Emission Factor ($lb\ CO_2$/gallon) [b]	Gallons
HV GPU_ New RV Campground	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	4.803861	Diesel	22.45	472
		Dust From Material Movement	0	Diesel	22.45	0
		Worker	0.204302	Gas	17.86	25
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	5.008163			
HV GPU_ New RV Campground	3.3 Grading (2025) - Unmitigated	Off-Road Equipment	2.684677	Diesel	22.45	264
		Dust From Material Movement	0	Diesel	22.45	0
		Worker	0.175116	Gas	17.86	22
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	2.859793			
HV GPU_ New RV Campground	3.5 Building Construction (2025) - Unmitigated	Off-Road Equipment	75.04238	Diesel	22.45	7,369
		Worker	6.041494	Gas	17.86	746
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	81.08388			
HV GPU_ New RV Campground	3.7 Paving (2025) - Unmitigated	Off-Road Equipment	3.061826	Diesel	22.45	301
		Paving	0	Diesel	22.45	0
		Worker	0.572289	Gas	17.86	71
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	3.634115			
HV GPU_ New RV Campground	3.9 Architectural Coating (2026) - Unmitigated	Off-Road Equipment	0.302783	Diesel	22.45	30
		Architectural Coatings	0	Diesel	22.45	0
		Worker	0.429217	Gas	17.86	53
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	0.732			
		Total Annual Emissions	**93.31795**			

HV GPU_ New RV Campground	Diesel	8,435
	Gas	916

Project	Phase	Description	CO_2T	Fuel	Emission Factor ($lb\ CO_2$/gallon) [b]	Gallons
HV GPU_ New Skill Track and Kid's Practice Track	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	3.29363	Diesel	22.45	323
		Dust From Material Movement	0	Diesel	22.45	0
		Worker	0	Gas	17.86	0
		Vendor	0.874003	Diesel	22.45	86
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	4.167633			
		Total Annual Emissions	**4.167633**			

HV GPU_ New Skill Track and Kid's Practice Track	Diesel	409
	Gas	0

Project	Phase	Description	CO_2T	Fuel	Emission Factor ($lb\ CO_2$/gallon) [b]	Gallons
HV GPU_ New Staging Area	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	5.844127	Diesel	22.45	574
		Dust From Material Movement	0	Diesel	22.45	0
		Worker	0.437789	Gas	17.86	54
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	6.281916			
		Total Annual Emissions	**6.281916**			

HV GPU_ New Staging Area	Diesel	574
	Gas	54

Project	Phase	Description	CO_2T	Fuel	Emission Factor ($lb\ CO_2$/gallon) [b]	Gallons
HV GPU_ EV Charging Stations	3.1 Site Preparation (2025) - Unmitigated	Off-Road Equipment	7.012952	Diesel	22.45	689
		Dust From Material Movement	0	Diesel	22.45	0
		Worker	0.525347	Gas	17.86	65
		Vendor	0	Diesel	22.45	0
		Hauling	1.760616	Diesel	22.45	173
		Total Annual Emissions	9.298915			
HV GPU_ EV Charging Stations	3.7 Paving (2025) - Unmitigated	Off-Road Equipment	8.590507	Diesel	22.45	844
		Paving	0	Diesel	22.45	0
		Worker	2.34947	Gas	17.86	290
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	10.93998			
HV GPU_ EV Charging Stations	3.9 Architectural Coating (2026) - Unmitigated	Off-Road Equipment	1.392991	Diesel	22.45	137
		Architectural Coatings	0	Diesel	22.45	0
		Worker	2.34947	Gas	17.86	290
		Vendor	0	Diesel	22.45	0
		Hauling	0	Diesel	22.45	0
		Total Annual Emissions	3.742461			
		Total Annual Emissions	**23.98135**			

HV GPU_ EV Charging Stations	Diesel	1,842
	Gas	645

Hungry Valley General Plan Update
Construction Energy Consumption (MT for CO2)

Project	Phase	Description	CO_2T	Fuel	Emission Factor (lb CO_2/gallon) [b]	Gallons
HV GPU_ Paving of Hungry Valley Road	3.1 Linear, Grubbing & Land Clearing (2025) - Unmitigated	Off-Road Equipment	0.444835	Diesel	22.45	44
		Dust From Material Movement	0	Diesel	22.45	0
		Worker	0.350232	Gas	17.86	43
		Vendor	0	Diesel	22.45	0
		Hauling	4.401539	Diesel	22.45	432
		Total Annual Emissions	**5.196606**			
HV GPU_ Paving of Hungry Valley Road	3.3 Linear, Grading & Excavation (2025) - Unmitigated	Off-Road Equipment	20.62475	Diesel	22.45	2,025
		Dust From Material Movement	0	Diesel	22.45	0
		Worker	2.247319	Gas	17.86	277
		Vendor	0.097888	Diesel	22.45	10
		Hauling	15.40539	Diesel	22.45	1,513
		Total Annual Emissions	**38.37534**			
HV GPU_ Paving of Hungry Valley Road	3.5 Linear, Drainage, Utilities, & Sub-Grade (2025) - Unmitigated	Off-Road Equipment	12.91313	Diesel	22.45	1,268
		Dust From Material Movement	0	Diesel	22.45	0
		Worker	1.459298	Gas	17.86	180
		Vendor	0	Diesel	22.45	0
		Hauling	11.00385	Diesel	22.45	1,081
		Total Annual Emissions	**25.37628**			
HV GPU_ Paving of Hungry Valley Road	3.7 Linear, Paving (2025) - Unmitigated	Off-Road Equipment	1.469484	Diesel	22.45	144
		Worker	0.496161	Gas	17.86	61
		Vendor	0	Diesel	22.45	0
		Hauling	4.401539	Diesel	22.45	432
		Total Annual Emissions	**6.367184**			
HV GPU_ Paving of Hungry Valley Road		**Total Annual Emissions**	**75.31541**			

HV GPU_ Paving of Hungry Valley Road	Diesel	6,949
	Gas	562

Project	Phase	Description	CO_2T	Fuel	Emission Factor (lb CO_2/gallon) [b]	Gallons
HV GPU_ Paving of Quail Canyon Road	3.1 Linear, Grubbing & Land Clearing (2025) - Unmitigated	Off-Road Equipment	0.444835	Diesel	22.45	44
		Dust From Material Movement	0	Diesel	22.45	0
		Worker	0.116744	Gas	17.86	14
		Vendor	0	Diesel	22.45	0
		Hauling	1.131824	Diesel	22.45	111
		Total Annual Emissions	**1.693403**			
HV GPU_ Paving of Quail Canyon Road	3.3 Linear, Grading & Excavation (2025) - Unmitigated	Off-Road Equipment	20.62475	Diesel	22.45	2,025
		Dust From Material Movement	0	Diesel	22.45	0
		Worker	1.430112	Gas	17.86	177
		Vendor	0.097888	Diesel	22.45	10
		Hauling	3.961385	Diesel	22.45	389
		Total Annual Emissions	**26.11413**			
HV GPU_ Paving of Quail Canyon Road	3.5 Linear, Drainage, Utilities, & Sub-Grade (2025) - Unmitigated	Off-Road Equipment	12.91313	Diesel	22.45	1,268
		Dust From Material Movement	0	Diesel	22.45	0
		Worker	0.875579	Gas	17.86	108
		Vendor	0	Diesel	22.45	0
		Hauling	2.829561	Diesel	22.45	278
		Total Annual Emissions	**16.61827**			
HV GPU_ Paving of Quail Canyon Road	3.7 Linear, Paving (2025) - Unmitigated	Off-Road Equipment	1.469484	Diesel	22.45	144
		Worker	0.262674	Gas	17.86	32
		Vendor	0	Diesel	22.45	0
		Hauling	1.131824	Diesel	22.45	111
		Total Annual Emissions	**2.863982**			
HV GPU_ Paving of Quail Canyon Road		**Total Annual Emissions**	**47.28979**			

HV GPU_ Paving of Quail Canyon Road	Diesel	4,380
	Gas	331

U.S. Energy Information Administration released September 7, 2023 (https://www.eia.gov/environment/emissions/co2_vol_mass.php)

Maximum Annual Construction-Related Diesel Consumption	**14,028 gallons**
Maximum Annual Construction-Related Gas Consumption	**916 gallons**

Total Construction-Related Diesel Consumption	**56,793 gallons**
Total Construction-Gas Consumption	**4,438 gallons**

Hungry Valley General Plan Update
Existing Energy Consumption Summary

Energy Demand by Land Use (CalEEMod output data)

Land Use	Electricity Demand (kWh/year)	Natural Gas Demand (kBTU/year)
Government Office Building	48,115	68,435
General Office Building	85,537	121,663
Single Family Housing	6,895	38,335
General Office Building	21,384	30,416
Government Office Building	39,205	55,762
Single Family Housing	6,895	38,335
Total	**208,031**	**352,946**

Notes: The estimated energy use for the existing structures was calculated using CalEEMod, which incorporates Title 24 standards. However, actual energy efficiency is dependent on the age/energy code the structures were built. Additionally, CalEEMod estimates energy use based on typical commercial or government buildings, which generally have higher energy demands for heating and cooling, electricity for office equipment, and water usage compared to the actual existing facilities. As a result, the energy demand estimate for the existing structures is based on these general assumptions and is intended to be an approximation. This analysis also assumes that energy demand estimates would incorporate existing miscellaneous electricity usage at the campgrounds.

Mobile Sources	Electricity (kWh/year)	Gasoline (gallons)	Diesel (gallons)
OHVs	0	37,451	0
Visitor Vehicles	115,043	268,414	1,436
Total	**115,043**	**305,865**	**1,436**

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: County
Region: Kern, Ventura, Los Angeles
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/year for CVMT and EVMT, trips/year for Trips, kWh/year for Energy Consumption, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Energy Consumption	Fuel Consumption	Kwh/mile	% VMT	Project Annual VMT	Project Annual Fuel Consumption (gallons)	Project Annual Electricity Consumption
Kern	2023	LDA	Aggregate	Aggregate	Gasoline	334823.3561	4478781814	4478781814	0	539659928.6	0	155051.0828		4.16%	289,460.84	10020.85342	0
Ventura	2023	LDA	Aggregate	Aggregate	Gasoline	241302.6373	3315455758	3315455758	0	387371567.5	0	111905.2164		3.08%	214,275.81	7232.363363	0
Los Angeles	2023	LDA	Aggregate	Aggregate	Gasoline	3441156.829	47564394973	47564394973	0	5555162834	0	1673512.193		44.13%	3,074,056.77	108158.0347	0
Los Angeles	2023	LDA	Aggregate	Aggregate	Diesel	9775.319042	101889869.6	101889869.6	0	13975474.14	0	2560.710331		0.09%	6,585.08	165.4970893	0
Kern	2023	LDA	Aggregate	Aggregate	Diesel	1107.638417	12639976.8	12639976.8	0	1663831.162	0	289.6347366		0.01%	816.91	18.71890985	0
Ventura	2023	LDA	Aggregate	Aggregate	Diesel	1172.07451	12677778.28	12677778.28	0	1723929.611	0	300.6461996		0.01%	819.36	19.43057374	0
Kern	2023	LDA	Aggregate	Aggregate	Electricity	11798.59209	190339004.8	0	190339004.8	20643451.26	73486565.39	0	0.386082534	0.18%	12,301.49	0	4749.39
Ventura	2023	LDA	Aggregate	Aggregate	Electricity	10265.10816	172234772.9	0	172234772.9	17738939.36	66496837.64	0	0.386082534	0.16%	11,131.42	0	4297.649
Los Angeles	2023	LDA	Aggregate	Aggregate	Electricity	151623.2415	2450472127	0	2450472127	263814151.8	946084489.4	0	0.386082534	2.27%	158,372.46	0	61144.84
Los Angeles	2023	LDA	Aggregate	Aggregate	Plug-in Hyb	86565.9777	1416410641	714266316.3	702144325	124208760.3	212068513.4	26068.68884	0.302029805	1.31%	91,541.72	1684.802873	27648.33
Kern	2023	LDA	Aggregate	Aggregate	Plug-in Hyb	8122.509214	129820722.7	65787005.25	64033717.44	11654541.73	19340091.18	2144.849368	0.302029805	0.12%	8,390.23	138.6202582	2534.1
Ventura	2023	LDA	Aggregate	Aggregate	Plug-in Hyb	5784.557154	97742682.03	49481542.73	48261139.31	8299942.91	14576302.48	1611.129148	0.302029805	0.09%	6,317.05	104.1262579	1907.937
Kern	2023	LDT1	Aggregate	Aggregate	Gasoline	34896.80052	395055186.5	395055186.5	0	52143182.32	0	16457.51122		0.37%	25,532.17	1063.638542	0
Ventura	2023	LDT1	Aggregate	Aggregate	Gasoline	25219.49442	299138275.9	299138275.9	0	37835556.41	0	12200.91671		0.28%	19,333.12	788.537531	0
Los Angeles	2023	LDT1	Aggregate	Aggregate	Gasoline	323318.13	4089398334	4089398334	0	493723563	0	172178.6121		3.79%	264,295.23	11127.79481	0
Ventura	2023	LDT1	Aggregate	Aggregate	Diesel	19.15423206	94894.74888	94894.74888	0	19392.25172	0	3.947780686		0.00%	6.13	0.255142569	0
Los Angeles	2023	LDT1	Aggregate	Aggregate	Diesel	135.0073317	951589.0639	951589.0639	0	136376.981	0	41.3313576		0.00%	61.50	2.671219503	0
Kern	2023	LDT1	Aggregate	Aggregate	Diesel	16.9081853	81269.59774	81269.59774	0	17180.17701	0	3.343555206		0.00%	5.25	0.216091858	0
Kern	2023	LDT1	Aggregate	Aggregate	Electricity	32.71166248	486822.5893	0	486822.5893	55528.63245	187953.6991	0	0.386082534	0.00%	31.46	0	12.14733
Ventura	2023	LDT1	Aggregate	Aggregate	Electricity	41.81146604	556106.5976	0	556106.5976	66795.24051	214703.0446	0	0.386082534	0.00%	35.94	0	13.87612
Los Angeles	2023	LDT1	Aggregate	Aggregate	Electricity	742.9947618	9465523.84	0	9465523.84	1189143.418	3654473.434	0	0.386082534	0.01%	611.75	0	236.1863
Ventura	2023	LDT1	Aggregate	Aggregate	Plug-in Hyb	17.21982195	324439.1075	149348.408	175090.6995	24707.77543	52882.60977	4.876371129	0.302029805	0.00%	20.97	0.315156782	6.33305
Los Angeles	2023	LDT1	Aggregate	Aggregate	Plug-in Hyb	309.2990501	5567856.511	2561435.901	3006420.611	443796.1955	908028.6301	93.89651694	0.302029805	0.01%	359.85	6.068472508	108.6845
Kern	2023	LDT1	Aggregate	Aggregate	Plug-in Hyb	24.84841002	451700.7486	208626.5761	243074.1724	35653.61687	73415.64484	6.825488419	0.302029805	0.00%	29.19	0.441127	8.817196
Los Angeles	2023	LDT2	Aggregate	Aggregate	Gasoline	1558892.967	22358214203	22358214203	0	2543988797	0	968081.9801		20.74%	1,444,997.24	62566.52614	0
Kern	2023	LDT2	Aggregate	Aggregate	Gasoline	161265.7318	2206132924	2206132924	0	260959870.9	0	94093.52572		2.05%	142,580.98	6081.205061	0
Ventura	2023	LDT2	Aggregate	Aggregate	Gasoline	108720.9834	1540126607	1540126607	0	175558113.6	0	64683.46401		1.43%	99,537.41	4180.451372	0
Kern	2023	LDT2	Aggregate	Aggregate	Diesel	469.3554971	6951760.206	6951760.206	0	780275.9941	0	210.232495		0.01%	449.29	13.5871932	0
Ventura	2023	LDT2	Aggregate	Aggregate	Diesel	496.747652	7459922.188	7459922.188	0	821518.6554	0	238.4736432		0.01%	482.13	15.41240075	0
Los Angeles	2023	LDT2	Aggregate	Aggregate	Diesel	4736.11341	71985192.78	71985192.78	0	7947394.731	0	2340.123416		0.07%	4,652.36	151.2406964	0
Los Angeles	2023	LDT2	Aggregate	Aggregate	Electricity	7409.408484	95612799.2	0	95612799.2	13203232.32	36914431.85	0	0.386082534	0.09%	6,179.39	0	2385.756
Kern	2023	LDT2	Aggregate	Aggregate	Electricity	600.492299	7600355.608	0	7600355.608	1070155.43	2934364.556	0	0.386082534	0.01%	491.21	0	189.6461
Ventura	2023	LDT2	Aggregate	Aggregate	Electricity	410.8955123	5560289.762	0	5560289.762	732450.0342	2146730.764	0	0.386082534	0.01%	359.36	0	138.7419
Kern	2023	LDT2	Aggregate	Aggregate	Plug-in Hyb	988.8711911	17303261.95	8325914.426	8977347.521	1418876.884	2714265.519	273.2032425	0.302029805	0.02%	1,118.30	17.65695278	337.7596
Ventura	2023	LDT2	Aggregate	Aggregate	Plug-in Hyb	637.4146715	11597354.63	5549884.782	6047469.843	914591.2544	1826516.136	181.7944007	0.302029805	0.01%	749.53	11.74925715	226.3803
Los Angeles	2023	LDT2	Aggregate	Aggregate	Plug-in Hyb	11315.60501	197120780.1	94169643.95	102951136.1	16236139.26	31094311.55	3461.706262	0.302029805	0.18%	12,739.79	223.7278864	3847.797
Kern	2023	MCY	Aggregate	Aggregate	Gasoline	19370.43998	37726981.17	37726981.17	0	13443085.34	0	916.8402729		0.04%	2,438.27	59.25480701	0
Ventura	2023	MCY	Aggregate	Aggregate	Gasoline	14904.59391	30611179.15	30611179.15	0	10343788.17	0	748.5305566		0.03%	1,978.38	48.37705649	0
Los Angeles	2023	MCY	Aggregate	Aggregate	Gasoline	147383.6235	335289879.8	335289879.8	0	102284234.7	0	8185.583293		0.31%	21,669.57	529.0290715	0
Ventura	2023	MDV	Aggregate	Aggregate	Gasoline	80366.89043	1015329809	1015329809	0	127090895.3	0	52601.43489		0.94%	65,620.12	3399.597471	0
Los Angeles	2023	MDV	Aggregate	Aggregate	Gasoline	951501.414	12587333789	12587333789	0	1527702170	0	668938.3558		11.68%	813,511.42	43233.06289	0
Kern	2023	MDV	Aggregate	Aggregate	Gasoline	156027.1545	1942112452	1942112452	0	246203629.7	0	102968.6391		1.80%	125,517.50	6654.798027	0
Kern	2023	MDV	Aggregate	Aggregate	Diesel	2446.552036	32548668.29	32548668.29	0	3958564.111	0	1348.099503		0.03%	2,103.60	87.12681834	0
Ventura	2023	MDV	Aggregate	Aggregate	Diesel	1439.662089	19299837.29	19299837.29	0	2333116.772	0	823.6828698		0.02%	1,247.34	53.23410296	0
Los Angeles	2023	MDV	Aggregate	Aggregate	Diesel	10934.58248	150551126.7	150551126.7	0	17955771.16	0	6515.308882		0.14%	9,730.02	421.0802927	0
Ventura	2023	MDV	Aggregate	Aggregate	Electricity	440.6328163	5967379.17	0	5967379.17	785670.3451	2303900.874	0	0.386082534	0.01%	385.67	0	148.8997
Los Angeles	2023	MDV	Aggregate	Aggregate	Electricity	7971.421029	102939855.2	0	102939855.2	14207923.1	39743280.21	0	0.386082534	0.10%	6,652.94	0	2568.583
Kern	2023	MDV	Aggregate	Aggregate	Electricity	660.2308014	8340814.751	0	8340814.751	1175878.071	3220242.899	0	0.386082534	0.01%	539.06	0	208.1223
Kern	2023	MDV	Aggregate	Aggregate	Plug-in Hyb	760.6070248	12442694.22	6291169.363	6151524.86	1091353.187	1857943.853	209.0190288	0.302029805	0.01%	804.16	13.50876764	242.8813
Ventura	2023	MDV	Aggregate	Aggregate	Plug-in Hyb	425.5174868	7070072.947	3527199.116	3542873.831	610551.6384	1070053.491	117.2267316	0.302029805	0.01%	456.93	7.576289529	138.0078
Los Angeles	2023	MDV	Aggregate	Aggregate	Plug-in Hyb	6329.584869	99491942.06	48929185.7	50562756.35	9081973.202	15271459.43	1823.377261	0.302029805	0.09%	6,430.10	117.8437193	1942.082
Kern	2023	MH	Aggregate	Aggregate	Gasoline	2999.978044	8425950.911	8425950.911	0	98138.52176	0	1910.93386		0.01%	544.56	123.5024468	0
Ventura	2023	MH	Aggregate	Aggregate	Gasoline	3232.650802	9615456.658	9615456.658	0	105749.9643	0	1943.366475		0.01%	621.44	125.5985463	0
Los Angeles	2023	MH	Aggregate	Aggregate	Gasoline	16465.34174	52069008.9	52069008.9	0	538632.0416	0	10753.17262		0.05%	3,365.19	694.9707457	0
Los Angeles	2023	MH	Aggregate	Aggregate	Diesel	5471.272509	18575351.26	18575351.26	0	178910.611	0	1861.869904		0.02%	1,200.51	120.3314744	0
Kern	2023	MH	Aggregate	Aggregate	Diesel	1312.345445	3710604.428	3710604.428	0	42913.69605	0	393.6677216		0.00%	239.81	25.44249588	0
Ventura	2023	MH	Aggregate	Aggregate	Diesel	1162.117488	3726508.686	3726508.686	0	38001.24187	0	362.1986479		0.00%	240.84	23.40866955	0
Los Angeles	2023	Motor Coach	Aggregate	Aggregate	Diesel	601.3027629	25015653.85	25015653.85	0	4034837.747	0	4546.92582		0.02%	1,616.75	293.8649402	0
Kern	2023	Motor Coach	Aggregate	Aggregate	Diesel	39.98889866	1663669.388	1663669.388	0	268331.9082	0	303.8167296		0.00%	107.52	19.6354831	0
Ventura	2023	Motor Coach	Aggregate	Aggregate	Diesel	10.42910584	433900.457	433900.457	0	69980.96887	0	77.63150759		0.00%	28.04	5.01727524	0

Onroad Annual VMT: 6,965,778

Project Mobile Energy		
Gallons/year, Diesel	**1,436**	**Diesel**
Gallons/year, Gasoline	266,088	Gasoline
KWh/year, Electricity	76,094	Electricity
Gallons/year, Gasoline, Plug-in Hybrid	2,326	Plug-in Hybrid
KWh/year, Electricity, Plug-in Hybrid	38,949	Plug-in Hybrid
KWh/year, EV and Hybrid	**115,043**	**EV + Hybrid**
Gallons/year, Gasoline + Hybrid	**268,414**	**Gasoline + Hybrid**
Gallons/year, Natural Gas	-	Natural Gas

OHV Type	CO2 MT/yr	Fuel	Emission Factor (lb CO_2/gallon) [a]	Gallons
OHMC	94.57	Gas	17.86	11,673
ATV	142.44	Gas	17.86	17,583
4X4	66.39	Gas	17.86	8195

a) U.S. Energy Information Administration released September 7, 2023 (https://www.eia.gov/environment/emissions/co2_vol_mass.php)

CalEEMod Inputs and Assumptions

Hungry Valley General Plan Update Development Assumptions

Use/Facility	Estimated Size (square feet, # of campsites, etc)	General Area of Disturbance	Other amenities or improvements?	CalEEMod Inputs: CalEEMod Land Use Designation	CalEEMod size/unit	Graded Area (SF/Acres)	Material Infill/Export (Tons/CY)	Structure / Building (SF)	Construction Duration	Operational Use Estimated?	Notes/Assumptions		
Operational support offices near Gorman	10,000 sf	100,000	Access already available from Gorman School Road. Improvements would be made behind Ranger Station for parking as part of a separate project.	Commercial -> Government Office Building	10	100,000 sf	3704	10,000	12 months	CalEEMod Defaults	Assumes nothing exported; material excavation assumed general area of disturbance x 1 ft. depth Construction duration based on Carnegie duration for a 900 sf office. Assumes nothing exported; material excavation assumed general area of		
Visitor center	1,000 sf (assumed slight increase beyond size of existing visitor center)	2,000 sf	Access road to this area; assumed captured within total area of disturbance	Commercial -> General Office Building	1	2,000 sf	74	2,000	12 months	CalEEMod Defaults			
New group campground near ATV campground	Max 50 vehicles, 161,000 sf	161,000 sf	Access road to this area; assumed captured within total area of disturbance. Vault toilets, shade ramada, fire ring.	Recreational -> User Defined Recreational Parking -> Other Non-Asphalt Surfaces Parking -> Other Asphalt Surfaces	3.7 acres total - assume: 0.12 acres non-asphalt 0.53 acres asphalt Rest (2.95 acres) rec	3.69605142	789	N/A	3 months	CalEEMod Defaults	Assumes 1,000 tons of road base from Carnegie for similar size group campground development + CY of excavation for restrooms, as indicated below. Tons converted to cubic yards assuming 1.4 ton road base = 1 CY		
New RV campground	Max 20 vehicles	200,000 sf	Access road to area; capture within total area of disturbance. Utility hook-ups along Frazier Mountain Park Road for RVs. Restrooms.	Recreational -> User Defined Recreational Parking -> Other Non-Asphalt Surfaces Parking -> Other Asphalt Surfaces	4.6 acres total - assume: 0.14 acres non-asphalt 0.66 acres asphalt Rest (3.8 acres) rec	4.59136823	888	N/A	4 months	CalEEMod Defaults	Scaled up 1,000 tons of road base from Carnegie for 3.7 acre group campground development		
New skill track	3-5 acres	No excavation or grading needed. Just placement of obstacles on-grade.	N/A	Recreational -> User Defined Recreational	5 acres	5	None	N/A	3 weeks	CalEEMod Defaults	Construction duration based on Carnegie EIR for 4x4 practice area improvements (1 month for 9.27 acres), scaled down for project size		
New kid's practice track	1 acre	No excavation or grading needed. Just placement of obstacles on-grade.	N/A	Recreational -> User Defined Recreational	1 acre	1	None	N/A	2 weeks	CalEEMod Defaults	Construction duration based on Carnegie EIR for 4x4 practice area improvements (1 month for 9.27 acres), scaled down for project size		
Condor Mesa Community Event Area	Assumed to be captured in disturbance area for RV campground.	Assumed to overlap w/ disturbance area for RV campground.	Shade ramadas and picnic tables anticipated.	*assumed to be included in construction activities for the RV Campground*									
New staging area	0.75 acre (from Clay Pit data sheet)	0.75 acre	N/A	Recreational -> User Defined Recreational	0.75 acre	1	1210	N/A	3 weeks	CalEEMod Defaults	Assumes nothing exported; material excavation assumed general area of disturbance x 1 ft. depth Construction duration scaled based on group campground above		
New trails	Trails already exist. No new development or disturbance proposed.	Trails already exist. No new development or disturbance proposed.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
Shade ramadas and picnic tables	40 total (includes new RV campground, group campground, and Condor Mesa Community Event Area)	Included in disturbance area above for new campgrounds	N/A	*assumed to be included in construction activities for the new campgrounds*									
Restrooms (vault toilets)	5 vault toilets, 50 sf per toilet = 250 sf	75 CY of excavated material, 0.1 acre graded area. Included in disturbance area above for new campgrounds, sans excavation.	N/A	*assumed to be included in construction activities for the new campgrounds (additional excavated material included above)*									
EV charging stations	~3,000 square feet each (enough for about 10-12 charging slots), 4 proposed in total across the park = 12,000 sf.	12,000 square feet in total	Solar-powered; no utility connections	Parking -> Other Asphalt Surfaces	12000 sq ft	12,000 sf	444	N/A	3 months	No utility connections; no energy usage (solar powered)	Assumes nothing exported; material excavation assumed general area of disturbance x 1 ft. depth Construction duration similar to Carnegie staff and public EV charging stations		
Paving of Hungry Valley Road	12.5 acres of paving (area of Hungry Valley Road calculated in GIS)	Generally within the confines of existing Hungry Valley Road	Drainage improvements along road to convey and/or treat additional runoff	Parking -> Other Asphalt Surfaces	12.5 acres (5.12 mi)	N/A	8403	N/A	3 weeks	N/A	Assumes 5" of aggregate base imported	70.02315	trucks/day
Paving of Quail Canyon Road	3.2 acres of paving (area of Quail Canyon Road)	Generally within the confines of existing road	Drainage improvements along road to convey and/or treat additional runoff	Parking -> Other Asphalt Surfaces	3.2 acres (1.36 mi)	N/A	2151	N/A	3 weeks	N/A	Assumes 5" of aggregate base imported	17.92593	trucks/day

Notes: Estimates based on available disturbed area for development and/or size of similar facilities in the park (e.g., Honey Valley Group Campground provided the basis for size estimate of new group campground)

Source: Hungry Valley EIR Data Needs_rev

Table 1. Hungry Valley General Plan Update - Visitation Increases due to proposed facilities (peak day)

Note: This would represent the net change from existing max visitation logged between 2021-2022 (closest to EIR baseline at NOP release).

Use/Facility	Estimated Size or Use (# of vehicles)	# of Visitors (peak day)[2]	# of OHVs[3]	Vehicle Trips[4]
RV Campground	20	50	30	40
New group campground[1]	50	125	75	100
Condor Mesa Community Event Area/new access from Frazier Mtn Park Rd	20	50	30	40
New skill track/practice track/trails	10	25	15	20
SUM:	**100**	**250**	**150**	**200**

Notes:

1) New group campground assumes same size as Honey Valley (Max 50 vehicles)

2) Assumes 2.5 visitors per vehicle, which is consistent w/ formal State Parks attendance reports.

3) Assumes 1.5 OHVs per vehicle (from Clay Pit SVRA data assumptions)

4) Daily vehicle trips assume one trip to and from the site (e.g., double the # of vehicles observed on-site)

Table 2. Hungry Valley General Plan Update - Visitation increases compared to existing attendance

	# of Vehicles (peak)	# of Visitors (peak)[1]	# of OHVs[2]	Vehicle Trips (peak)[3]	# of Annual Visitors (average)	Annual Vehicles	Annual OHVs	Daily Vehicles	Daily OHVs
Existing Hungry Valley SVRA	868	2170	1302	1736	137,918	55,167	82,751	151	227
Proposed w/ GP Update	968	2420	1452	1936	151,710	60,684	91,026	166	249
Net change:	*100*	*250*	*150*	*200*	*13,792*	*5,517*	*8,275*	*15*	*23*

Notes:

1) Assumes 2.5 visitors per vehicle, which is consistent w/ formal State Parks attendance reports.

2) Assumes 1.5 OHVs per vehicle (from Clay Pit SVRA data assumptions)

3) Daily vehicle trips assume one trip to and from the site (e.g., double the # of vehicles observed on-site)

Table 3. Hungry Valley General Plan Update - Average Visitors, Vehicle Trips, and VMT

	# of Vehicles (peak)	# of Visitors (peak)	# of Annual Visitors (from 2021)	Daily Vehicle Trips (average)[1,2,3]	Daily Vehicle Miles Traveled[4]	Daily OHV Miles Traveled[5]
Existing Hungry Valley SVRA	868	2170	137,918	302.2860274	19084.32453	5101.076712
Proposed w/ GP Update	968	2420	151709.8	332.5146301	20992.75698	5611.184384
Net change:	*100*	*250*	*13,792*	*30.22860274*	*1908.432453*	*510.1076712*

Notes:

1) Daily vehicle trips assume one trip to and from the site (e.g., double the # of vehicles observed on-site)

2) Average daily visitors and vehicle trips are based on annualized amount from 2021

3) Increase w/ project assumes a 10% overall increase in daily attendance (roughly the same increase as peak visitation calculated above)

4) Passenger VMT assumes even split of travel distance between three major population centers (City of LA -67.8 miles away, City of Ventura - 76.7 miles away, Bakersfield - 44.9 miles away)

5) Assume an average of 1.5 hrs of OHV riding at an average of 15 mph per OHV (i.e. 22.5 miles per OHV per day)

Hungry Valley General Plan Update Development - Existing Infrastructure Assumptions

		CalEEMod Inputs
Use/ Facility	Estimated Size (square feet, # of campsites, etc)	**CalEEMod Land Use Designation**
Park Office Building	2700 square feet	Commercial -> Government Office Building
Misc Office Buildings in Park Office Complex	4800 square feet	Commercial -> General Office Building
Hungry Valley Dorm	2500 square feet	Residential ->Single Family Housing
Gorman House	1200 square feet	Commercial -> General Office Building
Ranger Station	2200 square feet	Commercial -> Government Office Building
Employee Housing	3000 square feet	Residential ->Single Family Housing

CalEEMod Outputs - Unmitigated

HV GPU: Operational Support Offices Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

3.3. Grading (2025) - Unmitigated

3.5. Building Construction (2025) - Unmitigated

3.7. Paving (2025) - Unmitigated

3.9. Architectural Coating (2025) - Unmitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	HV GPU: Operational Support Offices
Construction Start Date	1/1/2025
Operational Year	2050
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	6.30
Precipitation (days)	20.8
Location	Hungry Valley, California 93225, USA
County	Ventura
City	Unincorporated
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3400
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Government Office Building	10.0	1000sqft	0.23	10,000	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.64	0.54	5.22	7.16	0.01	0.22	0.06	0.27	0.20	0.01	0.21	—	1,398	1,398	0.06	0.02	0.32	1,406
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	4.77	10.1	10.5	0.02	0.46	2.19	2.65	0.43	1.03	1.45	—	1,810	1,810	0.07	0.02	0.02	1,817
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.57	0.50	3.53	4.71	0.01	0.15	0.13	0.28	0.14	0.05	0.19	—	898	898	0.04	0.01	0.10	902
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.10	0.09	0.64	0.86	< 0.005	0.03	0.02	0.05	0.03	0.01	0.03	—	149	149	0.01	< 0.005	0.02	149

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.64	0.54	5.22	7.16	0.01	0.22	0.06	0.27	0.20	0.01	0.21	—	1,398	1,398	0.06	0.02	0.32	1,406

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.79	4.77	10.1	10.5	0.02	0.46	2.19	2.65	0.43	1.03	1.45	—	1,810	1,810	0.07	0.02	0.02	1,817
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.57	0.50	3.53	4.71	0.01	0.15	0.13	0.28	0.14	0.05	0.19	—	898	898	0.04	0.01	0.10	902
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.10	0.09	0.64	0.86	< 0.005	0.03	0.02	0.05	0.03	0.01	0.03	—	149	149	0.01	< 0.005	0.02	149

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.31	0.30	0.07	0.49	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	8.82	223	232	0.92	0.01	0.02	258
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.23	0.23	0.07	0.06	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	8.82	221	230	0.92	0.01	0.02	256
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.27	0.27	0.07	0.27	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	8.82	222	231	0.92	0.01	0.02	257
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.05	0.05	0.01	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	1.46	36.7	38.2	0.15	< 0.005	< 0.005	42.6

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.30	0.30	< 0.005	0.43	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.79	1.79	< 0.005	< 0.005	—	1.79
Energy	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	211	211	0.02	< 0.005	—	213
Water	—	—	—	—	—	—	—	—	—	—	—	3.81	9.66	13.5	0.39	0.01	—	26.1
Waste	—	—	—	—	—	—	—	—	—	—	—	5.01	0.00	5.01	0.50	0.00	—	17.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	0.31	0.30	0.07	0.49	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	8.82	223	232	0.92	0.01	0.02	258
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.23	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	211	211	0.02	< 0.005	—	213
Water	—	—	—	—	—	—	—	—	—	—	—	3.81	9.66	13.5	0.39	0.01	—	26.1
Waste	—	—	—	—	—	—	—	—	—	—	—	5.01	0.00	5.01	0.50	0.00	—	17.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	0.23	0.23	0.07	0.06	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	8.82	221	230	0.92	0.01	0.02	256
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.26	0.26	< 0.005	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.88	0.88	< 0.005	< 0.005	—	0.89
Energy	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	211	211	0.02	< 0.005	—	213
Water	—	—	—	—	—	—	—	—	—	—	—	3.81	9.66	13.5	0.39	0.01	—	26.1
Waste	—	—	—	—	—	—	—	—	—	—	—	5.01	0.00	5.01	0.50	0.00	—	17.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	0.27	0.27	0.07	0.27	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	8.82	222	231	0.92	0.01	0.02	257

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.05	0.05	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.15	0.15	< 0.005	< 0.005	—	0.15
Energy	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	35.0	35.0	< 0.005	< 0.005	—	35.2
Water	—	—	—	—	—	—	—	—	—	—	—	0.63	1.60	2.23	0.06	< 0.005	—	4.32
Waste	—	—	—	—	—	—	—	—	—	—	—	0.83	0.00	0.83	0.08	0.00	—	2.90
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.05	0.05	0.01	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	1.46	36.7	38.2	0.15	< 0.005	< 0.005	42.6

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.16	5.57	0.01	0.21	—	0.21	0.20	—	0.20	—	859	859	0.03	0.01	—	862
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	28.2	28.2	< 0.005	< 0.005	—	28.3
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.68	4.68	< 0.005	< 0.005	—	4.69
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.29	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	63.9	63.9	< 0.005	< 0.005	0.01	64.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.12	2.12	< 0.005	< 0.005	< 0.005	2.15

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.36
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	1.09	10.1	10.0	0.02	0.46	—	0.46	0.43	—	0.43	—	1,714	1,714	0.07	0.01	—	1,720
Dust From Material Movement	—	—	—	—	—	—	2.09	2.09	—	1.00	1.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.39	0.39	< 0.005	0.02	—	0.02	0.02	—	0.02	—	65.7	65.7	< 0.005	< 0.005	—	66.0

Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.9	10.9	< 0.005	< 0.005	—	10.9
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.43	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.8	95.8	< 0.005	< 0.005	0.01	97.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.70	3.70	< 0.005	< 0.005	0.01	3.76
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	0.62

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.29	2.82	3.80	0.01	0.12	—	0.12	0.11	—	0.11	—	715	715	0.03	0.01	—	717
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.06	0.05	0.51	0.69	< 0.005	0.02	—	0.02	0.02	—	0.02	—	118	118	< 0.005	< 0.005	—	119
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.20	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	42.8	42.8	< 0.005	< 0.005	0.17	43.5
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.5	50.5	< 0.005	0.01	0.14	53.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.02	0.18	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	40.9	40.9	< 0.005	< 0.005	< 0.005	41.4
Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.5	50.5	< 0.005	0.01	< 0.005	52.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.6	22.6	< 0.005	< 0.005	0.04	22.9
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	27.7	27.7	< 0.005	< 0.005	0.03	29.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.74	3.74	< 0.005	< 0.005	0.01	3.79
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.58	4.58	< 0.005	< 0.005	0.01	4.80
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	0.51	4.37	5.31	0.01	0.19	—	0.19	0.18	—	0.18	—	823	823	0.03	0.01	—	826
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.12	0.15	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	22.6	22.6	< 0.005	< 0.005	—	22.6
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.74	3.74	< 0.005	< 0.005	—	3.75
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	1.00	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	224	224	0.01	0.01	0.02	226
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.17	6.17	< 0.005	< 0.005	0.01	6.26
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.02	1.02	< 0.005	< 0.005	< 0.005	1.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134

Architectural Coating	4.64	4.64	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.66	3.66	< 0.005	< 0.005	—	3.67
Architectural Coatings	0.13	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.61	0.61	< 0.005	< 0.005	—	0.61
Architectural Coatings	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.18	8.18	< 0.005	< 0.005	< 0.005	8.28
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.23
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Government Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	126	126	0.02	< 0.005	—	127
Total	—	—	—	—	—	—	—	—	—	—	—	—	126	126	0.02	< 0.005	—	127
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	126	126	0.02	< 0.005	—	127
Total	—	—	—	—	—	—	—	—	—	—	—	—	126	126	0.02	< 0.005	—	127
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Govern Office Building	—	—	—	—	—	—	—	—	—	—	—	—	20.9	20.9	< 0.005	< 0.005	—	21.1
Total	—	—	—	—	—	—	—	—	—	—	—	—	20.9	20.9	< 0.005	< 0.005	—	21.1

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	85.1	85.1	0.01	< 0.005	—	85.3
Total	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	85.1	85.1	0.01	< 0.005	—	85.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	85.1	85.1	0.01	< 0.005	—	85.3
Total	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	85.1	85.1	0.01	< 0.005	—	85.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.1	14.1	< 0.005	< 0.005	—	14.1
Total	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.1	14.1	< 0.005	< 0.005	—	14.1

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.21	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.08	0.07	< 0.005	0.43	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.79	1.79	< 0.005	< 0.005	—	1.79
Total	0.30	0.30	< 0.005	0.43	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.79	1.79	< 0.005	< 0.005	—	1.79
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.21	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.23	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.04	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.15	0.15	< 0.005	< 0.005	—	0.15
Total	0.05	0.05	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.15	0.15	< 0.005	< 0.005	—	0.15

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	3.81	9.66	13.5	0.39	0.01	—	26.1
Total	—	—	—	—	—	—	—	—	—	—	—	3.81	9.66	13.5	0.39	0.01	—	26.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	3.81	9.66	13.5	0.39	0.01	—	26.1
Total	—	—	—	—	—	—	—	—	—	—	—	3.81	9.66	13.5	0.39	0.01	—	26.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	0.63	1.60	2.23	0.06	< 0.005	—	4.32

Total	—	—	—	—	—	—	—	—	—	—	—	0.63	1.60	2.23	0.06	< 0.005	—	4.32

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	5.01	0.00	5.01	0.50	0.00	—	17.5
Total	—	—	—	—	—	—	—	—	—	—	—	5.01	0.00	5.01	0.50	0.00	—	17.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	5.01	0.00	5.01	0.50	0.00	—	17.5
Total	—	—	—	—	—	—	—	—	—	—	—	5.01	0.00	5.01	0.50	0.00	—	17.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	0.83	0.00	0.83	0.08	0.00	—	2.90
Total	—	—	—	—	—	—	—	—	—	—	—	0.83	0.00	0.83	0.08	0.00	—	2.90

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2025	1/16/2025	5.00	12.0	—
Grading	Grading	1/17/2025	2/5/2025	5.00	14.0	—
Building Construction	Building Construction	2/6/2025	11/12/2025	5.00	200	—

Paving	Paving	11/13/2025	11/26/2025	5.00	10.0	—
Architectural Coating	Architectural Coating	11/27/2025	12/10/2025	5.00	10.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix

Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	7.50	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	3.20	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	1.64	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.64	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	15,000	5,000	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	6.00	0.00	—
Grading	0.00	3,704	10.5	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Government Office Building	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O

2025	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Government Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	15,000	5,000	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Government Office Building	176,679	261	0.0330	0.0040	265,510

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Government Office Building	1,986,597	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Government Office Building	9.30	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Government Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Government Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	31.4	annual days of extreme heat
Extreme Precipitation	6.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	32.7	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	63.7

AQ-PM	4.44
AQ-DPM	0.06
Drinking Water	76.4
Lead Risk Housing	27.0
Pesticides	44.0
Toxic Releases	8.61
Traffic	0.09
Effect Indicators	—
CleanUp Sites	81.9
Groundwater	53.5
Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	94.6
Solid Waste	72.4
Sensitive Population	—
Asthma	8.62
Cardio-vascular	2.80
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	26.9
Housing	54.6
Linguistic	—
Poverty	28.2
Unemployment	99.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—

Above Poverty	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0

Asthma ER Admissions	96.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	0.0
Cognitively Disabled	80.8
Physically Disabled	49.3
Heart Attack ER Admissions	95.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	38.3
SLR Inundation Area	0.0
Children	99.4
Elderly	20.2
English Speaking	0.0
Foreign-born	0.0

Outdoor Workers	4.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	99.8
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	25.0
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	Assumes one project under the GPU constructed per year.
Land Use	To represent the operational support offices
Construction: Construction Phases	Default construction schedule extended to assume 12 month construction duration.
Construction: Trips and VMT	Assumes no export of material; default for vendor and worker trips.
Operations: Vehicle Data	Mobile source emissions estimated separately.

HV GPU: Visitor Center Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

3.3. Grading (2025) - Unmitigated

3.5. Building Construction (2025) - Unmitigated

3.7. Paving (2025) - Unmitigated

3.9. Architectural Coating (2025) - Unmitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	HV GPU: Visitor Center
Construction Start Date	1/1/2025
Operational Year	2050
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	6.30
Precipitation (days)	20.8
Location	Hungry Valley, California 93225, USA
County	Ventura
City	Unincorporated
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3400
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Office Building	1.00	1000sqft	0.02	1,000	2,000	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.63	0.53	5.16	7.07	0.01	0.22	0.03	0.25	0.20	0.01	0.21	—	1,337	1,337	0.05	0.01	0.12	1,342
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.91	1.61	14.3	16.3	0.02	0.68	2.44	3.12	0.62	1.06	1.68	—	2,733	2,733	0.11	0.03	0.02	2,743
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.45	0.38	3.50	4.67	0.01	0.15	0.11	0.26	0.14	0.05	0.18	—	865	865	0.04	0.01	0.05	868
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.08	0.07	0.64	0.85	< 0.005	0.03	0.02	0.05	0.03	0.01	0.03	—	143	143	0.01	< 0.005	0.01	144

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.63	0.53	5.16	7.07	0.01	0.22	0.03	0.25	0.20	0.01	0.21	—	1,337	1,337	0.05	0.01	0.12	1,342

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.91	1.61	14.3	16.3	0.02	0.68	2.44	3.12	0.62	1.06	1.68	—	2,733	2,733	0.11	0.03	0.02	2,743
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.45	0.38	3.50	4.67	0.01	0.15	0.11	0.26	0.14	0.05	0.18	—	865	865	0.04	0.01	0.05	868
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.08	0.07	0.64	0.85	< 0.005	0.03	0.02	0.05	0.03	0.01	0.03	—	143	143	0.01	< 0.005	0.01	144

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.03	0.03	0.01	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.84	22.3	23.1	0.09	< 0.005	< 0.005	25.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.02	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.84	22.1	22.9	0.09	< 0.005	< 0.005	25.4
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.03	0.03	0.01	0.03	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.84	22.2	23.0	0.09	< 0.005	< 0.005	25.5
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.14	3.67	3.81	0.01	< 0.005	< 0.005	4.23

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.03	0.03	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.18	0.18	< 0.005	< 0.005	—	0.18
Energy	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.1	21.1	< 0.005	< 0.005	—	21.3
Water	—	—	—	—	—	—	—	—	—	—	—	0.34	0.96	1.30	0.04	< 0.005	—	2.43
Waste	—	—	—	—	—	—	—	—	—	—	—	0.50	0.00	0.50	0.05	0.00	—	1.75
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.03	0.03	0.01	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.84	22.3	23.1	0.09	< 0.005	< 0.005	25.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.1	21.1	< 0.005	< 0.005	—	21.3
Water	—	—	—	—	—	—	—	—	—	—	—	0.34	0.96	1.30	0.04	< 0.005	—	2.43
Waste	—	—	—	—	—	—	—	—	—	—	—	0.50	0.00	0.50	0.05	0.00	—	1.75
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.02	0.02	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.84	22.1	22.9	0.09	< 0.005	< 0.005	25.4
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.03	0.03	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.09	0.09	< 0.005	< 0.005	—	0.09
Energy	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.1	21.1	< 0.005	< 0.005	—	21.3
Water	—	—	—	—	—	—	—	—	—	—	—	0.34	0.96	1.30	0.04	< 0.005	—	2.43
Waste	—	—	—	—	—	—	—	—	—	—	—	0.50	0.00	0.50	0.05	0.00	—	1.75
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.03	0.03	0.01	0.03	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.84	22.2	23.0	0.09	< 0.005	< 0.005	25.5

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.01	0.01	< 0.005	< 0.005	—	0.01
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.50	3.50	< 0.005	< 0.005	—	3.52
Water	—	—	—	—	—	—	—	—	—	—	—	0.06	0.16	0.22	0.01	< 0.005	—	0.40
Waste	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.29
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.14	3.67	3.81	0.01	< 0.005	< 0.005	4.23

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.16	5.57	0.01	0.21	—	0.21	0.20	—	0.20	—	859	859	0.03	0.01	—	862
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	28.2	28.2	< 0.005	< 0.005	—	28.3
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.68	4.68	< 0.005	< 0.005	—	4.69
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.29	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	63.9	63.9	< 0.005	< 0.005	0.01	64.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.12	2.12	< 0.005	< 0.005	< 0.005	2.15

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.36
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	1.09	10.1	10.0	0.02	0.46	—	0.46	0.43	—	0.43	—	1,714	1,714	0.07	0.01	—	1,720
Dust From Material Movement	—	—	—	—	—	—	2.07	2.07	—	1.00	1.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.39	0.39	< 0.005	0.02	—	0.02	0.02	—	0.02	—	65.7	65.7	< 0.005	< 0.005	—	66.0

Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.9	10.9	< 0.005	< 0.005	—	10.9
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.43	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.8	95.8	< 0.005	< 0.005	0.01	97.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.70	3.70	< 0.005	< 0.005	0.01	3.76
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	0.62

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.29	2.82	3.80	0.01	0.12	—	0.12	0.11	—	0.11	—	715	715	0.03	0.01	—	717
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.06	0.05	0.51	0.69	< 0.005	0.02	—	0.02	0.02	—	0.02	—	118	118	< 0.005	< 0.005	—	119
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.7	26.7	< 0.005	< 0.005	0.11	27.2
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.05	5.05	< 0.005	< 0.005	0.01	5.30
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	25.6	25.6	< 0.005	< 0.005	< 0.005	25.9
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.05	5.05	< 0.005	< 0.005	< 0.005	5.28
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.1	14.1	< 0.005	< 0.005	0.03	14.3
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.77	2.77	< 0.005	< 0.005	< 0.005	2.90
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.33	2.33	< 0.005	< 0.005	< 0.005	2.37
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.46	0.46	< 0.005	< 0.005	< 0.005	0.48
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	0.51	4.37	5.31	0.01	0.19	—	0.19	0.18	—	0.18	—	823	823	0.03	0.01	—	826
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.12	0.15	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	22.6	22.6	< 0.005	< 0.005	—	22.6
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.74	3.74	< 0.005	< 0.005	—	3.75
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	1.00	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	224	224	0.01	0.01	0.02	226
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.17	6.17	< 0.005	< 0.005	0.01	6.26
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.02	1.02	< 0.005	< 0.005	< 0.005	1.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134

Architectural Coating	0.46	0.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.66	3.66	< 0.005	< 0.005	—	3.67
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.61	0.61	< 0.005	< 0.005	—	0.61
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	25.6	25.6	< 0.005	< 0.005	< 0.005	25.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.72
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.12
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	12.6	12.6	< 0.005	< 0.005	—	12.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	12.6	12.6	< 0.005	< 0.005	—	12.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	12.6	12.6	< 0.005	< 0.005	—	12.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	12.6	12.6	< 0.005	< 0.005	—	12.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	2.09	2.09	< 0.005	< 0.005	—	2.11
Total	—	—	—	—	—	—	—	—	—	—	—	—	2.09	2.09	< 0.005	< 0.005	—	2.11

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.51	8.51	< 0.005	< 0.005	—	8.53
Total	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.51	8.51	< 0.005	< 0.005	—	8.53
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.51	8.51	< 0.005	< 0.005	—	8.53
Total	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.51	8.51	< 0.005	< 0.005	—	8.53
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.41	1.41	< 0.005	< 0.005	—	1.41
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.41	1.41	< 0.005	< 0.005	—	1.41

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.18	0.18	< 0.005	< 0.005	—	0.18
Total	0.03	0.03	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.18	0.18	< 0.005	< 0.005	—	0.18
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.01	0.01	< 0.005	< 0.005	—	0.01
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.01	0.01	< 0.005	< 0.005	—	0.01

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.34	0.96	1.30	0.04	< 0.005	—	2.43
Total	—	—	—	—	—	—	—	—	—	—	—	0.34	0.96	1.30	0.04	< 0.005	—	2.43
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.34	0.96	1.30	0.04	< 0.005	—	2.43
Total	—	—	—	—	—	—	—	—	—	—	—	0.34	0.96	1.30	0.04	< 0.005	—	2.43
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.06	0.16	0.22	0.01	< 0.005	—	0.40
Total	—	—	—	—	—	—	—	—	—	—	—	0.06	0.16	0.22	0.01	< 0.005	—	0.40

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.50	0.00	0.50	0.05	0.00	—	1.75
Total	—	—	—	—	—	—	—	—	—	—	—	0.50	0.00	0.50	0.05	0.00	—	1.75
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.50	0.00	0.50	0.05	0.00	—	1.75
Total	—	—	—	—	—	—	—	—	—	—	—	0.50	0.00	0.50	0.05	0.00	—	1.75
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.29
Total	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.29

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2025	1/16/2025	5.00	12.0	—
Grading	Grading	1/15/2025	2/3/2025	5.00	14.0	—
Building Construction	Building Construction	2/4/2025	11/10/2025	5.00	200	—
Paving	Paving	11/11/2025	11/24/2025	5.00	10.0	—
Architectural Coating	Architectural Coating	11/25/2025	12/8/2025	5.00	10.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40

Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	7.50	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	2.00	18.5	LDA,LDT1,LDT2

Building Construction	Vendor	0.16	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.00	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	1,500	500	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	6.00	0.00	—

Grading	—	74.0	10.5	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Office Building	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	1,500	500	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Office Building	17,668	261	0.0330	0.0040	26,551

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Office Building	177,734	25,855

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)

General Office Building	0.93	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	31.4	annual days of extreme heat
Extreme Precipitation	6.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	32.7	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A

Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	63.7
AQ-PM	4.44
AQ-DPM	0.06
Drinking Water	76.4
Lead Risk Housing	27.0
Pesticides	44.0
Toxic Releases	8.61
Traffic	0.09
Effect Indicators	—
CleanUp Sites	81.9
Groundwater	53.5

Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	94.6
Solid Waste	72.4
Sensitive Population	—
Asthma	8.62
Cardio-vascular	2.80
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	26.9
Housing	54.6
Linguistic	—
Poverty	28.2
Unemployment	99.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—

Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	96.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	0.0
Cognitively Disabled	80.8
Physically Disabled	49.3

Heart Attack ER Admissions	95.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	38.3
SLR Inundation Area	0.0
Children	99.4
Elderly	20.2
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	4.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	99.8
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	25.0
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	Based on construction of one project per year.
Construction: Construction Phases	Default construction schedule scaled up to account for 12 month construction duration.
Construction: Trips and VMT	Default trips, assumes same number of workers during arch coating as during building construction; no material export.
Operations: Vehicle Data	Mobile source emissions estimated separately

HV GPU: New Group Campground Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

3.3. Grading (2025) - Unmitigated

3.5. Building Construction (2025) - Unmitigated

3.7. Paving (2026) - Unmitigated

3.9. Architectural Coating (2026) - Unmitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	HV GPU: New Group Campground
Construction Start Date	1/1/2025
Operational Year	2050
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	6.30
Precipitation (days)	20.8
Location	Hungry Valley, California 93225, USA
County	Ventura
City	Unincorporated
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3400
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Recreational	1.00	User Defined Unit	2.95	0.00	0.00	0.00	—	—

Other Non-Asphalt Surfaces	0.12	Acre	0.12	0.00	0.00	0.00	—	—
Other Asphalt Surfaces	0.53	Acre	0.53	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.02	3.38	31.7	31.2	0.05	1.37	7.89	9.26	1.26	3.99	5.25	—	5,519	5,519	0.23	0.05	0.03	5,540
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.24	0.20	1.76	2.25	< 0.005	0.07	0.09	0.16	0.07	0.04	0.10	—	417	417	0.02	< 0.005	0.05	418
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.04	0.04	0.32	0.41	< 0.005	0.01	0.02	0.03	0.01	0.01	0.02	—	69.0	69.0	< 0.005	< 0.005	0.01	69.3

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.02	3.38	31.7	31.2	0.05	1.37	7.89	9.26	1.26	3.99	5.25	—	5,519	5,519	0.23	0.05	0.02	5,540
2026	2.12	2.10	6.33	9.88	0.01	0.26	0.26	0.52	0.24	0.06	0.30	—	1,601	1,601	0.06	0.02	0.03	1,608
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.24	0.20	1.76	2.25	< 0.005	0.07	0.09	0.16	0.07	0.04	0.10	—	417	417	0.02	< 0.005	0.05	418
2026	0.04	0.04	0.08	0.12	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	19.3	19.3	< 0.005	< 0.005	0.01	19.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.04	0.04	0.32	0.41	< 0.005	0.01	0.02	0.03	0.01	0.01	0.02	—	69.0	69.0	< 0.005	< 0.005	0.01	69.3
2026	0.01	0.01	0.01	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.20	3.20	< 0.005	< 0.005	< 0.005	3.21

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	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. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	29.0	29.0	< 0.005	< 0.005	—	29.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.80	4.80	< 0.005	< 0.005	—	4.82
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	1.00	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	224	224	0.01	0.01	0.02	226
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.25
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.07	1.74	16.3	17.9	0.03	0.72	—	0.72	0.66	—	0.66	—	2,959	2,959	0.12	0.02	—	2,970
Dust From Material Movement	—	—	—	—	—	—	2.79	2.79	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.01	0.01	0.09	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.2	16.2	< 0.005	< 0.005	—	16.3
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.68	2.68	< 0.005	< 0.005	—	2.69
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.86	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	192	192	0.01	0.01	0.02	194
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.06	1.06	< 0.005	< 0.005	< 0.005	1.07
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.18
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.49	1.86	< 0.005	0.06	—	0.06	0.06	—	0.06	—	342	342	0.01	< 0.005	—	343
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.27	0.34	< 0.005	0.01	—	0.01	0.01	—	0.01	—	56.6	56.6	< 0.005	< 0.005	—	56.7

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.86	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	192	192	0.01	0.01	0.02	194
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.12	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	27.5	27.5	< 0.005	< 0.005	0.05	27.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.55	4.55	< 0.005	< 0.005	0.01	4.62
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.81	0.68	6.23	8.81	0.01	0.26	—	0.26	0.24	—	0.24	—	1,350	1,350	0.05	0.01	—	1,355
Paving	0.35	0.35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.8	14.8	< 0.005	< 0.005	—	14.8
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.45	2.45	< 0.005	< 0.005	—	2.46
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.10	1.06	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	251	251	< 0.005	0.01	0.03	254
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.77	2.77	< 0.005	< 0.005	< 0.005	2.80
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.46	0.46	< 0.005	< 0.005	< 0.005	0.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.97	1.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.46	1.46	< 0.005	< 0.005	—	1.47

Architect Coatings	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.24	0.24	< 0.005	< 0.005	—	0.24
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	25.1	25.1	< 0.005	< 0.005	< 0.005	25.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.28
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2025	1/2/2025	5.00	2.00	—
Grading	Grading	1/3/2025	1/6/2025	5.00	2.00	—
Building Construction	Building Construction	1/7/2025	3/19/2025	5.00	52.0	—
Paving	Paving	3/20/2026	3/25/2026	5.00	4.00	—
Architectural Coating	Architectural Coating	3/26/2026	3/31/2026	5.00	4.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37

Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	15.0	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	0.00	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—

Paving	Worker	20.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.00	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	0.00	0.00	1,699

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	0.00	3.00	0.00	—
Grading	—	789	2.00	0.00	—
Paving	0.00	0.00	0.00	0.00	0.65

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Recreational	0.00	0%
Other Non-Asphalt Surfaces	0.12	0%
Other Asphalt Surfaces	0.53	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	0.00	1,699

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Recreational	0.00	261	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	261	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	261	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)

User Defined Recreational	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Recreational	0.00	—
Other Non-Asphalt Surfaces	0.00	—
Other Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	31.4	annual days of extreme heat
Extreme Precipitation	6.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	32.7	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	63.7
AQ-PM	4.44
AQ-DPM	0.06
Drinking Water	76.4
Lead Risk Housing	27.0

Pesticides	44.0
Toxic Releases	8.61
Traffic	0.09
Effect Indicators	—
CleanUp Sites	81.9
Groundwater	53.5
Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	94.6
Solid Waste	72.4
Sensitive Population	—
Asthma	8.62
Cardio-vascular	2.80
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	26.9
Housing	54.6
Linguistic	—
Poverty	28.2
Unemployment	99.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	—
Employed	—
Median HI	—
Education	—

Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	96.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0

Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	0.0
Cognitively Disabled	80.8
Physically Disabled	49.3
Heart Attack ER Admissions	95.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	38.3
SLR Inundation Area	0.0
Children	99.4
Elderly	20.2
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	4.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	99.8
Traffic Density	0.0

Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	25.0
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	Based on construction of one project per year.
Land Use	Accounts for a portion of the land use area to be for parking/hookups, shade, tables, restrooms, etc.

Construction: Construction Phases	Construction default schedule scaled down to a 3 month construction duration assumption.
Construction: Trips and VMT	Default trips; assumes same number of workers during construction phase as during grading. Arch Coating assumes minimal worker trips (2). No material export.
Construction: Dust From Material Movement	Defaults

HV GPU: New RV Campground Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

3.3. Grading (2025) - Unmitigated

3.5. Building Construction (2025) - Unmitigated

3.7. Paving (2026) - Unmitigated

3.9. Architectural Coating (2026) - Unmitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	HV GPU: New RV Campground
Construction Start Date	1/1/2025
Operational Year	2050
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	6.30
Precipitation (days)	20.8
Location	Hungry Valley, California 93225, USA
County	Ventura
City	Unincorporated
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3400
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Recreational	1.00	User Defined Unit	3.80	0.00	0.00	0.00	—	—

Other Asphalt Surfaces	0.66	Acre	0.66	0.00	0.00	0.00	—	—
Other Non-Asphalt Surfaces	0.14	Acre	0.14	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.15	2.12	10.5	14.0	0.02	0.43	0.26	0.63	0.40	0.06	0.44	—	2,598	2,598	0.11	0.03	0.98	2,610
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.02	3.38	31.7	31.2	0.05	1.37	7.91	9.28	1.26	4.00	5.25	—	5,519	5,519	0.23	0.05	0.02	5,540
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.30	0.25	2.25	2.90	< 0.005	0.09	0.10	0.19	0.09	0.04	0.12	—	537	537	0.02	0.01	0.07	540
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.06	0.05	0.41	0.53	< 0.005	0.02	0.02	0.03	0.02	0.01	0.02	—	89.0	89.0	< 0.005	< 0.005	0.01	89.3

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.42	1.19	10.5	14.0	0.02	0.43	0.20	0.63	0.40	0.05	0.44	—	2,598	2,598	0.11	0.03	0.81	2,610
2026	2.15	2.12	6.31	9.99	0.01	0.26	0.26	0.52	0.24	0.06	0.30	—	1,612	1,612	0.06	0.02	0.98	1,621
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.02	3.38	31.7	31.2	0.05	1.37	7.91	9.28	1.26	4.00	5.25	—	5,519	5,519	0.23	0.05	0.02	5,540
2026	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.30	0.25	2.25	2.90	< 0.005	0.09	0.10	0.19	0.09	0.04	0.12	—	537	537	0.02	0.01	0.07	540
2026	0.05	0.04	0.10	0.16	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	26.4	26.4	< 0.005	< 0.005	0.01	26.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.06	0.05	0.41	0.53	< 0.005	0.02	0.02	0.03	0.02	0.01	0.02	—	89.0	89.0	< 0.005	< 0.005	0.01	89.3
2026	0.01	0.01	0.02	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.37	4.37	< 0.005	< 0.005	< 0.005	4.39

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.01	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.01	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	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. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.68	7.68	—	3.94	3.94	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	29.0	29.0	< 0.005	< 0.005	—	29.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.80	4.80	< 0.005	< 0.005	—	4.82
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	1.00	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	224	224	0.01	0.01	0.02	226
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.25
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.07	1.74	16.3	17.9	0.03	0.72	—	0.72	0.66	—	0.66	—	2,959	2,959	0.12	0.02	—	2,970
Dust From Material Movement	—	—	—	—	—	—	2.78	2.78	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.01	0.01	0.09	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.2	16.2	< 0.005	< 0.005	—	16.3
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.68	2.68	< 0.005	< 0.005	—	2.69
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.86	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	192	192	0.01	0.01	0.02	194
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.06	1.06	< 0.005	< 0.005	< 0.005	1.07
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.18
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.97	2.47	< 0.005	0.08	—	0.08	0.08	—	0.08	—	453	453	0.02	< 0.005	—	455
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.45	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.0	75.0	< 0.005	< 0.005	—	75.3
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.94	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	201	201	0.01	0.01	0.81	204
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.86	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	192	192	0.01	0.01	0.02	194
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	36.5	36.5	< 0.005	< 0.005	0.07	37.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.04	6.04	< 0.005	< 0.005	0.01	6.13
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.81	0.68	6.23	8.81	0.01	0.26	—	0.26	0.24	—	0.24	—	1,350	1,350	0.05	0.01	—	1,355
Paving	0.35	0.35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.5	18.5	< 0.005	< 0.005	—	18.6
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.06	3.06	< 0.005	< 0.005	—	3.07
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	1.17	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	262	262	< 0.005	0.01	0.98	266
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.46	3.46	< 0.005	< 0.005	0.01	3.50
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.57	0.57	< 0.005	< 0.005	< 0.005	0.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architectural Coating	1.94	1.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.83	1.83	< 0.005	< 0.005	—	1.84
Architectural Coatings	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.30	0.30	< 0.005	< 0.005	—	0.30
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.88	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	197	197	< 0.005	0.01	0.74	199
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.59	2.59	< 0.005	< 0.005	< 0.005	2.63
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.43	0.43	< 0.005	< 0.005	< 0.005	0.44
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2025	1/2/2025	5.00	2.00	—
Grading	Grading	1/3/2025	1/6/2025	5.00	2.00	—
Building Construction	Building Construction	1/7/2025	4/11/2025	5.00	69.0	—
Paving	Paving	4/12/2026	4/19/2026	5.00	5.00	—
Architectural Coating	Architectural Coating	4/20/2026	4/24/2026	5.00	5.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40

Site Preparation	Tractors/Loaders/Back	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Back hoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT

Grading	—	—	—	—
Grading	Worker	15.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	15.0	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	0.00	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	15.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

Architectural Coating	0.00	0.00	0.00	0.00	2,091

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	444	3.00	0.00	—
Grading	—	444	2.00	0.00	—
Paving	0.00	0.00	0.00	0.00	0.80

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Recreational	0.00	0%
Other Asphalt Surfaces	0.66	100%
Other Non-Asphalt Surfaces	0.14	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	0.00	2,091

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Recreational	0.00	261	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	261	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	261	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Recreational	0.00	0.00
Other Asphalt Surfaces	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Recreational	0.00	—
Other Asphalt Surfaces	0.00	—
Other Non-Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	31.4	annual days of extreme heat
Extreme Precipitation	6.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	32.7	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A

Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	63.7
AQ-PM	4.44
AQ-DPM	0.06
Drinking Water	76.4
Lead Risk Housing	27.0
Pesticides	44.0
Toxic Releases	8.61
Traffic	0.09
Effect Indicators	—
CleanUp Sites	81.9
Groundwater	53.5
Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	94.6
Solid Waste	72.4
Sensitive Population	—
Asthma	8.62
Cardio-vascular	2.80
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	26.9
Housing	54.6
Linguistic	—
Poverty	28.2
Unemployment	99.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—

Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	96.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	0.0
Cognitively Disabled	80.8
Physically Disabled	49.3
Heart Attack ER Admissions	95.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	38.3
SLR Inundation Area	0.0

Children	99.4
Elderly	20.2
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	4.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	99.8
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	25.0
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	Based on construction project per year.
Land Use	Acreage split between anticipated areas for parking/utility hook-ups/restrooms, etc.
Construction: Construction Phases	Default construction schedule scaled down to construction duration of 4 months.
Construction: Trips and VMT	Default trips; assumes same number of workers during construction and arch coating as during grading; no material export.

HV GPU: New Skill Track and Kid's Practice Track Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	HV GPU: New Skill Track and Kid's Practice Track
Construction Start Date	1/1/2025
Operational Year	2050
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	6.30
Precipitation (days)	20.8
Location	Hungry Valley, California 93225, USA
County	Ventura
City	Unincorporated
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3400
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Recreational	1.00	User Defined Unit	6.00	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.13	0.11	1.20	1.94	< 0.005	0.04	0.02	0.06	0.04	0.01	0.05	—	368	368	0.01	0.01	0.01	372
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	0.08	0.13	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	25.2	25.2	< 0.005	< 0.005	0.01	25.5
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.17	4.17	< 0.005	< 0.005	< 0.005	4.22

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.13	0.11	1.20	1.94	< 0.005	0.04	0.02	0.06	0.04	0.01	0.05	—	368	368	0.01	0.01	0.01	372
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2025	0.01	0.01	0.08	0.13	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	25.2	25.2	< 0.005	< 0.005	0.01	25.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.17	4.17	< 0.005	< 0.005	< 0.005	4.22

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	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. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.10	1.91	< 0.005	0.04	—	0.04	0.04	—	0.04	—	290	290	0.01	< 0.005	—	291
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.9	19.9	< 0.005	< 0.005	—	20.0
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.29	3.29	< 0.005	< 0.005	—	3.30
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.10	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	77.1	77.1	< 0.005	0.01	0.01	80.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.28	5.28	< 0.005	< 0.005	0.01	5.53
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.87	0.87	< 0.005	< 0.005	< 0.005	0.91
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/30/2025	3/5/2025	5.00	25.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	0.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	0.00	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	2.50	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	0.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Recreational	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	0.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Recreational	0.00	261	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Recreational	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Recreational	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	31.4	annual days of extreme heat
Extreme Precipitation	6.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	32.7	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A

Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	63.7
AQ-PM	4.44
AQ-DPM	0.06
Drinking Water	76.4
Lead Risk Housing	27.0
Pesticides	44.0
Toxic Releases	8.61
Traffic	0.09
Effect Indicators	—
CleanUp Sites	81.9
Groundwater	53.5
Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	94.6
Solid Waste	72.4
Sensitive Population	—
Asthma	8.62
Cardio-vascular	2.80
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	26.9
Housing	54.6
Linguistic	—
Poverty	28.2
Unemployment	99.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—

Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	96.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	0.0
Cognitively Disabled	80.8
Physically Disabled	49.3
Heart Attack ER Admissions	95.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	38.3
SLR Inundation Area	0.0

Children	99.4
Elderly	20.2
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	4.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	99.8
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	25.0
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	Since there is no excavation or grading needed, just placement of obstacles - assumes these projects can occur in the same year.
Land Use	5 acre area for new skill track; 1 acre for kid's practice track.
Construction: Construction Phases	Assumes a total 5-week duration to place obstacles.
Construction: Off-Road Equipment	No excavation needed. Tractor assumed to move/place obstacles.
Construction: Trips and VMT	Number of workers modeled as vendor trucks to account for trucks delivering obstacles.

HV GPU: New Staging Area Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	HV GPU: New Staging Area
Construction Start Date	1/1/2025
Operational Year	2049
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	6.30
Precipitation (days)	20.8
Location	Hungry Valley, California 93225, USA
County	Ventura
City	Unincorporated
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3400
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Recreational	1.00	User Defined Unit	0.75	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.58	0.49	4.19	5.85	0.01	0.21	0.22	0.44	0.20	0.03	0.23	—	923	923	0.04	0.01	0.01	927
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.02	0.17	0.24	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	37.9	37.9	< 0.005	< 0.005	< 0.005	38.1
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.28	6.28	< 0.005	< 0.005	< 0.005	6.31

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.58	0.49	4.19	5.85	0.01	0.21	0.22	0.44	0.20	0.03	0.23	—	923	923	0.04	0.01	0.01	927
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2025	0.02	0.02	0.17	0.24	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	37.9	37.9	< 0.005	< 0.005	< 0.005	38.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.28	6.28	< 0.005	< 0.005	< 0.005	6.31

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	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. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.16	5.57	0.01	0.21	—	0.21	0.20	—	0.20	—	859	859	0.03	0.01	—	862
Dust From Material Movement	—	—	—	—	—	—	0.16	0.16	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	35.3	35.3	< 0.005	< 0.005	—	35.4
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.84	5.84	< 0.005	< 0.005	—	5.86
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.29	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	63.9	63.9	< 0.005	< 0.005	0.01	64.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.64	2.64	< 0.005	< 0.005	< 0.005	2.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.44
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/16/2025	2/5/2025	5.00	15.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	1,210	0.75	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Recreational	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	0.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Recreational	0.00	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Recreational	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Recreational	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	31.4	annual days of extreme heat
Extreme Precipitation	6.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	32.7	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A

Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	63.7
AQ-PM	4.44
AQ-DPM	0.06
Drinking Water	76.4
Lead Risk Housing	27.0
Pesticides	44.0
Toxic Releases	8.61
Traffic	0.09
Effect Indicators	—
CleanUp Sites	81.9
Groundwater	53.5
Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	94.6
Solid Waste	72.4
Sensitive Population	—
Asthma	8.62
Cardio-vascular	2.80
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	26.9
Housing	54.6
Linguistic	—
Poverty	28.2
Unemployment	99.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—

Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	96.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	0.0
Cognitively Disabled	80.8
Physically Disabled	49.3
Heart Attack ER Admissions	95.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	38.3
SLR Inundation Area	0.0

Children	99.4
Elderly	20.2
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	4.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	99.8
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	25.0
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	Based on one project per year.
Land Use	0.75 acreage.
Construction: Construction Phases	Assumes a 3-week construction duration.
Construction: Dust From Material Movement	Assumes 1 ft. depth of disturbance.
Construction: Trips and VMT	No material export.

HV GPU: EV Charging Stations Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

3.3. Paving (2025) - Unmitigated

3.5. Architectural Coating (2025) - Unmitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	HV GPU: EV Charging Stations
Construction Start Date	1/1/2025
Operational Year	2050
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	6.30
Precipitation (days)	20.8
Location	Hungry Valley, California 93225, USA
County	Ventura
City	Unincorporated
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3400
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Other Asphalt Surfaces	12.0	1000sqft	0.28	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.30	0.27	0.88	1.14	< 0.005	0.03	0.00	0.03	0.03	0.00	0.03	—	134	134	0.01	< 0.005	0.00	134
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.72	0.61	4.48	6.31	0.01	0.22	0.33	0.55	0.20	0.05	0.25	—	1,138	1,138	0.04	0.04	0.02	1,152
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.09	0.08	0.56	0.76	< 0.005	0.02	0.03	0.06	0.02	0.01	0.03	—	131	131	0.01	< 0.005	0.04	132
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.01	0.10	0.14	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	21.6	21.6	< 0.005	< 0.005	0.01	21.8

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.30	0.27	0.88	1.14	< 0.005	0.03	0.00	0.03	0.03	0.00	0.03	—	134	134	0.01	< 0.005	0.00	134

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.72	0.61	4.48	6.31	0.01	0.22	0.33	0.55	0.20	0.05	0.25	—	1,138	1,138	0.04	0.04	0.02	1,152
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.09	0.08	0.56	0.76	< 0.005	0.02	0.03	0.06	0.02	0.01	0.03	—	131	131	0.01	< 0.005	0.04	132
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.02	0.01	0.10	0.14	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	21.6	21.6	< 0.005	< 0.005	0.01	21.8

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	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. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.16	5.57	0.01	0.21	—	0.21	0.20	—	0.20	—	859	859	0.03	0.01	—	862
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	42.4	42.4	< 0.005	< 0.005	—	42.5

Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.01	7.01	< 0.005	< 0.005	—	7.04
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.29	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	63.9	63.9	< 0.005	< 0.005	0.01	64.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.30	0.07	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	216	216	0.01	0.03	0.01	226
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.17	3.17	< 0.005	< 0.005	0.01	3.22
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.6	10.6	< 0.005	< 0.005	0.01	11.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.53	0.53	< 0.005	< 0.005	< 0.005	0.53

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.76	1.76	< 0.005	< 0.005	< 0.005	1.85

3.3. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	0.51	4.37	5.31	0.01	0.19	—	0.19	0.18	—	0.18	—	823	823	0.03	0.01	—	826
Paving	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.28	0.33	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.9	51.9	< 0.005	< 0.005	—	52.1
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.59	8.59	< 0.005	< 0.005	—	8.62

Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	1.00	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	224	224	0.01	0.01	0.02	226
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.2	14.2	< 0.005	< 0.005	0.03	14.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.35	2.35	< 0.005	< 0.005	< 0.005	2.38
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.15	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.15	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.41	8.41	< 0.005	< 0.005	—	8.44
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.39	1.39	< 0.005	< 0.005	—	1.40

Architect Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/16/2025	2/10/2025	5.00	18.0	—
Paving	Paving	2/11/2025	3/13/2025	5.00	23.0	—
Architectural Coating	Architectural Coating	3/14/2025	4/15/2025	5.00	23.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37

Paving	Tractors/Loaders/Back	Diesel	Average	1.00	7.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	3.11	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.00	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	0.00	0.00	720

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	444	0.28	0.00	—
Paving	0.00	0.00	0.00	0.00	0.28

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Other Asphalt Surfaces	0.28	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	0.00	720

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Other Asphalt Surfaces	0.00	261	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Other Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	31.4	annual days of extreme heat
Extreme Precipitation	6.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	32.7	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	63.7
AQ-PM	4.44
AQ-DPM	0.06
Drinking Water	76.4
Lead Risk Housing	27.0

Pesticides	44.0
Toxic Releases	8.61
Traffic	0.09
Effect Indicators	—
CleanUp Sites	81.9
Groundwater	53.5
Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	94.6
Solid Waste	72.4
Sensitive Population	—
Asthma	8.62
Cardio-vascular	2.80
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	26.9
Housing	54.6
Linguistic	—
Poverty	28.2
Unemployment	99.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	—
Employed	—
Median HI	—
Education	—

Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	96.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0

Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	0.0
Cognitively Disabled	80.8
Physically Disabled	49.3
Heart Attack ER Admissions	95.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	38.3
SLR Inundation Area	0.0
Children	99.4
Elderly	20.2
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	4.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	99.8
Traffic Density	0.0

Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	25.0
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	Based on one construction project per year.
Construction: Construction Phases	Scaled up for 3 month construction schedule.
Construction: Dust From Material Movement	4 locations throughout park. assumes 1' excavation depth, at 3000 sq. ft each.

HV GPU: Paving of Hungry Valley Road Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2025) - Unmitigated

3.3. Linear, Grading & Excavation (2025) - Unmitigated

3.5. Linear, Drainage, Utilities, & Sub-Grade (2025) - Unmitigated

3.7. Linear, Paving (2025) - Unmitigated

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	HV GPU: Paving of Hungry Valley Road
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	6.30
Precipitation (days)	20.8
Location	Hungry Valley, California 93225, USA
County	Ventura
City	Unincorporated
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3400
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Road Construction	5.12	Mile	12.5	0.00	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.19	3.45	34.3	34.1	0.09	1.27	3.24	4.50	1.17	0.66	1.83	—	12,121	12,121	0.41	0.84	0.36	12,383
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.14	0.11	1.20	1.16	< 0.005	0.04	0.12	0.16	0.04	0.03	0.06	—	455	455	0.02	0.04	0.26	466
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.03	0.02	0.22	0.21	< 0.005	0.01	0.02	0.03	0.01	< 0.005	0.01	—	75.3	75.3	< 0.005	0.01	0.04	77.2

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.19	3.45	34.3	34.1	0.09	1.27	3.24	4.50	1.17	0.66	1.83	—	12,121	12,121	0.41	0.84	0.36	12,383
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2025	0.14	0.11	1.20	1.16	< 0.005	0.04	0.12	0.16	0.04	0.03	0.06	—	457	457	0.02	0.04	0.26	468
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.03	0.02	0.22	0.21	< 0.005	0.01	0.02	0.03	0.01	< 0.005	0.01	—	75.6	75.6	< 0.005	0.01	0.04	77.5

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.39	3.39	3.49	< 0.005	0.21	—	0.21	0.19	—	0.19	—	490	490	0.02	< 0.005	—	492
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.69	2.69	< 0.005	< 0.005	—	2.70

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.44	0.44	< 0.005	< 0.005	—	0.45
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.16	1.71	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	383	383	0.02	0.01	0.04	388
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.22	0.10	6.65	1.58	0.03	0.06	1.27	1.33	0.06	0.36	0.42	—	4,853	4,853	0.11	0.76	0.28	5,082
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.12	2.12	< 0.005	< 0.005	< 0.005	2.15
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.6	26.6	< 0.005	< 0.005	0.03	27.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.36

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.40	4.40	< 0.005	< 0.005	< 0.005	4.61

3.3. Linear, Grading & Excavation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.71	3.11	27.3	29.4	0.06	1.21	—	1.21	1.11	—	1.11	—	6,496	6,496	0.26	0.05	—	6,518
Dust From Material Movement	—	—	—	—	—	—	1.24	1.24	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.52	0.56	< 0.005	0.02	—	0.02	0.02	—	0.02	—	125	125	0.01	< 0.005	—	125
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.6	20.6	< 0.005	< 0.005	—	20.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.23	0.29	3.14	0.00	0.00	0.72	0.72	0.00	0.17	0.17	—	703	703	0.04	0.03	0.08	712
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.8	30.8	< 0.005	< 0.005	< 0.005	32.2
Hauling	0.22	0.10	6.65	1.58	0.03	0.06	1.27	1.33	0.06	0.36	0.42	—	4,853	4,853	0.11	0.76	0.28	5,082
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.6	13.6	< 0.005	< 0.005	0.02	13.8
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.62
Hauling	< 0.005	< 0.005	0.13	0.03	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	93.0	93.0	< 0.005	0.01	0.09	97.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.25	2.25	< 0.005	< 0.005	< 0.005	2.28
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.4	15.4	< 0.005	< 0.005	0.01	16.1

3.5. Linear, Drainage, Utilities, & Sub-Grade (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.99	2.51	22.9	23.6	0.05	0.91	—	0.91	0.84	—	0.84	—	5,694	5,694	0.23	0.05	—	5,713
Dust From Material Movement	—	—	—	—	—	—	1.15	1.15	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.31	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	78.0	78.0	< 0.005	< 0.005	—	78.3
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.9	12.9	< 0.005	< 0.005	—	13.0

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.21	0.27	2.85	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	639	639	0.03	0.02	0.07	647
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.22	0.10	6.65	1.58	0.03	0.06	1.27	1.33	0.06	0.36	0.42	—	4,853	4,853	0.11	0.76	0.28	5,082
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.81	8.81	< 0.005	< 0.005	0.02	8.94
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.09	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	66.5	66.5	< 0.005	0.01	0.06	69.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.46	1.46	< 0.005	< 0.005	< 0.005	1.48
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.0	11.0	< 0.005	< 0.005	0.01	11.5

3.7. Linear, Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.06	0.89	7.71	10.8	0.01	0.34	—	0.34	0.31	—	0.31	—	1,620	1,620	0.07	0.01	—	1,625
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.88	8.88	< 0.005	< 0.005	—	8.91
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.47	1.47	< 0.005	< 0.005	—	1.47
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	0.23	2.42	0.00	0.00	0.56	0.56	0.00	0.13	0.13	—	543	543	0.03	0.02	0.06	550
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.22	0.10	6.65	1.58	0.03	0.06	1.27	1.33	0.06	0.36	0.42	—	4,853	4,853	0.11	0.76	0.28	5,082
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.00	3.00	< 0.005	< 0.005	0.01	3.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.6	26.6	< 0.005	< 0.005	0.03	27.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.50	0.50	< 0.005	< 0.005	< 0.005	0.50
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.40	4.40	< 0.005	< 0.005	< 0.005	4.61

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	1/1/2025	1/3/2025	5.00	2.00	—
Linear, Grading & Excavation	Linear, Grading & Excavation	1/4/2025	1/13/2025	5.00	7.00	—

Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	1/14/2025	1/21/2025	5.00	5.00	—
Linear, Paving	Linear, Paving	1/22/2025	1/24/2025	5.00	2.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	10.0	8.00	6.00	0.82
Linear, Grading & Excavation	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grading & Excavation	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Linear, Grading & Excavation	Graders	Diesel	Average	1.00	8.00	148	0.41
Linear, Grading & Excavation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grading & Excavation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Linear, Grading & Excavation	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Linear, Grading & Excavation	Signal Boards	Electric	Average	10.0	8.00	6.00	0.82
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48

Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Graders	Diesel	Average	1.00	8.00	148	0.41
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	96.0	0.40
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	10.0	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Linear, Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Linear, Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Linear, Paving	Rollers	Diesel	Average	3.00	8.00	36.0	0.38
Linear, Paving	Signal Boards	Electric	Average	10.0	8.00	6.00	0.82
Linear, Paving	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	30.0	18.5	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	10.2	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	70.0	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT

Linear, Grading & Excavation	—	—	—	—
Linear, Grading & Excavation	Worker	55.0	18.5	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.00	10.2	HHDT,MHDT
Linear, Grading & Excavation	Hauling	70.0	20.0	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	50.0	18.5	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	10.2	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	70.0	20.0	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	42.5	18.5	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	10.2	HHDT,MHDT
Linear, Paving	Hauling	70.0	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Linear, Grubbing & Land Clearing	—	—	12.5	0.00	—
Linear, Grading & Excavation	—	—	12.5	0.00	—
Linear, Drainage, Utilities, & Sub-Grade	8,403	—	12.5	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Road Construction	12.5	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	1,174	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	31.4	annual days of extreme heat
Extreme Precipitation	6.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	32.7	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	63.7
AQ-PM	4.44
AQ-DPM	0.06
Drinking Water	76.4
Lead Risk Housing	27.0
Pesticides	44.0
Toxic Releases	8.61
Traffic	0.09
Effect Indicators	—
CleanUp Sites	81.9
Groundwater	53.5
Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	94.6
Solid Waste	72.4
Sensitive Population	—
Asthma	8.62
Cardio-vascular	2.80
Low Birth Weights	—

Socioeconomic Factor Indicators	—
Education	26.9
Housing	54.6
Linguistic	—
Poverty	28.2
Unemployment	99.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—

Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	96.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	0.0
Cognitively Disabled	80.8
Physically Disabled	49.3
Heart Attack ER Admissions	95.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
Physical Health Not Good	0.0
Stroke	0.0

Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	38.3
SLR Inundation Area	0.0
Children	99.4
Elderly	20.2
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	4.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	99.8
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	25.0
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	Based on information that 1 project would be constructed per year.
Construction: Trips and VMT	Haul truck trips assuming 5" of aggregate base imported.

HV GPU: Paving of Quail Canyon Road Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2025) - Unmitigated

3.3. Linear, Grading & Excavation (2025) - Unmitigated

3.5. Linear, Drainage, Utilities, & Sub-Grade (2025) - Unmitigated

3.7. Linear, Paving (2025) - Unmitigated

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	HV GPU: Paving of Quail Canyon Road
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	6.30
Precipitation (days)	20.8
Location	Hungry Valley, California 93225, USA
County	Ventura
City	Unincorporated
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3400
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Road Construction	1.36	Mile	3.20	0.00	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.93	3.29	29.2	31.8	0.07	1.22	2.03	3.26	1.13	0.33	1.46	—	8,229	8,229	0.32	0.27	0.12	8,318
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.13	0.11	0.98	1.06	< 0.005	0.04	0.07	0.11	0.04	0.01	0.05	—	286	286	0.01	0.01	0.08	289
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.02	0.18	0.19	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	47.3	47.3	< 0.005	< 0.005	0.01	47.9

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.93	3.29	29.2	31.8	0.07	1.22	2.03	3.26	1.13	0.33	1.46	—	8,229	8,229	0.32	0.27	0.12	8,318
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2025	0.13	0.11	0.98	1.06	< 0.005	0.04	0.07	0.11	0.04	0.01	0.05	—	286	286	0.01	0.01	0.08	290
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.02	0.02	0.18	0.19	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	47.3	47.3	< 0.005	< 0.005	0.01	47.9

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.39	3.39	3.49	< 0.005	0.21	—	0.21	0.19	—	0.19	—	490	490	0.02	< 0.005	—	492
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.69	2.69	< 0.005	< 0.005	—	2.70

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.44	0.44	< 0.005	< 0.005	—	0.45
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	128	128	0.01	< 0.005	0.01	129
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.06	0.03	1.71	0.41	0.01	0.02	0.33	0.34	0.02	0.09	0.11	—	1,248	1,248	0.03	0.20	0.07	1,307
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.72
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.84	6.84	< 0.005	< 0.005	0.01	7.17
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.12

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.13	1.13	< 0.005	< 0.005	< 0.005	1.19

3.3. Linear, Grading & Excavation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.71	3.11	27.3	29.4	0.06	1.21	—	1.21	1.11	—	1.11	—	6,496	6,496	0.26	0.05	—	6,518
Dust From Material Movement	—	—	—	—	—	—	1.24	1.24	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.52	0.56	< 0.005	0.02	—	0.02	0.02	—	0.02	—	125	125	0.01	< 0.005	—	125
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.6	20.6	< 0.005	< 0.005	—	20.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.15	0.19	2.00	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	447	447	0.02	0.02	0.05	453
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.8	30.8	< 0.005	< 0.005	< 0.005	32.2
Hauling	0.06	0.03	1.71	0.41	0.01	0.02	0.33	0.34	0.02	0.09	0.11	—	1,248	1,248	0.03	0.20	0.07	1,307
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.64	8.64	< 0.005	< 0.005	0.02	8.76
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.62
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.9	23.9	< 0.005	< 0.005	0.02	25.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.43	1.43	< 0.005	< 0.005	< 0.005	1.45
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.96	3.96	< 0.005	< 0.005	< 0.005	4.15

3.5. Linear, Drainage, Utilities, & Sub-Grade (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.99	2.51	22.9	23.6	0.05	0.91	—	0.91	0.84	—	0.84	—	5,694	5,694	0.23	0.05	—	5,713
Dust From Material Movement	—	—	—	—	—	—	1.06	1.06	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.31	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	78.0	78.0	< 0.005	< 0.005	—	78.3
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.9	12.9	< 0.005	< 0.005	—	13.0

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.16	1.71	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	383	383	0.02	0.01	0.04	388
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.06	0.03	1.71	0.41	0.01	0.02	0.33	0.34	0.02	0.09	0.11	—	1,248	1,248	0.03	0.20	0.07	1,307
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.29	5.29	< 0.005	< 0.005	0.01	5.37
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.88	0.88	< 0.005	< 0.005	< 0.005	0.89
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.83	2.83	< 0.005	< 0.005	< 0.005	2.97

3.7. Linear, Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.06	0.89	7.71	10.8	0.01	0.34	—	0.34	0.31	—	0.31	—	1,620	1,620	0.07	0.01	—	1,625
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.88	8.88	< 0.005	< 0.005	—	8.91
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.47	1.47	< 0.005	< 0.005	—	1.47
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	0.12	1.28	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	287	287	0.01	0.01	0.03	291
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.06	0.03	1.71	0.41	0.01	0.02	0.33	0.34	0.02	0.09	0.11	—	1,248	1,248	0.03	0.20	0.07	1,307
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.59	1.59	< 0.005	< 0.005	< 0.005	1.61
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.84	6.84	< 0.005	< 0.005	0.01	7.17
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.26	0.26	< 0.005	< 0.005	< 0.005	0.27
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.13	1.13	< 0.005	< 0.005	< 0.005	1.19

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	1/1/2025	1/3/2025	5.00	2.00	—
Linear, Grading & Excavation	Linear, Grading & Excavation	1/4/2025	1/13/2025	5.00	7.00	—

Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	1/14/2025	1/21/2025	5.00	5.00	—
Linear, Paving	Linear, Paving	1/22/2025	1/24/2025	5.00	2.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	2.00	8.00	6.00	0.82
Linear, Grading & Excavation	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grading & Excavation	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Linear, Grading & Excavation	Graders	Diesel	Average	1.00	8.00	148	0.41
Linear, Grading & Excavation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grading & Excavation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Linear, Grading & Excavation	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Linear, Grading & Excavation	Signal Boards	Electric	Average	2.00	8.00	6.00	0.82
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48

Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Graders	Diesel	Average	1.00	8.00	148	0.41
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	96.0	0.40
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	2.00	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Linear, Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Linear, Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Linear, Paving	Rollers	Diesel	Average	3.00	8.00	36.0	0.38
Linear, Paving	Signal Boards	Electric	Average	2.00	8.00	6.00	0.82
Linear, Paving	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	10.0	18.5	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	10.2	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	18.0	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT

Linear, Grading & Excavation	—	—	—	—
Linear, Grading & Excavation	Worker	35.0	18.5	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.00	10.2	HHDT,MHDT
Linear, Grading & Excavation	Hauling	18.0	20.0	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	30.0	18.5	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	10.2	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	18.0	20.0	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	22.5	18.5	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	10.2	HHDT,MHDT
Linear, Paving	Hauling	18.0	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Linear, Grubbing & Land Clearing	—	—	3.20	0.00	—
Linear, Grading & Excavation	—	—	3.20	0.00	—
Linear, Drainage, Utilities, & Sub-Grade	2,151	—	3.20	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Road Construction	3.20	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	235	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	31.4	annual days of extreme heat
Extreme Precipitation	6.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	32.7	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	63.7
AQ-PM	4.44
AQ-DPM	0.06
Drinking Water	76.4
Lead Risk Housing	27.0
Pesticides	44.0
Toxic Releases	8.61
Traffic	0.09
Effect Indicators	—
CleanUp Sites	81.9
Groundwater	53.5
Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	94.6
Solid Waste	72.4
Sensitive Population	—
Asthma	8.62
Cardio-vascular	2.80
Low Birth Weights	—

Socioeconomic Factor Indicators	—
Education	26.9
Housing	54.6
Linguistic	—
Poverty	28.2
Unemployment	99.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—

Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	96.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	0.0
Cognitively Disabled	80.8
Physically Disabled	49.3
Heart Attack ER Admissions	95.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
Physical Health Not Good	0.0
Stroke	0.0

Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	38.3
SLR Inundation Area	0.0
Children	99.4
Elderly	20.2
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	4.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	99.8
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	25.0
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	Based on construction of one project per year.
Construction: Trips and VMT	Haul truck trips to account for 5" of aggregate base import.

CalEEMod Outputs - Mitigated

HV GPU: New Group Campground Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.3. Construction Emissions by Year, Mitigated

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

2.6. Operations Emissions by Sector, Mitigated

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

3.2. Site Preparation (2025) - Mitigated

3.3. Grading (2025) - Unmitigated

3.4. Grading (2025) - Mitigated

3.5. Building Construction (2025) - Unmitigated

3.6. Building Construction (2025) - Mitigated

3.7. Paving (2026) - Unmitigated

3.8. Paving (2026) - Mitigated

3.9. Architectural Coating (2026) - Unmitigated

3.10. Architectural Coating (2026) - Mitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.1.2. Mitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.2. Electricity Emissions By Land Use - Mitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.2.4. Natural Gas Emissions By Land Use - Mitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.3.2. Mitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.4.2. Mitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.5.2. Mitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.6.2. Mitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.7.2. Mitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.8.2. Mitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.9.2. Mitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.9.2. Mitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.10.4. Landscape Equipment - Mitigated

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.11.2. Mitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.12.2. Mitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.13.2. Mitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.14.2. Mitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	HV GPU: New Group Campground
Construction Start Date	1/1/2025
Operational Year	2050
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	6.30
Precipitation (days)	20.8
Location	Hungry Valley, California 93225, USA
County	Ventura
City	Unincorporated
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3400
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Recreational	1.00	User Defined Unit	2.95	0.00	0.00	0.00	—	—

Other Non-Asphalt Surfaces	0.12	Acre	0.12	0.00	0.00	0.00	—	—
Other Asphalt Surfaces	0.53	Acre	0.53	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Mit.	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.02	3.38	31.7	31.2	0.05	1.37	7.89	9.26	1.26	3.99	5.25	—	5,519	5,519	0.23	0.05	0.03	5,540
Mit.	2.00	2.00	14.8	29.3	0.05	0.12	7.89	7.99	0.11	3.99	4.09	—	5,519	5,519	0.23	0.05	0.03	5,540
% Reduced	50%	41%	53%	6%	—	91%	—	14%	91%	—	22%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.24	0.20	1.76	2.25	< 0.005	0.07	0.09	0.16	0.07	0.04	0.10	—	417	417	0.02	< 0.005	0.05	418
Mit.	0.08	0.07	1.51	2.50	< 0.005	0.02	0.09	0.11	0.02	0.04	0.05	—	417	417	0.02	< 0.005	0.05	418
% Reduced	67%	62%	14%	-11%	—	75%	—	34%	75%	—	49%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.04	0.04	0.32	0.41	< 0.005	0.01	0.02	0.03	0.01	0.01	0.02	—	69.0	69.0	< 0.005	< 0.005	0.01	69.3
Mit.	0.01	0.01	0.28	0.46	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	69.0	69.0	< 0.005	< 0.005	0.01	69.3
% Reduced	67%	62%	14%	-11%	—	75%	—	34%	75%	—	49%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.02	3.38	31.7	31.2	0.05	1.37	7.89	9.26	1.26	3.99	5.25	—	5,519	5,519	0.23	0.05	0.02	5,540
2026	2.12	2.10	6.33	9.88	0.01	0.26	0.26	0.52	0.24	0.06	0.30	—	1,601	1,601	0.06	0.02	0.03	1,608
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.24	0.20	1.76	2.25	< 0.005	0.07	0.09	0.16	0.07	0.04	0.10	—	417	417	0.02	< 0.005	0.05	418
2026	0.04	0.04	0.08	0.12	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	19.3	19.3	< 0.005	< 0.005	0.01	19.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.04	0.04	0.32	0.41	< 0.005	0.01	0.02	0.03	0.01	0.01	0.02	—	69.0	69.0	< 0.005	< 0.005	0.01	69.3
2026	0.01	0.01	0.01	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.20	3.20	< 0.005	< 0.005	< 0.005	3.21

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.72	0.71	14.8	29.3	0.05	0.12	7.89	7.99	0.11	3.99	4.09	—	5,519	5,519	0.23	0.05	0.02	5,540
2026	2.00	2.00	6.66	10.4	0.01	0.09	0.26	0.35	0.09	0.06	0.15	—	1,601	1,601	0.06	0.02	0.03	1,608
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.08	0.07	1.51	2.50	< 0.005	0.02	0.09	0.11	0.02	0.04	0.05	—	417	417	0.02	< 0.005	0.05	418
2026	0.03	0.03	0.08	0.13	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	19.3	19.3	< 0.005	< 0.005	0.01	19.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.01	0.01	0.28	0.46	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	69.0	69.0	< 0.005	< 0.005	0.01	69.3
2026	0.01	0.01	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.20	3.20	< 0.005	< 0.005	< 0.005	3.21

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	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. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	29.0	29.0	< 0.005	< 0.005	—	29.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.80	4.80	< 0.005	< 0.005	—	4.82
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	1.00	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	224	224	0.01	0.01	0.02	226
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.25
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.64	0.64	14.7	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	< 0.005	< 0.005	0.08	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.0	29.0	< 0.005	< 0.005	—	29.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	< 0.005	< 0.005	0.01	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.80	4.80	< 0.005	< 0.005	—	4.82
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	1.00	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	224	224	0.01	0.01	0.02	226
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.25
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.07	1.74	16.3	17.9	0.03	0.72	—	0.72	0.66	—	0.66	—	2,959	2,959	0.12	0.02	—	2,970

Dust From Material Movement	—	—	—	—	—	—	2.79	2.79	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.2	16.2	< 0.005	< 0.005	—	16.3
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.68	2.68	< 0.005	< 0.005	—	2.69
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.86	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	192	192	0.01	0.01	0.02	194

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.06	1.06	< 0.005	< 0.005	< 0.005	1.07
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.18
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	0.39	10.3	17.8	0.03	0.08	—	0.08	0.08	—	0.08	—	2,959	2,959	0.12	0.02	—	2,970
Dust From Material Movement	—	—	—	—	—	—	2.79	2.79	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.2	16.2	< 0.005	< 0.005	—	16.3
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.68	2.68	< 0.005	< 0.005	—	2.69
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.86	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	192	192	0.01	0.01	0.02	194
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.06	1.06	< 0.005	< 0.005	< 0.005	1.07

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.18
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.49	1.86	< 0.005	0.06	—	0.06	0.06	—	0.06	—	342	342	0.01	< 0.005	—	343
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.04	0.03	0.27	0.34	< 0.005	0.01	—	0.01	0.01	—	0.01	—	56.6	56.6	< 0.005	< 0.005	—	56.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.86	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	192	192	0.01	0.01	0.02	194
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.12	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	27.5	27.5	< 0.005	< 0.005	0.05	27.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.55	4.55	< 0.005	< 0.005	0.01	4.62
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.42	9.53	14.8	0.02	0.12	—	0.12	0.11	—	0.11	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	1.36	2.11	< 0.005	0.02	—	0.02	0.02	—	0.02	—	342	342	0.01	< 0.005	—	343
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.25	0.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	56.6	56.6	< 0.005	< 0.005	—	56.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.86	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	192	192	0.01	0.01	0.02	194
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.01	0.12	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	27.5	27.5	< 0.005	< 0.005	0.05	27.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.55	4.55	< 0.005	< 0.005	0.01	4.62
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.81	0.68	6.23	8.81	0.01	0.26	—	0.26	0.24	—	0.24	—	1,350	1,350	0.05	0.01	—	1,355
Paving	0.35	0.35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.8	14.8	< 0.005	< 0.005	—	14.8
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.45	2.45	< 0.005	< 0.005	—	2.46
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.10	1.06	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	251	251	< 0.005	0.01	0.03	254
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.77	2.77	< 0.005	< 0.005	< 0.005	2.80
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.46	0.46	< 0.005	< 0.005	< 0.005	0.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Paving (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.27	6.56	9.35	0.01	0.09	—	0.09	0.09	—	0.09	—	1,350	1,350	0.05	0.01	—	1,355
Paving	0.35	0.35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.8	14.8	< 0.005	< 0.005	—	14.8
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.45	2.45	< 0.005	< 0.005	—	2.46
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.10	1.06	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	251	251	< 0.005	0.01	0.03	254
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.77	2.77	< 0.005	< 0.005	< 0.005	2.80
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.46	0.46	< 0.005	< 0.005	< 0.005	0.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.97	1.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.46	1.46	< 0.005	< 0.005	—	1.47
Architectural Coatings	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.24	0.24	< 0.005	< 0.005	—	0.24
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	25.1	25.1	< 0.005	< 0.005	< 0.005	25.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.28
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Architectural Coating (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	1.07	0.96	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134

Architectural Coating	1.97	1.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.46	1.46	< 0.005	< 0.005	—	1.47
Architectural Coatings	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.24	0.24	< 0.005	< 0.005	—	0.24
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	25.1	25.1	< 0.005	< 0.005	< 0.005	25.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.28
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consum Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2025	1/2/2025	5.00	2.00	—

Grading	Grading	1/3/2025	1/6/2025	5.00	2.00	—
Building Construction	Building Construction	1/7/2025	3/19/2025	5.00	52.0	—
Paving	Paving	3/20/2026	3/25/2026	5.00	4.00	—
Architectural Coating	Architectural Coating	3/26/2026	3/31/2026	5.00	4.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38

Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 4 Interim	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Tier 4 Interim	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	8.00	367	0.40
Building Construction	Cranes	Diesel	Tier 4 Interim	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Interim	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Tier 4 Interim	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	3.00	7.00	84.0	0.37
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Tier 4 Interim	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Interim	2.00	6.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	15.0	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	0.00	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.00	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	15.0	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	0.00	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.00	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	0.00	0.00	1,699

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	0.00	3.00	0.00	—
Grading	—	789	2.00	0.00	—
Paving	0.00	0.00	0.00	0.00	0.65

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Recreational	0.00	0%
Other Non-Asphalt Surfaces	0.12	0%
Other Asphalt Surfaces	0.53	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	0.00	1,699

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Recreational	0.00	261	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	261	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	261	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Recreational	0.00	261	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	261	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	261	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Recreational	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Recreational	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Recreational	0.00	—
Other Non-Asphalt Surfaces	0.00	—
Other Asphalt Surfaces	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Recreational	0.00	—
Other Non-Asphalt Surfaces	0.00	—
Other Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	31.4	annual days of extreme heat
Extreme Precipitation	6.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	32.7	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A

Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	63.7
AQ-PM	4.44
AQ-DPM	0.06
Drinking Water	76.4
Lead Risk Housing	27.0
Pesticides	44.0
Toxic Releases	8.61
Traffic	0.09
Effect Indicators	—
CleanUp Sites	81.9
Groundwater	53.5
Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	94.6
Solid Waste	72.4
Sensitive Population	—
Asthma	8.62
Cardio-vascular	2.80
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	26.9
Housing	54.6
Linguistic	—
Poverty	28.2
Unemployment	99.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—

Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	96.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	0.0
Cognitively Disabled	80.8
Physically Disabled	49.3
Heart Attack ER Admissions	95.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	38.3
SLR Inundation Area	0.0

Children	99.4
Elderly	20.2
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	4.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	99.8
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	25.0
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	Based on construction of one project per year.
Land Use	Accounts for a portion of the land use area to be for parking/hookups, shade, tables, restrooms, etc.
Construction: Construction Phases	Construction default schedule scaled down to a 3 month construction duration assumption.
Construction: Trips and VMT	Default trips; assumes same number of workers during construction phase as during grading. Arch Coating assumes minimal worker trips (2). No material export.
Construction: Dust From Material Movement	Defaults

HV GPU: New RV Campground Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.3. Construction Emissions by Year, Mitigated

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

2.6. Operations Emissions by Sector, Mitigated

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

3.2. Site Preparation (2025) - Mitigated

3.3. Grading (2025) - Unmitigated

3.4. Grading (2025) - Mitigated

3.5. Building Construction (2025) - Unmitigated

3.6. Building Construction (2025) - Mitigated

3.7. Paving (2026) - Unmitigated

3.8. Paving (2026) - Mitigated

3.9. Architectural Coating (2026) - Unmitigated

3.10. Architectural Coating (2026) - Mitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.1.2. Mitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.2. Electricity Emissions By Land Use - Mitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.2.4. Natural Gas Emissions By Land Use - Mitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.3.2. Mitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.4.2. Mitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.5.2. Mitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.6.2. Mitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.7.2. Mitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.8.2. Mitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.9.2. Mitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.9.2. Mitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.10.4. Landscape Equipment - Mitigated

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.11.2. Mitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.12.2. Mitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.13.2. Mitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.14.2. Mitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	HV GPU: New RV Campground
Construction Start Date	1/1/2025
Operational Year	2050
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	6.30
Precipitation (days)	20.8
Location	Hungry Valley, California 93225, USA
County	Ventura
City	Unincorporated
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3400
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Recreational	1.00	User Defined Unit	3.80	0.00	0.00	0.00	—	—

Other Asphalt Surfaces	0.66	Acre	0.66	0.00	0.00	0.00	—	—
Other Non-Asphalt Surfaces	0.14	Acre	0.14	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.15	2.12	10.5	14.0	0.02	0.43	0.26	0.63	0.40	0.06	0.44	—	2,598	2,598	0.11	0.03	0.98	2,610
Mit.	2.03	2.02	9.60	15.8	0.02	0.12	0.26	0.35	0.11	0.06	0.16	—	2,598	2,598	0.11	0.03	0.98	2,610
% Reduced	6%	5%	9%	-13%	—	72%	—	44%	72%	—	64%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.02	3.38	31.7	31.2	0.05	1.37	7.91	9.28	1.26	4.00	5.25	—	5,519	5,519	0.23	0.05	0.02	5,540
Mit.	0.72	0.71	14.8	29.3	0.05	0.12	7.91	8.01	0.11	4.00	4.10	—	5,519	5,519	0.23	0.05	0.02	5,540
% Reduced	82%	79%	53%	6%	—	91%	—	14%	91%	—	22%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.30	0.25	2.25	2.90	< 0.005	0.09	0.10	0.19	0.09	0.04	0.12	—	537	537	0.02	0.01	0.07	540
Mit.	0.10	0.10	1.96	3.23	< 0.005	0.02	0.10	0.12	0.02	0.04	0.06	—	537	537	0.02	0.01	0.07	540
% Reduced	66%	62%	13%	-11%	—	75%	—	37%	74%	—	51%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.06	0.05	0.41	0.53	< 0.005	0.02	0.02	0.03	0.02	0.01	0.02	—	89.0	89.0	< 0.005	< 0.005	0.01	89.3
Mit.	0.02	0.02	0.36	0.59	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	89.0	89.0	< 0.005	< 0.005	0.01	89.3
% Reduced	66%	62%	13%	-11%	—	75%	—	37%	74%	—	51%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.42	1.19	10.5	14.0	0.02	0.43	0.20	0.63	0.40	0.05	0.44	—	2,598	2,598	0.11	0.03	0.81	2,610
2026	2.15	2.12	6.31	9.99	0.01	0.26	0.26	0.52	0.24	0.06	0.30	—	1,612	1,612	0.06	0.02	0.98	1,621
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.02	3.38	31.7	31.2	0.05	1.37	7.91	9.28	1.26	4.00	5.25	—	5,519	5,519	0.23	0.05	0.02	5,540
2026	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.30	0.25	2.25	2.90	< 0.005	0.09	0.10	0.19	0.09	0.04	0.12	—	537	537	0.02	0.01	0.07	540
2026	0.05	0.04	0.10	0.16	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	26.4	26.4	< 0.005	< 0.005	0.01	26.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.06	0.05	0.41	0.53	< 0.005	0.02	0.02	0.03	0.02	0.01	0.02	—	89.0	89.0	< 0.005	< 0.005	0.01	89.3
2026	0.01	0.01	0.02	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.37	4.37	< 0.005	< 0.005	< 0.005	4.39

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.51	0.48	9.60	15.8	0.02	0.12	0.20	0.32	0.11	0.05	0.16	—	2,598	2,598	0.11	0.03	0.81	2,610
2026	2.03	2.02	6.64	10.5	0.01	0.09	0.26	0.35	0.09	0.06	0.15	—	1,612	1,612	0.06	0.02	0.98	1,621
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.72	0.71	14.8	29.3	0.05	0.12	7.91	8.01	0.11	4.00	4.10	—	5,519	5,519	0.23	0.05	0.02	5,540
2026	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.10	0.10	1.96	3.23	< 0.005	0.02	0.10	0.12	0.02	0.04	0.06	—	537	537	0.02	0.01	0.07	540
2026	0.04	0.04	0.11	0.17	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.4	26.4	< 0.005	< 0.005	0.01	26.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.02	0.02	0.36	0.59	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	89.0	89.0	< 0.005	< 0.005	0.01	89.3
2026	0.01	0.01	0.02	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.37	4.37	< 0.005	< 0.005	< 0.005	4.39

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.01	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.01	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.01	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.01	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	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. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.68	7.68	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	29.0	29.0	< 0.005	< 0.005	—	29.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.80	4.80	< 0.005	< 0.005	—	4.82

Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	1.00	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	224	224	0.01	0.01	0.02	226
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.25
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	14.7	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.68	7.68	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.08	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.0	29.0	< 0.005	< 0.005	—	29.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.80	4.80	< 0.005	< 0.005	—	4.82
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	1.00	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	224	224	0.01	0.01	0.02	226
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.25
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	2.07	1.74	16.3	17.9	0.03	0.72	—	0.72	0.66	—	0.66	—	2,959	2,959	0.12	0.02	—	2,970
Dust From Material Movement	—	—	—	—	—	—	2.78	2.78	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.01	0.01	0.09	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.2	16.2	< 0.005	< 0.005	—	16.3
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.68	2.68	< 0.005	< 0.005	—	2.69
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.86	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	192	192	0.01	0.01	0.02	194
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.06	1.06	< 0.005	< 0.005	< 0.005	1.07
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.18
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	0.39	10.3	17.8	0.03	0.08	—	0.08	0.08	—	0.08	—	2,959	2,959	0.12	0.02	—	2,970

Dust From Material Movement	—	—	—	—	—	—	2.78	2.78	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.2	16.2	< 0.005	< 0.005	—	16.3
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.68	2.68	< 0.005	< 0.005	—	2.69
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.86	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	192	192	0.01	0.01	0.02	194

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.06	1.06	< 0.005	< 0.005	< 0.005	1.07
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.18
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.97	2.47	< 0.005	0.08	—	0.08	0.08	—	0.08	—	453	453	0.02	< 0.005	—	455
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.45	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.0	75.0	< 0.005	< 0.005	—	75.3
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.94	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	201	201	0.01	0.01	0.81	204
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.86	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	192	192	0.01	0.01	0.02	194
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	36.5	36.5	< 0.005	< 0.005	0.07	37.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.04	6.04	< 0.005	< 0.005	0.01	6.13
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.42	9.53	14.8	0.02	0.12	—	0.12	0.11	—	0.11	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.42	9.53	14.8	0.02	0.12	—	0.12	0.11	—	0.11	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	1.80	2.80	< 0.005	0.02	—	0.02	0.02	—	0.02	—	453	453	0.02	< 0.005	—	455

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.33	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	75.0	75.0	< 0.005	< 0.005	—	75.3
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.94	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	201	201	0.01	0.01	0.81	204
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.86	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	192	192	0.01	0.01	0.02	194
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	36.5	36.5	< 0.005	< 0.005	0.07	37.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.04	6.04	< 0.005	< 0.005	0.01	6.13
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.81	0.68	6.23	8.81	0.01	0.26	—	0.26	0.24	—	0.24	—	1,350	1,350	0.05	0.01	—	1,355
Paving	0.35	0.35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.5	18.5	< 0.005	< 0.005	—	18.6
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.06	3.06	< 0.005	< 0.005	—	3.07
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	1.17	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	262	262	< 0.005	0.01	0.98	266
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.46	3.46	< 0.005	< 0.005	0.01	3.50
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.57	0.57	< 0.005	< 0.005	< 0.005	0.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Paving (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.27	6.56	9.35	0.01	0.09	—	0.09	0.09	—	0.09	—	1,350	1,350	0.05	0.01	—	1,355
Paving	0.35	0.35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.09	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.5	18.5	< 0.005	< 0.005	—	18.6
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.06	3.06	< 0.005	< 0.005	—	3.07
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	1.17	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	262	262	< 0.005	0.01	0.98	266
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.46	3.46	< 0.005	< 0.005	0.01	3.50

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.57	0.57	< 0.005	< 0.005	< 0.005	0.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.94	1.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.83	1.83	< 0.005	< 0.005	—	1.84

Architectural	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.30	0.30	< 0.005	< 0.005	—	0.30
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.88	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	197	197	< 0.005	0.01	0.74	199
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.59	2.59	< 0.005	< 0.005	< 0.005	2.63
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.43	0.43	< 0.005	< 0.005	< 0.005	0.44
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Architectural Coating (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	1.07	0.96	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.94	1.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.83	1.83	< 0.005	< 0.005	—	1.84
Architectural Coatings	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.30	0.30	< 0.005	< 0.005	—	0.30
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.88	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	197	197	< 0.005	0.01	0.74	199
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.59	2.59	< 0.005	< 0.005	< 0.005	2.63
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.43	0.43	< 0.005	< 0.005	< 0.005	0.44
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2025	1/2/2025	5.00	2.00	—
Grading	Grading	1/3/2025	1/6/2025	5.00	2.00	—

Building Construction	Building Construction	1/7/2025	4/11/2025	5.00	69.0	—
Paving	Paving	4/12/2026	4/19/2026	5.00	5.00	—
Architectural Coating	Architectural Coating	4/20/2026	4/24/2026	5.00	5.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 4 Interim	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Tier 4 Interim	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	8.00	367	0.40
Building Construction	Cranes	Diesel	Tier 4 Interim	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Interim	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Tier 4 Interim	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	3.00	7.00	84.0	0.37
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Tier 4 Interim	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Interim	2.00	6.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix

Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	15.0	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	0.00	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	15.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix

Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	15.0	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	0.00	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	15.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	0.00	0.00	2,091

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	444	3.00	0.00	—
Grading	—	444	2.00	0.00	—
Paving	0.00	0.00	0.00	0.00	0.80

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Recreational	0.00	0%
Other Asphalt Surfaces	0.66	100%
Other Non-Asphalt Surfaces	0.14	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	0.00	2,091

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Recreational	0.00	261	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	261	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	261	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Recreational	0.00	261	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	261	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	261	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Recreational	0.00	0.00
Other Asphalt Surfaces	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Recreational	0.00	0.00
Other Asphalt Surfaces	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Recreational	0.00	—
Other Asphalt Surfaces	0.00	—
Other Non-Asphalt Surfaces	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Recreational	0.00	—
Other Asphalt Surfaces	0.00	—
Other Non-Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	31.4	annual days of extreme heat
Extreme Precipitation	6.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	32.7	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A

Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	63.7
AQ-PM	4.44
AQ-DPM	0.06
Drinking Water	76.4
Lead Risk Housing	27.0
Pesticides	44.0
Toxic Releases	8.61
Traffic	0.09
Effect Indicators	—
CleanUp Sites	81.9
Groundwater	53.5
Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	94.6
Solid Waste	72.4
Sensitive Population	—
Asthma	8.62
Cardio-vascular	2.80
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	26.9
Housing	54.6
Linguistic	—
Poverty	28.2
Unemployment	99.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—

Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	96.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	0.0
Cognitively Disabled	80.8
Physically Disabled	49.3
Heart Attack ER Admissions	95.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	38.3
SLR Inundation Area	0.0

Children	99.4
Elderly	20.2
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	4.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	99.8
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	25.0
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	Based on construction project per year.
Land Use	Acreage split between anticipated areas for parking/utility hook-ups/restrooms, etc.
Construction: Construction Phases	Default construction schedule scaled down to construction duration of 4 months.
Construction: Trips and VMT	Default trips; assumes same number of workers during construction and arch coating as during grading; no material export.

HV GPU: Paving of Hungry Valley Road Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.3. Construction Emissions by Year, Mitigated

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2025) - Unmitigated

3.2. Linear, Grubbing & Land Clearing (2025) - Mitigated

3.3. Linear, Grading & Excavation (2025) - Unmitigated

3.4. Linear, Grading & Excavation (2025) - Mitigated

3.5. Linear, Drainage, Utilities, & Sub-Grade (2025) - Unmitigated

3.6. Linear, Drainage, Utilities, & Sub-Grade (2025) - Mitigated

3.7. Linear, Paving (2025) - Unmitigated

3.8. Linear, Paving (2025) - Mitigated

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	HV GPU: Paving of Hungry Valley Road
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	6.30
Precipitation (days)	20.8
Location	Hungry Valley, California 93225, USA
County	Ventura
City	Unincorporated
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3400
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Road Construction	5.12	Mile	12.5	0.00	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.19	3.45	34.3	34.1	0.09	1.27	3.24	4.50	1.17	0.66	1.83	—	12,121	12,121	0.41	0.84	0.36	12,383
Mit.	1.24	1.05	13.1	42.3	0.09	0.23	3.24	3.42	0.23	0.66	0.87	—	12,121	12,121	0.41	0.84	0.36	12,383
% Reduced	70%	69%	62%	-24%	—	82%	—	24%	81%	—	53%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.14	0.11	1.20	1.16	< 0.005	0.04	0.12	0.16	0.04	0.03	0.06	—	457	457	0.02	0.04	0.26	468
Mit.	0.04	0.04	0.51	1.42	< 0.005	0.01	0.12	0.13	0.01	0.03	0.03	—	457	457	0.02	0.04	0.26	468
% Reduced	68%	67%	57%	-23%	—	82%	—	21%	80%	—	48%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.03	0.02	0.22	0.21	< 0.005	0.01	0.02	0.03	0.01	< 0.005	0.01	—	75.6	75.6	< 0.005	0.01	0.04	77.5
Mit.	0.01	0.01	0.09	0.26	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	75.6	75.6	< 0.005	0.01	0.04	77.5
% Reduced	68%	67%	57%	-23%	—	82%	—	21%	80%	—	48%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.19	3.45	34.3	34.1	0.09	1.27	3.24	4.50	1.17	0.66	1.83	—	12,121	12,121	0.41	0.84	0.36	12,383
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.14	0.11	1.20	1.16	< 0.005	0.04	0.12	0.16	0.04	0.03	0.06	—	457	457	0.02	0.04	0.26	468
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.03	0.02	0.22	0.21	< 0.005	0.01	0.02	0.03	0.01	< 0.005	0.01	—	75.6	75.6	< 0.005	0.01	0.04	77.5

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.24	1.05	13.1	42.3	0.09	0.23	3.24	3.42	0.23	0.66	0.87	—	12,121	12,121	0.41	0.84	0.36	12,383
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.04	0.04	0.51	1.42	< 0.005	0.01	0.12	0.13	0.01	0.03	0.03	—	457	457	0.02	0.04	0.26	468
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.01	0.01	0.09	0.26	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	75.6	75.6	< 0.005	0.01	0.04	77.5

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.39	3.39	3.49	< 0.005	0.21	—	0.21	0.19	—	0.19	—	490	490	0.02	< 0.005	—	492
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.69	2.69	< 0.005	< 0.005	—	2.70
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.44	0.44	< 0.005	< 0.005	—	0.45
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.16	1.71	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	383	383	0.02	0.01	0.04	388
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.22	0.10	6.65	1.58	0.03	0.06	1.27	1.33	0.06	0.36	0.42	—	4,853	4,853	0.11	0.76	0.28	5,082
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.12	2.12	< 0.005	< 0.005	< 0.005	2.15
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.6	26.6	< 0.005	< 0.005	0.03	27.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.36
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.40	4.40	< 0.005	< 0.005	< 0.005	4.61

3.2. Linear, Grubbing & Land Clearing (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.84	3.43	< 0.005	0.01	—	0.01	0.01	—	0.01	—	490	490	0.02	< 0.005	—	492
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.69	2.69	< 0.005	< 0.005	—	2.70
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.44	0.44	< 0.005	< 0.005	—	0.45
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.16	1.71	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	383	383	0.02	0.01	0.04	388
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.22	0.10	6.65	1.58	0.03	0.06	1.27	1.33	0.06	0.36	0.42	—	4,853	4,853	0.11	0.76	0.28	5,082
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.12	2.12	< 0.005	< 0.005	< 0.005	2.15
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.6	26.6	< 0.005	< 0.005	0.03	27.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.36
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.40	4.40	< 0.005	< 0.005	< 0.005	4.61

3.3. Linear, Grading & Excavation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	3.71	3.11	27.3	29.4	0.06	1.21	—	1.21	1.11	—	1.11	—	6,496	6,496	0.26	0.05	—	6,518
Dust From Material Movement	—	—	—	—	—	—	1.24	1.24	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.07	0.06	0.52	0.56	< 0.005	0.02	—	0.02	0.02	—	0.02	—	125	125	0.01	< 0.005	—	125
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.01	0.01	0.10	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.6	20.6	< 0.005	< 0.005	—	20.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.23	0.29	3.14	0.00	0.00	0.72	0.72	0.00	0.17	0.17	—	703	703	0.04	0.03	0.08	712
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.8	30.8	< 0.005	< 0.005	< 0.005	32.2
Hauling	0.22	0.10	6.65	1.58	0.03	0.06	1.27	1.33	0.06	0.36	0.42	—	4,853	4,853	0.11	0.76	0.28	5,082
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.6	13.6	< 0.005	< 0.005	0.02	13.8
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.62
Hauling	< 0.005	< 0.005	0.13	0.03	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	93.0	93.0	< 0.005	0.01	0.09	97.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.25	2.25	< 0.005	< 0.005	< 0.005	2.28
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.4	15.4	< 0.005	< 0.005	0.01	16.1

3.4. Linear, Grading & Excavation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.66	0.66	6.16	37.5	0.06	0.12	—	0.12	0.12	—	0.12	—	6,496	6,496	0.26	0.05	—	6,518

Dust From Material Movement	—	—	—	—	—	—	1.24	1.24	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.72	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	125	125	0.01	< 0.005	—	125
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.6	20.6	< 0.005	< 0.005	—	20.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.23	0.29	3.14	0.00	0.00	0.72	0.72	0.00	0.17	0.17	—	703	703	0.04	0.03	0.08	712

Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.8	30.8	< 0.005	< 0.005	< 0.005	32.2
Hauling	0.22	0.10	6.65	1.58	0.03	0.06	1.27	1.33	0.06	0.36	0.42	—	4,853	4,853	0.11	0.76	0.28	5,082
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.6	13.6	< 0.005	< 0.005	0.02	13.8
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.62
Hauling	< 0.005	< 0.005	0.13	0.03	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	93.0	93.0	< 0.005	0.01	0.09	97.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.25	2.25	< 0.005	< 0.005	< 0.005	2.28
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.4	15.4	< 0.005	< 0.005	0.01	16.1

3.5. Linear, Drainage, Utilities, & Sub-Grade (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.99	2.51	22.9	23.6	0.05	0.91	—	0.91	0.84	—	0.84	—	5,694	5,694	0.23	0.05	—	5,713
Dust From Material Movement	—	—	—	—	—	—	1.15	1.15	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.31	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	78.0	78.0	< 0.005	< 0.005	—	78.3
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.9	12.9	< 0.005	< 0.005	—	13.0
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.21	0.27	2.85	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	639	639	0.03	0.02	0.07	647
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.22	0.10	6.65	1.58	0.03	0.06	1.27	1.33	0.06	0.36	0.42	—	4,853	4,853	0.11	0.76	0.28	5,082
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.81	8.81	< 0.005	< 0.005	0.02	8.94

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.09	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	66.5	66.5	< 0.005	0.01	0.06	69.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.46	1.46	< 0.005	< 0.005	< 0.005	1.48
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.0	11.0	< 0.005	< 0.005	0.01	11.5

3.6. Linear, Drainage, Utilities, & Sub-Grade (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.79	0.74	5.13	31.6	0.05	0.17	—	0.17	0.17	—	0.17	—	5,694	5,694	0.23	0.05	—	5,713
Dust From Material Movement	—	—	—	—	—	—	1.15	1.15	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.43	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	78.0	78.0	< 0.005	< 0.005	—	78.3

Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.9	12.9	< 0.005	< 0.005	—	13.0
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.21	0.27	2.85	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	639	639	0.03	0.02	0.07	647
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.22	0.10	6.65	1.58	0.03	0.06	1.27	1.33	0.06	0.36	0.42	—	4,853	4,853	0.11	0.76	0.28	5,082
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.81	8.81	< 0.005	< 0.005	0.02	8.94
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.09	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	66.5	66.5	< 0.005	0.01	0.06	69.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.46	1.46	< 0.005	< 0.005	< 0.005	1.48

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.0	11.0	< 0.005	< 0.005	0.01	11.5

3.7. Linear, Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.06	0.89	7.71	10.8	0.01	0.34	—	0.34	0.31	—	0.31	—	1,620	1,620	0.07	0.01	—	1,625
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.88	8.88	< 0.005	< 0.005	—	8.91
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.47	1.47	< 0.005	< 0.005	—	1.47
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	0.23	2.42	0.00	0.00	0.56	0.56	0.00	0.13	0.13	—	543	543	0.03	0.02	0.06	550
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.22	0.10	6.65	1.58	0.03	0.06	1.27	1.33	0.06	0.36	0.42	—	4,853	4,853	0.11	0.76	0.28	5,082
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.00	3.00	< 0.005	< 0.005	0.01	3.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.6	26.6	< 0.005	< 0.005	0.03	27.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.50	0.50	< 0.005	< 0.005	< 0.005	0.50
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.40	4.40	< 0.005	< 0.005	< 0.005	4.61

3.8. Linear, Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.18	0.18	2.58	11.3	0.01	0.03	—	0.03	0.03	—	0.03	—	1,620	1,620	0.07	0.01	—	1,625
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.88	8.88	< 0.005	< 0.005	—	8.91
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.47	1.47	< 0.005	< 0.005	—	1.47
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	0.23	2.42	0.00	0.00	0.56	0.56	0.00	0.13	0.13	—	543	543	0.03	0.02	0.06	550
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.22	0.10	6.65	1.58	0.03	0.06	1.27	1.33	0.06	0.36	0.42	—	4,853	4,853	0.11	0.76	0.28	5,082
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.00	3.00	< 0.005	< 0.005	0.01	3.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.6	26.6	< 0.005	< 0.005	0.03	27.9

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.50	0.50	< 0.005	< 0.005	< 0.005	0.50
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.40	4.40	< 0.005	< 0.005	< 0.005	4.61

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	1/1/2025	1/3/2025	5.00	2.00	—
Linear, Grading & Excavation	Linear, Grading & Excavation	1/4/2025	1/13/2025	5.00	7.00	—
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	1/14/2025	1/21/2025	5.00	5.00	—
Linear, Paving	Linear, Paving	1/22/2025	1/24/2025	5.00	2.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	10.0	8.00	6.00	0.82
Linear, Grading & Excavation	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grading & Excavation	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Linear, Grading & Excavation	Graders	Diesel	Average	1.00	8.00	148	0.41
Linear, Grading & Excavation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grading & Excavation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Linear, Grading & Excavation	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Linear, Grading & Excavation	Signal Boards	Electric	Average	10.0	8.00	6.00	0.82
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Graders	Diesel	Average	1.00	8.00	148	0.41
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43

Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	96.0	0.40
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	10.0	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Linear, Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Linear, Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Linear, Paving	Rollers	Diesel	Average	3.00	8.00	36.0	0.38
Linear, Paving	Signal Boards	Electric	Average	10.0	8.00	6.00	0.82
Linear, Paving	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Tier 4 Final	1.00	8.00	87.0	0.43
Linear, Grubbing & Land Clearing	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	10.0	8.00	6.00	0.82
Linear, Grading & Excavation	Crawler Tractors	Diesel	Tier 4 Final	1.00	8.00	87.0	0.43
Linear, Grading & Excavation	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Linear, Grading & Excavation	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Linear, Grading & Excavation	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38

Linear, Grading & Excavation	Rubber Tired Loaders	Diesel	Tier 4 Final	1.00	8.00	150	0.36
Linear, Grading & Excavation	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Linear, Grading & Excavation	Signal Boards	Electric	Average	10.0	8.00	6.00	0.82
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Tier 4 Final	1.00	8.00	37.0	0.48
Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Tier 4 Final	1.00	8.00	96.0	0.40
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	10.0	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Linear, Paving	Pavers	Diesel	Tier 4 Final	1.00	8.00	81.0	0.42
Linear, Paving	Paving Equipment	Diesel	Tier 4 Final	1.00	8.00	89.0	0.36
Linear, Paving	Rollers	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Linear, Paving	Signal Boards	Electric	Average	10.0	8.00	6.00	0.82
Linear, Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	30.0	18.5	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	10.2	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	70.0	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	—	—	—	—
Linear, Grading & Excavation	Worker	55.0	18.5	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.00	10.2	HHDT,MHDT
Linear, Grading & Excavation	Hauling	70.0	20.0	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	50.0	18.5	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	10.2	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	70.0	20.0	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	42.5	18.5	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	10.2	HHDT,MHDT
Linear, Paving	Hauling	70.0	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	30.0	18.5	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	10.2	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	70.0	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	—	—	—	—
Linear, Grading & Excavation	Worker	55.0	18.5	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.00	10.2	HHDT,MHDT
Linear, Grading & Excavation	Hauling	70.0	20.0	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	50.0	18.5	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	10.2	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	70.0	20.0	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	42.5	18.5	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	10.2	HHDT,MHDT
Linear, Paving	Hauling	70.0	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Linear, Grubbing & Land Clearing	—	—	12.5	0.00	—
Linear, Grading & Excavation	—	—	12.5	0.00	—
Linear, Drainage, Utilities, & Sub-Grade	8,403	—	12.5	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Road Construction	12.5	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O

2025	1,174	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	31.4	annual days of extreme heat
Extreme Precipitation	6.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	32.7	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	63.7

AQ-PM	4.44
AQ-DPM	0.06
Drinking Water	76.4
Lead Risk Housing	27.0
Pesticides	44.0
Toxic Releases	8.61
Traffic	0.09
Effect Indicators	—
CleanUp Sites	81.9
Groundwater	53.5
Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	94.6
Solid Waste	72.4
Sensitive Population	—
Asthma	8.62
Cardio-vascular	2.80
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	26.9
Housing	54.6
Linguistic	—
Poverty	28.2
Unemployment	99.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—

Above Poverty	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0

Asthma ER Admissions	96.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	0.0
Cognitively Disabled	80.8
Physically Disabled	49.3
Heart Attack ER Admissions	95.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	38.3
SLR Inundation Area	0.0
Children	99.4
Elderly	20.2
English Speaking	0.0
Foreign-born	0.0

Outdoor Workers	4.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	99.8
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	25.0
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	Based on information that 1 project would be constructed per year.
Construction: Trips and VMT	Haul truck trips assuming 5" of aggregate base imported.

HV GPU: Paving of Quail Canyon Road Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.3. Construction Emissions by Year, Mitigated

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2025) - Unmitigated

3.2. Linear, Grubbing & Land Clearing (2025) - Mitigated

3.3. Linear, Grading & Excavation (2025) - Unmitigated

3.4. Linear, Grading & Excavation (2025) - Mitigated

3.5. Linear, Drainage, Utilities, & Sub-Grade (2025) - Unmitigated

3.6. Linear, Drainage, Utilities, & Sub-Grade (2025) - Mitigated

3.7. Linear, Paving (2025) - Unmitigated

3.8. Linear, Paving (2025) - Mitigated

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	HV GPU: Paving of Quail Canyon Road
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	6.30
Precipitation (days)	20.8
Location	Hungry Valley, California 93225, USA
County	Ventura
City	Unincorporated
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3400
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Road Construction	1.36	Mile	3.20	0.00	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.93	3.29	29.2	31.8	0.07	1.22	2.03	3.26	1.13	0.33	1.46	—	8,229	8,229	0.32	0.27	0.12	8,318
Mit.	0.99	0.90	8.10	40.0	0.07	0.19	2.03	2.17	0.18	0.33	0.48	—	8,229	8,229	0.32	0.27	0.12	8,318
% Reduced	75%	73%	72%	-26%	—	85%	—	33%	84%	—	67%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.13	0.11	0.98	1.06	< 0.005	0.04	0.07	0.11	0.04	0.01	0.05	—	286	286	0.01	0.01	0.08	290
Mit.	0.03	0.03	0.29	1.32	< 0.005	0.01	0.07	0.08	0.01	0.01	0.02	—	286	286	0.01	0.01	0.08	290
% Reduced	74%	72%	70%	-25%	—	86%	—	31%	85%	—	64%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.02	0.18	0.19	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	47.3	47.3	< 0.005	< 0.005	0.01	47.9
Mit.	0.01	0.01	0.05	0.24	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	47.3	47.3	< 0.005	< 0.005	0.01	47.9
% Reduced	74%	72%	70%	-25%	—	86%	—	31%	85%	—	64%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.93	3.29	29.2	31.8	0.07	1.22	2.03	3.26	1.13	0.33	1.46	—	8,229	8,229	0.32	0.27	0.12	8,318
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.13	0.11	0.98	1.06	< 0.005	0.04	0.07	0.11	0.04	0.01	0.05	—	286	286	0.01	0.01	0.08	290
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.02	0.02	0.18	0.19	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	47.3	47.3	< 0.005	< 0.005	0.01	47.9

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.99	0.90	8.10	40.0	0.07	0.19	2.03	2.17	0.18	0.33	0.48	—	8,229	8,229	0.32	0.27	0.12	8,318
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.03	0.03	0.29	1.32	< 0.005	0.01	0.07	0.08	0.01	0.01	0.02	—	286	286	0.01	0.01	0.08	290
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.01	0.01	0.05	0.24	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	47.3	47.3	< 0.005	< 0.005	0.01	47.9

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.39	3.39	3.49	< 0.005	0.21	—	0.21	0.19	—	0.19	—	490	490	0.02	< 0.005	—	492
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.69	2.69	< 0.005	< 0.005	—	2.70
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.44	0.44	< 0.005	< 0.005	—	0.45
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	128	128	0.01	< 0.005	0.01	129
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.06	0.03	1.71	0.41	0.01	0.02	0.33	0.34	0.02	0.09	0.11	—	1,248	1,248	0.03	0.20	0.07	1,307
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.72
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.84	6.84	< 0.005	< 0.005	0.01	7.17
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.12
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.13	1.13	< 0.005	< 0.005	< 0.005	1.19

3.2. Linear, Grubbing & Land Clearing (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.84	3.43	< 0.005	0.01	—	0.01	0.01	—	0.01	—	490	490	0.02	< 0.005	—	492
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.69	2.69	< 0.005	< 0.005	—	2.70
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.44	0.44	< 0.005	< 0.005	—	0.45
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	128	128	0.01	< 0.005	0.01	129
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.06	0.03	1.71	0.41	0.01	0.02	0.33	0.34	0.02	0.09	0.11	—	1,248	1,248	0.03	0.20	0.07	1,307
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.72
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.84	6.84	< 0.005	< 0.005	0.01	7.17
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.12
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.13	1.13	< 0.005	< 0.005	< 0.005	1.19

3.3. Linear, Grading & Excavation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	3.71	3.11	27.3	29.4	0.06	1.21	—	1.21	1.11	—	1.11	—	6,496	6,496	0.26	0.05	—	6,518
Dust From Material Movement	—	—	—	—	—	—	1.24	1.24	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.07	0.06	0.52	0.56	< 0.005	0.02	—	0.02	0.02	—	0.02	—	125	125	0.01	< 0.005	—	125
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.01	0.01	0.10	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.6	20.6	< 0.005	< 0.005	—	20.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.15	0.19	2.00	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	447	447	0.02	0.02	0.05	453
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.8	30.8	< 0.005	< 0.005	< 0.005	32.2
Hauling	0.06	0.03	1.71	0.41	0.01	0.02	0.33	0.34	0.02	0.09	0.11	—	1,248	1,248	0.03	0.20	0.07	1,307
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.64	8.64	< 0.005	< 0.005	0.02	8.76
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.62
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.9	23.9	< 0.005	< 0.005	0.02	25.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.43	1.43	< 0.005	< 0.005	< 0.005	1.45
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.96	3.96	< 0.005	< 0.005	< 0.005	4.15

3.4. Linear, Grading & Excavation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.66	0.66	6.16	37.5	0.06	0.12	—	0.12	0.12	—	0.12	—	6,496	6,496	0.26	0.05	—	6,518

Dust From Material Movement	—	—	—	—	—	—	1.24	1.24	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.72	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	125	125	0.01	< 0.005	—	125
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.6	20.6	< 0.005	< 0.005	—	20.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.15	0.19	2.00	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	447	447	0.02	0.02	0.05	453

Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.8	30.8	< 0.005	< 0.005	< 0.005	32.2
Hauling	0.06	0.03	1.71	0.41	0.01	0.02	0.33	0.34	0.02	0.09	0.11	—	1,248	1,248	0.03	0.20	0.07	1,307
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.64	8.64	< 0.005	< 0.005	0.02	8.76
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.62
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.9	23.9	< 0.005	< 0.005	0.02	25.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.43	1.43	< 0.005	< 0.005	< 0.005	1.45
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.96	3.96	< 0.005	< 0.005	< 0.005	4.15

3.5. Linear, Drainage, Utilities, & Sub-Grade (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.99	2.51	22.9	23.6	0.05	0.91	—	0.91	0.84	—	0.84	—	5,694	5,694	0.23	0.05	—	5,713
Dust From Material Movement	—	—	—	—	—	—	1.06	1.06	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.31	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	78.0	78.0	< 0.005	< 0.005	—	78.3
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.9	12.9	< 0.005	< 0.005	—	13.0
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.16	1.71	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	383	383	0.02	0.01	0.04	388
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.06	0.03	1.71	0.41	0.01	0.02	0.33	0.34	0.02	0.09	0.11	—	1,248	1,248	0.03	0.20	0.07	1,307
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.29	5.29	< 0.005	< 0.005	0.01	5.37

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.88	0.88	< 0.005	< 0.005	< 0.005	0.89
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.83	2.83	< 0.005	< 0.005	< 0.005	2.97

3.6. Linear, Drainage, Utilities, & Sub-Grade (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.79	0.74	5.13	31.6	0.05	0.17	—	0.17	0.17	—	0.17	—	5,694	5,694	0.23	0.05	—	5,713
Dust From Material Movement	—	—	—	—	—	—	1.06	1.06	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.43	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	78.0	78.0	< 0.005	< 0.005	—	78.3

Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.9	12.9	< 0.005	< 0.005	—	13.0
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.16	1.71	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	383	383	0.02	0.01	0.04	388
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.06	0.03	1.71	0.41	0.01	0.02	0.33	0.34	0.02	0.09	0.11	—	1,248	1,248	0.03	0.20	0.07	1,307
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.29	5.29	< 0.005	< 0.005	0.01	5.37
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.88	0.88	< 0.005	< 0.005	< 0.005	0.89

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.83	2.83	< 0.005	< 0.005	< 0.005	2.97

3.7. Linear, Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.06	0.89	7.71	10.8	0.01	0.34	—	0.34	0.31	—	0.31	—	1,620	1,620	0.07	0.01	—	1,625
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.88	8.88	< 0.005	< 0.005	—	8.91
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.47	1.47	< 0.005	< 0.005	—	1.47
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	0.12	1.28	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	287	287	0.01	0.01	0.03	291
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.06	0.03	1.71	0.41	0.01	0.02	0.33	0.34	0.02	0.09	0.11	—	1,248	1,248	0.03	0.20	0.07	1,307
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.59	1.59	< 0.005	< 0.005	< 0.005	1.61
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.84	6.84	< 0.005	< 0.005	0.01	7.17
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.26	0.26	< 0.005	< 0.005	< 0.005	0.27
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.13	1.13	< 0.005	< 0.005	< 0.005	1.19

3.8. Linear, Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.18	0.18	2.58	11.3	0.01	0.03	—	0.03	0.03	—	0.03	—	1,620	1,620	0.07	0.01	—	1,625
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.88	8.88	< 0.005	< 0.005	—	8.91
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.47	1.47	< 0.005	< 0.005	—	1.47
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	0.12	1.28	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	287	287	0.01	0.01	0.03	291
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.06	0.03	1.71	0.41	0.01	0.02	0.33	0.34	0.02	0.09	0.11	—	1,248	1,248	0.03	0.20	0.07	1,307
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.59	1.59	< 0.005	< 0.005	< 0.005	1.61
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.84	6.84	< 0.005	< 0.005	0.01	7.17

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.26	0.26	< 0.005	< 0.005	< 0.005	0.27
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.13	1.13	< 0.005	< 0.005	< 0.005	1.19

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	1/1/2025	1/3/2025	5.00	2.00	—
Linear, Grading & Excavation	Linear, Grading & Excavation	1/4/2025	1/13/2025	5.00	7.00	—
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	1/14/2025	1/21/2025	5.00	5.00	—
Linear, Paving	Linear, Paving	1/22/2025	1/24/2025	5.00	2.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	2.00	8.00	6.00	0.82
Linear, Grading & Excavation	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grading & Excavation	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Linear, Grading & Excavation	Graders	Diesel	Average	1.00	8.00	148	0.41
Linear, Grading & Excavation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grading & Excavation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Linear, Grading & Excavation	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Linear, Grading & Excavation	Signal Boards	Electric	Average	2.00	8.00	6.00	0.82
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Graders	Diesel	Average	1.00	8.00	148	0.41
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43

Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	96.0	0.40
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	2.00	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Linear, Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Linear, Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Linear, Paving	Rollers	Diesel	Average	3.00	8.00	36.0	0.38
Linear, Paving	Signal Boards	Electric	Average	2.00	8.00	6.00	0.82
Linear, Paving	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Tier 4 Final	1.00	8.00	87.0	0.43
Linear, Grubbing & Land Clearing	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	2.00	8.00	6.00	0.82
Linear, Grading & Excavation	Crawler Tractors	Diesel	Tier 4 Final	1.00	8.00	87.0	0.43
Linear, Grading & Excavation	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Linear, Grading & Excavation	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Linear, Grading & Excavation	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38

Linear, Grading & Excavation	Rubber Tired Loaders	Diesel	Tier 4 Final	1.00	8.00	150	0.36
Linear, Grading & Excavation	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Linear, Grading & Excavation	Signal Boards	Electric	Average	2.00	8.00	6.00	0.82
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Tier 4 Final	1.00	8.00	37.0	0.48
Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Tier 4 Final	1.00	8.00	96.0	0.40
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	2.00	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Linear, Paving	Pavers	Diesel	Tier 4 Final	1.00	8.00	81.0	0.42
Linear, Paving	Paving Equipment	Diesel	Tier 4 Final	1.00	8.00	89.0	0.36
Linear, Paving	Rollers	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Linear, Paving	Signal Boards	Electric	Average	2.00	8.00	6.00	0.82
Linear, Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	10.0	18.5	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	10.2	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	18.0	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	—	—	—	—
Linear, Grading & Excavation	Worker	35.0	18.5	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.00	10.2	HHDT,MHDT
Linear, Grading & Excavation	Hauling	18.0	20.0	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	30.0	18.5	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	10.2	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	18.0	20.0	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	22.5	18.5	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	10.2	HHDT,MHDT
Linear, Paving	Hauling	18.0	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	10.0	18.5	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	10.2	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	18.0	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	—	—	—	—
Linear, Grading & Excavation	Worker	35.0	18.5	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.00	10.2	HHDT,MHDT
Linear, Grading & Excavation	Hauling	18.0	20.0	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	30.0	18.5	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	10.2	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	18.0	20.0	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	22.5	18.5	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	10.2	HHDT,MHDT
Linear, Paving	Hauling	18.0	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Linear, Grubbing & Land Clearing	—	—	3.20	0.00	—
Linear, Grading & Excavation	—	—	3.20	0.00	—
Linear, Drainage, Utilities, & Sub-Grade	2,151	—	3.20	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Road Construction	3.20	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O

2025	235	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	31.4	annual days of extreme heat
Extreme Precipitation	6.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	32.7	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	63.7

AQ-PM	4.44
AQ-DPM	0.06
Drinking Water	76.4
Lead Risk Housing	27.0
Pesticides	44.0
Toxic Releases	8.61
Traffic	0.09
Effect Indicators	—
CleanUp Sites	81.9
Groundwater	53.5
Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	94.6
Solid Waste	72.4
Sensitive Population	—
Asthma	8.62
Cardio-vascular	2.80
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	26.9
Housing	54.6
Linguistic	—
Poverty	28.2
Unemployment	99.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—

Above Poverty	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0

Asthma ER Admissions	96.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	0.0
Cognitively Disabled	80.8
Physically Disabled	49.3
Heart Attack ER Admissions	95.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	38.3
SLR Inundation Area	0.0
Children	99.4
Elderly	20.2
English Speaking	0.0
Foreign-born	0.0

Outdoor Workers	4.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	99.8
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	25.0
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	Based on construction of one project per year.
Construction: Trips and VMT	Haul truck trips to account for 5" of aggregate base import.

CalEEMod Outputs - Existing

Hungry Valley GPU Existing Facilities Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Hungry Valley GPU Existing Facilities
Operational Year	2023
Lead Agency	—
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	6.30
Precipitation (days)	5.20
Location	Hungry Valley State Vehicular Recreation Area North Kiosk & Visitor Center, 5301 Ralphs Ranch Rd, Gorman, CA 93243, USA
County	Los Angeles-South Coast
City	Unincorporated
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	3699
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Government Office Building	2.70	1000sqft	0.06	2,700	0.00	—	—	Park Office Building

General Office Building	4.80	1000sqft	0.11	4,800	0.00	—	—	Misc Office Buildings
Single Family Housing	1.00	Dwelling Unit	0.32	2,500	11,713	—	3.00	Hungry Valley Dorm
General Office Building	1.20	1000sqft	0.03	1,200	0.00	—	—	Gorman House
Government Office Building	2.20	1000sqft	0.05	2,200	0.00	—	—	Ranger Station
Single Family Housing	1.00	Dwelling Unit	0.32	3,000	11,713	—	3.00	Employee Housing

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.49	0.48	0.10	0.66	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	10.4	330	340	1.08	0.01	0.07	371
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.40	0.39	0.09	0.07	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	10.4	328	338	1.08	0.01	0.07	369
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.46	0.45	0.10	0.47	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	10.4	329	340	1.08	0.01	0.07	370
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.08	0.08	0.02	0.09	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	1.72	54.5	56.2	0.18	< 0.005	0.01	61.3

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.48	0.48	0.01	0.59	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	2.25	2.25	< 0.005	< 0.005	—	2.26
Energy	0.01	0.01	0.09	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	312	312	0.03	< 0.005	—	313
Water	—	—	—	—	—	—	—	—	—	—	—	4.05	15.8	19.8	0.42	0.01	—	33.3
Waste	—	—	—	—	—	—	—	—	—	—	—	6.32	0.00	6.32	0.63	0.00	—	22.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Total	0.49	0.48	0.10	0.66	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	10.4	330	340	1.08	0.01	0.07	371
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.39	0.39	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.01	0.01	0.09	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	312	312	0.03	< 0.005	—	313
Water	—	—	—	—	—	—	—	—	—	—	—	4.05	15.8	19.8	0.42	0.01	—	33.3
Waste	—	—	—	—	—	—	—	—	—	—	—	6.32	0.00	6.32	0.63	0.00	—	22.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Total	0.40	0.39	0.09	0.07	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	10.4	328	338	1.08	0.01	0.07	369
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.45	0.45	< 0.005	0.40	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.54	1.54	< 0.005	< 0.005	—	1.55
Energy	0.01	0.01	0.09	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	312	312	0.03	< 0.005	—	313

Water	—	—	—	—	—	—	—	—	—	—	—	4.05	15.8	19.8	0.42	0.01	—	33.3
Waste	—	—	—	—	—	—	—	—	—	—	—	6.32	0.00	6.32	0.63	0.00	—	22.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Total	0.46	0.45	0.10	0.47	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	10.4	329	340	1.08	0.01	0.07	370
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.08	0.08	< 0.005	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.26	0.26	< 0.005	< 0.005	—	0.26
Energy	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	51.6	51.6	< 0.005	< 0.005	—	51.9
Water	—	—	—	—	—	—	—	—	—	—	—	0.67	2.61	3.28	0.07	< 0.005	—	5.51
Waste	—	—	—	—	—	—	—	—	—	—	—	1.05	0.00	1.05	0.10	0.00	—	3.66
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	0.08	0.08	0.02	0.09	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	1.72	54.5	56.2	0.18	< 0.005	0.01	61.3

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	83.4	83.4	0.01	< 0.005	—	83.9
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	102	102	0.01	< 0.005	—	103
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	13.2	13.2	< 0.005	< 0.005	—	13.2
Total	—	—	—	—	—	—	—	—	—	—	—	—	199	199	0.02	< 0.005	—	200
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	83.4	83.4	0.01	< 0.005	—	83.9
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	102	102	0.01	< 0.005	—	103
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	13.2	13.2	< 0.005	< 0.005	—	13.2
Total	—	—	—	—	—	—	—	—	—	—	—	—	199	199	0.02	< 0.005	—	200
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	13.8	13.8	< 0.005	< 0.005	—	13.9

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	16.9	16.9	< 0.005	< 0.005	—	17.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	2.18	2.18	< 0.005	< 0.005	—	2.19
Total	—	—	—	—	—	—	—	—	—	—	—	—	32.9	32.9	< 0.005	< 0.005	—	33.1

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	39.8	39.8	< 0.005	< 0.005	—	39.9
General Office Building	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	48.7	48.7	< 0.005	< 0.005	—	48.9
Single Family Housing	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.6	24.6	< 0.005	< 0.005	—	24.6
Total	0.01	0.01	0.09	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	113	113	0.01	< 0.005	—	113
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	39.8	39.8	< 0.005	< 0.005	—	39.9
General Office Building	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	48.7	48.7	< 0.005	< 0.005	—	48.9

Single Family Housing	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.6	24.6	< 0.005	< 0.005	—	24.6
Total	0.01	0.01	0.09	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	113	113	0.01	< 0.005	—	113
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.59	6.59	< 0.005	< 0.005	—	6.61
General Office Building	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.07	8.07	< 0.005	< 0.005	—	8.09
Single Family Housing	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.07	4.07	< 0.005	< 0.005	—	4.08
Total	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.7	18.7	< 0.005	< 0.005	—	18.8

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.35	0.35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.04	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape	0.10	0.09	0.01	0.59	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.25	2.25	< 0.005	< 0.005	—	2.26
Total	0.48	0.48	0.01	0.59	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	2.25	2.25	< 0.005	< 0.005	—	2.26
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.35	0.35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.04	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.39	0.39	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.06	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.26	0.26	< 0.005	< 0.005	—	0.26
Total	0.08	0.08	< 0.005	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.26	0.26	< 0.005	< 0.005	—	0.26

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	1.87	6.33	8.19	0.19	< 0.005	—	14.4
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.04	6.93	8.98	0.21	0.01	—	15.7
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.14	2.52	2.66	0.01	< 0.005	—	3.15
Total	—	—	—	—	—	—	—	—	—	—	—	4.05	15.8	19.8	0.42	0.01	—	33.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	1.87	6.33	8.19	0.19	< 0.005	—	14.4
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.04	6.93	8.98	0.21	0.01	—	15.7
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.14	2.52	2.66	0.01	< 0.005	—	3.15
Total	—	—	—	—	—	—	—	—	—	—	—	4.05	15.8	19.8	0.42	0.01	—	33.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	0.31	1.05	1.36	0.03	< 0.005	—	2.38

General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.34	1.15	1.49	0.03	< 0.005	—	2.61
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.02	0.42	0.44	< 0.005	< 0.005	—	0.52
Total	—	—	—	—	—	—	—	—	—	—	—	0.67	2.61	3.28	0.07	< 0.005	—	5.51

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	2.46	0.00	2.46	0.25	0.00	—	8.59
General Office Building	—	—	—	—	—	—	—	—	—	—	—	3.01	0.00	3.01	0.30	0.00	—	10.5
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.86	0.00	0.86	0.09	0.00	—	3.00
Total	—	—	—	—	—	—	—	—	—	—	—	6.32	0.00	6.32	0.63	0.00	—	22.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	2.46	0.00	2.46	0.25	0.00	—	8.59

General Office Building	—	—	—	—	—	—	—	—	—	—	—	3.01	0.00	3.01	0.30	0.00	—	10.5
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.86	0.00	0.86	0.09	0.00	—	3.00
Total	—	—	—	—	—	—	—	—	—	—	—	6.32	0.00	6.32	0.63	0.00	—	22.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	0.41	0.00	0.41	0.04	0.00	—	1.42
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.50	0.00	0.50	0.05	0.00	—	1.74
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.14	0.00	0.14	0.01	0.00	—	0.50
Total	—	—	—	—	—	—	—	—	—	—	—	1.05	0.00	1.05	0.10	0.00	—	3.66

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Government Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Government Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0

Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
11137.5	3,713	16,350	5,450	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Government Office Building	48,115	349	0.0330	0.0040	68,435
General Office Building	85,537	349	0.0330	0.0040	121,663

Single Family Housing	6,895	349	0.0330	0.0040	38,335
General Office Building	21,384	349	0.0330	0.0040	30,416
Government Office Building	39,205	349	0.0330	0.0040	55,762
Single Family Housing	6,895	349	0.0330	0.0040	38,335

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Government Office Building	536,381	0.00
General Office Building	853,122	0.00
Single Family Housing	37,274	200,774
General Office Building	213,280	0.00
Government Office Building	437,051	0.00
Single Family Housing	37,274	200,774

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Government Office Building	2.51	—
General Office Building	4.46	—
Single Family Housing	0.80	—
General Office Building	1.12	—
Government Office Building	2.05	—
Single Family Housing	0.80	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Government Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Government Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Government Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Government Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	33.2	annual days of extreme heat
Extreme Precipitation	4.95	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	25.4	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A

Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	75.4
AQ-PM	2.66
AQ-DPM	5.23
Drinking Water	79.0
Lead Risk Housing	26.3
Pesticides	46.2
Toxic Releases	38.6
Traffic	27.1
Effect Indicators	—
CleanUp Sites	58.2
Groundwater	35.0
Haz Waste Facilities/Generators	74.7
Impaired Water Bodies	33.2
Solid Waste	76.4
Sensitive Population	—
Asthma	50.3
Cardio-vascular	48.9
Low Birth Weights	13.5
Socioeconomic Factor Indicators	—
Education	58.5
Housing	37.5
Linguistic	7.38
Poverty	61.8
Unemployment	15.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	54.70293853
Employed	9.136404466
Median HI	39.4199923
Education	—
Bachelor's or higher	33.8380598
High school enrollment	100
Preschool enrollment	1.873476197
Transportation	—
Auto Access	98.98626973
Active commuting	19.70999615
Social	—
2-parent households	49.7754395
Voting	0.769921725
Neighborhood	—
Alcohol availability	91.7875016
Park access	21.18567946
Retail density	2.771718209
Supermarket access	5.479276274
Tree canopy	58.5268831
Housing	—
Homeownership	81.40639035
Housing habitability	70.38367766
Low-inc homeowner severe housing cost burden	21.59630438
Low-inc renter severe housing cost burden	89.60605672

Uncrowded housing	96.93314513
Health Outcomes	—
Insured adults	46.81124086
Arthritis	0.0
Asthma ER Admissions	66.7
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	3.0
Cognitively Disabled	48.3
Physically Disabled	7.0
Heart Attack ER Admissions	51.9
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	98.9
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	26.5
SLR Inundation Area	0.0

Children	98.6
Elderly	16.2
English Speaking	73.9
Foreign-born	8.5
Outdoor Workers	11.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	99.8
Traffic Density	33.4
Traffic Access	23.0
Other Indices	—
Hardship	36.8
Other Decision Support	—
2016 Voting	71.5

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	38.0
Healthy Places Index Score for Project Location (b)	26.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Square footages approximate to existing structures
Operations: Vehicle Data	Operational energy use run only
Operations: Hearths	Operational energy use run only

APPENDIX E

Cultural Resources Report

CULTURAL RESOURCE STUDIES, HUNGRY VALLEY STATE VEHICULAR RECREATION AREA GORMAN, CALIFORNIA

Prepared for:

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September 2016
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TABLE OF CONTENTS

Chapter **Page**

MANAGEMENT SUMMARY v

1.0 INTRODUCTION 1

2.0 SETTING AND BACKGROUND 3
2.1 LOCATION AND ENVIRONMENTAL SETTING 3
2.2 CULTURAL BACKGROUND 7
2.2.1 Ethnographic Background 7
2.2.2 Archaeological Background 10
2.2.3 Historical Background 13

3.0 ARCHIVAL STUDIES 19
3.1 2015 ADDITION LANDS, HUNGRY VALLEY SVRA 19
3.2 HUNGRY VALLEY SVRA 20

4.0 FIELD METHODS 25

5.0 PROJECT RESULTS 27
5.1 2015 SVRA Addition Lands 27
5.1.1 Newly Recorded Sites 27
5.1.2 Previously Recorded Resource Updates 31
5.1.3 2015 SVRA Addition Isolates 35
5.2 HUNGRY VALLEY SVRA 36
5.2.1 Previously Recorded Prehistoric Resource Updates 37
5.2.2 Previously Recorded Historic Resource Updates 70
5.2.3 Previously Recorded Multicomponent Resource Updates 97

6.0 SUMMARY, RECOMMENDATIONS AND CONCLUSIONS 101
6.1 SUMMARY OF RESULTS 101
6.2 MANAGEMENT CONCERNS 104
6.2.1 Archaeological Site Condition Assessments 104
6.2.2 CRHR Recommendations 109
6.3 RESEARCH CONCERNS 114

REFERENCES/BIBLIOGRAPHY 117

CONFIDENTIAL APPENDICES 121
CONFIDENTIAL APPENDIX A. Project Maps
CONFIDENTIAL APPENDIX B. Newly Recorded Sites – 2015 SVRA Addition
CONFIDENTIAL APPENDIX C. Site Updates – 2015 SVRA Addition
CONFIDENTIAL APPENDIX D. 2015 SVRA Addition and SVRA Isolate DPR Forms
CONFIDENTIAL APPENDIX E. Hungry Valley SVRA Site Form Updates
CONFIDENTIAL APPENDIX F. Records Search

LIST OF FIGURES

Page

Figure 1. The 2015 SVRA Addition and Hungry Valley SVRA study area, Kern, Los Angeles, and Ventura Counties, California. 4
Figure 2a. Overview of the 2015 SVRA Addition looking southwest; taken from southeast corner of project area, looking northwest. 5
Figure 2b. Overview of the 2015 SVRA Addition; taken from approximate center of project area, looking north. 5
Figure 3a. Overview of northern SVRA looking southwest; taken near site CA-LAN-2568H.. 6
Figure 3b. Overview of northern SVRA looking southwest; taken near site 632013B.. 6
Figure 4. The 2015 SVRA Addition and Hungry Valley SVRA Resource Location Map Key. ..... Appendix A
Figure 5. 2015 SVRA Addition Resource Location Map A. ..... Appendix A
Figure 6. Hungry Valley SVRA Resource Location Map B. ..... Appendix A
Figure 7. Hungry Valley SVRA Resource Location Map C. ..... Appendix A
Figure 8. Hungry Valley SVRA Resource Location Map D. ..... Appendix A
Figure 9. Hungry Valley SVRA Resource Location Map E. ..... Appendix A
Figure 10. Hungry Valley SVRA Resource Location Map F. ..... Appendix A
Figure 11. Hungry Valley SVRA Resource Location Map G. ..... Appendix A
Figure 12. Hungry Valley SVRA Resource Location Map H. ..... Appendix A
Figure 13. Hungry Valley SVRA Resource Location Map I. ..... Appendix A
Figure 14. Feature 1; Plan view of bedrock mortars recorded at HV-NA-4. 29
Figure 15. Plan view of portable hopper mortar recorded as HV-ISO-1 35
Figure 16. Non-Archaeological Rock Features in the 2015 SVRA Addition Area .. Appendix A
Figure 17. Artifact 1; Plan view of Monterey chert atlatl point recorded at site CA-LAN-914. 43
Figure 18. Artifact 1; Plan view of fused shale stemmed arrow point recorded at site CA-LNA-926. 50
Figure 19. Artifact 1; Plan view of complete, flat slab sandstone metate recorded at site CA-VEN-583/584. 63
Figure 20. Artifact 1; Plan view of Coastal Contracting Stem atlat point (4000-1500 YBP; Justice 2002) recorded at site CA-VEN-1662. 69
Figure 21. Artifact 2; Plan view of Vandenberg contractimg stem atlatl point (4000-1500 YPB; Justice:247) recorded at site CA-VEN-586/H. 99

LIST OF TABLES

Page

Table 1. Resourced within the 2015 SVRA Addition 19
Table 2. Resources within 0.25-miles of the 2015 SVRA Addition 19
Table 3. Resources within the Hungry Valley SVRA 20
Table 4. Isolated Artifacts and Features, SVRA 22
Table 5. Possible Resources with GIS points but No Site/Isolate Records 23
Table 6. 2015 SVRA Addition Prehistoric Sites (Includes Isolates) 102
Table 7. 2015 SVRA Addition Historic Sites 102
Table 8. SVRA Prehistoric Sites 102
Table 9. SVRA Historic Sites 103
Table 10. Example of condition assessment from HV-NA-2 105
Table 11. Conditions of the 2015 SVRA Addition Newly Recorded Sites 106
Table 12. Conditions of the 2015 SVRA Addition Prevsiously Recorded Sites 106
Table 13. Conditions of SVRA Archaeological Sites 106
Table 14. CRHR Recommendations 110

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MANAGEMENT SUMMARY

Cultural resources studies were completed by ASM Affiliates, Inc., for the California Department of Parks and Recreation (DPR) and the Off-Highway Motor Vehicle Recreation Division (OHMVR) at Hungry Valley State Vehicular Recreation Area (SVRA) inclusive of the 2015 SVRA Addition lands. These studies included background of the Hungry Valley SVRA 2015 Addition; research and a review and field assessment of known cultural resources at Hungry Valley SVRA; and an intensive Phase I survey of the 2015 SVRA Addition lands. The purpose of these studies is to aid DPR in the long-term planning for the 2015 SVRA Addition and Hungry Valley SVRA, including in the preparation of a revised General Plan.

The approximately 845-acres 2015 SVRA Addition had never been surveyed in its entirety but six archaeological sites had been recorded within it. Intensive Phase I survey resulted in the identification and recording of an additional seven archaeological sites.

Based on the DPR files, 135 cultural resources (110 archaeological sites and standing structures and 25 isolated artifacts or isolated features) had been identified within the approximately 18,000-acres SVRA. The locations of these sites were visited, extant resources were re-mapped and assessed. A total of 82 extant sites could be identified in both the 2015 SVRA Addition and the Hungry Valley SVRA. Of the 82 sites, 47 (~57%) are prehistoric. Twenty-one of the prehistoric sites consist of or contain roasting pits (presumably agave ovens), representing ~26% of the total number of extant sites and ~45% of the prehistoric sites. Of the prehistoric sites, 23 (~49% of 47) contain lithic artifacts with 18 (38% of 47) representing lithic scatters per se. Six of the prehistoric sites (~13% of 47) consist of or contain milling or grinding features and one site contained a clear midden deposit. Four sites (~5% of the 82 total, and ~8.5% of prehistoric sites) are multicomponent resources, containing both prehistoric and historical remains. The remaining 30 (~37%) of the relocated sites are historical/Euro-American in age and origin. They include remnants of cabins, homestead structures and houses, ranch houses, miscellaneous historical remains (primarily water conveyance systems), refuse dumps, and other kinds of ranch facilities. Many of these historic sites combine these different functional elements.

Forty-four archaeological sites (40%) of the previously recorded sites within the SVRA and 2015 SVRA Addition could not be relocated. It is assumed that they had been destroyed by natural or cultural means in the interim since their original recording, although it is also possible that some may simply have been mis-mapped. Furthermore, two of the previously recorded sites within the 2015 SVRA Addition had been surface collected and no longer existed. Condition assessments of the re-identified sites indicate that the majority are in good to fair condition; only 8% of the extant sites exhibit cultural impacts that have affected 10% or more of their ground surface. ("Cultural impacts" are defined as human-caused impacts to cultural resources in this report.) Natural impacts, in contrast, are common, with only 10 (~13%) of the relocated sites showing no evidence of natural disturbance. This disturbance commonly consists of sheetwash, however, and this process does not necessarily destroy the integrity of a site.

Preliminary California Register of Historical Resources (CRHR) eligibility recommendations have been made for all cultural resources in the study area. The sites that could not be relocated and

resources that consist of isolated artifacts are recommended as not CRHR eligible, with the remainder recommended either potentially eligible or potentially not eligible for listing.

Comparisons of the sites types identified for the 2015 SVRA Addition and Hungry Valley SVRA study area with the results of recent surveys of approximately 60,000 acres on the nearby Tejon Ranch illustrate dramatic and potentially important differences in local subsistence systems: 45% of the extant prehistoric sites within the study area contain agave roasting pits/ovens; no example of this site/feature type has been identified at 174 recorded sites on the Tejon Ranch. Whether this difference is due to environmental or cultural differences, or some combination of both, can only be determined with additional research.

1.0 INTRODUCTION

At the request of the California Department of Parks and Recreation (DPR) and the Off-Highway Motor Vehicle Recreation Division (OHMVR), cultural resources studies were completed by ASM Affiliates, Inc. (ASM) in 2015 – 2016 for the 2015 SVRA Addition of Hungry Valley SVRA inclusive of the 2015 SVRA Addition lands. These studies included background research, an intensive Phase I survey of the Hungry Valley SVRA and 2015 SVRA Addition lands, and a review and field assessment of known cultural resources in the Hungry Valley SVRA, including preliminary recommendations for resource eligibility to the California Register of Historical Resources (CRHR). The Hungry Valley SVRA and 2015 SVRA Addition lands constituted the study area for this project. The purpose of these studies is to aid DPR in the long-term planning for 2015 SVRA Addition and Hungry Valley SVRA areas, including the preparation of a revised General Plan.

This document constitutes a report on these cultural resource studies. The next chapter consists of a description of the project location and environmental setting, and a cultural overview and background, including ethnographic, archaeological and historical discussions. Chapter 3 provides the results of an archival records search for the 2015 SVRA Addition lands and a summary of known studies and cultural resources in the Hungry Valley SVRA. Chapter 4 describes the field methods employed during the study. Chapter 5 presents the results for both the Phase I survey of the 2015 SVRA Addition area, and the review and assessment of recorded cultural resources within the Hungry Valley SVRA. Chapter 6 provides a summary of the study and research and management conclusions.

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2.0 SETTING AND BACKGROUND

2.1 LOCATION AND ENVIRONMENTAL SETTING

The study area is located near the intersection of Kern, Los Angeles and Ventura counties, California (Figure 1). This places it about 60-miles north of downtown Los Angeles, within the San Emigdio Mountains. These form a component of the Transverse Ranges which run roughly southeast – northwest across southern California. The San Andreas Rift Zone is near the northern boundary of the study area, with Los Padres National Forest (LPNF) on the west, and Angeles National Forest to the south. Private property, the town of Gorman, and the Interstate-5 freeway (I-5) are located north and east of the study area.

The study area consists of Hungry Valley SVRA inclusive of the 2015 SVRA Addition lands. The 2015 SVRA Addition lands comprise approximately 845-acres (see Figure 1) on the north end of Hungry Valley SVRA. This is bounded on the east by the Los Angeles County line; to the north by Frazier Park Road and the community of Lebec; to the west by LPNF and Frazier Mountain; and to the south by the SVRA. The eastern portion of this unit is open rolling hills and flats that represent the south end of Castac (not *Castaic*) Valley. The western side of this unit comprises the eastern slopes of Frazier Mountain, with seasonal drainages, tributaries of Castac Creek, running to the northeast. A large alluvial terrace remnant is present near the southwestern limits of the unit, on the slopes of Frazier Mountain. The Rift Zone runs southeast to northeast through this unit near its northern boundary. This contains a series of ephemeral/seasonal sag ponds due to ponding water created by an aquitard on the south side of the fault zone (Figures 2a and 2b). Elevation ranges from roughly 3,900-feet (ft) above mean sea level (amsl), in this unit's northeast corner, to 4,400-ft amsl, at the southeast, to 4,600-ft amsl at the southwest limit, and 4,000-ft amsl at the northwest limit. The highest elevation in the unit, at the approximate center of the western boundary on the slopes of Frazier Mountain, is about 4,550-ft amsl. Note that this study unit contains an excluded inholding: the grounds of the recently constructed Frazier Mountain High School.

Hungry Valley SVRA proper (see Figure 1) is an 18,780-acres property immediately south of the 2015 SVRA Addition lands. The SVRA is primarily a single large and rectangular block of land, but a smaller, discontiguous component is located a short distance to the south of the main component. The SVRA includes lands in Kern, Los Angeles and Ventura counties, with the northern and eastern boundary running along or parallel to the I-5, with the Angeles National Forest to the south and LPNF to the west. The SVRA contains five major physiographic features. Hungry Valley proper is a wide, open valley that extends along the western side of the SVRA. A rugged, steep-sloped mountainous area is immediately east of Hungry Valley. Freeman Canyon, with highly dissected badlands-like topography, runs north-south through this upland terrain, roughly within the middle of the SVRA. Seasonal Gorman Creek runs along the north and east sides of the SVRA while Canada de los Alamos, a dissected arroyo in lower Hungry Valley, is the approximate southern and southeastern limit (Figures 3a and 3b). The upper reaches of Piru Creek, a major north-south drainage in the San Emigdio Mountains, is a short distance south of the southern SVRA boundary.

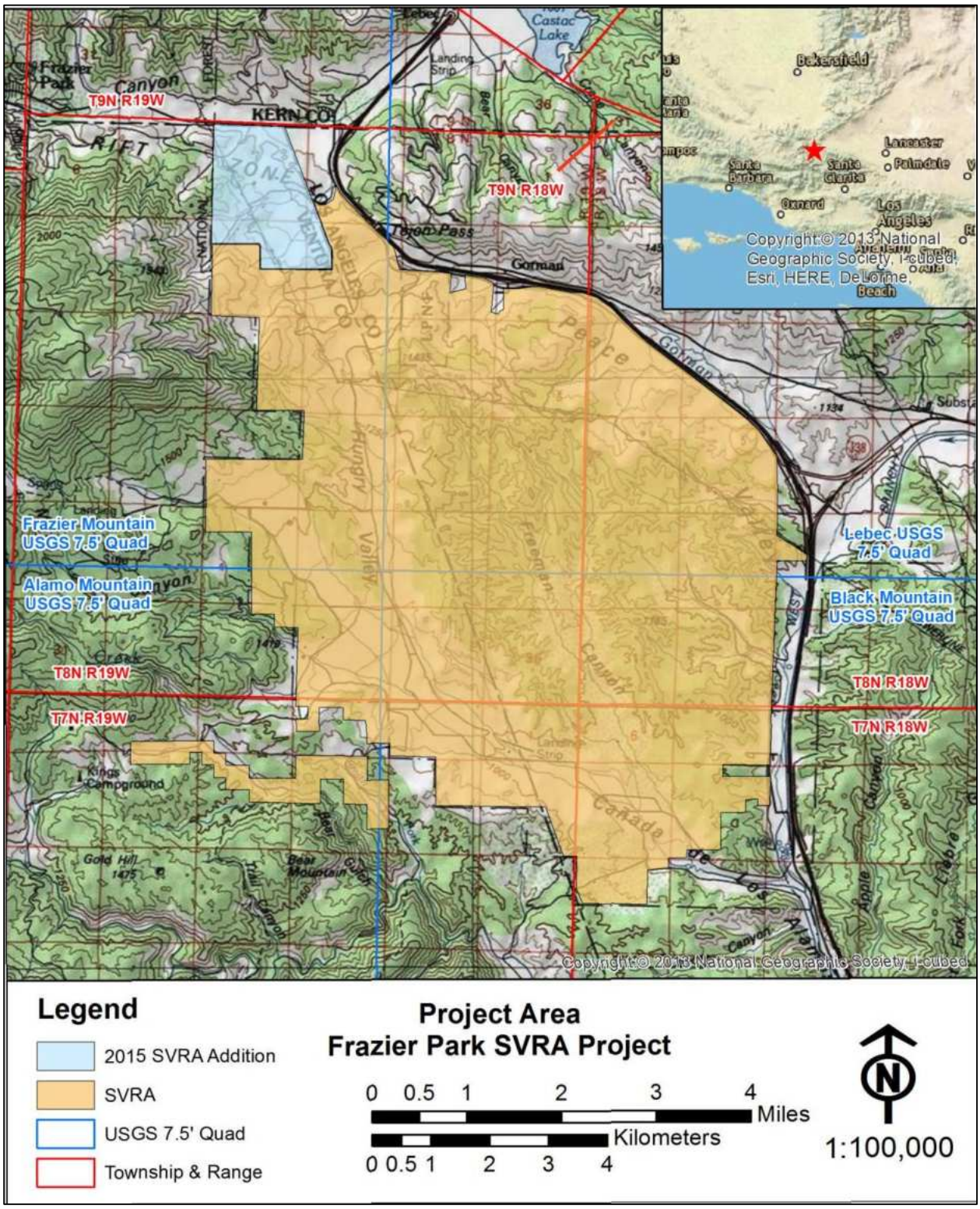


Figure 1. 2015 SVRA Addition and Hungry Valley SVRA study area, Kern, Los Angeles, and Ventura Counties, California



Figure 2a. Overview of the 2015 SVRA Addition, taken from southeast corner of project area, looking northwest.



Figure 2b. Overview of the 2015 SVRA Addition taken from approximate center of project area, looking north.



Figure 3a. Overview of SVRA from valley floor looking west; taken near site CA-LAN-2568H.



Figure 3b. Overview of northern SVRA looking southeast; taken near site 632013B.

Ridges and rolling hills commonly border and separate these physiographic features, resulting in a landscape with highly variable topography. Elevation within the SVRA thus changes rapidly while moving across the landscape. In general, elevation ranges from a low of about 2,900-ft amsl, in the south, to 5,350-ft amsl in the north. Though elevation tends to decrease from north to south, the mountainous terrain in the central SVRA, with an elevational peak of roughly 4,400-ft amsl, complicates this picture, emphasizing the fact that the terrain is complex and generally rugged.

The existing biotic environment partly reflects this physiographic and topographical variability, but likely also reflects the position of the study area as a biogeographical transition zone between the western Mojave Desert, to the east, and the forested mountains on the west. Biotic zones include Joshua Tree woodlands, in the southeastern portion of the SVRA, oak woodlands especially in the southwest, pinyon – juniper woodlands at higher elevations, riparian environments along drainages and in the sag ponds in the 2015 SVRA Addition area, sage scrub and chaparral communities, especially on lower elevation slopes, and prairie and steppe grasslands in the open flats of Hungry Valley. Due to the biotic complexity of the study area, we have labeled the environmental conditions at each cultural resource generically as "Mixed Chaparral" but have attempted to include the dominant species that we observed on or immediately around each site.

As this suggests, the study area encompasses substantial environmental complexity that, in at least a general way, distinguishes this location from the surrounding areas. Whether and how this effected prehistoric and historic human use of the study area relative to its surroundings then was an important question for this study.

2.2 CULTURAL BACKGROUND

2.2.1 Ethnographic Background

The Hungry Valley – Gorman – Lebec region was a contact point between four separate ethnolinguistic groups immediately prior to the arrival of Euro-Americans in California. A number of recent ethnohistorical studies, synthesized by W&S Consultants (2007), have provided substantial detail on tribal boundaries, including information from mission records not previously available in the published literature. This synthesis is summarized below. This contact zone was occupied by the Kitanemuk, Southern Valley Yokuts, Interior Chumash, and Tataviam. Of this group of four, the Interior Chumash and Tataviam are the most likely occupants of SVRA study area, per se, with Yokuts and Kitanemuk living nearby.

Chumash

The Interior Chumash (probably speakers of the Ventureño Chumash, itself a Hokan language) controlled upper Piru Creek, Grapevine Canyon, and the Gorman area. Their domain extended eastward beyond Castac Lake on the Tejon Ranch (not modern Castaic Reservoir, which is considerably further south), where the historic village of *Kashtiq* was located. They also occupied a village at the mouth of Grapevine Canyon, *Mat'apxwelxwel*, and another, *Tecuya*, at the mouth of Tecuya Creek. Although the evidence is uncertain, their territory may have extended southeastward to Quail Lake, known in Chumash as *Shraqang*, which is a short distance east of the Hungry Valley study area.

Although there are no known Chumash ethnographic villages or place-names within the study area, nearby Mt. Pinos (*iwihinmu*) and, to a lesser degree, Frazier Mountain (*tosholo*) and Cuddy Valley *('antap*), figure prominently in Chumash beliefs (Applegate 1974:198-199; Blackburn 1975; Hudson and Underhay 1978). Mt. Pinos, "the place nobody knows where," was considered the Chumash origin point and the center of the world. It and the top of Frazier Mountain were said to contain shrines, partly consisting of rows of feathered poles. Because Mt. Pinos was inhabited by spirits, it was only visited for ritual purposes, including the leaving of offerings. A number of ethnographic accounts discuss sightings of spirits and lights on the mountain, including accounts from Kitanemuk inhabitants of nearby Tejon Ranch (McCarthy 1996), signaling the recognized importance of these locations beyond the Chumash alone. A pond or spring in a canyon either in Cuddy Valley proper or near the historical Cuddy Ranch (located on the east side of Mt. Pinos, southeast of Cuddy Valley), similarly, was associated with the Chumash ritual *'antap* cult. It was said to be the location from which initiated ritual dancers would emerge:

> "The place the *'antaps* are is [a] lagunita [pond]—in a cañada near *'Iwihinmu* mountain [Mt. Pinos] and beyond Cuddy's…You hear bullroarers and *tocar* [playing instruments] and *gritar* [shouting]—dogs barking—many people in there—it is like a fiesta. And there is a cave, *suterrano* [underground], [where] the *ichunash* [sacred deer bone whistles] are kept—four of them. [The] ancients never went near that vicinity. The wind blows strong, the earth quakes. If you get in there, you never get back [out] again" (Harrington in Hudson and Underhay 1978:41).

More generally, springs and ponds along with caves were understood as entrances to the supernatural world (Whitley 2000). That the initiated *'antap* dancers emerged from such a location signaled the idea that they themselves were spirits coming out of the supernatural during ceremonial periods. In general, however, the Mt. Pinos – Frazier Mountain – Cuddy Valley region represented a sacred landscape to the Chumash that was their mythic origin point and that was closely tied to their rituals.

Tataviam

The Tataviam primarily inhabited the upper Santa Clara drainage from about Piru eastward to the Agua Dulce/Vasquez Rocks area, southward as far as Newhall, and northward to include the middle reaches of Piru Creek (on the west), and the Liebre Mountains and the westernmost fringe of the Antelope Valley on the east. Their northeastern boundary most likely ran along the southern foothills of the Tehachapi Mountains and then crossed to the southern slopes of the Sawmill Mountains and the Sierra Pelona, extending as far east as Soledad Pass, but they may have controlled Quail Lake and La Liebre Ranch (now part of Tejon Ranch). Ethnographically, at least, they do not appear to have controlled the San Andreas rift zone of Elizabeth Lake, Lake Hughes, and the Leona Valley, which was occupied by the Kitanemuk, who also inhabited the eastern side of the Antelope Valley from approximately Neenach through the Fairmont Buttes area, to about the mouth of the Soledad Pass.

Only a few historic Tataviam villages have been identified; most of these are located on the southwestern side of Tataviam territory, near Piru Creek and (modern) Castaic Reservoir. According to Johnson and Earle, from the Santa Clara River Valley:

> "The boundary then swung north across the Santa Clara River and continued north along the high ground west of lower Piru Creek, probably including Hopper Canyon [west of the modern town of Castaic]. It then passed across upper Piru Creek below Hungry Valley and the Canada de los Alamos to turn northeast into the Antelope Valley near Oso Canyon [on Tejon Ranch]…Juan Jose Fustero and several other of Harrington's consultants provided information on this western boundary. This included the identification of Tataviam village sites and place names in the Piru Creek drainage, including *pi'irukung*, *akavavea*, *etseng*, *huyung*, and *kivung*" (1990:196).

Based on their reconstruction, the Hungry Valley study area most likely fell within Interior Chumash territory at the time of Euro-American contact. As they are careful to caution, however, tribal boundaries were fluid due to inter-marriage and likely changed over time, suggesting that the study area is best understood as an interaction zone between the Chumash and Tataviam.

The Tataviam language is generally accepted as representing a Takic language of the Uto-Aztecan family (King and Blackburn 1978). In this sense, it was related to other Takic languages in the Los Angeles County region, such as Gabrielino/Fernandeño (Tongva or Kizh) of the Los Angeles Basin proper, and the Kitanemuk.

Kitanemuk

The nearby Kitanemuk occupied the south and central "heart" of the Tehachapi Mountains and the adjacent northwestern end of the Antelope Valley. These are speakers of the Serran branch of the Takic (Uto-Aztecan) language stock, and they are sometimes referred to as Haminat. They were closely related linguistically to other Serran Takic groups such as the Serrano proper and Vanyume, who lived along the northern front of the transverse ranges. The Kitanemuk, however, probably did not extend down onto the San Joaquin Valley floor, which was occupied by the Yokuts. The northwestern edge of Kitanemuk territory appears to have fallen between Tunas and Paso Creeks, on the Tejon Ranch, judging from known village locations, with most of their territory extending eastward. The San Joaquin Valley floor was occupied by the southern Valley Yokuts, with the Yauelmani Yokuts extending farthest to the southeast in the southern San Joaquin Valley. The Yokuts are Penutian speakers, and thus are linguistically related to other occupants of the Central Valley. Yokuts villages apparently extended up to, but not into, the mouths of the canyons on the northern front of the Tehachapi Mountains.

Yokuts

Despite the proximity of the Chumash, Kitanemuk, Yokuts, and Tataviam, historical accounts suggest that amity-enmity alliances may have partly structured regional inter-group relationships. The Chumash appear to have maintained an alliance with the Kitanemuk, with the Yokuts and Tataviam having a similar relationship, with more strained relationships between these two alliance groups. Despite these possible political and relational differences, all of the groups were culturally very similar.

The Chumash, for example, followed a hunting-gathering-fishing subsistence pattern, which incorporated a heavy reliance on maritime resources, including pelagic and littoral fishes, and shellfish – at least for groups living along the coast. Indeed, the bountiful sea resources that they exploited along the Santa Barbara coast may have been a key factor in their evolutionary success:

at the time of the arrival of the Spanish, the Chumash had reached levels of population density and complexities in social organization unequaled worldwide by other non-farming groups (e.g., Landberg 1965). These included permanent coastal villages along the Santa Barbara Channel area containing as many as 1,000 inhabitants, as well as a hierarchical sociopolitical organization consisting of at least two major chiefdoms. Further, based on recent reconstructions using mission registers, the Chumash appear to have had a matrilocal, and perhaps matrilineal, clan-based society.

The Interior Chumash of course lacked direct access to the marine resources that contributed to such unusually high population densities along the Santa Barbara coastline. Adaptation to the environment was therefore more closely tied to terrestrial resources, including especially the acorn-bearing oak, with cultural patterns in general very similar to surrounding interior groups, such as the Yokuts. Notably, however, the Interior Chumash are particularly renowned for their rock paintings, or pictographs, important concentrations of which are located on the San Emigdio Ranch and the Carrizo Plain. Ethnographic information demonstrates that their cave paintings were made by shamans, and that they depict the supernatural experiences these medicine men had on their vision quests.

Less historical ethnographic information exists on the Kitanemuk and Tataviam. Like many south-central California groups, however, they may have been organized into recognized and distinct tribelets. These were land-owning groups linked by shared territory and descent from a common ancestor. The tribelet was headed by a chief who was assisted by a variety of assistants. A shaman also existed who served as religious officer but the shaman did not have any direct political authority in a strict sense. Like other groups in the region, their subsistence emphasized the acorn-bearing oak, with the addition of a wide variety of other plants and game. These included seeds (e.g., chia, sagebrush, buckwheat), berries (toyon, elderberry), bulbs (mariposa lilly), greens (miner's lettuce) and fruits (cactus), which were gathered seasonally, while deer and especially small rodents and lagomorphs were hunted year around.

Due to missionization and the creation of tribal reservations, much inter-marriage between these tribal groups occurred during the historical period. Many of the contemporary descendants of the original inhabitants of this region, as a result, can trace their ancestry to a number of these different tribes.

2.2.2 Archaeological Background

The San Emigdio and Tehachapi mountains and western Antelope Valley region, even though far from remote from other portions of California, has received minimal archaeological attention compared to other areas of the state. In part, this is probably because the majority of California archaeological work has concentrated in the Sacramento Delta, Santa Barbara Channel, and central Mojave Desert areas. Although our knowledge of the prehistory of this region is therefore limited in specific details, enough is known to determine that the archaeological record is broadly similar to south-central and central California as a whole (ASM Affiliates 2014; W&S Consultants 2007). Based on this fact, the general prehistory of the region containing the Hungry Valley study area can be outlined as follows.

Initial occupation of the general Hungry Valley region occurred at least as early as the Paleoindian Period, or prior to about 10,000 YBP (years before present). Evidence of this early use of the region has been revealed by the discovery of characteristic fluted and stemmed points found around the margins of Tulare and Buena Vista Lakes, in the foothills of the Sierra, and in the Mojave Desert proper. In each case, these are locations that are many miles distant from the study area, but they make likely the possibility that the upland Los Padres and Tehachapi Mountains were also at least occasionally utilized during this time period.

Both fluted and stemmed points are particularly common around the lake margins, suggesting a terminal Pleistocene/early Holocene lakeshore adaptation similar that found in other portions of the far west at this same time, although little else is known about these earliest peoples. Additional finds consist of a Clovis-like projectile point discovered in a flash-flood cut-bank near White Oak Lodge on the Tejon Ranch in 1953, northeast of the study area. More recently, a similar fluted point has been found near Bakersfield, while a number are known from the Edwards Air Force Base and Boron area of the western Mojave Desert. Although it has now been well established that human occupation of the state occurred during the Late Pleistocene, little can yet be inferred about the nature and distribution of this occupation.

Substantial evidence for human occupation of California first occurs during the middle Holocene, from roughly 7500 to 4000 years B.P. (YBP). This period is known as the Early Horizon, and is sometimes alternatively referred to as the Early Millingstone along the Santa Barbara Channel. In this southern area, population concentrated along the coast, with minimal visible use of inland areas. Adaptation appears to have emphasized hard seeds and nuts, with tool-kits dominated by mullers and grindstones (large manos and metates). Minimal evidence of Early Horizon occupation has been found in most inland portions of the state. This is due in part to a severe cold and dry paleoclimatic period that occurred at this time.

Evidence for an Early Horizon occupation of this interior region is, admittedly, very limited, and has been found at only three sites, located in the Santa Clara River Valley to the south. In two cases, temporal attribution was based on the presence of a small number of *Olivella* barrel beads. Such bead types have subsequently proven unreliable temporal indicators, throwing doubt on significant human inhabitation of this region before about 4,000 years ago. Further, excavations at one of these putative early locales, the Escondido Canyon Site, failed to uncover evidence for occupation prior to about 2700 YBP (W&S Consultants 2007). At the third site, on the Newhall Ranch, a late Early Horizon occupation was hypothesized based on the presence of significant quantities of metates in the lowest stratigraphic level of the site deposit (Waugh 1999), which was a former walnut orchard and is currently a farm field. The concentration of large, heavy artifacts at the base of the deposit is almost certainly the result of their downward movements in the soil profile, accelerated by disturbance, rather than an in situ early deposit. No real evidence for Early Horizon occupation of the Newhall Ranch area, as a result, has been found despite substantial research.

Phase II test excavations for the Tejon Mountain Village and Centennial projects, northeast and east respectively of the current study area, failed to find evidence of Early Horizon occupation of the Tehachapi Mountains, although it is possible that some use of the area occurred that left little or no visible archaeological trace (W&S Consultants 2005; ASM Affiliates 2015). Furthermore,

the lack of evidence for Early Horizon occupations at the base of subsequent Middle Horizon deposits during the excavations for these projects indicates that, if there was an Early Horizon use of the area, it was culturally discontinuous with the subsequent occupants of the Tehachapis. Regardless of specifics, it is clear that Early Horizon population density was low in interior south-central California overall, and if any kind of occupation and specialized subsistence adaptation existed, it was probably tied to plant food gathering rather than hunting.

Environmental conditions improved dramatically after about 4000 YBP, during the Middle Horizon (or Intermediate Period). This period is known climatically as the Holocene Maximum and it was characterized by significantly wetter conditions than were experienced previously. Archaeologically, it was marked by a large population increase and radiation into new environments in interior south-central California and the Mojave Desert. In the Delta region to the north, this same period of favorable environmental conditions was marked by the appearance of the Windmiller culture, which exhibited a high degree of ritual elaboration (especially in burial practices) and perhaps even a rudimentary mound-building tradition (Meighan, personal communication, 1985). Along with ritual elaboration, Middle Horizon times experienced increasing subsistence specialization, perhaps correlating with the appearance of the acorn processing technology. Penutian-speaking peoples (including the Yokuts) are also posited to have entered the state roughly at the beginning of this period and, perhaps, to have brought this technology with them (cf. Moratto 1984). Likewise, the so-called "Shoshonean Wedge" in southern California, or the Takic-speaking groups that included the Gabrielino/Fernandeño, Tataviam, and Kitanemuk, may have moved into this region at this time (Sutton 2009), rather than at about 1500 BP as first suggested by Kroeber (1925).

Evidence for Middle Horizon occupation of the Upper Santa Clara/Agua Dulce region, south of the study area, is substantial, in that it has been found at a number of sites and has been based on radiocarbon, obsidian hydration, and typological dating. The Agua Dulce village complex, for example, includes occupation extending back to this period, at which point population of the village may have been 50 or more people. Similarly, the inhabitation of the Hathaway Ranch region, near Lake Piru, and on Newhall Ranch, near Valencia, appears to have begun during the Intermediate Period (W&S Consultants 2007). To the northwest, there is little or no evidence for pre-Middle Horizon occupation in the upper Sisquoc and Cuyama River drainages. Also to the northwest, the Carrizo Plain appears to have experienced a major population expansion during the Middle Horizon (Whitley et al. 2007).

Phase II test excavations for the Tejon Mountain Village project, northeast of the Hungry Valley study area, demonstrated a substantial Middle Horizon occupation in the Tehachapis; all tested habitation sites included at least some deposit from this period, and some of the villages were only inhabited at this time. The existing evidence now suggests that a similar pattern occurred in the inland Ventura County region, as well as possibly in the Antelope Valley and western Mojave Desert, the southern Sierra Nevada, and the Coso Range region. In all of these areas, a major expansion in settlement, the establishment of large site complexes, and an increase in the range of environments exploited appear to have occurred sometime roughly around 4,000 years ago. Although most efforts to explain this expansion have focused on local circumstances and events, this was a major southern California-wide occurrence (ASM Affiliates 2014).

The beginning of the Late Horizon is set variously at 1500 and 800 B.P., although a consensus seems to be growing for the shorter chronology for this time period. Regardless of specific date, the appearance of the Late Horizon correlates with another series of periodic droughts at circa A.D. 800-1200, which decimated major portions of western North America. This is known, climatically, as the Medieval Climatic Anomaly, followed by the Little Ice Age, and this general period of climatic instability extended to about A.D. 1860. In much of inland south-central California, the Carrizo Plain, and the Mojave Desert, including the Antelope Valley, a large-scale abandonment of sites occurred approximately at the start of this period (Whitley et al. 2007). For the ancestral Chumash, this appears to correlate with an increase in coastal populations, suggesting a shift from inland to seashore occupation rather than a drop in total numbers of people. Population appears to have been increasingly concentrated towards the later end of the Medieval Climatic Anomaly along the Buena Vista lakeshore in the southern San Joaquin Valley (Culleton 2006).

Based on the results of the Phase II testing for the Tejon Mountain Village project, however, the Late Horizon circumstances did not result in widespread abandonment of the Tehachapi Mountains. This area is unusually well watered and probably was not subjected to the same degree of desiccation that occurred elsewhere in interior south-central California. Some Middle Horizon villages were abandoned before the start of the Late Horizon, but those sites with Late Horizon occupation appear to have been more intensively occupied during the last 1,000 years, and no significant population change has yet been identified. The Tehachapis and the lakeshores in the southern San Joaquin Valley experienced intensification rather than the abandonment seen in surrounding areas during the last millennium.

It is important to emphasize that it is not yet clear whether similar circumstances pertain within the study area, which differs environmentally from the Tejon Ranch, even though the ranch is only a short distance to the east. Perhaps most notably, the Tejon Mountain Village study area lies immediately north of the San Andreas Rift Zone, is predominated by limestone bedrock, and is extremely well-watered, with numerous running springs. The 2015 SVRA Addition and Hungry Valley study area, in contrast, is primarily south of the rift zone, is underlain by a different lithology, and lacks the density of active springs. Whether its archaeological record resembles other portions of interior south-central California or instead the Tejon Ranch is an important question that the current project hoped to address. Regardless of regional circumstance, however, the ethnographic Native American tribes and conditions are recognized as a direct outgrowth of the Late Horizon occupations of this portion of south-central California.

2.2.3 Historical Background

Perhaps because of its distance from the coast and then-existing communication routes, Euro-American settlement and development of the Tehachapi and San Emigdio mountains region occurred somewhat later than in other parts of southern California. As a result, its early Euro-American history to about the 1850s principally (though not exclusively) involved explorers who traversed the area. For example, Pedro Fages crossed the area in 1772, passing through Lake Hughes and Tejon Pass; Fr. Garcés, with de Anza, traveled through the Lake Hughes and Castaic region and probably spent a week on what would become the Tejon Ranch in 1776; Fr. Jose Maria Zaldivea, coming from Santa Barbara in 1806, found Castac Lake and Cañada de las Uvas (Grapevine Canyon); Jedediah Smith went through the region during his fur-trapping expedition

in 1827; as did John C. Frémont and his guides, Kit Carson and Alex Godoy, in 1830 and 1844. Later, in 1847-1848, Frémont spent the winter in the original Tejon Pass area, now known as Tehachapi Pass, on the Tejon Ranch (ASM Affiliates 2014).

During the latter portion of this exploratory period, from 1843 to 1846, grants for four large ranches were awarded in the study area region that would eventually be united into the Tejon Ranch by Edward Fitzgerald Beale between 1855 and 1865. Most likely, this flourishing of interest in this then-isolated portion of southern California was precipitated by the discovery of gold in Placerita Canyon, near Santa Clarita, in 1842. Although the history of gold discovery and exploitation in California is often linked with James Marshall's 1848 discovery of gold in John Sutter's Coloma mill-race, gold was found in California in 1842 in Placerita Canyon (near Santa Clarita), by Francisco Lopez, Manuel Cota and Domingo Bermudez (Outland 1986; Smith 1977). Contrary to contemporary mythology, which describes this discovery as accidental, these individuals were systematically prospecting for gold in the area surrounding Rancho San Francisquito (at Newhall): Lopez had graduated from a mining college in Mexico City prior to coming to California and was thus trained in prospecting and mining gold. But it is by no means clear that even this well-documented incident represents the first true discovery of gold in the state; instead, a variety of lines of evidence suggest that gold may have been mined in the region one or two decades earlier.

According to an account published by Outland (1986), a local tale indicates that a group of about 20 men, led by one Santiago Feliciano, left Mission San Fernando in 1820 to explore the Castaic region, south of Gorman. After reaching the Castaic Junction area, they entered Hasley Canyon, and traveled up it about 10 miles, placing them approximately on the modern Hathaway Ranch (west of the town of Castaic). There they discovered gold, and a mining camp, "San Feliciano" (from which San Feliciano Canyon apparently gets its name) was born. The region from San Feliciano to Soledad Canyon was subsequently prospected and mined (mostly for placer deposits) for a number of years, with little record of these efforts presumably resulting because of the legal complications involved in recording gold claims in Mexican California. While the granting of land for agricultural and ranching purposes could be effected by the Governor of California, the recording of a gold claim under Mexican law required a lengthy trip to Mexico City to petition for mining rights, with an uncertain outcome, an effort none were apparently willing to gamble.

Although, as Outland notes, there is no clear verification for this tale (which ultimately derives from the prominent early Ventura settler and local historian S.P. Guiberson), there is nonetheless fairly strong evidence that the 1842 Placerita discovery was not the first in this region (Outland 1986; Smith 1977), and that early prospecting had occurred in the San Emigdio Mountains in the mineralized belt that runs from upper Piru Creek through Lockwood Valley, to the north slopes of the mountains above the San Joaquin Valley, west of the study area. In 1832, for example, Ewing Young discovered an old ore smelting oven in San Emigdio Canyon (Outland 1986), on the north slope of the San Emigdios above the San Joaquin Valley, suggesting that gold mining in the area had occurred one or two decades prior to the 1842 event. (This discovery was verified by J.J. Warner, of Warner Ranch fame, who had accompanied Young, in an account published in the *Los Angeles Star* in 1871; see Outland 1986.) A number of other sources indicate that the presence of gold in the area was known at least a few years prior to the famous 1842 Placerita Canyon incident (Smith 1977). This early mining activity appears to have been the origin for the “Lost Padres Mine” tale, which was commonly repeated in the region in the latter half of the 19th century.

Be this as it may, the 1842 discovery did have one other important repercussion: it resulted in the granting of Rancho Temescal to Francisco Lopez and Jose Arellanes, in 1843. This included most of Piru Creek, as well as Placerita and San Feliciano Canyons, and totaled over 13,000 acres. Apparently, the legality of this grant under Mexican law has always been a point of some question for, as noted previously, the Governor of California only held the right to award agricultural and ranching but not mining land grants. Thompson and West (1883:74), however, record that the area was worked by miners from Sonora, Mexico, between 1842 and 1846, at which time they returned to Mexico, and that they extracted between six and eight thousand dollars of gold per year during that period.

Placer mining was in fact putatively initiated in the upper Piru Creek area, south of the SVRA study areaby Andrew Castillero in 1841, with gold from the district said to have been sent to the U.S. Mint in Philadelphia in 1842 (Clark 1970), although the source for this claim is uncertain. Small-scale placer mining continued intermittently through the 1890s, and there was some work again in the 1920s and 1930s, during the Depression. This activity was primarily centered on the area around upper Piru and Lockwood Creeks, including Gold Hill. But minor mining activity also occurred in the Frazier Mountain district, to the north, at the same times.

Despite the allure of gold, the most successful mining operations in the region proved to be borax. A gold prospector by the name of McClaren had soil samples from the northeast end of Lockwood Valley tested in 1898, finding a very high grade of borax. His mining operation was soon sold to larger operators and three mines eventually were built – the Frazier Borax Mine, the Russell Mine, and the Columbus Mine. These mines were reported to be the richest and most productive in the U.S. at that time. Eight- to 14-mule teams hauled the valuable mineral to Lebec and then to the railroads in Bakersfield or Mojave. The mines closed after about 10 years of operation when greater borax sources were found in the more accessible areas of Death Valley and the Calico Mountains, but sporadic interest in borax mining continued in the region into the 1930s. Clay continues to be mined in Lockwood Valley to this day.

The four early Mexican land grants in the Hungry Valley vicinity included the Rancho Los Alamos y Agua Caliente (“cottonwoods and hot water”), acquired by Pedro Carillo from Governor Micheltorena on October 2, 1843. Less than two months later (November 11, 1843), the original Rancho El Tejon (“the badger”) was awarded to José Antonio Aguirre and Ignacio del Valle by the governor, representing a grant of almost 100,000 acres. Less than two weeks later (November 22, 1843), the approximately 22,000-acre Rancho Castac (Chumash for “spring-eye,” in Spanish “ojo de agua”) was obtained by José Maria Covarrubias. Finally, on April 21, 1846, Rancho La Liebre (“the hare”) was granted to José Maria Flores. It was 11 square leagues, or almost 49,000 acres in size (ASM Affiliates 2014). Although these four grants did not include any of the study area, the history of this region was closely tied to the events and individuals associated with these ranchos.

Partly influenced by the political and other disruptions that occurred at the end of the 1840s, including conflict with tribes in the southern San Joaquin Valley, these land grants were initially all but unused by their grantees. One result was an early encroachment on them by Euro-Americans who assumed the lands were unclaimed and therefore open for settlement, or who knew about the

land grants but paid them little heed. For example, in spring 1850, Dr. Darwin French moved onto Tejon Ranch proper and built an adobe. He departed in 1851 due to unrest among Native Americans in the southern Sierra Nevada, subsequently becoming renowned for his involvement in the exploration and settlement of the Death Valley region. Likewise, Alonzo Ridley and David McKenzie came into the Tejon region to trade with the Native Americans in May 1852. Around this same time, Samuel A. Bishop moved into the area, settling on what was Castac Rancho (ASM Affiliates 2014). But probably the best known, and ultimately most important, of the early "settlers" who, in effect, squatted on rancho lands, was Edward F. Beale. In 1853, Beale created an Indian reservation on what he thought was unclaimed land, available for government use. Beale, as Indian Commissioner for California, established the reservation at the foot of the Tehachapis, near the old Tejon Ranch headquarters on Paso Creek (W&S Consultants 2007).

The Sebastian Reserve, as it was officially known, was originally planned to cover 75,000 acres but, probably due to political reasons, was reduced in size to only 25,000 acres, and its boundaries were never surveyed (ASM Affiliates 2014). Its territory is hence unclear beyond certain specifically identified village locations and the fields around them. What is certain is that the reserve fell on the open flats of the southern San Joaquin Valley, extending southward to include the mouths of the canyons, where permanent creeks debouched onto the valley floor. It included members of the Kitanemuk, Yokuts, Chumash, Tataviam, Fernandeño, Kawaiisu, Tubatulabal and possibly Coso Shoshone and Owens Valley Paiutes tribes. Villages were established at the canyon mouths, which provided water for farming, and fields were established immediately below; large deep ditches (rather than fences) were excavated around the irrigated fields to keep out cattle. The mouth of Grapevine Canyon contained the westernmost village on the reserve; others are known to have existed at the mouths of Live Oak, Pastoria, El Paso, Tejon and Chanac Creeks to the east, as well as at some areas in between. Ultimately, land claims cases in the 1850s demonstrated that the location of the reserve fell on the previously granted Mexican ranchos. This effectively invalidated the federal use of the reserve lands, allowing Beale to purchase the ranchos as private property, re-arranging their boundaries to form a single contiguous piece of property. The reserve was officially terminated at the end of the Civil War, for this reason, at which point many of its Native American inhabitants were transferred to the Tule River Reservation near Porterville.

Beale had also been instrumental in convincing the U.S. Army that a fort would be well situated on the Tejon, both to protect the Indians on the Sebastian Reservation from exploitation by Euro-Americans, and to prevent raiding into the greater Los Angeles Basin by "renegade" Indians from the Tulare County and Colorado River regions. Initially, a contingent of soldiers was quartered on El Paso Creek, at what was then the headquarters of the Sebastian Reserve. They were shifted to Fort Tejon, in what is now referred to as the "Tejon Pass," in 1854, near the modern town of Lebec. The fort fell on Rancho Castac, which was then owned by Bishop. The fort continued in use, with a break at one point, until the end of the Civil War. A civilian settlement sprung-up around the fort and, at its peak, it was the third largest population center in southern California. When finally abandoned on September 11, 1864, the fort was returned to Bishop, per the original terms of his agreement with the U.S. Army. Shortly thereafter, Castac Rancho (including the fort) was acquired by Beale. Fort Tejon is now a California State Park.

During this period, and even though Fort Tejon was, for a decade, a "major" population center in southern California (with 920 inhabitants, exceeded only by Los Angeles with 4,385, and El Monte

with 1,004), the area was still geographically remote and isolated. Granted, it was traversed by the first stage route, the Butterfield Overland mail stage established in 1858, which had stops at Lake Elizabeth, Cow Springs, Fort Tejon and the "Sinks of the Tejon" ("Los Alamitos," below the confluence of the Tejon and Chanac Creeks). But the stage was somewhat of a draw to outlaws: for many years the area was known as the "Refuge of the Bandits," and served as a haunt for Joaquin Murrieta and Tiburcio Vasquez and their gangs. Moreover, because of various economic competitions with the directors of the Southern Pacific Railroad, the rails were routed 50-miles to the east, through the Antelope Valley, to avoid traversing Beale's land in 1876, continuing its geographical isolation from other parts of southern California (ASM Affiliates 2014).

Nonetheless, the Overland stage route crossed close to the Hungry Valley study area, skirting Quail Lake before heading to Gorman Station – the last stop before Fort Tejon. Quail Lake was originally known as La Laguna Seca, "dry lake" (Latta 1976:31), and thus presumably did not hold perennial or potable water; hence, the stage station at nearby Gorman. (Topographical conditions suggest that the stage route followed the path of Highway 138, south of Quail Lake, staying on the flats to the south rather than unnecessarily traversing the hilly terrain to the north). The Gorman station was built by Charles Johnson and his wife in 1863, who constructed a log cabin "public house" at this spot. When Johnson died, his wife continued to run the establishment and it became known as Rancho La Viuda, "widow's ranch." She sold it to David Alexander after 1864, whose brother had operated the sutler's store at Fort Tejon. Alexander operated passenger coach and freight wagon lines between the San Pedro harbor and the lower San Joaquin Valley via the Tejon Pass. Alexander was actively involved in acquiring large tracks of land along the route north of San Fernando and he also owned Rancho San Emigdio. He ultimately sold the stage station to James Gorman, Sr., an Irish immigrant who was a veteran of the Mexican War and worked as a meat-hunter for Fort Tejon (W&S Consultants 2007; Bevil 2011; Kane 2002; Kelley et al. 1980:51-52). By 1872, "Gorman's Station" was a regular stop on the stagecoach route. Gorman and his wife would operate the station until his accidental death in 1873 (Brewer 2001:25-26; Kane 2002; Kelley et al. 1980:52; Pitt and Pitt 1997:178), with his wife and family operating it thereafter. By 1880, the station had a post office, store, hotel, saloon, stable and blacksmith shop, as well as a number of homes and ranch buildings (Brewer 2001:26-27; Kane 2002).

In 1875, Gorman's wife Johanna patented a 160-acres homestead immediately south of the station. Other land patents were acquired in the surrounding area by a variety of entrants, including in the Hungry Valley study area, though primarily during the 1920s and 1930s. In 1899, the Gorman family property was purchased by Oscar Newell Ralphs who was a founder of the Ralphs grocery store chain. Ralphs allegedly coined the name "Hungry Valley" for the area southwest of the town (formerly known as "Los Alamos") due to its inability to support the homesteads in the valley, which typically relied on winter rains for their crops. As Bevill (2011) noted, though an 1879 land survey stated that there was "a fair proportion of good grazing and agricultural land . . . [with] numerous springs furnishing [an] abundance of water" (Land Surveyor George S. Collins, quoted in Kelley et al. 1980:51), a typical 160-acre homestead in the mountainous area contained insufficient grazing or arable land to support a family ranch. Many original pioneer homesteaders were forced to sell their land to speculators or investors (Kelley et al. 1980:51). Ultimately, the Ralphs family owned 11,000 acres, which included a large portion of Hungry Valley, and a series of businesses in Gorman. His descendants still own much land in the Hungry Valley area (Bevil 2011).

The earliest known settlers in the better-watered valleys west of the study area were John Fletcher Cuddy and family, who homesteaded the area now known as Cuddy Valley, in 1862. Their initial log cabin was made from pinyon trees cut from Mt. Pinos. They used their property successively for a cattle ranch, then a guest ranch and ultimately a turkey farm (Blakley and Barnette 1985), signaling the difficulty in turning a homestead into a profitable enterprise. Although there likely were earlier temporary occupants, Samuel and Anna Snedden were the first long-term settlers in Lockwood Valley, west of the Hungry Valley study area, moving there in 1879. Samuel was from Pennsylvania and had come to California during the gold rush; Anna was Johanna Gorman's sister, and the two likely met while Samuel was working in the Lockwood Valley diggings. Anna founded the first school in the region. Turning to livestock instead of mining, the Snedden family rapidly became a locally prominent ranching family (http://www.rrchs.org/lockwood.html). Snedden Land and Cattle Company, formed in 1916, ultimately owned over 18,100 acres of land and leased approximately 10,000 acres more (Blakley and Barnette 1985), making it the biggest ranching operation in the mountains.

The Hungry Valley study area is located along the major north-south transportation corridor in California and, not surprisingly, use of that corridor has played an important part in local history. In addition to the stage route, pipeline and transmission corridors as well as an inter-state highway traverse the area. The first oil pipeline from Kern County through Grapevine Canyon to Los Angeles was constructed in 1913 (Rintoul 1976). The first paved highway connecting Los Angeles to Sacramento was built in 1919, with the first gas station opened in Gorman in 1923 (Bevil 2011). One result was the introduction of more people to the area, leading to tourism and recreational use of the region; another was the start of a long cycle of infra-structural development though the region.

Most land in the Hungry Valley area was maintained in the hands of large landowners until it was purchased by the Federal Government or the State of California, in the 1940s through the 1970s. The sparsely inhabited region of Hungry Valley was used mainly by Anglo settlers between 1890 and 1940. It is a region remembered by old-timers in Frazier Park and Gorman as a barren and unproductive farmland area. Homesteaders in Hungry Valley lived under harsh economic conditions, with very few rewards. The homestead shacks are remembered only by vandals who broke the floorboards looking for hidden treasure, and by campers in need of firewood.

Recreational off-highway vehicle (OHV) use probably started in a small US Forest Service parcel at the northern border of the study area. As the popularity of off-highway vehicle (OHV) riding increased, hill climbing and trail riding spread from the forest lands to the upper portion of Hungry Valley proper. Control of unlawful riding on these private lands was difficult because of absentee ownerships. In 1976, the Forest Service approved specific trails in the Los Padres National Forest for OHV use. Several of these trails connect to the present SVRA boundary. When the state purchased SVRA lands in 1978, OHV activity was heavy in the upper end of Hungry Valley proper, and moderate in the hills overlooking Gorman and on the southern border of the unit. Use of the SVRA has increased over the years as the popularity of OHV activities has itself grown.

3.0 ARCHIVAL STUDIES

Archival studies differed for Hungry Valley SVRA and the 2015 SVRA Addition lands. The approach and results for both areas are described below.

3.1 2015 SVRA ADDITION LANDS

Records searches, including a 0.25-mile buffer, were conducted at the Southern San Joaquin Valley Information Center (SSJVIC), California State University, Bakersfield, to cover that portion of the 2015 SVRA Addition area located within Kern County, and at the South Central Coastal Information Center (SCCIC), California State University, Fullerton, to cover those portions of the records search radius that extended beyond Kern County into Los Angeles County (Appendix F).

A total of 20 previously documented resources was identified between the two records searches. Four of these proved to be duplications between the two sets of county records, resulting in a total of 16 previously recorded resources. Eight of these are within the 2015 SVRA Addition area (Table 1) and the remaining eight are in the 0.25-mile buffer. Of the eight within the study area, four are described as sparse lithic scatters, two are historic structural remains, and two are isolated flakes. Of the eight remaining resources within the 0.25-mile buffer, six are historic and two are undescribed in the records and their nature was unknown. Four of those sites within the 0.25-mi buffer fall within the Hungry Valley SVRA and were revisited and are discussed subsequently. The remaining four sites within the 0.25-mi buffer are listed below (Table 2).

Table 1. Resources within the 2015 SVRA Addition

Primary No.	Trinomial	Type	Description
P-15-002774	CA-KER-2774	Site	Prehistoric lithic scatter/fire cracked rocks
P-15-002775	CA-KER-2775	Site	Prehistoric lithic scatter/steatite arrowshaft straightener
P-15-005433		Isolate	Prehistoric lithic
P-15-005434		Isolate	Prehistoric lithic
P-15-010300	CA-KER-6059	Site	Prehistoric lithic scatter
P-15-010301	CA-KER-6308	Site	Prehistoric lithic scatter
P-15-010849		Site	Historic structures/trash scatter
P-15-010850		Site	Historic structures/trash scatter

Table 2. Resources within 0.25-miles of the 2015 SVRA Addition

Primary No.	Trinomial	Type	Description
P-19-003772	CA-LAN-3772H	Site	Historic site
P-19-188111		Road	Historic highway/trail
P-19-188112		Road	Historic highway/trail
P-19-188113		Structure	Historic barbed wire fence line

3.2 HUNGRY VALLEY SVRA

Per the terms of the project contract, all site records and geospatial data for recorded cultural resources within the Hungry Valley SVRA were provided to ASM by the DPR. This totaled 137 individual resources: 112 of these were archaeological sites or standing historical structures (Table 3) while 25 were recorded as isolated artifacts or isolated historical features (Table 4). Many of these sites were originally recorded in 1978 during the cultural survey for the original Hungry Valley SVRA General Plan. These studies were briefly documented in J. Kelly, P. Hines and A. Luberski, 1980, The Cultural Resources of Hungry Valley (manuscript on file, Hungry Valley SVRA). Certain of the sites had been revisited and updated subsequently, especially between 2002 - 2003. In addition, 31 GIS data points were provided with no site or isolate records and minimal or no descriptive information (Table 5). These data points were assumed to represent unrecorded sites.

Table 3. Recorded Sites and Structures, Hungry Valley SVRA

Trinomial (CA-)	Primary # (P-)	Field Site Name	Type	Description
		3a	Site	Historic cabin structure
		3b (The Foley Place)	Site	Historic fallen cabin structure
		8A-H	Site	Historic foundation and trash
		15a	Site	Historic corral feature
		20a	Site	Historic storage facility
		21a (Sterling Game Bird Farm)	Site	Historic structures
		21b (Sterling Game Bird Farm)	Site	Historic tin scatter
		21c (Sterling Game Bird Farm)	Site	Historic cabin remains
		30c (Historic Pump Well)	Site	Historic windmill/irrigation feature
		31a (Windy Hill Ranch)	Site	Historic ranch
		31b	Site	Historic structure remains
		32a	Site	Historic livestock structure
		42a	Site	Possible historic agriculture or mining structures
		42b	Site	Historic homestead
		54c	Site	Historic irrigation feature
		68a (Johnny Kyle Place)	Site	Historic ranch complex
		72a	Site	Historic structure
		73a	Site	Historic ranch remains
		75a	Site	Historic reservoirs
		75b	Site	Historic reservoir and well
		79a	Site	Historic ranch and mining complex
		83a	Site	Rock-filled pit.
		85a (Trash Dump)	Site	Historic trash scatter
		95A	Site	Historic structure/corral
		102F	Site	Historic trash scatter
		107c	Site	Historic shed
		112a	Site	Historic ranch
		126a	Site	Possible historic cabin remains
		126b	Site	Historic structure remains
		130c	Site	Historic shack
		632013a	Site	Historic irrigation features
		632013B	Site	Historic irrigation features
		642013a	Site	Historic trash scatter
		642013d	Site	Historic trash scatter/corral/well

Trinomial (CA-)	Primary # (P-)	Field Site Name	Type	Description
		Dewey Ralphs House	Site	Historic house
		Phil's Hunting Camp	Site	Historic trash scatter
CA-LAN-903		12a	Site	Prehistoric lithic scatter and pestle
CA-LAN-904		23a	Site	Prehistoric lithic scatter
CA-LAN-905		26a	Site	Prehistoric roasting oven
CA-LAN-906		27a/118a	Site	Prehistoric lithic scatter
CA-LAN-907		35a	Site	Prehistoric lithic scatter
CA-LAN-908		35b	Site	Prehistoric lithic scatter
CA-LAN-909		35c	?	Not provided in records
CA-LAN-910		38a	Site	Prehistoric roasting oven
CA-LAN-911		38b	Site	Prehistoric lithic scatter/roasting oven
CA-LAN-912		38c	Site	Prehistoric roasting oven
CA-LAN-913		45a	Site	Prehistoric roasting oven
CA-LAN-914		46a	Site	Prehistoric roasting oven
CA-LAN-915		47a	Site	Prehistoric lithic scatter
CA-LAN-916		47c	Site	Prehistoric lithic scatter/milling
CA-LAN-917		48a	Site	Prehistoric roasting oven
CA-LAN-918		50a	Site	Prehistoric roasting oven
CA-LAN-919		51a	Site	Prehistoric roasting oven
CA-LAN-920		51b	Site	Prehistoric roasting oven/lithic scatter
CA-LAN-921		52a	Site	Prehistoric roasting oven
CA-LAN-922		59a	Site	Historic structure
CA-LAN-923		59c	Site	Prehistoric roasting ovens/lithic scatter/ milling
CA-LAN-924		59d	Site	Prehistoric lithic scatter/roasting oven
CA-LAN-925		118a	Site	Prehistoric bedrock mortars/lithic scatter
CA-LAN-926		127a	Site	Prehistoric roasting ovens
CA-LAN-928		57a	Site	Prehistoric roasting oven/midden
CA-LAN-929		59b	?	Not provided in records
CA-LAN-930		61a	Site	Prehistoric roasting oven
CA-LAN-931		66c	Site	Prehistoric roasting oven
CA-LAN-932		67a	Site	Prehistoric lithic scatter and mano fragment
CA-LAN-933		69a	Site	Prehistoric roasting oven
CA-LAN-934		69b	Site	Prehistoric roasting oven
CA-LAN-935		70a	Site	Prehistoric roasting oven
CA-LAN-936		80a	Site	Prehistoric roasting oven
CA-LAN-937		86A	Site	Prehistoric roasting oven
CA-LAN-938		86B	Site	Prehistoric roasting oven
CA-LAN-939		86c	Site	Prehistoric lithic scatter/milling
CA-LAN-940		102a	Site	Prehistoric roasting oven
CA-LAN-941		103a	Site	Prehistoric roasting oven
CA-LAN-942		103b	Site	Prehistoric roasting ovens
CA-LAN-943		105a	Site	Prehistoric roasting ovens/lithic scatter/ milling
CA-LAN-944		107a	Site	Prehistoric roasting oven
CA-LAN-945		107b (Tom's Flake Scatter)	Site	Prehistoric lithic scatter/roasting oven
CA-LAN-946		107c	Site	Prehistoric roasting oven
CA-LAN-2335H	P-19-002335	95b (Alamo Ranch)	Site	Historic ranch complex
CA-LAN-2568H	P-19-002568	96a (Kinsey Ranch)	Site	Historic ranch complex
CA-LAN-3379		118, 118b	Site	Historic ranching complex
CA-LAN-3987		Mortar Site	Site	Prehistoric hopper mortar and lithics
CA-LAN-4281H	P-19-004281	09282011A	Site	Historic trash scatter
CA-LAN-4280H	P-19-004280	09292011A	Site	Historic trash scatter
CA-VEN-567		66A&B	Site	Prehistoric roasting oven
CA-VEN-568		76A	Site	Prehistoric roasting oven
CA-VEN-569		92A	Site	Prehistoric roasting oven
CA-VEN-579		30A	Site	Prehistoric roasting oven/lithic scatter

Trinomial (CA-)	Primary # (P-)	Field Site Name	Type	Description
CA-VEN-580		30B	Site	Prehistoric milling site
CA-VEN-581		30E	Site	Prehistoric mortar and pestle cache
CA-VEN-582		53A	Site	Prehistoric lithic scatter
CA-VEN-583/584		54A, 54B	Site	Prehistoric habitation
CA-VEN-585		74A	Site	Prehistoric roasting oven
CA-VEN-586		P129B, 53B	Site	Historic structure/trash scatter, prehistoric lithic scatter/habitation debris
CA-VEN-587		130A	Site	Prehistoric lithic scatter
CA-VEN-588		130B	Site	Prehistoric lithic scatter
CA-VEN-589		130D	Site	Prehistoric roasting oven
CA-VEN-590		130E	Site	Prehistoric lithic scatter
CA-VEN-591		130F	Site	Prehistoric lithic scatter/roasting oven
CA-VEN-592		134A	Site	Prehistoric lithic scatter
CA-VEN-593		134C	Site	Prehistoric roasting oven
CA-VEN-1658	P-56-0001658	Ward's Mine	Site	Historic mine/trash scatters, prehistoric roasting oven
CA-VEN-1659	P-56-0001659	Ward's Oven	Site	Prehistoric roasting oven
CA-VEN-1660	P-56-0001660	Egget's Portal	Site	Prehistoric habitation
CA-VEN-1661	P-56-0001661	Eggett's Core	Site	Prehistoric lithic scatter
CA-VEN-1662	P-56-0001662	Marjay 1	Site	Prehistoric lithic scatter
CA-VEN-1663	P-56-0001663	Marjay 2	Site	Prehistoric lithic scatter
CA-VEN-1664	P-56-0001334	Marjay 3	Site	Prehistoric lithic scatter
	P-15-002761	Mesa Trail Site	?	Not provided in records
	P-19-189938	James Lloyd Ralphs House Facility#: 3251-014-050	Site	Historic house
	P-19-189939	Crabtree Family Ranch House (Building C) Facility#: 521-A-1-10-0-001	Site	Historic house

Table 4. Isolated Artifacts and Features, SVRA

Resource Number	Description
47B	Chopper
53	Isolated flaked stone tool, core
55A	Isolated flaked stone tool
55B	Isolated flaked stone tool
76B	Isolated flaked stone tool
20101228a	Scraper, point
20101228b	Brown chert core
632013 Isolate A	Historic bottle base
632013 Isolate B	Historic rock feature
652013	Historic water feature
652013c	Possible historic homestead feature
CA-LAN-927 (112b)	Prehistoric metate fragment
CA-VEN-1253/P-56-100165/The Pear Tree	Historic rock feature
P-19-100953 (09282011B)	Historic foundation
N/A	Isolated flake
N/A	Isolated pestle
N/A	Isolated core
N/A	Isolated scraper
N/A	Isolated chopper
N/A	Isolated scraper

Resource Number	Description
N/A	Isolated core
N/A	Two isolated pestles
N/A	Isolated chert core
N/A	Isolated core
N/A	Isolated chopper

Table 5. Possible Resources with GIS Points but No Site/Isolate Records

Resource Name/Number	Description	Relocation Result
8A	Building foundation	Not relocated
P108A	N/A	Not relocated
P111	N/A	Not relocated
P113	N/A	Not relocated
P114	N/A	Not relocated
P115	N/A	Not relocated
P116	N/A	Not relocated
P117	N/A	Not relocated
P119	N/A	Not relocated
P-120	N/A	Not relocated
P-120A-H	N/A	Not relocated
P121	N/A	Not relocated
P122	N/A	Not relocated
P123	N/A	Not relocated
P129	N/A	Not relocated
P133	N/A	Not relocated
Mesa Trail Site	Lithic scatter	Not relocated*
Mortar Site	Multicomponent site	Relocated and recorded as isolate*
Sunrise Oven	Yucca oven	Not relocated
N/A	Historic trash	Relocated and updated
N/A	Historic trash	Not relocated
N/A	Historic trash	Not relocated
N/A	Mason camp	Relocated and updated
N/A	Out building	Not relocated
N/A	Trash pile	Not relocated
N/A	Trash scatter	Not relocated
N/A	Trash scatter	Not relocated
N/A	Trash scatter	Not relocated
N/A	1930s trash	Not relocated
N/A	1950s historic dump	Not relocated
N/A	Historic dump	Not relocated

***Also included in Table 3 due to label as "site"**

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4.0 FIELD METHODS

Cultural resource field studies for the 2015 SVRA Addition and Hungry Valley SVRA were conducted from fall 2015 through spring 2016. David S. Whitley, Ph.D., RPA served as Principal Investigator with Peter Carey, M.A., RPA as Field Director. They were assisted by Robert Azpitarte, B.A., Crew Chief, and Stacey Escamilla, B.A., Mercedes Bandimere, B.A., Steve Teteak, B.A., Amber Tedrow, B.A., Morgan Bird, B.A., Melissa Ghergich, B.A., and Jeff Stevens, B.A., Assistant Archaeologists.

Our fieldwork involved two distinct procedures. An intensive Phase I survey was completed for the entirety of the 2015 SVRA Addition, the majority of which had not been previously inventoried. Field methods employed for this survey included intensive, on-foot examination of the ground surface for evidence of archaeological sites, in the form of artifacts, surface features (such as bedrock mortars or house pits), and archaeological indicators (e.g., organically enriched midden soil or burnt animal bone); the identification and location of any new or previously discovered sites; tabulation and recording of surface diagnostic artifacts; site photography and sketch mapping; preliminary evaluation of site integrity; and site recording or, in the case of previously recorded sites, site record updating. The California Office of Historic Preservation Instructions for Recording Historic Resources and DPR 523 forms were followed and employed for site recording.

The study area was examined by walking parallel 15-meter transects. Areas exceeding the angle of repose were covered with zigzag transects, with special attention paid to rock outcrops and overhangs that might contain preserved cultural resources. Foot- and toe-slopes of steep slopes were carefully examined for downward-moving cultural materials. Areas of dense vegetation were examined purposively and opportunistically to determine whether they contained cultural resources, using narrower transects and with particular attention paid to rodent burrow spoils piles, cut-banks, cleared edges of disturbed areas, and other spots with better ground surface visibility. Surface visibility, overall, was fair within the 2015 SVRA Addition study component.

Newly discovered cultural resources were identified in the field using colored surveyor pin flags. The area was then carefully examined by the crew walking 5-meter transects to locate additional cultural remains nearby. Trimble Geoexplorer 6000 series or Juno GPS units were employed to map sites, artifacts, features and boundaries. GPS Pathfinder differential correction, using the CORS Gorman CRK base station, was used for post-processing with the data uploaded into a geodatabase provided by the DPR. Aerial sketch maps were digitally created using ArcMap. Photos were taken of sites and site features, along with written descriptions, including tabulations of diagnostic artifact classes. Site records for previously recorded sites were updated with respect to two primary issues: site location; and status/integrity, including condition. The concern was to ensure site locations had been correctly recorded (many of the earlier recorded sites were mapped without the use of a GPS), and to determine whether their integrity had changed visibly since they were original recorded. In cases where the previously mapped site locations and/or site boundaries were found to be incorrect, new site sketch maps were completed.

Fieldwork within the Hungry Valley SVRA, in contrast, was directed specifically at determining the status of known archaeological sites and structures. Our goal in this case was to answer a series of questions:

- Do these resources still exist?
- Are they correctly mapped?
- What are their current condition and have they changed since the original recording or the last site record update?
- What types of resources are they and what significance do they maintain?

One hundred twelve recorded Hungry Valley SVRA sites and structures, accordingly, were visited by a field crew using site records provided by the DPR OHVMR, along with 31 UTM coordinates for points thought to be the locations of unrecorded sites (see Table 5). Many of the recorded sites had been originally recorded in 1978 prior to the use of GPS technology. Based on previous systematic re-surveys, we have found that as many as 30% of pre-GPS recorded sites are mis-mapped, sometimes by a small distance but sometimes by significant margins. In cases where sites were not present at their mapped locations, those surrounding areas that fit the verbal description of the site location for a distance of approximately 300-m were surveyed, in the hopes of determining whether the sites were mis-mapped or instead had been destroyed since originally identified.

Relocated sites were then intensively examined, mapped and re-recorded to complete site record updates, following the procedures described above. No artifacts were collected during the fieldwork at either component of the study area.

5.0 PROJECT RESULTS

The cultural resources investigation of the 2015 SVRA Addition and Hungry Valley SVRA study area resulted in the identification and recording of seven newly identified archaeological sites, with 128 site and resource locations (including isolates) revisited and records updated. Site and isolate records and site record updates, which include sketch maps and photos for each resource, are provided in Appendices B, C, D and E. Resource location maps for the 2015 SVRA Addition and Hungry Valley SVRA are in Confidential Appendix A (Figures 4 [Map Key] and 5-13).

5.1 2015 SVRA ADDITION LANDS

The records search indicated that eight cultural resources had been recorded within the 2015 SVRA Addition area: four sparse lithic scatters, the remains of two historic structures, and two isolated flakes. Two of these previously recorded archaeological sites and both of the isolated artifacts could not be relocated and are assumed to no longer exist. According to existing site records, one of these sites (CA-VEN-977) was surface collected in 2003, while the second (CA-VEN-978) was reported as destroyed by that same time. Previously recorded historic site P-15-10850 was relocated during the current study and was found to also contain prehistoric artifacts, making it a multicomponent site. Intensive Phase I survey of the approximately 845-ac study area resulted in the recording of seven additional archaeological sites and two isolated artifacts (see Confidential Appendices B, C and D), resulting in a total of six prehistoric, four historic, and one multicomponent site and two isolated artifacts that are still in existence within this study area.

5.1.1 Newly Recorded Sites

HV-NA-1 (temporary site designation)

HV-NA-1, a sparse lithic scatter, was identified and recorded on December 17, 2015. The site is situated on a small knoll that rises above an east-west trending alluvial plain within the eastern foothills of the San Emigdio Mountains. The site measures 27-m north-south by 23-m east-west, and is at an elevation of approximately 4,560-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource is a sparse lithic scatter that includes a cryptocrystalline (CCS) flake tool (Artifact 1) and 20 flakes (one obsidian and 19 CCS). The site is situated on a knoll that rises above a northeast-southwest trending drainage to the west, while the eastern boundary consists of a steep sandstone cliff, granting an excellent vantage point. A maximum slope of 12 percent was observed on site. All recorded flakes are associated with early and middle stage lithic reduction; the majority of the CCS flakes are early stage reduction shatter. Artifact 1, the flake tool, measures 2.7 x 2.5 x 0.4-cm. The age of the site is unknown but it appears to represent a small lithic workshop. One modern ‘Jose Cuervo’ bottle was seen on site. The site in fair condition.

HV-NA-2

HV-NA-2, a historic refuse scatter, was re-identified and updated on December 22, 2015. The site is situated on a northeast-southwest trending wash within the eastern foothills of the San Emigdio Mountains. The site measures 62-ft north-south by 62-ft east-west, and is at an elevation of approximately 4,515-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource is an historic refuse scatter located 80-m northwest of HV-NA-1. Associated artifacts include approximately five pieces of milled wood, clear window pane glass fragments, soldered seam cans, a metal door hinge, and a metal bucket located in a drainage 90-ft to the south of the main artifact concentration. The tin cans may date from the 1890s (Rock 1987) but the remaining materials appear more recent, suggesting that this is a sparse refuse scatter of mixed age. Three non-native cypress trees are located at the northern boundary of the site and a poorly maintained road is located 50-m directly north. The presence of these trees suggests this may be an early homestead but no evidence of structural remains was identified. Note that, according to the General Land Office (GLO) records, a patent for a homestead was issued to Edward T. Barnes for this portion of Section 2 in 1921. Further research is necessary to determine if the extant remains date from that initial date of entry and are associated with Barnes. The site is in very poor condition.

HV-NA-3

HV-NA-3, a sparse lithic scatter, was identified and recorded on December 18, 2015. The site is situated on a wide ridge that rises above a northeast-southwest trending wash within the eastern foothills of the San Emigdio Mountains. The site measures 27-m north-south by 16-m east-west, and is at an elevation of approximately 4,340-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource consists of a sparse lithic scatter composed of a late stage CCS biface fragment (Artifact 1; 2.5 x 1.9 x 0.3-cm) and seven CCS flakes associated with early lithic reduction. It is situated on a steep (24 percent) westward facing slope that overlooks a narrow wash to the west and an alluvial plain (Castac Valley) to the east. The site age is unknown but it appears to represent a small lithic workshop.

The site area exhibits multiple bulldozer scrapes that were likely associated with fire suppression activities. The site is in poor condition due to wildfires and road grading activities.

HV-NA-4

HV-NA-4, a plant processing station, was identified and recorded on December 18, 2015. The site is situated on a wide bench between two northeast-southwest trending drainages within the eastern foothills of the San Emigdio Mountains. The site measures 77-m northeast-southwest x 35-m northwest-southeast, and is at an elevation of approximately 4,340-ft amsl. Vegetation on site is

moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource consists of four bedrock milling features (Features 1-4) and includes three bedrock mortars (BRM), one starter mortar, and one cupule. The milling features are located on a bench just west of the confluence of two northeast-southwest trending drainages. A north-south trending dirt road buffers the western boundary of the site.

Feature 1 consists of two conical mortars on a large gneiss boulder (Figure 14). Mortar 1 has a diameter of 11-cm and a depth of 3.5 to 4-cm. Mortar 2 has a diameter of 15-cm and a depth of 4 to 9-cm. This ground-level boulder measures 149-cm east-west by 63-cm north-south.

Feature 2 is one conical mortar situated on a gneiss boulder. The mortar has a diameter of 15-cm and a depth of 6 to 9-cm. The boulder measures 130-cm east-west by 80-cm north-south by 47-cm tall.

Feature 3 is a starter mortar on a gneiss boulder. The mortar measures 9-cm in diameter by 1-cm deep. The boulder measures 80-cm north-south by 64-cm east-west by 14-cm tall.

Feature 4 is one cupule situated on gneiss boulder. The cupule measures 5-cm in diameter by 1-cm deep. The boulder measure 130-cm southwest-northeast by 115-cm southeast-northwest x 68-cm tall.

Site HV-NA-4 is a small plant processing station. No associated surface artifacts were observed at the site but it is possible that subsurface remains are present. The age of the site is unknown beyond the likelihood that it is Middle Horizon or later in age, based on the presence of BRMs. The site is in fair condition.



Figure 14. Feature 1; Plan view of bedrock mortars recorded at HV-NA-4.

HV-NA-5

HV-NA-5, a small camp, was identified and recorded on December 21, 2015. The site is located at the base of a north facing slope overlooking a wash to the east within the eastern foothills of the San Emigdio Mountains. The site measures 61-m north-south by 51-m east-west, and is at an elevation of approximately 4,280-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource is a sparse artifact scatter composed of approximately 20 flakes, one granitic pestle (Artifact 1), and five flake tools (Artifacts 2-6). The debitage includes all lithic reduction stages and materials include fine-grained volcanic, quartzite, rhyolite, and CCS. Additionally, calcified animal bone was seen on site though it is not clear whether this is associated with the prehistoric artifacts.

Artifact 1 is an unshaped but worn granitic pestle that measures 16.5 x 7.5 x 5.5.cm.

Artifact 2 is a square CCS projectile point base fragment that measures 1.3 x 1.5 x 0.5-cm. This is a small, thin arrow fragment with a flat base. It is similar though not identical to small triangular arrow points found in the Chumash region during the Late Horizon, after about AD 1200.

Artifact 3 is a CCS biface fragment that measures 1.2 x 1.1 x 0.4-cm.

Artifact 4 is a CCS biface fragment that measures 1.9 x 0.9 x 0.4-cm.

Artifact 5 is a CCS projectile point mid-section that measures 1.9 x 1.4 x 0.4-cm.

Artifact 6 is a square CCS biface base fragment that measures 1.6 x 1.4 x 0.5-cm.

This site appears to represent a small camp dating to the Late Horizon, or the last 800 years. It is in fair condition.

HV-NA-6

HV-NA-6, a refuse dump, was identified and recorded on December 21, 2015. The site is situated in a drainage at the base of an east-west trending ridge within the eastern foothills of the San Emigdio Mountains. The site measures 167-ft northwest-southeast by 80-ft northeast-southwest, and is at an elevation of approximately 4,160-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource consists of a multi-component trash dump that is composed of two overturned 1950s era cars and a large, mostly modern trash scatter representing multiple dumping episodes. Refuse on site consists of 100+ modern cans, 100+ glass bottles, car parts, milled wood, bedsprings, and miscellaneous domestic items. There are various colors of fragmented glass, including amethyst,

which has a date range of approximately 1880-1930 (Munsey 2014). Identifiable bottle and domestic item styles suggest that the dump is predominantly composed of 1980s trash. The site is in poor condition due to repeated use and erosion, is mixed in age and lacks context.

HV-NA-7

HV-NA-7, a trench with historic refuse, was identified and recorded on January 28, 2016. The site is situated on a narrow northwest-southeast trending ridge within the eastern foothills of the San Emigdio Mountains. The site measures 127-ft east-west by 102-ft north-south, and is at an elevation of approximately 4,500-ft amsl. Vegetation on site is sparse, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource consists of an open, excavated trench and historic refuse. The trench, Feature 1, measures approximately 45-ft long by 5.5-ft wide and 3.5-ft deep, and likely represents a backhoe excavation. Associated refuse includes approximately six rotary-opened cans and Coke bottle fragments concentrated on the north slope of the ridge. These appear to meet the standard 50-year minimum age requirement for cultural resources but do not appear much older than that minimum, and whether they are temporally associated with the trench is uncertain. The function of HV-NA-7 is unknown. It is in fair condition but lacks research potential.

5.1.2 Previously Recorded Resource Updates

CA-VEN-977/KER-2774 (P-56-000977/15-002774)

This resource was last recorded in 2003 by Jones and Stokes Associates, Inc. as a sparse lithic scatter. The site consisted of eight early lithic reduction flakes that were subsequently collected. During the current study, the site location was revisited and carefully examined, and no artifacts were identified. The immediate area appears to be unchanged, though there are visible signs of excavation activities consisting of lightly graded pads with windrows present, and it is not certain whether these were present when first recorded. Vegetation is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

CA-VEN-978/KER-2775 (P-56-000978/15-002775)

This resource was originally recorded in 1982 by Archaeological Resource Management Corp. as a prehistoric flake and lithic tool scatter. The site was revisited by Jones and Stokes Associates, Inc. in 2003, who reported that the site had been destroyed. During the current study, the former site location was revisited and carefully examined. No artifacts were identified and the area otherwise appears unchanged since 2003. Vegetation is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

CA-KER-6059 (P-15-010300)

P-15-010300, a sparse lithic scatter, was re-identified and the site record updated on January 27, 2016. The site is situated on the banks of a sag pond/ ephemeral marsh within the eastern foothills of the San Emigdio Mountains. The site measures 96-m northwest-southeast by 33-m northeast-southwest, and is at an elevation of approximately 4,230-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was last recorded by Jones and Stokes Associates, Inc. in 2003 as a sparse lithic scatter. The site consisted of six early stage lithic reduction flakes that were subsequently collected. During the current study, three newly recorded flakes were identified and included within the site boundary. All recorded flakes are associated with early stage lithic reduction. The site appears to represent a small lithic workshop of unknown age. The majority of the site assemblage has been collected and the site therefore is in poor condition.

CA-KER-6308 (P-15-010301)

P-15-010301, a sparse lithic scatter, was re-identified and updated on January 27, 2016. The site is situated on a knoll overlooking a sag pond/ephemeral wash within the eastern foothills of the San Emigdio Mountains. The site measures 17-m east-west by 14 north-south, and is at an elevation of approximately 4,230-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was last recorded by Jones and Stokes Associates, Inc. in 2003 as a sparse lithic scatter. The site consisted of seven flakes (three obsidian and four quartzite) associated with early and late stage lithic reduction. All seven flakes were subsequently collected. During the current study, nine newly identified flakes (seven CCS, one fused shale, one basalt) were included within the updated site boundary. These represent early and late lithic reduction stages. Due to the previous surface collection at this site, it is in poor condition. Its age is unknown but it appears to represent a small lithic workshop.

P-15-010849

P-15-010849, probable historic structural remains, was re-identified with its site record updated on January 27, 2016. The site is situated on narrow alluvial plain within the eastern foothills of the San Emigdio Mountains. The site measures 310-ft east-west by 243-ft north-south, and is at an elevation of approximately 4,240-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was last recorded by Jones and Stokes Associates, Inc. in 2003 as possible historical structural remnants. In 2003, the site consisted of one 10-ft pole (Feature 1), a hinged gate, a bulldozed wooden structure, a fenced animal pen, a wooden structure (Concentration 1), and a possible privy pit. During the current 2016 study, a square shaped excavated pit (Feature 2), a

standing segment of a fence line (Feature 3), and a rock alignment (Feature 4) were included within the updated site boundary. Associated refuse includes glass fragments (brown, green, cobalt, amethyst), "Stockton" firebricks, galvanized nails, porcelain dishware fragments, steel pipe segments, and miscellaneous metal fragments.

Feature 1 consists of a 10-ft, 2-in diameter rusted pole. No associated refuse was seen around this feature.

Feature 2 consists of a square shaped excavated pit that measures 4 x 3-ft x 2-ft deep. A 3-in galvanized pipe protrudes from the north wall of the pit. Associated refuse includes porcelain toilet fragments.

Feature 3 consists of a barbed wire and chain link fence segment with 10 wooden posts. The fence line extends for approximately 15-ft northeast-southwest and is bordered by a dirt road to the west.

Feature 4 is a rock alignment on the south side of the east-west trending dirt road that traverses the site. It is made up of a single course of approximately 20 local fieldstone stones. The function of this alignment is unknown.

Concentration 1 consists of glass fragments, approximately 20 milled wood fragments, 20 copper wire nails, and miscellaneous pieces of metal. Glass shards include solarized amethyst glass, which dates from 1880-1930 (Munsey 2014). This concentration is all that remains of the wooden and tin structures recorded in 2003, indicating that this location was grubbed. The large concentration of milled wood and animal pen described in 2003 is also no longer is present, indicating relatively recent clean-up of the site area.

The site appears to be the remnants of a residence, GLO records indicate that Lila P. Colbaugh was issued a patent for this portion of Section 2 in 1928. Some of the artifacts on site may date to that period and may thus be associated with this individual, but other artifacts and features are later dating, perhaps due to a lengthy period of occupation. The site however is in very poor condition due to structure demolition and clean up, fires, road grading, and excavations. Based on the absence of intact features, the site lacks integrity and it does not appear to have research potential.

P-15-010850

P-15-010850, a multicomponent site, was re-identified and its site record updated on January 27, 2016. The site is situated on the banks of a sag pond/ephemeral marsh within the eastern foothills of the San Emigdio Mountains. The site measures 436-ft northeast-southwest by 275-ft northwest-southeast, and is at an elevation of approximately 4,190-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was last recorded by Jones and Stokes Associates, Inc. in 2003 as multicomponent site. It originally consisted of a concrete pad (Feature 1), a metal trough (Feature 3), two wooden features (Features 5 and 6), historic refuse, and four prehistoric lithic artifacts that were subsequently collected. During the current 2016 study, a crude concrete alignment (Feature 2), a

fenced animal pen (Feature 4), and two historic refuse concentrations (Concentrations 1 and 2) were included within the updated site boundary. One prehistoric flake and one bifacial tool fragment (Artifact 1) were also recorded. Associated refuse includes glass fragments, cans, porcelain dishware fragments, bricks, piping fragments, and miscellaneous metal fragments. Identified maker's marks indicate that this is a large multi-use dumpsite that dates from the early 1920s to the late 1940s.

Artifact 1 is a brown chert biface mid-section fragment that measures 1.4 x 1.5 x 0.5-cm. Feature 1 consists of a rectangular concrete foundation that measures 12-ft north-south by 15-ft east-west. It is located immediately adjacent to the northwest-southeast trending dirt road that traverses the entire site.

Feature 2 consists of a crude east-west trending concrete alignment. The foundation line measures 15-ft and is roughly 1.5-ft wide. The western end of the foundation is made of four locally available rocks; the outline is two courses high at its most stable point. This feature overlooks an ephemeral pond to the south. Associated refuse includes miscellaneous metal fragments, PCP brick fragments, glass fragments of various colors (clear, brown, aquamarine, green, amber, amethyst, pink, and milk glass), porcelain dishware fragments, a steel pipe segment, and one Iris Coffee can, and an Owens-Illinois bottle base. The base features the earlier Owen-Illinois diamond mark with the number 1 and a period embossed on the right, suggesting that the bottle base dates from 1941 (Lockhart 2004).

Feature 3 is a metal trough that measures approximately 9-ft east-west by 45-ft north-south with a height of 22-in. Associated refuse includes barbed wire, pipe/plumbing segments, miscellaneous metal fragments, can fragments, porcelain ware, and glass fragments (clear, green, aquamarine, amethyst, blue, and milk glass).

Feature 4 consists of an animal pen composed of six wooden posts and barbed wire located immediately adjacent to Feature 3. The pen measures approximately 20-ft east-west x 15-ft north-south. A small shallow pit was observed approximately 12-ft north of Feature 4.

Features 5 and 6 both consist of a four-post wooden frame that stands roughly 2-ft above the ground surface. Several wood fragments are scattered around the features. Given their close proximity to the animal pen, these features possibly served as feed bag stands. Three brick fragments were seen immediately adjacent to Feature 6, including one with "Vitrefax Argon AA" embossed on the face. These bricks were manufactured by the Vitrefax Corporation between the years 1925 and 1943 (Mosier 2001).

Concentration 1 consists of chinaware fragments, miscellaneous metal fragments, a dense scatter of approximately 500+ cans (multi-serve, single serve, sanitary, friction lid, hole-in-top), and approximately 1,000+ glass fragments (clear, green, aquamarine, amethyst, brown, cobalt, red, and yellow). Solarized amethyst glass dates to approximately 1880-1930 (Munsey 2014).

Concentration 2 consists of a sparse scatter of domestic refuse that is situated on a gentle slope (8%) that leads into a southwest-northeast trending drainage. Associated refuse includes window

glass, corrugated sheet metal, can fragments, coiled wire, milled wood fragments, miscellaneous metal fragments, porcelain ware, small gauge wire, and a square fuel can.

The historical component of this site appears to represent ranch facilities, most likely once with an associated residence. GLO records do not specifically identify any early patents in this portion of Section 2, though they indicate that some unspecified portion of this section had been divided into tracts and lots by circa 1928. The historical artifacts found at the site generally date from the 1920s to the 1940s. The majority of the prehistoric artifacts originally recorded at this location were collected in 2003 and this component of the site appears to have represented a very sparse lithic scatter, of unknown age. The site is in poor condition due to demolition, grading and fires; it therefore lacks integrity and it does not appear to have research potential.

5.1.3 2015 SVRA Addition Isolates

HV-ISO-1

HV-ISO-1, an isolated artifact, was recorded on December 18, 2015. It is situated on a narrow northeast-southwest trending wash within the eastern foothills of the San Emigdio Mountains at an elevation of approximately 4,325-ft amsl. Vegetation at this location is sparse, but is typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt. This resource consists of one granitic basket hopper mortar (Figure 15) located in the windrow of a graded road, and no longer in its original context. It measures 22 x 20 x 20-cm, with the milled surface measuring 13 x 11.5 x 7-cm. During the current study, the artifact was in immediate danger of being destroyed or looted due to its close proximity to the road, so it was relocated an additional 10-m north. The isolate is in good condition.



Figure 15. Plan view of portable hopper mortar recorded as HV-ISO-1.

HV-ISO-2

HV-ISO-2 was recorded on January 28, 2016. The artifact is situated in a small bowl above a steep northeast-southwest trending drainage within the eastern foothills of the San Emigdio Mountains. Vegetation at this location is moderately dense, and is typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource consists of one small metavolcanic ground stone fragment. This is an unshaped metavolcanic metate fragment that measures 9 x 5 x 2-cm. The artifact displays slight dishing that measures approximately 5 x 3-cm. The isolate is fragmentary and therefore in poor condition.

P-15-005433

This resource was originally recorded as an isolated chalcedony waste flake. During the current study, an attempt to locate the isolate was unsuccessful. It was situated on an east facing alluvial flat with a gentle slope (4 percent), suggesting that the artifact may have been displaced by downslope erosion over time. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

P-15-005434

This resource was originally recorded as an isolated chert waste flake. During the current study, an attempt to locate the isolate was unsuccessful. It was originally situated on an alluvial flat at the mouth of a drainage gap. Exposure consists of runoff from two ridges from the northwest and southeast as well as from the drainage to the southwest, suggesting possible downslope relocation of the artifact. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

Contemporary Rock Features

In addition to the recorded cultural resources, four contemporary rock features were identified in the area immediately surrounding the Frazier Mountain High School grounds (Figure 16, Confidential Appendix A). These are rock cairns and “geoglyphs” (an arrow and a set of concentric circles) that have been recently built on landforms that have been graded, presumably as part of the recent high school construction. The rock features were mapped and are mentioned here not because they currently have any cultural resource significance but so that, in the future, they are not mistaken for Native American or prehistoric resources.

5.2 HUNGRY VALLEY SVRA

One hundred and twelve sites, 25 isolates and 31 GIS points thought to represent cultural resources had been recorded within the Hungry Valley SVRA. Seventy-one (60%) of these could be

relocated and assessed, including re-mapping, tabulating still extant artifacts and features, and estimating kinds and degrees of ground surface disturbance, with their site records updated. The sites and resources that could not be relocated are assumed to have been destroyed or to have been mis-mapped when originally recorded.

5.2.1 Previously Recorded Prehistoric Resource Updates

CA-LAN-903 UPDATE

This resource was originally recorded by the DPR in 1978. The site was reported to consist of three flakes and a pestle fragment situated along an east-west trending ridge system. The site was last revisited by the OHMVR Division (L. Steidl et al.) in 2002 who were unable to locate the three flakes but successfully relocated the pestle fragment mentioned in 1978. During the current study, an attempt was made to locate the flakes and pestle fragment. The provided UTMs and all high probability areas were investigated without success. The artifacts have likely been destroyed, subsequently displaced, or plotted incorrectly.

CA-LAN-904 UPDATE

CA-LAN-904, a lithic scatter, was re-identified and updated on December 7, 2015. The site is situated on the eastern slopes of wide northeast-southwest trending ridge within the eastern foothills of the San Emigdio Mountains. The site measures 49-m northeast-southwest x 33-m northwest-southeast, and is located at an elevation of approximately 4,130-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was previously updated by the OHMVR Division (A. Perez et al.) in 2002. The site was reported to consist of multiple rock concentrations and a sparse lithic scatter situated within a southeast facing bowl above a northwest-southeast trending drainage. Vic's Cat Trail, an OHV trail, traverses the entire northern boundary of the site. During the current study, noted associated artifacts include one quartzite core (Artifact 1) and a lithic scatter of approximately one felsite, six CCS, and four quartzite flakes. Many fire-affected, subangular rocks are scattered throughout the site; however, these are most likely non-cultural and originate from a burned ridge to the north. Additionally, the obsidian flake mentioned in 2002 was not relocated. Artifact 1, the quartzite core, is multi-directionally flaked with approximately seven flake scars, and it measures 5.8 x 4.4 x 3.1-cm.

The site has been impacted by both natural erosion and cultural activities. Approximately 90 percent of the site displays a thick layer of deposition and 10 percent of the site shows signs of gullying. Due to the site's location on a moderate slope, further natural erosion is inevitable. Most of the site has been impacted by a natural fire (1993-1994), made evident by burned vegetation throughout the area. The site has been disturbed due to the construction of an OHV wood post fence. Additionally, a heavily used trail (Vic's Cat Trail) bounds the site to the north, increasing potential negative impacts to this resource. In general, the site is in poor condition.

The site appears to represent a sparse lithic scatter/quarry workshop. Its age is unknown.

CA-LAN-905 UPDATE

CA-LAN-905, a roasting pit, was re-identified and updated on December 2, 2015. The site is situated on banks of a narrow northwest-southeast trending streambed within the eastern foothills of the San Emigdio Mountains. The site measures 38-m east-west x 16-m north-south, and is located at an elevation of approximately 3,700-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

Originally recorded as a roasting pit in 1978, this resource was last updated by the OHMVR Division (L. Steidl et al.) in 2002. The site was reported to consist of very dark soil eroding from the shoulder of the Badlands Trail. Given the lack of fire-affected rock and other cultural material, the darkened area mentioned in 2002 appears to be non-cultural. However, a roasting pit (Feature 1) and flake were located approximately 100-m northwest of the previously recorded location. This is likely the location of the oven recorded in 1978.

Feature 1 consists of a roasting oven that measures 10-m in diameter. Approximately 100+ pieces of fire-affected rock are scattered throughout the feature. Additionally, one secondary CCS flake was noted within the main fire-affected rock concentration. Due to its location on a gradual east facing slope, the oven deposit dissipates as it washes down to the east and into the north-south trending drainage (Badlands Trail).

The site has been minimally impacted by erosion. Approximately 60 percent of the site displays a thin layer of deposition. Due to its location on a gentle east facing slope, further erosion is inevitable. Badlands Trail currently runs along the entire eastern site boundary, increasing the potential for future negative impacts. In general, the site is in good condition.

The age of this site is unknown but it appears to have served as a roasting oven, most likely for agave. As such, the site has research potential related to the exact species of plants processed at this location and the age of that event.

CA-LAN-906 UPDATE

The site was originally recorded in 1978 and consisted of four flakes within a 10-x-10-m area. It was last updated by the OHMVR Division (A. Perez et al.) in 2002. An attempt was made to relocate the site during the current study. The location of the provided UTMs and all nearby high probability areas were examined with no success. As noted by Kim Matthews (personal communication during fieldwork), Hungry Valley SVRA Resource Ecologist, evidence of a fire occurring within the last 20 years (1993-1994) was visible. The associated artifacts have likely been destroyed or were plotted incorrectly.

CA-LAN-907 UPDATE

CA-LAN-907, a lithic and groundstone scatter, was re-identified and updated on November 6, 2015. The site is situated on the eastern slopes of wide northwest-southeast trending ridge within

the eastern foothills of the San Emigdio Mountains. The site measures 88-m east-west by 39-m north-south, and is located at an elevation of approximately 4,160-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was last updated by the OHMVR Division (A. Perez et al.) in 2002. The site was reported to consist of a sparse lithic and ground stone scatter situated on the eastern slopes of Backbone Trail. A dilapidated historic-era juniper fence line traverses the eastern portion of the site. During the current 2015 study, the site was updated to include three pestles (Artifacts 1-3), a grinding slab (Artifact 4), a quartzite chopper (Artifact 5), and a core (Artifact 6). The sparse lithic scatter throughout the site includes seven CCS, one rhyolite, and six fused shale flakes. The 2002 site record mentions a small pestle fragment at the northern boundary of the site that could not be relocated.

Artifact 1 is a complete granitic pestle that measures 19 x 9 x 8-cm. This artifact was located within a small cluster of artifacts (Artifacts 1-4), all of which are associated with food processing activities. Artifact 2 is a complete granitic pestle that measures 21 x 7.5 x 6.6-cm. Both Artifacts 1 and 2 were partially buried. Artifact 3 is also a complete granitic pestle that measures 16 x 8.5 x 5.5-cm. All three pestles are casual, unshaped but worn tools. Artifact 4 is a granitic flat slab metate fragment that measures 20.5 x 20.5 x 11.5-cm. This artifact was found beneath a cluster of juniper trees and within close proximity to Artifacts 1-3. Artifact 5 is a complete quartzite chopper that measures 6.5 x 6.5 x 4-cm. Artifact 6 is a complete multidirectional chert core that measures 5 x 4.4 x 3.6-cm. All tools and ground stone recorded in this site were found on the western side of the historic fence line.

The site has been impacted by erosion and cultural activities. Approximately 80 percent of the site displays a thin layer of sheet-wash deposition. Due to the site's location on a gentle slope, further natural erosion is inevitable. The site has been disturbed at one point due to the construction of a historic-era juniper post fence. Additionally, a heavily used trail (Backbone Trail) is located within close proximity to the west, increasing potential negative impacts to this resource. In general, the site is in good condition.

The age of this site is unknown but it represents a small plant processing station.

CA-LAN-908 UPDATE

CA-LAN-908, a roasting oven and lithic scatter, was re-identified and updated on December 7, 2015. The site is situated on the eastern slopes of wide northwest-southeast trending ridge within the eastern foothills of the San Emigdio Mountains. The site measures 40-m north-south by 35-m east-west, and is located at an elevation of approximately 4,190-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with scrub oak, juniper, dispersed sage, and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR (K. Miller) in 1978. The site was revisited in 2002 by the OHMVR Division (L. Steidl et al.) and was reported to consist of chalcedony flakes, chert flakes, an andesite chopper, one dark grey fine quartzite flake, and a granitic cobble

concentration. During the current study, a sparse lithic scatter composed of one quartzite and five CCS flakes was identified. Additionally, a yucca roasting oven (Feature 1), not mentioned in the original record, was included within the site boundary. Feature 1-measures 1 x 1-m, with dark anthropogenic soil and less than 10 fire-affected rocks. The concentration of granitic cobbles recorded in 2002 appears to be natural rather than cultural in origin.

The site has been minimally impacted by erosion. Approximately 70 percent of the site shows evidence of a thin sheetwash deposit. Due to its location on a gentle east facing slope, further erosion is inevitable. The site is within close proximity to a narrow dirt trail (Backbone Trail) directly west, increasing the potential for further cultural impacts. In general, the site is in good condition.

Site age is unknown but the presence of the roasting oven indicates that it has research potential.

CA-LAN-909 UPDATE

CA-LAN-909, a roasting oven, was re-identified and updated on December 7, 2015. The site is situated on a wide northwest-southeast trending ridge within the eastern foothills of the San Emigdio Mountains. The site is small, measuring 13-m east-west by 12-m north-south, and is located at an elevation of approximately 4,080-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

The site was originally recorded in 1978 as angular rock concentrations and a basalt chopper. In 2002, the OHMVR Division (L. Steidl et al.) made an unsuccessful attempt to locate this site. During the current study, the entire ridge on which the site was originally recorded was searched. Although no associated artifacts were located, one roasting oven (Feature 1) was recorded. The feature sits on a gradual slope overlooking a steep sandstone canyon to the north. Due to the lack of artifacts, the site boundary has been updated to include only Feature 1. This feature measures 1 x 2-m; approximately 80 fire-affected rocks were seen on the surface with an ashy soil lens visible at approximately 3-cm below surface.

The site has been impacted by erosion. However, due to the site's elevated location at the top of a ridge, natural impacts have been kept at minimum. Approximately 95 percent of the site displays a thin layer of deposition. In general, the site is in good condition.

The age of this site is unknown but the roasting pit maintains research potential.

CA-LAN-910 UPDATE

This resource was originally recorded by the DPR in 1978 as a possible yucca oven with dark soil and an abundance of fire-affected rock. In 2002, the OHMVR Division (L. Steidl et al.) attempted to locate the site but was unsuccessful. During the current study, another attempt was made to relocate the resource. The location of the provided UTMs and all high probability areas along the drainage bottom were investigated with no success. The site has either been destroyed or plotted

incorrectly. As noted by the OHMVR Division, evidence of a fire occurring within the last 20 years (1993-1994) was evident throughout the area potentially accounting for site destruction.

CA-LAN-911 UPDATE

CA-LAN-911, a roasting oven, was re-identified and updated on November 18, 2015. The site is situated on a wide northwest-southeast trending ridge within the eastern foothills of the San Emigdio Mountains. The site measures 73-m east-west by 51-m north-south, and is located at an elevation of approximately 4,000-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was last recorded by the OHMVR Division (L. Steidl et al.) in 2002. The site was reported to consist of a roasting oven (Feature 1) and rock concentrations (Features 2 and 3), as well as several artifacts. During the current study, all features were successfully relocated; however, one previously recorded rock concentration within a blow sand formation (originally Feature 3) was deemed non-cultural. Additionally, none of the artifacts mentioned in the 2002 site record were found. The immediate area has been heavily disturbed due to a natural fires and fire suppression activities occurring within the last 20 years (1993-1994).

Feature 1 consists of an earth oven with approximately 50 fire-affected rocks, measuring 4-m east-west by 4.2-m north-south. Darkened soil was seen throughout, with a dark gray soil lens visible at 3-cm below surface. This feature is located approximately 5-m east of the steep sandstone cliff side.

Feature 2 consists of darkened soil and approximately 10 fire-affected rocks with some exhibiting angular breaks. It measures 4-m in diameter. Darkened soil was seen throughout, with a dark gray soil lens visible at 3-cm below surface. This feature is located 20-m southwest of the steep sandstone cliff side.

Feature 3 consists of a dark soil hollow and a rock concentration of approximately 10 granitic cobbles, some of which exhibit fire-affected rock characteristics. It measures 2.5-m north-south by 3-m east-west. This feature is situated located approximately 8-m north of the west facing cliffside and on the west side of a juniper tree cluster. Numerous bumps and pits are visible immediately northwest of this feature.

The site has been impacted by both erosion and cultural activities. Due to the site's elevated location at the top of a ridge, natural impacts have been kept at minimum. Approximately 50 percent of the site displays a thin layer of deposition. Most of the site has been impacted by firefighting activities, made evident by multiple pits and burned vegetation throughout the area. In general, the site is in poor condition but the presence of roasting pits indicates that the site may have research potential. Its age is unknown.

CA-LAN-912 UPDATE

CA-LAN-912, a roasting oven, was re-identified and updated on November 18, 2015. The site is

situated on the west side of south-southeast trending ridge. The site measures 24-m north-south by 14-m east-west, and is at an elevation of approximately 3,920-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with yucca, scrub oak, juniper, and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR in 1978. The site was revisited in 2002 by the OHMVR Division (L. Steidl et al.) and was reported to consist of an oven feature with numerous angular rocks on the surface (Feature 1). During the current study, Feature 1 was plotted in a different location than the original site form. There are numerous burnt trees in the area creating the potential for the soil discoloration and fire-affected rocks to be non-cultural. One chert flake was identified within the feature. The site is situated on a gently sloped and wide northwest-southeast trending ridge.

The site has been minimally impacted by erosion. It is situated on a gentle south facing slope resulting in sheetwash deposit that covers 70 percent of the site. Due to its location away from recreational trails, cultural impacts have been kept at a minimum. In general, the site is in good condition. The roasting pit has research potential though its age is unknown.

CA-LAN-913 UPDATE

Site CA-LAN-913 was originally recorded by the DPR (J. Hunter) in 1978. The site was reported to consist of a roasting pit with an abundance of burnt rock and burned mammal bone situated in a drainage. Attempts to locate the site were unsuccessful during the current study. The provided map point and all high probability areas in the drainage were examined; however, none of the previously documented cultural features could be identified. CA-LAN-913 has likely been destroyed and no longer exists.

CA-LAN-914 UPDATE

CA-LAN-914, a roasting oven, was re-identified and updated on December 7, 2015. The site is situated on a flat ridge that extends from a north-south trending slope with an intermittent drainage on either side. The site measures 27-m north-south by 26-m east-west, and is at an elevation of approximately 4,100-ft amsl. Vegetation on site is dense, and typical of a Mixed-Chaparral Vegetation Zone with scrub oak, yucca, juniper, and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR in 1978. The site was revisited in 2002 by the OHMVR Division (L. Steidl et al.) and was reported to consist of an oven that measures 12-m east-west by 10-m north-south (Feature 1). During the current study, the feature was relocated and it is virtually unchanged. It consists of darkened soil and 500+ fire-affected rocks within a 6-m diameter area. A projectile point (Artifact 1; Figure 17), not mentioned in the previous record, was also recorded approximately 5-m south of the feature and included within the site boundary. This is a Monterey chert projectile point with minimal cortex on both sides (5 percent), measuring 6.2 x 3.0 x 0.5-cm. It is an atlatl point that is triangular in shape with a slight concavity at the base (and no tang or stem). Although it most resembles a Humboldt Basal notched point, it is much

thinner and more finely worked than most Humboldt points, and the site falls outside of their typical geographical range.

The site has been minimally impacted by erosion. Approximately 5 percent of the site shows evidence of a thin sheetwash deposit. Due to its location away from recreational trails, negative cultural impacts have been kept at a minimum. In general, the site is in good condition. This campsite has research potential and the age of the site can be estimated at greater than about 1500 years, based on the presence of the atlatl point.

CA-LAN-915 UPDATE

CA-LAN-915, a campsite, was re-identified and updated on November 6, 2015. The site is situated on a north-south trending ridge within the eastern foothills of the San Emigdio Mountains. The site measures 92-m north-south by 22-m east-west, and is at an elevation of approximately 3,640-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, yucca, juniper, bunchgrass, and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR in 1978. The site was revisited in 2002 by the OHMVR Division (L. Steidl et al.) and was reported to consist of a sparse lithic scatter with a purple rhyolite core, a round felsite cobble, a quartzite cobble, a quartzite core, and an obsidian flake. During the current study, a hand stone (Artifact 1), two quartzite cobble cores (Artifacts 2 and 3), and a CCS flake tool (Artifact 4) were recorded. Additionally, three quartzite flakes, one chert flake, and an abundance of angular rocks within a 5 x 3-m area (Concentration 1) were noted within the site boundary. Multidirectionally-flaked quartzite (Artifact 2) and quartz (Artifact 3) cobble cores were also recorded within the concentration, which is situated within the widest clearing of the site.



Figure 17. Artifact 1; Plan view of Monterey chert point recorded at site CA-LAN-914.

Artifact 1 is a fragmented hand stone (unifacial mano) that measures 9.5 x 5 x 4-cm.

Artifact 2 is a multidirectional quartzite cobble core that measures 9 x 6 x 4.5-cm.

Artifact 3 is a multidirectional quartz cobble core that measures 10.5 x 9 x 5-cm.

Artifact 4 is a butterscotch CCS flake tool that measures 3.5 x 2.5 x 0.8-cm.

The site has been minimally impacted by erosion. Approximately 40 percent of the site shows evidence of a thin sheetwash deposit and is most evident at the southern end of the site. Due to its location away from recreational trails, negative cultural impacts have been kept at a minimum. In general, the site is in good condition.

The site's age is unknown. Given the variety of artifacts present, the site may represent a temporary camp and it has research potential.

CA-LAN-916 UPDATE

This resource was originally recorded by the DPR in 1978. The site was revisited in 2002 by the OHMVR Division (L. Steidl et al.) and was reported to consist of two rock concentrations, cobbles, a volcanic mano, a sandstone metate, a quartzite core, a quartzite angular flake fragment, and a chalcedony flake. During the current study, the provided site coordinates and all high probability areas were thoroughly examined, but none of the artifacts mentioned in the 2002 record were relocated. The site has either been destroyed or was plotted incorrectly. It should be noted that the entire area surrounding the provided site datum location exhibits a thick layer of sheetwash deposit originating from a narrow wash to the northwest and, thus, the site may have been destroyed or blanketed by depositional processes. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

CA-LAN-917 UPDATE

CA-LAN-917, a roasting oven, was re-identified and updated on November 6, 2015. The site is on an east-west trending ridge toe within the eastern foothills of the San Emigdio Mountains. The site measures 7-m north-south by 5-m east-west, and is at an elevation of approximately 3,600-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was last recorded by the OHMVR Division (L. Steidl et al.) in 2002. The site was reported to consist of an oven (Feature 1) with an abundance of fire-affected rocks on the surface. During the current 2015 study, the site was observed to be virtually unchanged. The immediate area has been heavily disturbed due to natural fires and fire suppression activities occurring within the last 20 years (1993-1994).

Feature 1 is a yucca oven that measures 6-m northeast-southwest by 3-m northwest-southeast. Approximately 100+ fire-affected quartzite and granitic rocks of various sizes cover the surface.

Soil on the surface is dark gray with a gray soil lens visible at 3-cm below surface. This feature is situated on a sloped ridge toe that trends east-west and originated from a dominant north-south narrow ridge. Slope is increased on the northern boundaries, which has resulted in downslope erosion of Feature 1.

The site has been affected by natural erosion. Sheet washing has affected approximately 80 percent of the site with minimal deposition. The site is directly exposed to erosion from moderate to steep ridges on the east, west, and north boundaries. Due to the site's location away from recreational trails, cultural impacts have been kept at minimum. In general, the site is in good condition. The roasting pit maintains research potential.

CA-LAN-918 UPDATE

Site CA-LAN-918 was originally recorded by the DPR (P. Hines) in 1978. The site was reported to consist of a dense roasting pit with dark soil and fire cracked rock within a 6 x 4-m area, located on a ridge flat. During the current study, attempts to locate the site were unsuccessful. The provided map point and all high probability areas on and around the ridge were examined and none of the previously documented cultural features could be identified. CA-LAN-918 has likely been destroyed and no longer exists.

CA-LAN-919 UPDATE

Site CA-LAN-919 was originally recorded by the DPR (P. Hines) in 1978. The site was reported to consist of a roasting pit with fire-cracked rock situated in a small drainage between two small benches. During the current study, attempts to locate the site were unsuccessful during the current study. The provided map point and all high probability areas in multiple drainages were investigated but none of the previously documented cultural features could be identified. CA-LAN-919 has likely been destroyed and no longer exists.

CA-LAN-920 UPDATE

CA-LAN-920, a roasting oven, was re-identified and updated on November 18, 2015. The site is located on a bench interfluve between two drainages, within the eastern foothills of the San Emigdio Mountains. The site measures 16-m north-south by 15-m east-west, and is at an elevation of approximately 3,100-ft amsl. Vegetation on site is moderately dense and typical of a Mixed-Chaparral zone with yucca, scrub oak, bladder pod, juniper, coastal sage, wildflowers, and seasonal grasses. The site soil matrix is composed of light brown alluvium with dispersed granite, quartzite, and felsite rocks.

This resource was originally recorded by the DPR (G.E.A) in 1978. The site was reported to consist of an extensive roasting pit with fire-cracked rock situated on a bench at the confluence of two major north-south trending drainages. During the current study, the site was successfully relocated. Although the roasting oven remains virtually unchanged, utilized cores mentioned in 1978 were not observed. Fire-affected rock is found throughout the bench; however, it is highly concentrated on the western side of this landform. The surrounding area displays evidence of a fire occurring

within the last 20 years. The site is in good condition. Its age is unknown but it maintains research potential.

CA-LAN-921 UPDATE

Site CA-LAN-921 was originally recorded by the DPR (P. Hines) in 1978. The site was reported to consist of a possible roasting pit with fire-cracked rock situated on a small finger at the confluence of two intermittent streams. Attempts to locate the site were unsuccessful during the current study. The provided map point and all high probability areas were examined but none of the previously documented cultural features could be identified. CA-LAN-921 has likely been destroyed and no longer exists.

CA-LAN-922 UPDATE

This site was originally recorded the DPR in 1979. An unsuccessful attempt to relocate the site was made by the OHMVR Division (P. Hines and A. Mroz) in 2002. Attempts to locate the site during the current study were unsuccessful. As in 2002, all high probability areas in the region were examined for cultural material with no success. It is likely that this site has been destroyed or was plotted incorrectly.

CA-LAN-923 UPDATE

CA-LAN-923, a campsite, was re-identified and updated on November 18, 2015. The site is located on a wide, short north-south trending ridge within the eastern foothills of the San Emigdio Mountains. The site measures 40-m northeast-southwest by 32-m northwest-southeast, and is at an elevation of approximately 3,520-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was last updated by the OHMVR Division (A. Perez et al.) in 2002. The site was reported to consist of a sparse lithic scatter and a probable roasting oven situated on a small saddle of a north-south trending ridge. Recorded artifacts included a quartzite mano (Artifact 1) and a quartzite hammerstone (Artifact 4). During the current study, the site boundaries were expanded to include a CCS biface fragment (Artifact 2), a small CCS core (Artifact 3), and a sparse lithic scatter that includes six CCS flakes, one quartzite flake, and approximately five quartzite cobbles. The possible oven feature mentioned in 2002, originally Feature 1, was deemed non-cultural and is likely the result of natural fires.

Artifact 1 is an unshaped but bifacially worn granitic mano that measures 10 x 7.5 x 3.5-cm. Battering is visible on both ends.

Artifact 2 is a CCS biface fragment that measures 2 x 1.6 x 0.9-cm.

Artifact 3 is a small, multidirectionally-flaked CCS core that measures 3.7 x 2.7 x 2.4-cm.

Artifact 4 is a quartzite hammerstone that measures 9.1 x 8.6 x 4.5-cm. This artifact was originally recorded as a quartzite mano but was reclassified during the current study due to the presence of battering on both ends and an absence of evidence of grinding on the planar surfaces.

The site has been affected by both erosion and cultural impacts. But due to its location on an elevated ridge, erosion is minimal but still visible, with sheetwash covering 15 percent of the site. A small number of milled wood scraps were seen within the site boundary. In general, the site is in fair condition. The site's age is unknown but, based on the diversity of identified artifacts, it may represent a temporary camp and maintains research value.

CA-LAN-924 UPDATE

CA-LAN-924, a roasting oven, was re-identified and updated on November 5, 2015. The site is situated on a low north-south trending ridge within the eastern foothills of the San Emigdio Mountains. The site measures 120-m northeast-southwest by 15-m northwest-southeast, and is at an elevation of approximately 3,470-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with juniper, scrub oak, yucca, bunch grasses, and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR in 1978. The site was revisited in 2002 by the OHMVR Division (L. Steidl et al.) and was reported to consist of a darkened soil area with fire-affected rocks, a rock concentration, and a sparse lithic scatter. During the current study, these features (Features 1 and 2) and the sparse lithic scatter were relocated and remain virtually unchanged since 2002. Artifacts on site include one polished handstone (Artifact 1), a unifacial mano (Artifact 2), two quartzite cores (Artifacts 3 and 4), a quartzite flake tool (Artifact 5), and a bifacial mano (Artifact 6).

Feature 1 is an area of darkened soil with approximately 50 fire-affected rocks that measures 65-ft northeast-southwest by 50-ft northwest-southeast. A sparse lithic scatter of approximately 13 quartzite flakes is associated with this feature.

Feature 2 consists of a 3-m diameter concentration of approximately 50 fist-sized angular rocks. This lacked evidence for anthropogenic soil and potentially may be natural rather than cultural in origin.

Artifact 1 is an unshaped but worn handstone with polishing on one side and a pecked surface on the other, measuring 15 x 12 x 4.5-cm.

Artifact 2 is an unshaped but worn unifacial quartzite mano that measures 12 x 9 x 2.5-cm.

Artifact 3 is a multidirectionally-flaked pink quartzite core with approximately six flakes removed. The core measures 10 x 7 x 3-cm.

Artifact 4 is a multidirectionally-flaked quartzite core that measures 12 x 7 x 5.5-cm.

Artifact 5 is a quartzite flake tool measuring 7 x 5 x 1.5-cm.

Artifact 6 is shaped bifacial mano that measures 10 x 12 x 4.5-cm.

The site has been impacted by erosion. Approximately 70 percent of the site shows evidence of a moderate sheetwash deposit. Due to its location away from recreational trails, negative cultural impacts have been kept at a minimum. In general, however, the site is in good condition. Its age is unknown. The combination of manos, core tools, at least one roasting pit and cores but no debitage suggest that this was a plant processing station, and it maintains research potential.

CA-LAN-925 UPDATE

CA-LAN-925, a BRM station, was re-identified and updated on December 3, 2015. The site is located on a northeast-southwest trending ridge finger of a dominant northeast-southwest ridge system within the eastern foothills of the San Emigdio Mountains. The site measures 5-m east-west by 4-m north-south, and is at an elevation of approximately 3,860-ft amsl. Vegetation on site is typical of a Mixed-Chaparral Vegetation Zone with dispersed sage and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR in 1978. The site was revisited in 2002 by the OHMVR Division (L. Steidl et al.) and was reported to consist of a bedrock milling feature and sparse lithic scatter of angular rocks. During the current study, all high probability areas were searched and only the bedrock milling feature was relocated; the flakes mentioned in 2002 could not be relocated.

Locus 1 consists of three mortars situated on a limestone bedrock boulder outcrop. Mortar 1 measures 16-cm in diameter by 9-cm deep; Mortar 2 measures 13-cm in diameter by 5-cm deep; Mortar 3 measures 9-cm in diameter by 2-cm deep. Mortar 3 opens at the north end into Mortar 1 and was not mentioned in the original site record.

The site has not suffered from erosion. The site area is stable with no sheetwashing or modern trash present. In general, the site is in good condition and maintains research potential, though its age is unknown.

CA-LAN-926 UPDATE

CA-LAN-926, a campsite, was re-identified and updated on December 9, 2015. The site is situated on a wide east-west trending ridge saddle within the eastern foothills of the San Emigdio Mountains. The site measures 171-m north-south by 117-m east-west, and is at an elevation of approximately 3,600-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with scrub oak, juniper, bunch grasses, and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR (C. Anderson) in 1978. The site was revisited in 2002 by the OHMVR Division (L. Steidl et al.) and was reported to consist of nine possible ovens with two discrete burned areas. During the current study, three darkened soil areas with fire-affected rocks (Features 1-3), three bifacial tools (Artifacts 1-3), a complete fused shale projectile

point (Artifact 4), a multidirectionally-flaked rhyolite core (Artifact 5), a possibly fire-affected granitic mano fragment (Artifact 6), and a CCS multidirectionally-flaked core (Artifact 7) were added to the site inventory. Artifacts 1 – 3 are all fragments of arrow points: a fused shale mid-section, a chert leaf-shaped base and mid-section, and a chert arrow tip. Artifact 4, the complete projectile point, is a small stemmed arrow point made of fused shale. Additional items found on site include one rhyolite flake, four pieces of CCS shatter, five chert flakes, and five quartzite flakes. In 2002, areas of dark soil were recorded at the intersection of two graded utility roads and in a clearing to the north. Upon further inspection, these areas of dark soil appear to be non-cultural and excluded from the site inventory. The site has been heavily affected by powerline construction, grading, and fires.

Feature 1 is a fire-affected rock and tool concentration consisting of one fused shale point fragment (Artifact 1), two CCS tools (Artifacts 2 and 3), and approximately 20 fire-affected rocks situated on a small terrace overlooking a canyon to the southeast. The feature measures approximately 1-m in diameter.

Feature 2 is an oven that consists of a darkened soil concentration with approximately 10 fire-affected rocks. An ashy soil lens can be seen at approximately 5-cm below surface. The darkened soil area measures approximately 1-m in diameter and overlooks a steep drainage to the south.

Feature 3 is an oven that consists of a dark soil concentration and approximately 100+ fire-affected rocks within a 10 x 5-m area. The oven is situated in the middle of a graded road that slopes to the southeast. The 2002 record mentioned two ovens at this location; only one continuous area of darkened soil was observed in 2015, perhaps due to road disturbance.

Artifact 1 is a fused shale arrow midsection measuring 3.5 x 2.2 x 0.5-cm (Figure 18).

Artifact 2 is a nearly complete CCS leaf-shaped arrow point fragment that measures 5.9 x 2.3 x 0.7-cm.

Artifact 3 is a CCS arrow point fragment that measures 3.5 x 1.8 x 0.5-cm.

Artifact 4 is a small stemmed arrow point made of fused shale and measuring 3.6 x 2 x 0.5-cm; the neck measures 0.9-cm.

Artifact 5 is a multidirectionally-flaked rhyolite core with approximately four flake scars. It measures 7 x 7 x 5.5-cm.

Artifact 6 is a possibly fire-affected granitic mano fragment that measures 12 x 7 x 6-cm.

Artifact 7 is a cryptocrystalline multidirectionally-flaked core with approximately eight flake scars. It measures 9 x 7 x 6-cm.



Figure 18. Artifact 4; Plan view of fused shale stemmed projectile point recorded at site CA-LAN-926.

The site has been impacted by both natural erosion and cultural activities. Approximately 80 percent of the site displays a thin layer of sheetwash deposition. Due to the site's location on the southern side of a ridge saddle and above a steep drainage, further erosion is inevitable. A heavily used utility road traverses the ridge on which the site is located and has partially destroyed a prehistoric roasting oven (Feature 3). Multiple transmission towers are located on the northern peripheries of the site. In general, the site is in poor condition. The site nonetheless maintains research potential inasmuch as there are intact components and features that, individually, retain integrity. Based on the projectile point assemblage, all arrow points, the site dates from about AD 500 into the Late Horizon, after AD 1200. The variety of artifacts present, furthermore, indicates that the site served as a temporary camp.

CA-LAN-928 UPDATE

This resource was last recorded by the DPR in 1978. The site was reported to consist of a small yucca oven/roasting pit with fire-cracked rocks situated at the bottom of a steep slope rising out of a drainage. The location of the provided UTMs and all high probability areas along the slope were examined, with no success. The site either has been destroyed or it was plotted incorrectly. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

CA-LAN-929 UPDATE

This resource appears to have been recorded by the DPR in 1978. An attempt to relocate it in 2002 by the DPR was unsuccessful. No information on the nature of the site was provided in the

continuation sheet resulting from that effort that was provided for the current project. The location of the provided UTMs and all high probability areas in the vicinity were examined, with no success. The site either has been destroyed or it was plotted incorrectly. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

CA-LAN-930 UPDATE

This resource was originally recorded by the DPR (A. Corbin) in 1978. The site was reported to consist of a heavily eroded yucca roasting oven situated within a small drainage. The location of the provided UTMs and all high probability areas along the drainage were thoroughly examined but the site was not found. It has either been destroyed or was plotted incorrectly. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

CA-LAN-931 UPDATE

This resource was originally recorded by the DPR (J. Baldwin) in 1978. The site was reported to consist of a yucca roasting oven with fire-affected rocks situated on a low bench at the confluence of two north-south trending drainages. The location of the provided UTMs and all high probability areas along the drainages were examined, with no success. The site has either been destroyed or was plotted incorrectly. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

CA-LAN-932 UPDATE

This resource was originally recorded by the DPR (T. Schuster) in 1978. The site was reported to consist of a sparse lithic scatter with one possible mano fragment situated at the apex of a ridgeline overlooking several drainages. The location of the provided UTMs and all high probability areas along the ridgeline were thoroughly examined but the site was not relocated. The site has either been destroyed or plotted incorrectly. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

CA-LAN-933 UPDATE

CA-LAN-933, a roasting oven, was re-identified and updated on November 19, 2015. The site is situated on a low toe of a ridge that originates from an east-west ridge. Two north-south trending washes are found on the east and west side of this toe slope, within the eastern foothills of the San Emigdio Mountains. The site measures 22-m north-south by 21-m east-west, and is at an elevation of approximately 3,300-ft amsl. Vegetation on site is moderately dense and typical of a Mixed-Chaparral zone with yucca, juniper, ephedra, wildflowers, and seasonal grasses. The site soil matrix is composed of light brown alluvium with dispersed granite, quartzite, and quartz rocks.

This resource was originally recorded by the DPR (T. Schuster) in 1978. The site was reported to consist of dense concentration of fire-affected rock and granitic pecked stone within a 15 x 20-m area. The site was relocated during the current study and approximately 1,000+ fire-affected rocks and darkened soil were recorded. The granitic pecked stone was not observed on site, though the site contains an abundance of angular cobbles. The site is in good condition. Though its age is unknown, the roasting pit maintains research potential.

CA-LAN-934 UPDATE

CA-LAN-934, a roasting oven, was re-identified and updated on November 19, 2015. The site is situated in a high ridge bench above a major drainage of Freeman Canyon within the eastern foothills of the San Emigdio Mountains. The site is small, measuring 9-m north-south by 8-m east-west, and is at an elevation of approximately 3,560-ft amsl. Vegetation on site is moderately dense and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR (J. Baldwin) in 1978 as a roasting pit. In 2011, the OHMVR Division attempted to relocate the site but was unsuccessful. However, during the current study, one roasting pit (Feature 1) with dark soil and fire-affected rocks was relocated on the southwestern side of a ridge saddle. The condition of the roasting pit is poor due to natural erosion.

Feature 1 is a small yucca oven that contains approximately 50 fire-affected rocks and measures 1-m in diameter. Soil around this feature is very dark with a grey soil lens visible at approximately 3.5-cm below surface. The oven is eroding out the eastern face of the ridge.

The site has been impacted by erosion. Approximately 80 percent of the site shows evidence of a thin sheetwash deposit. Due to its location away from recreational trails, negative cultural impacts have been kept at a minimum. In general, the site is in poor condition but it maintains research potential. Its age is unknown.

CA-LAN-935 UPDATE

CA-LAN-935, a roasting oven, was re-identified and updated in December 2015. The site is situated on a wide east-west trending ridge within the eastern foothills of the San Emigdio Mountains. The site is small, measuring 9-m east-west by 6-m north-south, and is at an elevation of approximately 3,610-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR (L.S.-W) in 1978. The site was reported to consist of two roasting pits with dark gray soil and cracked quartzite rocks located on top of a large ridge. In 2011, the OHMVR Division (K. Long and A. Perez) attempted to relocate and update the site but were unsuccessful. During the current 2015 study, a single roasting pit (Feature 1) with fire-affected rock and multiple quartzite flakes was relocated on the southwest side of the ridge saddle. All high probability areas were thoroughly examined for the second roasting pit, but it

could not be found. The site boundary has been updated to include only the single feature and lithic scatter.

Feature 1 is a roasting oven encompassing an approximately 5-m diameter area. Soil on the surface is very dark and an ashy soil lens is visible at approximately 3-cm below surface. An abundance of fire-affected rock is present as well as multiple quartzite flakes associated with early lithic reduction. A dense concentration of scrub oak is present at the northern boundary of the oven.

The site has been impacted by both natural erosion and cultural activities. Approximately 80 percent of the site displays a thin layer of sheetwash deposition. Due to the site's location on the east facing side of the sloped ridge saddle, further erosion is inevitable. Additionally, a narrow, heavily used trail (Ravens Ridge Trail) traverses the ridge on which the site is located. In general, the site is in poor condition. It maintains research potential, however, though its age is unknown.

CA-LAN-936 UPDATE

This resource was recorded by the DPR (P. Hines) in 1978. The site was reported to consist of a small circular area of dark soil and fire-cracked rock situated on a small terrace adjacent to an intermittent stream. The location of the provided UTMs and all high probability areas along the terrace were thoroughly examined, but without success. The site either has been destroyed or was plotted incorrectly. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

CA-LAN-937 UPDATE

This resource was originally recorded by the DPR in 1978 (J. Hunter) as a roasting pit with fire-cracked rocks within a 10-m diameter area. During the current study, an attempt was made to relocate the site. The location of the provided UTMs and all high probability areas were thoroughly investigated but the site was not relocated. The site has either been destroyed or was plotted incorrectly. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

CA-LAN-938 UPDATE

Site CA-LAN-938 was originally recorded by the DPR in 1978 (J. Hunter) as a yucca roasting oven with associated fire-cracked rock. In 2011, A. Perez and K. Long were not able to relocate the site. ASM attempted to relocate the site in November 2015 during the current survey, also with no success. High probability areas immediately surrounding the provided UTMs were searched and no evidence for the presence the feature was identified. The site has either been destroyed or was incorrectly plotted.

CA-LAN-939 UPDATE

This resource was originally recorded by the DPR (D. Bell) in 1978.The site was reported to consist of one granite portable grinding slab, two manos, a fused shale core, a rust-colored chert core, and one opalized chalcedony core. The location of the provided UTMs and all high probability areas were thoroughly examined, with no success. The site has either been destroyed or was plotted incorrectly. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

CA-LAN-940 UPDATE

Site CA-LAN-940 was originally recorded by the DPR in 1978 (J. Baldwin) as a yucca roasting oven with associated fire-cracked rock. In 2011, A. Perez and K. Long were not able to relocate the site. ASM attempted to relocate it in November 2015, but with no success. High probability areas immediately surrounding the provided UTMs were searched and no evidence of the presence of the feature was identified. The site has either been destroyed or was incorrectly plotted.

CA-LAN-941 UPDATE

CA-LAN-941, a roasting oven, was re-identified and updated on November 11, 2015. The site is located within an intermittent northeast-southwest trending drainage that opens up to the valley bottom to the east-southeast. The site is small, measuring 12-m east-west by 11-m north-south, and is at an elevation of approximately 3,235-ft amsl. Vegetation on site is moderately dense, and typical of Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, yucca, juniper, and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR (C. Anderson) in 1978. The OHMVR Division (A. Perez et al.) attempted to relocate the site in 2002, but were unsuccessful. During the current study, a darkened soil area with approximately 100+ fire-affected rocks was relocated. The oven measures approximately 5-m wide and is located on a small bench that rises approximately 10-ft from the drainage bottom. The immediate surrounding area is heavily disturbed by natural erosion, but the bench itself has remained intact due to its elevation.

The site has been impacted by both natural erosion and cultural activities. Approximately 75 percent of the site displays a thick layer of deposition and 5 percent of the site shows signs of gullying. Due to the site's location at the confluence of two drainages, further erosion is inevitable. Dumping is minimal, consisting of historic trash. In general, the site is in good condition. Its age is unknown but it maintains research potential.

CA-LAN-942 UPDATE

This resource was originally recorded by the DPR (C. Anderson) in 1978 and revisited by OHMVR Division (A. Perez et al.) in 2002. The site was reported to consist of two yucca ovens situated on a bench between two northwest-southeast trending drainages and adjacent to an OHV road. During the current study, an attempt was made to relocate the site. The location of the provided UTMs

and all high probability areas were examined with no success. The site has either been destroyed or was plotted incorrectly. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

CA-LAN-943 UPDATE

CA-LAN-943, a campsite, was re-identified and updated on November 11, 2015. The site is located on the south facing slope of a northeast-southwest trending finger ridge, at the base of the slope. The slope of the site varies from approximately 30 percent on the side of the ridge to between 2 and 5 percent at the base of the slope. The site measures 130-m north-south by 78-m east-west, and is at an elevation of approximately 3,010-ft amsl. Vegetation in the area varies, but includes valley oak, juniper, yucca, buckwheat, manzanita, beaver tail cactus, and seasonal grasses. Soil on site is sandy gravel. Slopes have exposed sandstone bedrock in some places.

Site CA-LAN-943 was originally recorded by Phil Hines in 1978 as site 105A. It was reported to consist of only an old hearth with fire-cracked rocks and no other cultural material or associated artifacts. The site was updated in 2011 by K. Long and A. Perez and expanded to include four bedrock mortar features, an additional hearth, and a small lithic scatter. ASM revisited the site in November 2015 and was able to relocate all bedrock mortar features (Features 1, 2, 5, and 6) and the additional hearth (Feature 7). The original 1978 hearth (Feature 3) and lithic scatter (Feature 4), as well as a basalt scraper recorded in 2011, could not be not relocated.

Feature 1 is a sandstone boulder measuring 300 x 115 x 53-cm, eroding out of a southeast facing slope, with six conical BRMs. Mortar 1 is 17-cm in diameter and has a depth of 11-cm; Mortar 2 is 15-cm in diameter with a depth of 7-cm; Mortar 3 is small, potentially a cupule or starter mortar, measuring 3-cm in diameter and 0.5-cm in depth; Mortar 4 measures 14-cm in diameter and 3-cm in depth; Mortar 5 is 12-cm in diameter with 3-cm depth; and Mortar 6 is 10-cm in diameter with a 2-cm depth. The boulder is broken off from the parent bedrock and is now lying at an angle on the south facing slope.

Feature 2 is located just downslope to the south from Feature 1 and consists of a similar sandstone boulder measuring 105 x 110 x 40-cm. The boulder contains one conical mortar measuring 15-cm in diameter with a depth of 9-cm.

Features 3 and 4, a hearth and sparse lithic scatter, respectively, could not be relocated during the current site update. The 2011 sketch map indicated that these features were located in a small valley/drainage bordered on the northwest by the main ridgeline and on the east by a small, primarily southward trending finger ridge connecting to the main ridgeline. The presumed location based on the sketch map and surrounding areas were carefully examined and no evidence of the features was identified. It is possible that they may have been covered by sheetwash or, alternatively eroded away.

Feature 5 is a sandstone boulder lying near the base of a west facing slope on a small southward offshoot of the primary northeast-southwest trending ridgeline. Both Features 5 and 6 are contained within a small elevated bowl where the ridgeline meets the valley floor. A large juniper

stands in the center of the bowl. The boulder measures 87 x 55 x 39-cm and contains four cupules, two of which (Cupules 1 and 2) connect to one another. Cupule 1 is 4-cm in diameter, Cupule 2 is 6-cm in diameter, Cupule 3 is 4-cm in diameter, and Cupule 5 is 7-cm in diameter. All cupules are approximately 0.5-cm in depth.

Feature 6 is a large section of sandstone bedrock protruding southward from the south facing slope of the finger ridge above the bowl. The section protruding from the wall measures 415 x 100 x 120-cm and contains one 9-cm diameter conical mortar that is 3-cm deep.

Feature 7 is a 4.5-m in diameter hearth/roasting oven where the bowl containing Features 5 and 6-meets the valley floor. Valley oak and juniper are present in the immediate vicinity. The feature consists of dark, ashy soil with approximately 20 fragments of fire-affected rock and at least seven flakes (basalt, CCS, and tertiary fused shale).

Artifact 1 is a granodiorite pestle sitting atop Feature 6. The pestle measures approximately 23 x 7 x 7-cm. It was recorded in 2011 but not given an artifact designation.

The site has been impacted by erosion and modern dumping. Approximately 50 percent of the site shows evidence of sheetwashing and slopes have been affected by gullying. Modern dumping is minimal and exclusive to the valley south of the site. In general, the condition of the site is good. Its age is unknown but the site appears to represent a campsite, and it maintains research potential.

CA-LAN-944 UPDATE

This resource was last recorded by the DPR (P. Hines) in 1978. The site was reported to consist of a yucca oven with fire-cracked rock within a 5 x 5-m area situated on the southern edge of a small ridge finger that overlooks the confluence of multiple drainages to the east. During the current study, an attempt was made to relocate the site. The location of the provided UTMs and all high probability areas along the drainage were thoroughly examined but the site was not found. It has either been destroyed or was plotted incorrectly. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

CA-LAN-945 UPDATE

CA-LAN-945, a lithic workshop, was re-identified and updated on November 11, 2015. The site is situated on a wide flat ridge north of an intermittent stream within the eastern foothills of the San Emigdio Mountains. The site is small, measuring 11-m east-west by 9-m north-south, and is at an elevation of approximately 3,160-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with juniper, yucca, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was last recorded by the DPR (T. Holcomb) in 1978. The site was reported to consist of a sparse flake scatter. During the current study, a quartzite core (Artifact 1), a chert flake tool (Artifact 2), and two fine-grained volcanic bifaces (Artifacts 3 and 4) were recorded. Additionally,

a sparse flake scatter of one fine grained volcanic and eight chert flakes was found throughout the site.

Artifact 1 is a quartzite core with approximately six flake removals. The core measures 16 x 12 x 10.5-cm.

Artifact 2 is a chert flake tool with minor unifacial retouch. It measures 5.5 x 4 x 1.5-cm.

Artifact 3 is a stage two fine-grained volcanic biface that measures 10 x 8 x 3-cm.

Artifact 4 is a stage two fine-grained volcanic biface measuring 8.6 x 5 x 2-cm.

The site has been impacted by both natural erosion and cultural activities. Approximately 60 percent of the site displays a thin layer of sheetwash deposition. Due to the site's location a sloped ridge, further erosion is inevitable. Dumping is minimal, consisting of broken glass and shell casings. In general, the site is in good condition. Its age is unknown but it appears to represent a lithic workshop and it maintains research potential.

CA-LAN-946 UPDATE

This resource was originally recorded by DPR (P. Hines) in 1978. The site was reported to consist of a yucca roasting oven in the north bank of a small drainage. During the current survey, an attempt was made to relocate the site. The location of the provided UTMs and all high probability areas within the drainage were thoroughly examined, with no success. The site has either been destroyed or was plotted incorrectly. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

CA-LAN-3987 ("Mortar Site") UPDATE – Isolated Artifact

The "Mortar Site," currently an isolated artifact, was re-identified and updated on November 19, 2015. The site is located along a north-south oriented ridgeline within the eastern foothills of the San Emigdio Mountains. It is at an elevation of approximately 3,700-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was last recorded by the OHMVR Division (A. Perez et al.) in 2011. The site was reported to consist of a hopper mortar, an accompanying pestle, and a sparse lithic scatter located downslope of the ridge. A point on the provided location map labeled as "Mortar Site" was investigated as well as the entire ridgeline on which the resource is depicted. During the current study, only a single granitic hopper mortar was found and the site was thus recorded as an isolate instead of a site due to the current absence of other cultural material. The basket hopper mortar was situated at the intersection of two main recreation trails. It measures 36.5 x 28 x 16 cm, with the ground surface measuring 12 cm in diameter and approximately 2.5 cm deep. The artifact is in fair condition.

The site has been affected by both erosion and cultural activities. Due to its location on an elevated ridge, erosion is minimal but still visible. The site is alongside an unnamed, well-defined trail that follows the ridge to the north and south. The trail appears to be used heavily, increasing potential negative impacts to this resource. In general, the extant artifact is in fair condition but the majority of the site appears to have been looted. It was used for plant processing but is of unknown age.

CA-VEN-567 UPDATE

CA-VEN-567, a roasting oven, was re-identified and updated on December 7, 2015. The site is located along the western banks of a wide northwest-southeast trending drainage within the eastern foothills of the San Emigdio Mountains. The site measures 21-m northwest-southeast by 17-m northeast-southwest, and is at an elevation of approximately 3,710-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was last recorded by the DPR (K. Miller) in 1978. The site was reported to consist of a roasting pit and fire-affected rocks within a 10 x 10-m area (567A). A sparse lithic scatter consisting of 10 chert flakes was also reported (Locus 567B). During the current study, only the roasting pit (Feature 1) could be relocated; the flake scatter mentioned in 1978 could not be found despite careful examination of the site area.

Feature 1 consists of darkened soil and fire-affected rock within an 8 x 8-m area. Approximately 250+ fire-affected rocks were seen above the feature, with a gray soil lens visible at 3-cm below surface. It is situated on a small gradually sloped bench on the west side of the drainage. Although this feature is on a slightly elevated bench, cultural material has likely washed into this stream.

The site has been affected by natural erosion. Sheetwashing has affected approximately 80 percent of the site, with minimal deposition. The site is directly exposed to erosion from steep ridges on the east, west, and north boundaries. Additionally, the stream that abuts the site shows signs of gullying. Due to the site's location away from recreational trails, cultural impacts are minimal. In general, the site is in good condition. It is of unknown age but maintains research potential.

CA-VEN-568 UPDATE

CA-VEN-568, a roasting oven, was re-identified and updated in December 2015. The site sits on a south facing bowl, upslope between a streambed and a low ridgetop. The site is small, measuring 7-m north-south by 6-m east-west, and is at an elevation of approximately 3,480-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with juniper, yucca, and seasonal grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR (L.S.W.) in 1978. The site was revisited in 2002 by the OHMVR Division (L. Steidl et al.) and was reported to consist of an earth oven measuring approximately 3-m in diameter. The oven contained dark gray-brown loose soil with fire-cracked rocks. During the current study, the site was revisited and found to be virtually unchanged. Approximately 10 fire-affected rocks were visible near the surface.

The site has been heavily impacted by natural erosion and cultural activities. Approximately 50 percent of the site displays a thin layer of sheet-wash deposition. Multiple heavily used trails run along the edges of the site on the east, west, and northern boundaries. In general, the site is in poor condition. Though of unknown age, it nonetheless maintains research potential inasmuch as dateable material may be present within the extant portions of the earth oven.

CA-VEN-569 UPDATE

CA-VEN-569, a roasting oven, was re-identified and updated on December 9, 2015. The site is situated at the start of two northeast-southwest trending drainages within the eastern foothills of the San Emigdio Mountains. The site is small, measuring 10-m east-west by 5-m north-south, and is at an elevation of approximately 3,280-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was last recorded by the DPR (A. Luberski) in 1978. The site originally consisted of a small fire-affected rock concentration with ashy soil, one flake tool, and one possible utilized core. During the current study, the oven (Feature 1) was successfully relocated and remains virtually unchanged. The artifacts mentioned in the 1978 record could not be relocated; however, two chert flakes were found downstream approximately 80 and 100-m from the site boundary. A stand of large junipers surrounds the immediate area.

Feature 1 is a 1 x 2-m area of dark, ashy soil, which becomes darker with depth. Approximately 100+ pieces of fire-affected rock of varying sizes were noted around the feature.

The site has been impacted by erosion. Approximately 80 percent of the site contains a thin layer of sheetwash deposition that has partially buried (and preserved) the feature. Due to the site's secluded location at the top of the drainage and away from recreational activities, negative impacts are minimal. In general, the site is in fair condition. It is of unknown age but maintains research potential.

CA-VEN-579 UPDATE

CA-VEN-579, a campsite, was re-identified and updated on December 1, 2015. The site is situated on a low and flat east-west trending ridge within the eastern foothills of the San Emigdio Mountains. The site measures 56-m northeast-southwest by 27-m northwest-southeast, and is at an elevation of approximately 4,400-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, juniper trees, and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR (K. Miller) in 1978. The site was reported to consist of projectile points, bone, ground stone, and two burned areas. In 2002, the site was updated by the DPR (L. Steidl et al.) and was reported to consist of two darkened soil areas, flaked stone debitage including three projectile points, fire-affected rock, and bone. During the current study, eight bifacial tools (Artifacts 1-8) and a dense flake scatter of approximately 250+ flakes, including

approximately one fine grained volcanic, two quartz, five quartzite, one rhyolite, 10+ obsidian, and 200+ CCS flakes, was recorded.

Artifact 1 is a fused shale Cottonwood Triangular projectile point with a missing distal end. The point measures 1.3 x 1.1 x 0.4-cm.

Artifact 2 is an obsidian biface fragment that measures 2.2 x 1.3 x 1-cm.

Artifact 3 is rhyolite projectile point distal fragment that measures 1.3 x 0.8 x 0.2-cm.

Artifact 4 is a CCS Cottonwood point distal fragment that measures 1.5 x 0.7 x .2-cm.

Artifact 5 is a nearly complete rhyolite Cottonwood point that measures 1.7 x 1.3 x 0.3-cm.

Artifact 6 is a CCS Cottonwood projectile point with a missing distal end. The point fragment measures 2 x 1.5 x 0.4-cm.

Artifact 7 is a CCS Cottonwood projectile point with a missing distal end and one tang. The point fragment measures 1.8 x 1.2 x 0.3-cm.

Artifact 8 is a CCS biface midsection that measures 2.3 x 1.2 x 0.7-cm.

The site has been minimally impacted by erosion. Approximately 50 percent of the site shows evidence of a thin sheet-wash deposit. Due to its location on a gentle north-facing slope, further erosion is inevitable. In general, the site is in good condition.

The site dates from approximately AD 1200, or the Late Horizon, based on the Cottonwood arrow points (Justice 2002). It appears to represent a camp based on the quantity and diversity of artifacts and features present, and it maintains research value.

CA-VEN-580 UPDATE

CA-VEN-580, a plant processing station, was re-identified and updated on December 2, 2015. The site is situated in an oak woodland preserve on the southeastern edge of a small valley within the eastern foothills of the San Emigdio Mountains. The site measures 157-m northwest-southeast by 78-m northeast-southwest, and is at an elevation of approximately 4,460-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with oaks, yucca, scrub oak, dispersed sage, and seasonal grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR (J. Hunter) in 1978. The site was revisited in 2002 by the OHMVR Division (L. Steidl et al.) and was reported to consist of three bedrock milling features. The bedrock milling features include a single gneiss boulder with two mortars (Feature 1), a single granitic rock with one milling slick (Feature 2), and a gneiss bedrock boulder with three mortars (Feature 3). A gneiss pestle and a granitic pestle, not mentioned in the original record, were also identified (Artifacts 1-2).

Feature 1 is a gneiss boulder with two conical mortars and small cupule. The boulder measures 115-cm north-south by 101-cm east-west. Mortar 1-measures 11-cm in diameter by 3-cm deep and Mortar 2-measures 18-cm in diameter by 16-cm deep; the northern wall of this mortar is missing. The cupule measures 9-cm in diameter by 2-cm deep.

Feature 2 is a small milling slick that measures 16-cm east-west by 8-cm north-south by 1-cm deep on a granitic boulder that measures 63-cm east-west by 53-cm north-south.

Feature 3 is gneiss bedrock boulder with three conical mortars. Mortar 1-measures 11-cm in diameter by 10-cm deep, Mortar 2 measures 15-cm in diameter by7-cm deep, and Mortar 3-measures 10-cm in diameter by 3-cm deep. The boulder measures 106-cm east-west by 106-cm north-south.

Feature 4 consists of 15 cupules and one milling slick on a granitic bedrock mortar. The cupules range in size from 4-cm in diameter by 0.5-cm deep to 5-cm in diameter by 1-cm deep. The milling slick, which is largely covered by sediment eroding down slope, measures 37-cm east-west by 20-cm north-south. A small portion on the southern end of the slick is dished; this area measures 13-cm in diameter.

Artifact 1 is an unshaped gneiss pestle with polishing at one end. The pestle measures approximately 28 x 13.5 x 11.5-cm.

Artifact 2 is an unshaped granitic pestle with polishing at one end. It measures approximately 28 x 10 x 7.5-cm.

The site has been impacted by cultural activities. A hiking trail runs along the site boundary to the south, increasing the potential for negative impacts to this resource. Significant natural erosion to this site is absent. In general, however, the site is in good condition. It is of unknown age but functioned as a plant processing station and maintains research potential.

CA-VEN 581 UPDATE

This resource was originally recorded by the DPR (J. Hunter) in 1978. The site was revisited in 2002 by the OHMVR Division (L. Steidl et al.) and was reported to consist of a mortar bowl and pestle cache situated in a gneiss outcrop. When revisited by the OHMVR Division again in 2011, the resource could not be relocated. During the current study, another attempt was made to relocate the site. The location of the provided UTMs and all high probability areas were thoroughly examined, with no success. As mentioned in the 2011 record, the artifacts have likely been stolen. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

CA-VEN-582 UPDATE

CA-VEN-582, a small camp, was re-identified and updated on December 1, 2015. This site is situated on top of a small east-southeast facing ridge adjacent to the Tataviam OHV Trail. The site is small, measuring 16-m northwest-southeast by 9-m northeast-southwest, and is at an elevation

of approximately 3,930-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR (J. Hunter) in 1978. The site was revisited in 2002 by the OHMVR Division (L. Steidl et al.) and was reported to consist of fire-affected rocks and a lithic scatter of 37 flakes, one grey quartzite core, a chert biface, and a CCS projectile point. In 2013, the site was relocated by the DPR (A. Perez et al.) and several concentrations of flaked stone debitage were identified on the surface. During the current study, a rock scatter (Feature 1), a barbed wire concentration (site datum), and a sparse lithic scatter of 10 flakes were relocated. The quartzite core and CCS projectile point mentioned in the previous site update could not be relocated.

Feature 1 is a scatter of approximately 20 fire-affected rocks and darkened soil immediately east of the original site datum (pinyon tree). The scatter measures approximately 5-m north-south x 5-m east-west. Associated lithics include one quartzite and nine cryptocrystalline flakes.

The site has been minimally impacted by erosion. Approximately 70 percent of the site shows evidence of a thin sheetwash deposit. Due to its location on a gentle southeast facing slope, further erosion is inevitable. The site is within close proximity to a narrow dirt trail (Tataviam Trail) immediately south, increasing the potential for cultural impacts. In general, the site is in good condition. It appears to represent a small camp that maintains research potential, though its age is unknown.

CA-VEN-583/584 UPDATE

CA-VEN-583/584, a plant processing station, was re-identified and updated on November 12, 2015. The site is located along two northwest-southeast trending ridges within the eastern foothills of the San Emigdio Mountains. The site measures 103-m northwest-southeast by 37-m northeast-southwest, and is at an elevation of approximately 3,870-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was last recorded by the OHMVR Division (L. Steidl et al.) in 2002. The site was reported to consist of one roasting oven (Feature 1), a sparse lithic scatter (Concentration 1), and a sandstone metate (Artifact 1; Figure 19). During the current study, all artifacts and features were successfully relocated; however, one rock concentration (originally Feature 2) found within the lithic scatter was deemed non-cultural. Additionally, one newly recorded ground stone artifact (Artifact 2) was included within the site boundary.

Feature 1 is a yucca roasting pit that measures approximately 20-m east-west by 10-m north-south and 1-m deep where visible. An ash lens can be seen at approximately 4-cm below surface. The oven is situated on the northern banks of a northwest-southeast trending stream and spills into the drainage. Approximately 200+ pieces of fire-affected rocks were seen throughout the oven surface.



Figure 19. Artifact 1; Plan view of complete, flat slab sandstone metate recorded at site CA-VEN-583/584.

Concentration 1 is a sparse lithic scatter of approximately 10 CCS and quartz flakes. Lithic material was only found on the northwest edges of the site. Vegetation on site was thick, making the re-location of flakes extremely difficult. All recorded flakes were found in a clearing and possibly extend further southeast.

Artifact 1 is a complete, flat slab sandstone metate that measures 62 x 37 x 5-cm, with a slightly dished 12-x-33-cm ground surface. This artifact was found resting against a dead pinyon tree that overlooks the entire site to the east.

Artifact 2 is a large quartzite cobble that measures 25 x 20 x 18-cm. One side of this contains a ground surface that measures 10 x 12-cm and is slightly dished, indicating that it was used as a metate. This artifact was found approximately 15-m downslope of Artifact 1, on the southern banks of the northwest-southeast trending stream that cuts through the center of the site.

The site has been affected by natural erosion. Sheet washing has affected approximately 70 percent of the site with minimal deposition. The site is directly exposed to erosion from ridges on both the east and west boundaries. Additionally, the stream that traverses the site shows signs of gullying. Due to the site's location away from recreational trails, cultural impacts are minimal. In general, the site is in good condition. It appears to represent a plant processing station, of unknown age, that maintains research potential.

CA-VEN-585 UPDATE

CA-VEN-585, a roasting oven, was re-identified and updated on December 8, 2015. The site is situated on a low east-west trending ridge finger that overlooks Lower Hungry Valley to the east and is within the eastern foothills of the San Emigdio Mountains. The site measures 27-m east-west by 25-m north-south, and is at an elevation of approximately 3,800-ft amsl. Vegetation on site is typical of a Mixed-Chaparral Vegetation Zone with yucca, manzanita, scrub oak, juniper, and coastal sage, which exhibits signs of a recent fire. The site soil matrix consists of light sandy silt.

The site was originally recorded by the DPR (T. Schuster) in 1978. The site was reported to consist of a dark gray charcoal oven strewn with fire-affected rocks and flake tools. During the current study, an oven and 100+ fire-affected rocks within a 10 x 10-m area were relocated. The oven sits at the base of a low east-west trending ridge/finger at the southwestern end of a wash. Fire-affected CCS shatter was found approximately 30-m northeast of the resource. None of the flake tools mentioned in 1978 were identified.

The site has been heavily impacted by erosion. Approximately 70 percent of the site shows evidence of a thin sheetwash deposit. Due to its location on a gentle southeast facing slope, further erosion is inevitable. In general, however, the site is in good condition and has not suffered from cultural impacts. It is of unknown age but it maintains research potential.

CA-VEN-587 UPDATE

This resource was originally recorded by DPR (L.S.-W) in 1978. The site was reported to consist of a sparse lithic scatter of chert and other CCS flakes contained within three loci that each measure 10 x 10-m. The location of the provided UTMs and all high probability surrounding areas were carefully examined, but no site was identified. The site has either been destroyed or was plotted incorrectly. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

CA-VEN-588 UPDATE

CA-VEN-588, a lithic workshop, was re-identified and updated in November 12, 2015. The site is situated on a wide southwest-northeast trending ridge within the eastern foothills of the San Emigdio Mountains. The site measures 242-m east-west by 34-m north-south, and is at an elevation of approximately 3,950-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, manzanita, and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR (J. Baldwin) in 1978. The site was reported to consist of an intermittent flake scatter consisting of approximately three dozen flakes including an obsidian projectile point and a utilized chalcedony flake. During the current study, a low-density lithic scatter including one fused shale, two quartzite, and 36 chert flakes, was recorded, situated on a wide southwest-northeast ridge. Additionally, one CCS flake tool (Artifact 1; 3.8 x 2.3 x 1.5-

cm) was included within the site boundary. This is a bifacially flaked edge rather than a shaped formal tool.

The site has been impacted by both natural erosion and cultural activities. Approximately 40 percent of the site displays a thin layer of sheetwash deposition. A heavily used OHV route (Tataviam Trail) traverses the ridge on which the site is located. The trail overlaps the southwest boundary of the site, increasing the potential for negative impacts to this resource. In general, the site is in fair condition and it retains research potential. It is of unknown age but likely served as a lithic workshop.

CA-VEN-589 UPDATE

This resource was originally recorded by the DPR (T. Schuster) in 1978. The site was reported to consist of a possible oven situated on a small bench between two ridge fingers. During the current study, an attempt was made to relocate the site. The location of the provided UTMs and all high probability areas along the ridge were thoroughly examined, with no success. The site has either been destroyed or was plotted incorrectly. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

CA-VEN-590 UPDATE

Site CA-VEN-590, a sparse lithic scatter, was re-identified and updated on November 11, 2015. The site is situated along a narrow wash at the base of a low north-south ridge finger within the eastern foothills of the San Emigdio Mountains. The site measures 34-m east-west by 15-m north-south, and is at an elevation of approximately 3,750-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with juniper, yucca, scrub oak, and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR (J. Baldwin) in 1978. The site was reported to consist of a lithic scatter with a notched fused shale flake and a gray fused shale knife tip. During the current study, one fused shale and two pieces of CCS shatter were relocated.

Tataviam Trail currently traverses the ridge containing the site, and an unnamed dirt road runs along the east and south boundaries of the site. The site has been impacted by both natural erosion and cultural activities. Approximately 75 percent of the site displays a thin layer of sheetwash deposition. Due to the site's location on the northeastern side of a ridge, further erosion is inevitable. An abundance of modern glass was also seen throughout the site. In general, the site is in poor condition.

This site appears to represent a sparse lithic scatter that does not retain research value.

CA-VEN-591 UPDATE

Site CA-VEN-591, a possible campsite, was re-identified and updated on November 11, 2015. The site is situated along a narrow wash at the base of a low north-south ridge finger within the eastern

foothills of the San Emigdio Mountains. The site measures 33-m north-south by 28-m east-west, and is at an elevation of approximately 3,790-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with juniper, yucca, manzanita, scrub oak, bunchgrasses and other seasonal grasses supported by light brown sand silt.

This resource was originally recorded by the DPR (T. Schuster) in 1978. The site was reported to consist of basalt knife midsection, variegated chert, quartz, chalcedony, and volcanic flakes. During the current study, 13 flakes were relocated including one quartzite, two fused shale, and two porphyritic flakes. Fire-affected rocks are present on the surface but no evidence of discolored soil was found.

Tataviam Trail currently traverses the entire ridge. The site is in poor condition. The site has been impacted by both natural erosion and cultural activities. Approximately 75 percent of the site displays a thin layer of sheetwash deposition. Due to the site's location on the western side of a ridge, further erosion is inevitable. In general, the site is in poor condition. The presence of fire-affected rock, however, suggests that the site may have served as a campsite and may have research potential, though its age is unknown.

CA-VEN-592 UPDATE

CA-VEN-592, a lithic workshop, was re-identified and updated on December 8, 2015. The site is located at the base of a low southwest-northeast trending ridge finger within the eastern foothills of the San Emigdio Mountains. The site is small, measuring 15-m east-west by 7-m north-south, and is at an elevation of approximately 3,720-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with scrub oak, dispersed sage and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR (Dies) in 1978. The site was reported to consist of a lithic scatter of 25 flakes including chalcedony, chert, and quartz. During the current study, one core (Artifact 1) and three CCS flakes were found. Evidence of fairly modern scraping of the ridge top was noted, approximately 6-in deep and 6 to 10-ft wide. The ridgetop was likely disturbed after the 1978 recording based on the presence of a well preserved plastic mesh underlying the soil scrape.

The site has been impacted by erosion and modern dumping. Sheetwashing is minor and occurs primarily along the edges of the ridge. Modern grading has impacted the entire site area. Modern dumping is minimal, consisting of ammunition casings and modern cans/bottles, but consistently present throughout the site. In general, the site condition is poor. Its age is unknown and it appears to have originally served as a lithic workshop but, due to recent grading, it now lacks integrity and research potential.

CA-VEN-593 UPDATE

CA-VEN-593, a roasting oven, was re-identified and updated on December 8, 2015. The site is located at the mouth of a small drainage at base of a low southwest-northeast trending ridge finger within the eastern foothills of the San Emigdio Mountains. The site is small, measuring 5-m east-

west by 5-m north-south, and is at an elevation of approximately 3,720-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with scrub oak, juniper snags, yucca, buckwheat, and seasonal grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR (K. Miller) in 1978. The site was reported to consist of an earth oven with black ashy soil and fire-cracked rocks within a 5 x 6-m area. During the current study, the feature was relocated; however, stream erosion has significantly exposed much of the oven revealing as much as 1-ft of depth.

The site has been impacted by erosion, with approximately 80 percent of the site showing evidence of a thin sheetwash deposit. Due to the feature's position on a gentle southeast facing slope, further erosion is inevitable. A light scatter of modern glass was seen within close proximity to the site. In general, the site is in poor condition but intact portions of the roasting pit are still present and it retains research potential for that fact. The age of the site is however unknown.

CA-VEN-1659 UPDATE

This resource was originally recorded by the OHMVR Division (L. Steidl et al.) in 2003. The site was reported to consist of two yucca ovens situated along a dozer cut, on the northeast side of a small saddle. During the current study, an attempt to relocate the site was unsuccessful. It should be noted that the provided GPS point did not match the 2003 site description. All high probability areas on the north side of Gold Hill Rd. were therefore carefully examined. The site has either been destroyed or was plotted incorrectly. Vegetation on site is moderately dense and typical of a Mixed-Chaparral zone with yucca, juniper, manzanita, scrub oak, wildflowers, and seasonal grasses. The site soil matrix is composed of light brown sandy silt with dispersed granite, quartzite, and quartz rocks.

CA-VEN-1660 UPDATE

CA-VEN-1660, a possible campsite, was re-identified and updated on November 13, 2015. The site is situated in a small wash between two north-south trending ephemeral drainages within the eastern foothills of the San Emigdio Mountains. The site measures 86-m north-south by 30-m east-west, and is at an elevation of approximately 3,840-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sand silt. Juniper snags in the area exhibit signs of a recent fire.

This resource was last recorded by the DPR (L. Steidl et al.) in 2003. The site was reported to consist of three bedrock milling stations (Features 1-3), a milling slick (Feature 4), darkened soil (Feature 5), fire-affected rock, and a sparse lithic scatter. During the current study, the site was successfully relocated and it remains virtually unchanged. Additional lithics observed on site include one fused shale flake, one piece of fused shale shatter, one rhyolite flake, six quartzite flakes, and 55+ CCS flakes. The site is in good condition.

Feature 1 consists of a boulder within a northeast-southwest trending drainage. It contains three cupules, two large and one small. The boulder measures 127-cm northwest-southeast by 107-cm

northeast-southwest and approximately 80-cm tall. Feature 1 has possibly been displaced from its original location due to erosion.

Feature 2, a bedrock milling station recorded in 2003, was relocated but determined non-cultural and was not recorded.

Feature 3 is a BRM that measures 13-cm in diameter by 5-cm deep. It is situated on a granitic boulder that measures 137-cm northeast-southwest by 90-cm northwest-southeast. The northeast end of this feature sits in a drainage.

Feature 4 is a milling slick on a boulder situated on an east facing slope. The slick is mostly covered by dirt. The boulder measures 144-cm north-south by 41-cm east-west by 65-cm tall.

Feature 5 is a discrete burn area/hearth that is visible in the east side-wall of the drainage. The hearth is visible 18 to 21.5-cm below surface. The feature extends along the drainage for approximately 23-cm and contains organic material.

Artifact 1 is a non-native clamshell fragment.

The site has been impacted by both natural erosion and cultural activities. Approximately 90 percent of the site displays a thin layer of sheetwash deposition that becomes thicker on the downslope portions of the site. Due to the site's location on a gradually sloping wash, further erosion is inevitable. Dumping consists of broken glass and shell casings and is mostly concentrated on the southern boundaries of the site.

In general, however, the site is in good condition, with a buried component visible in a stream cut. The site served as a plant processing station and potentially a campsite (based on the fire-affected rocks). Its age is unknown but it retains research potential.

CA-VEN-1661 UPDATE

This resource was originally recorded by the OHMVR Division (L. Steidl et al.) in 2003. The site was reported to consist of three flakes, a hammerstone, and a core situated on a north facing saddle. During the current study, an attempt was made to relocate the site, with the location of the provided UTMs and all high probability areas along the ridge carefully examined, with no success, suggesting that the site has either been destroyed or was plotted incorrectly.

CA-VEN-1662 UPDATE

Site CA-VEN-1662, a Middle Horizon camp, was re-identified and updated on December 8, 2015. The site is located at the base of a wide northeast-southwest oriented ridge system within the eastern foothills of the San Emigdio Mountains. It is situated on the south side of a small north facing juniper-covered bowl that drains into Smith Creek to the northeast. The site measures 19-m northeast-southwest by 16-m northwest-southeast, and is at an elevation of approximately 3,380-ft amsl. Vegetation on site is moderately dense and typical of a Mixed-Chaparral zone with

yucca, juniper, manzanita, scrub oak, pinyon, wildflowers, and seasonal grasses. The site soil matrix is composed of light brown sandy silt with dispersed granite, quartzite, and quartz rocks.

This resource was originally recorded by the OHMVR Division (L. Steidl et al.) in 2003. The site was reported to consist of a light lithic scatter consisting of 13 flakes. During the current study, the site was successfully relocated. It includes 11 surface flakes (seven CCS, four quartzite), one fused shale projectile point (Artifact 1; Figure 20), one quartzite cobble core (Artifact 2), and one depleted CCS core (Artifact 3). Two tertiary CCS flakes were observed while the rest of the flakes are associated with early lithic reduction. Nearby site CA-VEN-1663 is located approximately 80-m south and above CA-VEN-1662. The site is in good condition

Artifact 1 is a fragmentary fused shale projectile point, measuring 3.5 x 1.8 x 1.2-cm. It is a Coastal Contracting Stem atlatl point dating to the Middle Horizon, or from about 4000 to 1500 YBP (Justice 2002).

Artifact 2 is a quartzite multidirectionally-flaked cobble core, measuring 6.2 x 5.2 x 4.8-cm. The core features eight visible flakes scars and has approximately 40 percent cortex.

Artifact 3 is a CCS multidirectionally flaked and depleted core, measuring 5.1 x 4.3 x 2.5-cm.

This site appears to represent a small camp dating to the Middle Horizon, based on the projectile point. It is in good condition with about 30% covered by sheetwash but otherwise without natural or cultural impacts.



Figure 20. Artifact 1; Plan view of Coastal Contracting Stem atlatl point (~4000 to 1500 YBP; Justice 2002) recorded at site CA-VEN-1662.

CA-VEN-1663 UPDATE

Site CA-VEN-1663, a lithic scatter, was re-identified and updated on December 8, 2015. The site is located at the base of a wide northeast-southwest oriented ridge system within the eastern foothills of the San Emigdio Mountains, in a small north-facing bowl that drains into Smith Creek to the northeast. The site measures 60-m northwest-southeast by 30-m northeast-southwest, and is at an elevation of approximately 3,460-ft amsl. Vegetation on site is moderately dense and typical of a Mixed-Chaparral zone with yucca, juniper, manzanita, scrub oak, wildflowers, and seasonal grasses. The site soil matrix is composed of light brown sandy silt with dispersed granite, quartzite, and quartz rocks.

This resource was originally recorded by the OHMVR Division (L. Steidl et al.) in 2003. The site was reported to consist of a light lithic scatter and modern refuse. During the current study, the site was successfully relocated and it includes four CCS surface flakes and one quartzite core. All identified surface flakes are associated with early lithic reduction. The quartzite core (Artifact 1) is multidirectionally-flaked with four visible flake scars and approximately 30 percent surface cortex, measuring 9 x 9 x 6-cm. The site is in good condition. It appears to represent a sparse lithic scatter of unknown age and it lacks research potential.

CA-VEN-1664 UPDATE

Site CA-VEN-1664, a sparse lithic scatter, was re-identified and updated on December 8, 2015. The site is located at the base of a wide northeast-southwest oriented ridge system within the eastern foothills of the San Emigdio Mountains, at the northern edge of a small north facing bowl that drains into Smith Creek directly northeast. The site measures 42-m east-west by 20-m north-south, and is at an elevation of approximately 3,420-ft amsl. Vegetation on site is moderately dense and typical of a Mixed-Chaparral zone with yucca, juniper, manzanita, scrub oak, wildflowers, and seasonal grasses. The site soil matrix is composed of light brown sandy silt with dispersed granite, quartzite, and quartz rocks.

This resource was originally recorded by the OHMVR Division (L. Steidl et al.) in 2003. The site was reported to consist of a light lithic scatter of 10 surface flakes and an eroded clam fragment. During the current study, the site was successfully relocated. It includes nine surface flakes and one CCS core (Artifact 1). The eroded clam fragmented mentioned in 2003 was not observed and is assumed to have been a paleontological specimen. All identified surface flakes are associated with early lithic reduction and composed of CCS and quartzite material. The CCS core (Artifact 1) is multidirectionally-flaked with six visible flake scars. It measures 3.8 x 3.5 x 5-cm. The site is in good condition with only about 15% covered by sheetwash. It represents a sparse lithic scatter of unknown age and the site lacks research potential.

5.2.2 Previously Recorded Historical Resource Updates

The following cultural resources were previously recorded but their site records were never filed in the California Historic Resources Information System (CHRIS); hence, they have temporary site designations. (Following the completion of this project, the original site records and updates

for the extant resources will be filed with the appropriate ICs so that official designations can be obtained.)

3A UPDATE

This resource was recorded by the DPR (A. Corbin) in 1978. The site was reported to consist of a cabin measuring approximately 10-ft x 20-ft, made of wood shingles. During the current study, an attempt was made to relocate the site. The mapped location and all high probability areas were examined but no evidence of the structure of potential associated remains were identified. The site no longer exists or was originally mis-plotted. Vegetation in the area is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone, with juniper, yucca, manzanita, and seasonal grasses. The site soil matrix is composed of light brown sandy loam with dispersed granite, quartz, and sandstone rocks.

3B UPDATE

This resource was recorded by the DPR in 1978. The site was reported to consist of foundation remains, farming equipment, and refuse associated with the homestead of John Foley, who settled on the property in 1903. During the current study, the site location was identified; however, none of the features mentioned in the 1978 site record are still present on the site area. Although a low-density scatter of small glass and metal fragments was observed, no diagnostic historical artifacts or features could be identified. The area north and northwest of the site has been disturbed due to road grading and the installation of a wooden post fence. Vegetation in the area is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone, with bladder pod, wildflowers, and seasonal grasses. The site soil matrix is composed of light brown sandy silt with dispersed granite, quartz, and quartzite rocks.

Site 3B represents the location of a 1903 homestead but the features and majority of the artifacts once associated with it have been demolished and removed. The site therefore no longer maintains integrity or research potential.

8A UPDATE

Site 8A (labeled 8A-H in the geodatabase provided by DPR), possibly the John Evans 1895 homestead, was re-identified and updated on December 8, 2015. The site is located at the base of a wide northeast-southwest oriented ridge system within the eastern foothills of the San Emigdio Mountains. The site measures 235-ft east-west by 85-ft north-south, and is at an elevation of approximately 4,300-ft amsl. Vegetation on site is sparse, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was recorded by K. Miller for the DPR in 1978. The site was reported to consist of a stone wall foundation, man-made terrace, two privy pits, and a plowed field. This site is associated with the homestead of John Evans, who settled in the area in 1895 and later sold the property to Oscar Newell Ralphs in 1905. During the current 2015 study, one rock alignment (Feature 1), a square-shaped terrace (Feature 2), and a smaller graded pad (Feature 3) were

identified. The two privy pits and plowed field mentioned in 1978 could not be identified and appear to no longer exist. Associated refuse includes metal tins, assorted cans, a rusted shovel head, sheet metal fragments, and a wood post. A faint dirt road (no longer in use) runs along the south edge of the site.

Feature 1 consists of a partially buried rock alignment that measures approximately 20-ft (east-west) and is located on the man-made terrace (Feature 2). An 8-in diameter post protrudes from the east end of this feature.

Feature 2 is a graded terrace that overlooks the wash to the south. Associated artifacts include metal tins, rusted cans, a rusted shovel head, a possible drill bit, and galvanized sheet metal fragments.

Feature 3 consists of a smaller graded pad located approximately 54-ft northeast of Feature 2. As mentioned in 1978, this feature may have likely supported a water tank or other auxiliary structure.

The site has been impacted by erosion. Approximately 80 percent of the site shows evidence of a light to moderate sheet-wash deposit. It has been exposed to continued run-off from the northeast-southwest trending ridge system located immediately north of the site. In general, the site is in poor condition. It appears to lack integrity and research potential.

15A UPDATE

This resource was recorded by the DPR (J. Hunter and T. Schuster) in 1978. The site was reported to consist of 18 posts in a rectangular array, which may have been a pen or branding station for cattle or sheep. Associated refuse included wire fragments, barbed wire, tin cans, and wood scraps. During the current study, the site location was revisited; however, the associated features and artifacts no longer exist. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone, with Valley oak, juniper, yucca, buckwheat, manzanita, beaver tail cactus, and seasonal grasses. Soil on site is sandy gravel. This site lacks integrity and research potential.

20A UPDATE

Site 20A, an earthen dug-out, was re-identified and updated on December 9, 2015. The site is situated on the east side of a medium-sized drainage within the eastern foothills of the San Emigdio Mountains. The site measures 38-ft north-south by 23-ft east-west, and is at an elevation of approximately 3,640-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone, with valley oak, juniper, yucca, buckwheat, manzanita, cactus, and seasonal grasses supported by light brown sandy silt.

This resource was recorded by the DPR (P. Hines) in 1978. The site originally consisted of a 12 x 12-ft structural dugout placed on the east side of a drainage. According to the original site record, the structure may have been used for tools/construction of the Golden State Highway in the 1930s. The site was relocated and it currently consists of the earthen dugout structure with a rear wall that is10-ft tall and the sidewalls that are between 4 and 5-ft in height. A north-south trending terrace (potentially a dirt access road) is present above the structure. A second wider and shallower dugout

exists to the north. Large wire nails were observed on site but the majority of the material is covered by slope erosion. This site appears to represent a construction storage and staging area, and it lacks research potential.

21A UPDATE

This resource was originally recorded in 1978. The site was reported to consist of the remains of four structures. In 2004, the DPR (P. Hines) relocated the site, but only a concrete slab, a concrete/brick foundation, and a sparse trash scatter remained. During the current study, the recorded site location was revisited using locational information and UTMs from the earlier site form, but none of the historic artifacts mentioned in previous records remained. Modern trash was observed throughout the site but was not recorded, and the original site appears to have been destroyed. Vegetation on site is moderately dense, and typical of a Mixed Chaparral-Vegetation Zone with valley oak, juniper, yucca, buckwheat, manzanita, beaver tail cactus, and seasonal grasses supported by light brown sandy silt.

This site currently lacks integrity, context and research potential.

21B UPDATE

This resource was originally recorded in 1978. The site record was updated by the DPR in 2004 and only one piece of rusted corrugated metal was found. During the current study, an attempt was made to relocate the site. The location of the provided UTMs and all high probability areas were examined, with no success. The site has either been destroyed or was plotted incorrectly. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone, with valley oak, juniper, yucca, buckwheat, manzanita, beaver tail cactus, and seasonal grasses supported by light brown sandy silt. This site lacks integrity and research potential.

21C UPDATE

This resource was originally recorded by the DPR in 1978 as part of the Sterling Game Bird Farm. In 2004, the DPR (P. Hines) relocated and updated the site. It was reported to consist of 30 fire bricks with mortar and approximately 50 broken rocks, some of which appeared to be burnt. During the current study, an attempt was made to relocate the site. A 300-m buffer around the location of the provided UTMs and all high probability areas were thoroughly investigated with no success. The site has apparently been destroyed and lacks research potential. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone, with valley oak, juniper, yucca, buckwheat, manzanita, beaver tail cactus, and seasonal grasses supported by light brown sandy silt.

30C UPDATE

Site 30C, ranching features, was identified and relocated on December 1, 2015. The site is situated on the mouth of a stream canyon 225-m north-northwest of the original UTMs in the eastern San Emigdio foothills. The site measures 92-ft east-west b 67-ft north-south, and is at an elevation of approximately 4,520-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-

Chaparral Vegetation Zone with valley oak, juniper, yucca, buckwheat, manzanita, beaver tail cactus, and seasonal grasses. The site soil matrix is composed of light brown alluvium with dispersed granite, quartzite, and quartz rocks.

This resource was last recorded by the DPR (A. Corbin) in 1978. The site was reported to consist of an abandoned windmill (fallen and deteriorated). During the current 2015 study, a tractor engine with an attached pump (Feature 1) and two oblong concrete holding basins with associated pipes (Features 2 and 3) were the only elements that remained on site. The site is in poor condition.

Feature 1 is a Le Roi tractor engine with an attached pump. This engine-pump set-up logically would have been constructed to replace the windmill and presumably therefore dates to the later uses of this location.

The engine sits on top of a platform of six milled wood planks. Nails are visible as is a partially buried pipe just west of the engine. Le Roi tractors were made from 1913 to 1954, and were commonly used as power units for a variety of purposes. This model, D140P7, is an overhead cam engine that was made after circa 1940 (http://www.gasenginemagazine.com/gas-engines/le-roi-legacy.aspx). They were manufactured in Milwaukee, WI, until 1954, indicating that this engine-pump dates from roughly 1940 to the mid-1950s.

Feature 2, situated 1-m east of Feature 1, is an oblong concrete holding basin engraved "1932 (H)." The basin is wood lined on the southern side with corrugated metal. Three pipes protrude out of the concrete basin, two on the west side next to the engraving, and one on the east side inside of the basin. The basin measures 5 x 10 x 2-ft. Two partially buried pipes sit just northwest of the feature.

Feature 3 is an oblong concrete basin. The basin has "1936 (H)" engraved on its northern side and two small pipes protruding from its southern side. Rebar is visible along the sidewalls on the northern side. The northern corner of the basin has deteriorated making rebar visible. Feature 3- measures 9.5 x 4 x 2-ft. A partially buried metal pipe with wood lining joins Features 2 and 3.

The site has been impacted by erosion. Approximately 90 percent of the site shows evidence of a moderate to heavy sheetwash deposit. The site is located within gently sloped northeast-southwest trending wash and is exposed to a low ridge directly north. In general, the site is in poor condition.

The site represents an abandoned water well servicing two livestock tanks. Extant remains primarily date from the early 1930s to the 1940s, although it is possible that the previously described windmill remnants serviced an earlier stock tank or pond of some kind. Currently the site lacks integrity and research value.

31A UPDATE

Site 31A, a ranch site, was re-identified and updated on December 1, 2015. The site is located on a gentle sloping alluvial valley 0.5-mi. east of Maxey Ranch. The site measures 211-ft north-south by 176-ft east-west, and is at an elevation of approximately 4,240-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with valley oak, juniper,

yucca, buckwheat, manzanita, beaver tail cactus, and seasonal grasses. The site soil matrix is composed of light brown alluvium with granite and quartzite rocks.

This resource was originally recorded by the DPR (D. Bell) in 1978. The site was reported to consist of a historic ranch site with two buildings and associated fences. During the current 2015 study, one of the features, a partially buried concrete foundation (Feature 1), was relocated, along with a low density scatter of household refuse.

Associated artifacts on the site consist of approximately 100+ milled wood scraps, copper wire, nails, an unstamped brick, chicken wire, 30+ assorted cans, and miscellaneous glass fragments (clear, green, aquamarine, amethyst, cobalt, and brown). No diagnostic historical artifacts were identified, although many of the identified specimens appear to be historical in age. Modern refuse, however, is mixed with these, resulting in a mixed age surface scatter. A tall, non-native tree is located immediately west of Feature 1.

Feature 1 is a partially buried concrete foundation that measures approximately 3.6-m east-west x 2.8-m north-south. The foundation may extend to the east but that area is now covered by a thick layer of sediment.

The site has been impacted by erosion and cultural activities. Approximately 85 percent of the site shows evidence of sheetwash deposition, with the eastern portion of the site affected by gullying. Additionally, modern refuse was also seen on site. A dirt road crosses the site north to south, connecting to a heavily used OHV route (Old Cottonwood Trail), which may partly be the cause for the modern debris. In general, the site is in poor condition. It is a demolished ranch complex that now lacks integrity and research value.

31B UPDATE

This resource was recorded by the DPR (J. Hunter) in 1978. The site was reported to consist of a dismantled structure with associated trash, wood, stones, iron sheeting, and machinery parts. During the current study, an attempt was made to relocate the site. A 300-m buffer around the location of the provided UTMs and all high probability areas were examined, with no success. The site was either destroyed or plotted incorrectly. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone, with valley oak, juniper, yucca, buckwheat, manzanita, beaver tail cactus, and seasonal grasses supported by light brown sandy silt.

32A UPDATE

The site was originally recorded by the DPR (T. Schuster) in 1978. The site was reported to consist of a livestock loading platform built into the slope of a small canyon. During the current study, an attempt was made to relocate the site. The location of the provided UTMs and all high probability areas were examined, with no success. The site has either been destroyed or was plotted incorrectly. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with valley oak, juniper, yucca, buckwheat, manzanita, and seasonal grasses present. The site soil matrix is composed of light brown alluvium with dispersed granite, quartzite, and quartz rocks.

42A UPDATE

Site 42A, a possible homestead, was re-identified and updated on December 1, 2015. The site is situated on a southeast facing alluvial plain, at the base of an east-west trending ridge system. The site measures 470-ft northeast-southwest by 261-ft northwest-southeast, and is at an elevation of approximately 4,135-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with juniper, yucca, buckwheat, scrub oak, and seasonal grasses present. The site soil matrix is composed of light brown alluvium with dispersed granite, quartzite, and quartz rocks.

This resource was originally recorded by the DPR in 1978. The site was reported to consist of three destroyed structures and associated debris. During the current study, approximately 50 tin cans, 200+ glass bottle shards (Concentration 1), milled wood scraps, and metal fragments (Concentrations 2 and 3) were relocated. The milled wood on site is concentrated on the east side of Maxey Road, which crosses the eastern boundary of the site. The foundation remains mentioned in the previous record could not be relocated. Remnants of a north-south trending juniper fence traverse the approximate center of the site.

Concentration 1 is an assorted can scatter located in a drainage. The cans have dates ranging from 1900-1960. Cans found on site include pull tab, hole in cap, and sanitary seal, with five square fuel cans, and one “HAZEL ATLAS” bottle base.

Concentration 2 consists of 50+ milled wood fragments of varying sizes, metal springs, corrugated metal, and metal fragments. The scatter continues southwest toward the drainage. A juniper fence post with barbed wire is visible from the scatter.

Concentration 3 contains approximately 50+ milled wood fragments, corrugated metal, and approximately 15 can fragments. It is located north of Concentration 2 and across Maxey Road. A large wooden beam measuring 15.3-in x 20-in x 9-ft is located in the drainage east of the can scatter.

The site has been heavily impacted by erosion and cultural activities. Approximately 55 percent of the site shows evidence of a moderate sheetwash deposition. Additionally, a heavily used road (Maxey Road) crosses the eastern boundary of the site. In general, the site is in poor condition. The structures at this site, likely a homestead, have all been demolished. Although a refuse dump is present (Concentration 1), this is in a drainage and includes a wide mix of artifact ages. The site lacks integrity, context and research potential.

54C UPDATE

Site 54C, a water conveyance system, was re-identified and updated on November 18, 2015. The site is situated at the confluence of multiple east/west-oriented drainages within the eastern foothills of the San Emigdio Mountains. The site measures 462-ft east-west by 94-ft north-south, and is at an elevation of approximately 3,850-ft amsl. Vegetation on site is moderately dense, and

typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was recorded by the DPR (E. Albitre) in 1978. The site was reported to consist of a meadow grass-covered spring, an extensive piping system, and an old compressor. During the current study, the ¾-in (Feature 1) and ½-in (Feature 2) pipe segments were found in the same condition as previously recorded and possible compressor parts (Concentration 1) were relocated along an east-west trending ridge finger and extending south into the drainage below.

Feature 1 is a ¾-in piping segment located on the north side of the east-west trending drainage that crosses the site, approximately 100-ft northwest of Concentration 1. Feature 2 is a ½-in pipe segment also located on the north side of the east-west trending drainage. This segment is shorter in length than Feature 1 and immediately adjacent to it. Concentration 1 consists of possible compressor parts and metal debris within a 10-ft north-south by 20-ft east-west area. The site is in poor condition. This site lacks integrity and research value.

59A UPDATE

This resource was originally recorded by the DPR (R. Schwaderer) in 1978. The site was reported to consist of a rectangular one-story structure with vertical board and batten siding, in very poor condition. The structure was originally part of the Maud E. Gibson homestead built in 1939; it was sold to John H. Sattler the following year who subsequently sold it to George E. Kinsey in 1943. ASM attempted to relocate the site in 2015. A buffer 300-m surrounding the mapped UTMs and all high probability areas were carefully examined, with no success. The site has either been destroyed or was plotted incorrectly. Vegetation in the area is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with valley oak, juniper, yucca, buckwheat, manzanita, beaver tail cactus, and seasonal grasses. The site soil matrix is composed of light brown alluvium with dispersed granite and quartz rocks.

68A (Johnny Kyle Place) UPDATE

Site 68A, the John William Kyle homestead, was re-identified and updated on November 18, 2015. The site is situated at the confluence of multiple east/west-oriented drainages within the eastern foothills of the San Emigdio Mountains. The site measures 578-ft north-south by 283-ft east-west, and is at an elevation of approximately 3,350-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was recorded by the DPR (A. Luberski) in 1978. The site was reported to consist of a homestead associated with John William Kyle, who filed for homestead in 1938. During the current 2015 study, one trough (Feature 1), remnants of a water tank (Feature 2), corrals (Features 3 and 4), an outhouse (Feature 5), possible house remains (Feature 6), and an historic-era spoon (Artifact 1) were recorded.

Feature 1 consists of a concrete water trough, which split into three separate tanks. The concrete used for its construction is low quality, containing many large cobbles and metal bar reinforcement. Each trough measures 10 x 5 x 1.8-ft.

Feature 2 consists of remnants of a metal water tank. Four galvanized metal support legs, a 10 in capped metal pipe, a 1-in diameter metal pipe, and large fragments of milled wood are all that remain.

Feature 3 is an historic-era corral that features juniper posts and strands of barbed wire. Currently only the northeastern segment of the fence line still exists, and it displays signs of fire damage.

Feature 4 consists of historic corral remnants made with juniper posts. All the vertical fencing is still standing with some of the horizontal bars present. Barbed wire was used to wrap vertical posts, with bailing wire used to wrap horizontal posts.

Feature 5 consists of a possible outhouse location. All that remains of this feature are several milled wood fragments.

Feature 6 is the original house location and is identified by an abundance of domestic debris, windowpane glass, and milled wood.

Artifact 1 is a rusted Schilling spice measuring spoon. Other associated refuse includes a Bakelite two-hole button, rusted tin cans, miscellaneous metal pipes, galvanized roofing nails, crockery fragments, braided wire, several clay pipe fragments, and glass bottle fragments. Several bottle bases on site feature Hazel Atlas and Owens-Illinois makers' marks, both pre- and post-1954.

The site has been impacted by erosion and modern dumping. Approximately 80 percent of the site shows evidence of sheetwashing, with a portion affected by gullying. Modern dumping is minimal, consisting of ammunition casings, and exclusive to the valley south of the site. In general, the site is in fair condition. This Depression era homestead lacks structural integrity but appears to maintain archaeological research potential.

72A UPDATE

This resource was originally recorded by the DPR (A. Corbin) in 1978. The site was reported to consist of demolished wooden structures and historic refuse, which was part of John C. Marshall's homestead, which he purchased in 1918. The property was eventually owned Richard S. Saunders in 1936. ASM attempted to relocate the site in 2015 with no success. All high probability areas around the location of the provided UTMs were thoroughly examined. The site has apparently been destroyed and no longer maintains integrity. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with valley oak, juniper, yucca, buckwheat, manzanita, cactus, and seasonal grasses supported by light brown sandy silt.

73A UPDATE

This resource was originally recorded by the DPR (J. Hunter) in 1978. The site was reported to consist of three dismantled structures with associated ranch debris located at the mouth of Maxey Canyon. ASM revisited the mapped site location in 2015; however, no historic features were observed. Maxey Creek and the surrounding area were thoroughly examined, with no success, which suggests that the site has been destroyed. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with valley oak, juniper, yucca, buckwheat, manzanita, cactus, and seasonal grasses supported by light brown sandy silt.

75A UPDATE

Site 75A, a water system, was re-identified and updated on December 2, 2015. The site is situated on a northwest facing alluvial plain within the eastern foothills of the San Emigdio Mountains. The site measures 43-ft northwest-southeast by 22-ft northeast-southwest, and is at an elevation of approximately 3,445-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation zone with juniper and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR (T. Schuster) in 1978. The site was reported to consist of two 3 x 3-m tanks with a well head. During the current study, a concrete reservoir (Feature 1) and water pump structure (Feature 2) were recorded.

Feature 1 consists of two concreate tanks contained within one large 10 x 10-ft reservoir structure bisected by an east-west concrete wall. The southern concrete tank was added to the original northern tank. The northern segment is stamped with a “1956” date on top of the west wall. Both tanks are approximately 2-ft deep with walls between 6 and 10-in thick. The northern tank contains a 2-ft tall x 1-in diameter pipe extending vertically from the east floor with a similar pipe extending horizontally below the concrete, approximately 4-ft from the northern well on its eastern side.

Feature 2 is situated approximately 10-ft west of Feature 1. It consists of remnants of a water well with an 8-in diameter steel pipe extending approximately 2-ft out of the ground. The pipe is capped with sheet metal. A 1 in. diameter galvanized steel pipe extends 3-ft from the larger pipe. Four galvanized steel supports surround the pump pipe.

Multiple heavily used OHV trails traverse the site on all boundaries. Natural erosion on site is minimal. In general, the site is in poor condition. This site, a mid-twentieth century well and livestock watering troughs, lacks research potential.

75B UPDATE

Site 75B, a water system, was re-identified and updated on December 2, 2015. The site is situated on a northwest facing alluvial plain within the eastern foothills of the San Emigdio Mountains. The site measures 66-ft north-south x 49-ft east-west, and is at an elevation of approximately 3,485-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with juniper trees, wild flowers, and seasonal grasses supported by light brown sandy silt.

This resource was recorded by the DPR (J. Hunter) in 1978. The site was reported to consist of an earthen wall reservoir, a concrete slab with a 6-in pipe (Feature 1), and a stone-lined water trough (Feature 2). During ASM's current study, an additional concrete slab immediately next to Feature 1 was recorded. The earthen reservoir no longer exists. It is possible that the reservoir was once located within the adjacent campground boundaries. The site had been impacted by erosion and cultural activities. Approximately 10 percent of the site displays a thin layer of sheetwash deposition. The main feature of the site has been destroyed by the construction of the campground (Smiths Fork Campground) immediately south. Modern refuse was seen inside Feature 2 (concrete trough). In general, the site is in fair condition.

Feature 1 consists of a small concrete slab with a flush 8-in diameter pipe in the approximate center and a 6-in diameter pipe protruding from the south side. The purpose of the pipe is unknown. The slab measures 36-in north-south by 34-in east-west by 8-in thick. Feature 1 is located 8-ft immediately south of the existing campground fence line.

Feature 2 is a stone-lined, concrete water trough located next to an east-west trending drainage. The trough measures 128-in east-west by 59-in north-south by 30-in deep. A poorly maintained trail buffers Feature 2 immediately to the east and leads to the adjacent drainage.

Feature 3 is an additional loose concrete slab adjacent to Feature 1 that measures 75-in x 24-in x 9-in. The purpose of this concrete slab is unknown.

This site appears to represent a livestock watering trough and associated features. It lacks research value.

79A UPDATE

Site 79A, the 1923 David A. Davidson ranch, was re-identified and updated on November 19, 2015. The site is situated at the periphery of a wide, northwest-southeast trending wash within the eastern foothills of the San Emigdio Mountains. The site measures 562-ft northwest-southeast by 308-ft northeast-southwest, and is at an elevation of approximately 3,230-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was recorded by the DPR (P. Hines) in 1978. The site originally consisted of a ranch complex with concrete troughs, water tanks, a corral, sheds, and an 80-ft mineshaft. This resource was associated with David A. Davidson, who settled on the property in 1923. Ownership of this property changed in 1935, when Fred E. Miller purchased it and expanded the ranch complex, eventually leading to some form of mining operation. Most of the features recorded in 1978 have been destroyed. During the current study, a juniper post fence line (Feature 1), a possible mine shaft (Feature 2), a concrete foundation (Feature 3), an historic era canteen (Artifact 1), and other associated refuse were recorded.

Feature 1 consists of an historic-era fence composed of approximately 20+ juniper and milled wood posts. The fence line crosses the entire northern boundary of the site and continues west

upslope onto the nearest northeast-southwest trending ridge. Milled wood scraps are strewn about the fence line.

Feature 2 is a possible backfilled mineshaft with an opening that measures 8-ft east-west by 7-ft north-south by 2-ft deep. (Alternatively, this may represent a hand-dug well.) This feature is currently surrounded by four modern 3-in diameter metal pipes on each corner. The shaft is hidden by juniper trees on the east, north, and south, making it difficult to identify.

Feature 3 consists of a fragmented concrete foundation, refuse, and two adjacent depressions. One of the depressions is square in and measures 7 x 13-ft x 1-ft deep, while the other is circular and measures 6-ft in diameter x 2.5-ft deep. Associated refuse includes approximately 50 copper wire nails, milled wood scraps, and miscellaneous glass fragments. A small concentration of tin cans was also seen within close proximity of this feature.

Artifact 1 is an historic era pressed steel canteen that measures 4-in wide and 7-in in diameter. It features a 2-in diameter threaded mouth opening and a patent stamp on the body that reads, “Patented January 16, 1917/July 29, 1919”. Other refuse on site includes various glass fragments, household ceramics, milled wood scraps, miscellaneous metal fragments, pipe segments, sardine cans, an 8-track player, rubber tire scraps, and mattress springs. The site contains refuse that spans multiple eras, suggesting repeated use.

The site has been impacted by erosion and cultural activities. Approximately 80 percent of the site shows evidence of a light sheetwash deposition. It has been exposed to continued run-off from multiple northeast-southwest trending ridges and drainages located immediately west of the site boundary. Modern dumping is minimal, consisting of car parts, and modern glass bottles. The site is within close proximity to a dirt road, located directly east, potentially explaining the contemporary refuse. In general, the site is in poor condition. It lacks integrity and research value.

83A UPDATE

This resource was last recorded by the DPR (J. Hunter) in 1986. The site was reported to consist of a pit full of gneiss, granite, and quartzite cobbles. Due to its close proximity to a plank-covered pit, it is likely both pits were associated with wells that were once part of the Ed and Lillian Cates homestead in the 1940s. ASM attempted to relocate the site in 2015 but was unsuccessful. The site was likely destroyed during the construction of the motorcycle obstacle course at this location. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation zone with juniper, yucca, sagebrush, and annual grasses supported by light brown sandy silt. The site lacks integrity and research potential

85A UPDATE

Site 85A, a refuse dump, was re-identified and updated in November 20, 2015. The site is situated along a drainage bank on a northwest facing alluvial plain within the eastern foothills of the San Emigdio Mountains. The site measures 114-ft north-south by 104-ft east-west, and is at an elevation of approximately 3,250-ft amsl. Vegetation on site is moderately dense, and typical of a

Mixed-Chaparral Vegetation Zone with juniper, yucca, sage, and annual grasses present. The site soil matrix is composed of light brown alluvium with dispersed granite, quartz, and quartzite rocks.

This resource was originally recorded by the California DPR (T. Schuster) in 1978. The site was reported to consist of a historic trash dump and a 1941 California License plate marked M44. ASM relocated the site 300-m north of its original mapping, and recorded 20 fragmented clear glass bottle fragments, mason jars, milk crates, a paint can, metal fragments, assorted cans, wire, mesh, and buckets. Three bottle bases embossed with Owens Illinois, Hazel Atlas (early-mid 1940s), and Glass Containers Corp marks were also observed on site. A "PHILIPS MILK OF MAGNESIA" bottle was recorded as Artifact 1.

The site has been impacted by erosion. Approximately 80 percent of the site displays a thin layer of sheetwash deposit. Due to the site's location within an east-west trending gulley, further erosion is inevitable. The site is in poor condition. It appears to represent a small, 1940s era refuse dump, without context and thus lacking in research potential.

95A UPDATE

This resource was last recorded by the DPR. The site was reported to consist of a wooden shack and corral (24-ft x 27-ft). During the current study, ASM was unsuccessful in re-locating the site though the provided site location and all high probability areas were thoroughly examined. The site has likely been destroyed or was plotted incorrectly. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with juniper, yucca, buckwheat, manzanita, and seasonal grasses supported by light brown sandy silt.

CA-LAN-2335H (P-19-002335; 95B) UPDATE

This site, the Alamo Ranch, was re-identified and updated on December 9, 2015. The site is situated on a northwest-southeast trending alluvial fan within the eastern foothills of the San Emigdio Mountains. The site measures 687-ft northwest-southeast by 222-ft northeast-southwest, and is at an elevation of approximately 3,140-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the OHMVR Division (K. Long et al.) in 2011. The site was reported to consist of several historic-era features and three refuse concentrations (Concentrations 1–3). Associated features include one concrete foundation (Feature 1), a concrete reservoir (Feature 2), and three non-native cypress tress (Features 3–5). Historically known as Alamo Ranch, this resource is associated with Alexander Fraser, a cattleman and miner, who settled at this location during the early twentieth century. This settlement eventually became a part of Kinsey Ranch at some point in the past. As observed during the current 2015 study, the site appears virtually unchanged.

Feature 1 consists of a partially buried concrete slab foundation situated on the easternmost boundary of the site. The foundation measures approximately 39 x 29-ft and presumably was

associated with a post-World War II-era structure. This resource is immediately adjacent to an OHV trail, which traverses the southwestern side of the foundation.

Feature 2 consists of a concrete reservoir situated at the intersection of multiple, narrow OHV trails and adjacent to the non-native trees (Features 3–5). The reservoir measures 186-ft east-west x 111-ft north-south and contains metal rods bored into the approximate center.

Features 3–5 consist of non-native cypress trees and a cedar tree possibly planted during the initial homesteading. All are found within close proximity to each other and to Feature 2. Feature 5, the largest of these trees, is surrounded by multiple OHV trails, is now dead.

Concentration 1 consists of an historic refuse scatter. Associated refuse includes miscellaneous metal fragments, porcelain ware, terracotta piping fragments, gas cans, milled wood, sheet metal, chicken wire, assorted can fragments, and miscellaneous glass bottle fragments. Glass on site includes amethyst glass fragments, which has a manufacture date of approximately 1880-1930 (Munsey 2014). Identified maker's marks include Owens-Illinois and Glass Container Co.

Concentration 2 is a large historic refuse scatter situated on a gentle, south facing slope on the northwestern boundary of the site. Associated refuse includes domestic, construction, and modern debris as well as a 12-ft section of a 2.5-in diameter pipe. Large fragments of milled wood were also in the vicinity.

Concentration 3 is also a historic refuse scatter situated within a shallow depression. Associated refuse includes meat tins, a galvanized metal pail, and assorted cans. Cans include evaporated milk cans that measure 3 $^{14}/_{16}$-in x 2 $^{15}/_{16}$-in, suggesting that the cans date from 1935-1945. Maker's marks on bottles include Owens-Illinois, which date from the early 1940s.

The site has been impacted by both erosion and cultural activities. Approximately 70 percent of the site shows evidence of a light sheetwash deposition. The site is directly exposed to erosion from gradually sloped ridges to the west, north, and northeast. Additionally, two heavily used OHV trails traverse the southern and eastern boundaries of the site, increasing the potential for further negative impacts to this resource. In general, the site is in poor condition. Although the site contains historic refuse scatters, these appear to be mixed in age. The site thus lacks integrity and research value.

102F UPDATE

Site 102F, a possible homestead, was re-identified and updated on November 5, 2015. The site is situated in a narrow wash between two east-west trending drainages within the eastern foothills of the San Emigdio Mountains. The site measures 102-ft north-south x 91-ft east-west, and is at an elevation of approximately 3,260-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was last recorded by the DPR (R. Schwaderer) in 1978. The site originally consisted of a possible permanent residence and a trash scatter. During the current project, the site was

successfully relocated and remains virtually unchanged. Associated refuse includes an iron bed stand (datum), bed springs, cans, barrel rings, steel plate fragments, milled wood scraps, a steel pipe, and miscellaneous glass fragments, including amethyst glass. The site has been impacted by erosion. Approximately 80 percent of the site shows evidence of a thin sheetwash deposit. Due to its location away from recreational trails, negative cultural impacts have been kept at a minimum. In general, however, the site is in poor condition.

107C UPDATE

Site 107C, a collapsed shed or cabin, was identified and relocated on November 11, 2015. The site is situated on the northern banks of a northeast-southwest trending drainage. The site measures 106-ft east-west by 66-ft north-south, and is at an elevation of approximately 3,180-ft amsl. Vegetation on site is dense, and typical of a Mixed-Chaparral Vegetation Zone with juniper, yucca, cacti, and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR (P. Hines) in 1978. The site was reported to consist of a collapsed wooden shed that was associated with Mr. Orwin in 1878, who eventually sold it to Edward Orth in 1922. ASM revisited the site in 2015, and recorded the remnants of a shed as well as other refuse not mentioned in the 1978 record. This includes assorted cans (Concentration 1), a historic stove top (Artifact 1), 100+ milled wood fragments, 20+ pieces of corrugated metal, barrels, bed springs, pipes, a tire well, a fragmented sink, paint cans, and porcelain ware fragments.

Concentration 1 consists of a can scatter with approximately 15 hole-in-top cans. Artifact 1 is an historic cast iron stove that measures 42-in wide by 30-in tall by 19.5-in deep. It has fixtures for gas lines. An embossed metal strip on the front of the stove reads “246 R.”

The site has been impacted by natural erosion and cultural activities. Approximately 40 percent of the site displays a thin layer of sheetwash deposition. Due to the site’s location on a bench within a drainage, further erosion is inevitable. Refuse on site exhibits multiple bullet holes, suggesting repeated disturbance. In general, the site is in poor condition. However, as a very early homestead, the site may have research potential.

112A UPDATE

Site 112A, a ranch compound, was re-identified and updated on December 3, 2015. The site is situated in a narrow wash between two east-west trending drainages within the eastern foothills of the San Emigdio Mountains. The site measures 385-ft north-south by 304-ft east-west, and is at an elevation of approximately 4,140-ft amsl. Vegetation on site is sparse and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was recorded by the DPR (J. Hunter) in 1978. The site was reported to consist of possible ranch structures and domestic refuse. This property is associated with one of the first homestead patents submitted by Jesus Leon in 1889. Eventually, the property was bought by Harriet Houser in 1959 and abandoned sometime in the 1960s. Extant components of the site

currently include a collapsed structure (Feature 1), a gravel concentration (Feature 2), a larger concrete gravel concentration (Feature 3), a concrete pad (Feature 4), a refuse pit (Feature 5), and another larger refuse pit (Feature 6). Associated refuse includes corrugated metal, barbed wire, sheet metal, metal stake posts, miscellaneous electrical components, and one amethyst glass medicine bottle (Artifact 1).

Feature 1 consists of a collapsed shed situated on a southwest facing hillside. This was sided with metal sheeting. The presence of charcoal and burned wood suggests that it may have been burned down since the 1978 record.

Features 2-4 are situated on a graded pad that is excavated into a south facing slope overlooking a wash. Feature 2 consists of a poor quality concrete and large gravel mix concentration. The purpose and age of the mix dump are unknown.

Feature 3 consists of a linear concentration of concrete blocks arranged in a linear formation. The concrete blocks vary in size; however, the average size is a 1-ft cube. Multiple granitic blocks are also present and scattered to the northeast.

Feature 4 is a concrete pad that measures approximately 6-ft x 6-ft. It is partially buried and corrugated metal is scattered around the pad.

Feature 5 consists of a trash pit that measures approximately 4-ft deep. A small concentration of cans, glass bottles, and an enamel bowl was seen within and outside of this feature.

Feature 6 consists of a larger trash hole in close proximity to Feature 5. The refuse pit contains barbed wire, graded metal wire fencing material, gas cans, barrel hoops, a 1949 Owens-Illinois bottle, and miscellaneous construction materials.

Artifact 1 is a complete amethyst glass medicine bottle. It is approximately 5 x 2-in in size, has a metal screw top lid but appears to be mold made. It appears to be a medicine bottle of some kind. The bottle is located on the southwestern side of an earthen dam. Other refuse on site includes corrugated metal, barbed wire, sheet metal, metal stake posts, assorted electrical components, and miscellaneous glass fragments.

The site has been impacted by erosion and cultural activities. Approximately 30 percent of the site shows evidence of a thin sheetwash deposit. Multiple shallow depressions were noted throughout the site. The site is in close proximity to N. Peace Valley Rd. and has possibly been subjected to looting at some point in the past. In general, the site is in poor condition. However, the trash deposits suggest that it may have research potential.

126A UPDATE

Site 126A, a refuse dump, was re-identified and updated on December 16, 2015. The site is situated in an east-west trending drainage and on a southeast facing alluvial valley within the eastern foothills of the San Emigdio Mountains. The site measures 134-ft north-south by 112-ft east-west, and is at an elevation of approximately 4,270-ft amsl. Vegetation on site is moderately dense, and

typical of a Mixed-Chaparral Vegetation with juniper, sage, scrub oak, yucca, and annual grasses supported by light brown silt.

This resource was originally recorded by the DPR (D. Bell) in 1978. The site was reported to consist of a historic refuse dump and a Jeep frame. ASM relocated the site in 2015 approximately 225-m south of the original mapping, identifying a rusted vehicle frame (Artifact 1) (possibly Jeep) and historic refuse that includes assorted cans, glass fragments, milled wood scraps, a galvanized steel pipe, mattress box springs, and miscellaneous metal fragments. All other artifacts mentioned in the original 1978 record are absent. Modern pull-tab cans and a beer bottle were also seen on site.

The site has been heavily impacted by natural erosion and cultural activities. Approximately 70 percent of the site displays a thick layer of sheetwash deposition. Due to the site's location within an intermittent drainage, further erosion is inevitable. Modern dumping on site suggests repeated disturbance. In general, the site is in poor condition. The site consists of a mixed age refuse dump without context, and it lacks research potential.

126B UPDATE

This resource was recorded by the DPR (A. Corbin) in 1978, close to 126B. The site was reported to consist of the remnants of a cabin floor. An old metal box spring mattress foundation, tile sherds, and ceramic piping were found in association. During the current study, an attempt was made to relocate the site but was unsuccessful. The site has likely been destroyed or may have been included within the new 126A site boundary. Vegetation on site is moderately dense, and typical of a Mixed-Desert Chaparral Vegetation Zone with juniper, yucca, sage, manzanita, and seasonal grasses supported by light brown sandy silt.

130C UPDATE

130C, a historic shack, was re-identified and updated on December 8, 2015. The site is located on the gradual banks of a northwest-southeast trending drainage. The site measures 92-ft north-south by 90-ft east-west, and is at an elevation of approximately 3,780-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with juniper, pinyon trees, scrub oak, and annual grasses supported by light brown sand silt.

This resource was recorded by the DPR (J. Baldwin) in 1978. The site was reported to consist of a 10-ft square timber and sheet metal shack associated with the 1918 homestead patent of John A. Leaper, which was later purchased by William J. Schmidt. ASM revisited the site in 2015 and recorded a foundation (Feature 1), a vintage shovel handle (Artifact 1), and miscellaneous domestic refuse.

The foundation recorded as Feature 1 consists of a roughly rectangular alignment of wood planks with associated corrugated tin sheeting. The scatter of this structural debris currently measures 17-ft northwest-southeast by 9-ft southwest-northeast, but the original dimensions of the structure (assuming this was a structure) are unclear. Associated refuse includes glass bottle fragments, an aluminum lawn chair, and milled wood scraps and it, thus represents a mixed age surface scatter.

The vintage cast metal shovel handle (Artifact 1) is embossed with "Bolton and Johnson." Bolton and Johnson shovels were patented by S.J. Bolton and John Johnson in 1874. Their primary innovation was a D-shaped metal grip placed at the proximal end of a short square-nosed shovel. They were commonly used for filling fireboxes with coal and are sometimes referred to as fire shovels. They were apparently made into the mid-1960s, although records on the company (beyond the original patent application and various vintage examples for sale) are not easily available on the internet in 2016.

The site has been heavily impacted by natural erosion and cultural activities. Approximately 40 percent of the site displays a thin layer of sheetwash deposition. Due to the site's location on a gradual south facing slope, further erosion is inevitable. Refuse on site exhibits multiple bullet holes, suggesting repeated disturbance. In general, the site is in poor condition. This site lacks integrity and research potential.

632013A UPDATE

Site 632013A, a water conveyance structure, was re-identified and updated on December 16, 2015. The resource is situated on a narrow east-west trending wash within the eastern foothills of the San Emigdio Mountains. The site is small, measuring 14-ft north-south by 14-ft east-west, and is at an elevation of approximately 4,970-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was originally recorded as by the OHMVR Division (A. Perez et al.) in 2013 as an historic-era feature consisting of one concrete cistern and two exposed metal pipes. During the current study, only the two exposed pipes (Feature 1) were recorded. An attempt to locate the cistern was unsuccessful, suggesting that it has been destroyed. One modern, galvanized metal tub was also seen immediately next to Feature 1. This site is possibly associated with site 642013A located east and downslope, and 642013A, based on pipes that lead to this last site.

Feature 1 consists of two thin metal pipes each with a circumference of 18-in. Both pipes protrude 1.5-ft from the surface and are located approximately 65-ft east and downslope of the originally recorded Feature 1.

The site has been impacted by erosion and natural fires. Approximately 95 percent of the site shows evidence of sheetwashing, with a portion affected by gullying. Signs of a fire occurring within the last 20 years are evident throughout the area. Though the site is in fair condition, it consists of remnant water control features of unknown age and lacks research potential.

632013B UPDATE

Site 632013B, a water conveyance feature, was re-identified and updated on December 16, 2015. The resource is located on a south facing slope of an east-west trending ridge within the eastern foothills of the San Emigdio Mountains. The site measures 1,006-ft north-south by 35-ft east-west, and is at an elevation of approximately 4,600-ft amsl. Vegetation on site is moderately dense, and

typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was originally recorded an isolated feature by the OHMVR Division (C. Corey et al.) in 2013. The site consists of a historic concrete culvert (Feature 1) and a connecting shallow conveyance route (Feature 2) that extends for approximately 575-ft to the south. Both features are likely associated with the historic-era John Foley Site, originally recorded in 1978. The current study found the site to be virtually unchanged since 2013.

The site has been impacted by erosion with approximately 95 percent showing evidence of a moderate sheetwash deposit. Due to its location within an east-west trending wash, the site is directly exposed to further natural erosion. Furthermore, Feature 1 is within close proximity to a dirt road to the north, increasing the potential for negative cultural impacts. In general, the site is in good condition. However, it represents a common resource type that is not distinctive in design, materials or craftsmanship, and lacks research potential or other significant characteristics.

642013A UPDATE

Site 642013A, historic refuse scatters and pads, was re-identified and updated on December 16, 2015. The site is situated in the southern slopes of an east-west trending ridge within the eastern foothills of the San Emigdio Mountains. The site measures 472-ft north-south by 118-ft east-west, and is at an elevation of approximately 4,700-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the OHMVR Division (A. Perez et al.) in 2013. The site was reported to consist of six historic-era features. During the current study, the site was successfully relocated; however, it has been disturbed by the construction of a wood-post fence that traverses the entire southern boundary. The site currently consists of historic trash scatters (Features 1, 4, and 6), two cut pads (Features 2 and 5), one rock alignment (Feature 3), and one horse shoe (Artifact 1). The site is located at the base of a south facing slope at the edge of an east-west trending alluvial valley.

Feature 1 consists of a sparse refuse scatter that measures 75-ft east-west x 34-ft north-south and includes scrap metal, two 2-in diameter metal pipe segments, barbed wire, and assorted cans. An Olympia Beer can and a stamped metal scrap mentioned in the 2013 record were not observed.

Feature 2 consists of a man-made terrace/cut pad and a small amount of refuse that includes four metal pipes, a large barrel ring, braided wire, modern pull tab cans, barbed wire, and a few glass shards. The terrace measures 77-ft northwest-southeast by 68-ft northeast-southwest and contains a rock alignment (Feature 3) along the southern edge of the terrace. A small mound of earth can be seen at the approximate middle of this landform.

Feature 3 consists of a 21-ft long rock alignment that is one course high, partly buried and is composed of approximately 60 locally available granitic rocks that have an average size of 10 x

10-in. This alignment may represent a cobble-filled windrow from the grading of the Feature 2 pad.

Feature 4 is a light refuse scatter that measures 31.5-ft northwest-southeast by 12-ft east-west. Associated refuse includes barbed wire, assorted cans, glass shards, and a few metal scraps.

Feature 5 consists of a dirt pile that measures 47-ft northeast-southwest x 11-ft northwest-southeast. One small concrete footing that measures approximately 20 x 20 x 8-in is located on this platform. One 2-in diameter steel pipe protrudes from this platform on the south side. Isolated feature 632013A is likely associated with this platform as all pipes lead to this location and it is within close proximity to a stream. Feature 6 buffers this terrace on the southeast side.

Feature 6 is a refuse scatter that measures 153-ft east-west x 66-ft north-south and contains assorted glass shards, terracotta piping fragments, coiled wire, and a horse shoe (Artifact 1). The glass scatter consists of aqua, brown, clear, amethyst, and a fragmented clear glass bottle base. The ceramic piping is a light and dark shade of brown and was most likely associated with water transport. Feature 6 is located adjacent to a stream and Condor Trail.

Approximately 75 percent of the site shows evidence of light sheetwash deposition. The site is directly exposed to erosion from a gradually sloped wash to the west. The construction of a wood-post fence has resulted in partial destruction of the site. Additionally, Condor Trail currently traverses the entire southern boundary of the site, increasing the potential for further negative cultural impacts to this resource. In general, the site is in poor condition. Its function is unclear and it lacks context inasmuch as it contains a mixed age surface scatter of historical and more recent artifacts, probably partly due to the proximity of the site to the OHV trail. The site lacks research potential.

642013D UPDATE

Site 642013D, a graded pad and ranch features, was re-identified and updated on December 16, 2015. The site is located on a south facing slope of an east-west trending ridge within the eastern foothills of the San Emigdio Mountains. The site measures 285-ft east-west by 110-ft north-south, and is at an elevation of approximately 4,490-ft amsl. Vegetation on site is sparse, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the OHMVR Division (A. Perez et al.) in 2013. The site consisted of a graded pad or terrace (Feature 1), a corral (Feature 2), and a vertical metal pipe (Feature 3). Associated refuse included milled wood, a church key-opened can, barbed wire, nails, a rubber tire, and one metal disk. During the current study, it was noted that the site had been partially destroyed by the construction of a modern fence.

Feature 1 is a graded pad that measures 143-ft north-northeast-south-southwest by 36-ft north-south. Sawn logs of varying size are located in the immediate area.

Feature 2 originally measured 63-ft north-south by 168-ft east-west and it consists of a dilapidated historic corral. This feature is collapsed, likely due to the construction of Powerline Road and a modern fence. While the corral is no longer upright, all relevant features, including barbed wire and wooden posts, remain on the surface. A modern wire fence runs through the feature along the eastern and northern boundaries. This portion of the corral contains a scatter of sheet metal and other materials.

Feature 3 is a 15-in diameter metal pipe that protrudes 37-in from the ground. During the current study, Feature 3 was expanded to include the dugout surrounding the pipe. All previously recorded artifacts, with the exception of a glass bottle recorded in 2013, were successfully relocated.

The site has been impacted by erosion and cultural activities. Approximately 80 percent of the site shows evidence of a light sheetwash deposit. The site is directly exposed to erosion from a north facing slope. Signs of a fire having occurred within the last 20 years are evident throughout the area. Powerline Road currently traverses the northwestern-most boundaries of the site, increasing the potential for negative cultural impacts to this resource. In general, the site is in poor condition.

This site, a ranch complex in poor condition and without specific context, lacks integrity and research potential.

CA-LAN-2568H UPDATE

CA-LAN-2568H, the Kinsey Ranch, was re-identified and updated on November 20, 2015. The site is situated in a prominent northwest facing alluvial fan at the southeastern end of Hungry Valley and within the eastern foothills of the San Emigdio Mountains. The site measures 2,728-ft east-west by 933-ft north-south, and is at an elevation of approximately 3,260-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with juniper, pinyon, sage bush, yucca, and annual grasses supported by light brown sandy silt.

This resource was recorded by the DPR in 1978 as site 96A. The site was reported to consist of a large ranch complex (Kinsey Ranch) and race track. This property was owned by Mark C. Bailey starting in 1895. George E. Kinsey purchased the property in 1943 and is credited for construction of the race track. The site was revisited by OHMVR Division (K. Long et al.) in 2002. ASM relocated the site in 2015, and recorded a race track (Feature 1), a workshop (Feature 3), a concrete foundation (Feature 4), a diesel pump house (Feature 5), and two earthen reservoirs (Features 2 and 6). Due to lack of significant materials, the living area and large pipes mentioned in 2002 were omitted from the site boundary. Many of the features in the original record, including the residences, barns, and horse stalls, no longer exist.

Feature 1 is a race track situated south of Hungry Valley Road. It measures approximately 1,330-ft east-west by 530-ft north-south. The construction of the track consists of a berm that is 15 to 40-ft wide and between 5 and 12-ft above the groundsurface. Evidence of wood rails can be seen surrounding the track. The track is completely overgrown with rabbit brush, wild sage, and various grasses, making it difficult to assess true dimensions. A reservoir (Feature 2) abuts the race track on the west side.

Feature 2 is the earthen reservoir immediately east of the race track. The reservoir measures approximately 210-ft northeast-southwest by 200-ft northwest-southeast by 10-ft deep. The raised edges of the reservoir berm are approximately 5-ft tall.

Feature 3 consists of a concrete foundation and construction materials originally associated with a workshop. The foundation is located west of the race track and on the east bank of Freeman Wash. The western portion of this feature has partially eroded into the wash.

Feature 4 is a concrete foundation with associated metal and concrete piping. The foundation measures approximately 5-ft east-west by 4.5-ft north-south with an approximately 1-ft diameter concrete pipe in the center extending 3-ft from the foundation. Multiple segments of 1-ft diameter concrete piping were observed in the area as well as milled wood scraps. These remnants are likely associated with the shed mentioned in the 1978 record.

Feature 5 is the remains of a diesel pump house currently adjacent to Freeman Wash. The physical structure of the pump house and the engine no longer exist. A concrete wood-lined shed platform, an interior pump, and piping remnants were recorded.

Feature 6 is a reservoir that measures approximately 240-ft east-west by 135-ft north-south by 5-ft deep. The reservoir has a pipe that sits on its northern side and a larger water conveyance rests on its southern side. The condition of the reservoir is fair, however, it is covered in dense vegetation including rabbit brush and sage. This is the only feature that is located on the north side of Hungry Valley Road.

Concentration 1 consists of an historic refuse dump. Associated artifacts include milled wood scraps, miscellaneous metal, concrete chunks, a tobacco tin lid, and a half-gallon “Owens Illinois 1945” jug.

The site has been heavily impacted by natural erosion and cultural activities. Approximately 70 percent of the site displays a thin layer of sheet-wash deposition. Features 3–5 are currently eroding into Freeman Wash west of the site and, due to their location on the eastern bank, further erosion is inevitable. The northern portion of Feature 1 (race track) has been partially destroyed by Hungry Valley Road. Furthermore, an abundance of modern refuse was seen throughout the site. In general, the site is in very poor condition, lacks any of the potentially significant qualities of integrity and research potential.

CA-LAN-3379 UPDATE

CA-LAN-3379, a ranch residence, was re-identified and updated on December 16, 2015. The site is situated on a narrow, northwest-southeast trending drainage within the eastern foothills of the San Emigdio Mountains. The site measures 16-m north-south by 16-m east-west, and is at an elevation of approximately 4,410-ft amsl. CA-LAN-3379 is located 40-m south of a previous residence (48901 Saltlick Trail; demolished) and on a moderate slope that faces northwest toward Interstate 5. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR in 1978 and revisited by the OHMVR Division (L. Steidl et al.) in 2002. The site was reported to consist of a post 1940s ranch residence, outbuildings, and a water conveyance system. During the current study, a large concrete reservoir (Feature 1), a (possibly) historic tank (Feature 2) in the reservoir, and a second concrete foundation (Feature 3) were recorded. All other features mentioned in 2002 no longer exist. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with juniper, pinyon trees, bladder pod, wildflowers, and annual grasses. The soil matrix is composed of light brown sandy silt with dispersed granite, quartzite, and quartz rocks.

Feature 1 consists of a reservoir lined with concrete stem walls on all sides. The reservoir measures 88-ft east-west by 105-ft north-south. The northern wall of the reservoir is partially buried but still visible. The reservoir currently contains vegetation and minor structural debris. Two contemporary water tanks are located immediately west of this feature. An east-west trending road is located immediately south of Feature 1 that terminates at the modern water tanks.

Feature 2 consists of a possibly historic tank on the southeast corner of Feature 1. It measures 6 x 9-ft. The tank has five spouts suggesting that it was horizontally oriented when in use. The tank is heavily rusted but in fair condition.

Feature 3 consists of a partially buried concrete foundation that measures 15 x 15-ft. The foundation is buffered by an existing fence that separates CA-LAN-3379 from a previously occupied residence (Dewey Ralphs House; Residence 2). Additional concrete features associated with Feature 3 that were mentioned in the 2002 record no longer exist.

This site is in very poor condition and lacks integrity.

CA-LAN-4280H UPDATE

CA-LAN-4280H, a refuse scattesr, was re-identified and updated on December 16, 2015. The site is situated on a narrow, northwest-southeast trending drainage within the eastern foothills of the San Emigdio Mountains. The site measures 237-ft northwest-southeast by 97-ft northeast-southwest, and is at an elevation of approximately 2,960-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was recorded by the OHMVR Division (A. Perez et al.) in 2011. The site consists of an historic-era trash dump composed of three loci (Locus A–C) situated on the banks of a drainage. During the current 2016 study, the site was revisited and remains virtually unchanged; however, the boundary was expanded to include refuse further inside the drainage (Locus C). Associated refuse consists of hundreds of cans and bottles as well as domestic items possibly associated with Kinsey Ranch further west.

Locus A contains approximately 20 bottles, 20 cans, porcelain fragments, one metal jug, and hundreds of metal food tins.

Locus B consists of miscellaneous glass fragments, porcelain ware fragments, metal food tins, milled wood, and fire brick fragments, including one with "Vitrefax Argon AA" embossed on the face. These bricks were manufactured by the Vitrefax Corporation between the years 1925 and 1943 (Mosier 2001).

Locus C contains approximately 100 cans, 100 bottle fragments, metal food tins, ceramic fragments, and miscellaneous refuse similar to that found in Locus A and B. Locus C was extended to include refuse further within the drainage that was not mapped during the 2011 study. All refuse within this locus appears to date from the late 1940s to early 1950s.

The site has been impacted by both erosion and cultural actives. Due to its location on the banks and within a drainage, it is directly exposed to runoff and moderate deposition. Additionally, the site is within close proximity to Hungry Valley Road, which has resulted in the dumping of modern trash. This has resulted in an archaeological deposit of mixed age. In general, the site is in poor condition and, due to the mixing of older and contemporary materials, lacks research potential.

CA-LAN-4281H UPDATE

CA-LAN-4281H, a refuse dump, was re-identified and updated on December 16, 2015. The site is located along a north-south oriented wash within the eastern foothills of the San Emigdio Mountains. The site measures 143-ft northwest-southeast by 78-ft northeast-southwest, and is at an elevation of approximately 3,120-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was recorded by the OHMVR Division (A. Perez et al.) in 2011. The site was originally recorded as a sparse historic-era (ca. 1930s) refuse dump. During the current study, the site was revisited and updated two include two concentrations (Concentrations 1 and 2). Refuse consists of miscellaneous bottle fragments, complete bottles, assorted cans, license plates, earthenware fragments, and miscellaneous domestic refuse.

Concentration 1 consists of a small scatter of cans, earthenware fragments, and miscellaneous glass fragments including amethyst glass, which has a manufacture date of approximately 1880-1930 (Munsey 2014). There are approximately 15 cans in various stages of decomposition, which include hole-in-top, meat cans, paint cans, and several unidentifiable cans.

Concentration 2 contains domestic trash including cans and household items. Household artifacts include a complete "Watkins" medicine bottle (Artifact 1), two bed springs, a bed frame, a square fuel can, a tin bucket, chinaware, barbed wire, tile fragments, and miscellaneous glass fragments. Additional items on site include two 1931 license plates that are embossed "8M9853 CAL 31" (Artifact 2) and "3L6460 CAL 31" (Artifact 3), suggesting that the refuse dates from the 1920s to early 1930s.

The site has been affected by both erosion and cultural impacts. Due to its location on the banks of a wash, it is eroding downslope and being displaced in the wash bottom. Additionally, the site is within close proximity to an unnamed trail that follows the adjacent drainage. In general, the

site is in fair condition. Lacking context in the form of an associated homestead or structure, however, the site lacks research potential.

Dewey Ralphs House UPDATE

This resource was originally recorded by the OHMVR Division (A. Perez et al.) in 2011. The property was reported to consist of a single-story modern ranch house and built-in garage constructed between the late 1930s and early 1950s. This property and house was associated with James Lloyd Ralphs (1945 to 1992), who is credited as the founder of modern Gorman (discussed above). During the current study, the property was visited but the site had been destroyed. This site lacks integrity.

Phil's Hunting Camp UPDATE

Phil's Hunting Camp, a refuse scatter, was re-identified and updated on November 19, 2015. The site is located in a narrow, east-west trending wash within the eastern foothills of the San Emigdio Mountains. The site measures 162-ft east-west by 126-ft north-south, and is at an elevation of approximately 4,400-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was recorded by the OHMVR Division (A. Perez et al.) in 2011. The site was reported to consist of an historic trash scatter (Feature 1) situated within an oak woodland area. Associated refuse includes food cans, ceramic fragments, large metal barrels, metal cans, and a glass scatter. Glass on site includes amethyst glass fragments, which has a manufacture date of approximately 1880-1930 (Munsey 2014). During the current 2015 study, the site was found to be virtually unchanged since 2011.

The site has been affected by natural erosion. Sheetwash covers approximately 75 percent of the site with minimal deposition. It is within close proximity to a well-defined but unnamed road that runs south of the site. The road has seen recent and repeated use, increasing potential negative impacts to this resource. In general, the site is in fair condition but, due to repeated use, the artifact assemblage is mixed in age and therefore lacks research potential.

Mason Camp UPDATE

Mason Camp was re-identified and updated on November 19, 2015. The site is located in a narrow, east-west trending wash within the eastern foothills of the San Emigdio Mountains. Locus A measures 142-ft northwest-southeast by 85-ft northeast-southwest, and Locus B measures 163-ft east-west by 57-ft north-south. The two loci are at elevations of approximately 3,980 and 3,900-ft amsl, respectively. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed coastal sage, scrub oak, juniper, wild flowers, and annual grasses supported by light brown sandy silt.

The location of this site was originally recorded by the OHMVR Division at an unknown date, though no site record was completed nor site description filed. A GPS map point was used to locate

the site, which consists of two loci (A and B), each containing a concrete retaining wall (Features 1 and 2) and refuse. Refuse on site includes barbed wire, construction materials, metal pipe segments, nails, corrugated metal, brick fragments, and milled wood scraps. The loci are separated by approximately 1,500-ft, with a low east-west trending ridge finger in between.

Locus A consists of a sparse refuse scatter and a concrete retaining wall (Feature 1). A moderate deposit of modern trash was also seen on the western side of the locus.

Feature 1 consists of a concrete retaining wall that measures approximately 25-ft x 33-in x 2.5-in thick. A rusted flagpole stand is on the terrace just above this feature. Associated refuse includes four small and loose concrete footings located approximately 35-m northwest of Feature 1. Three "GMcB" firebricks with three embossed stars and the number "48" below the mark are also present. These bricks were manufactured by Gladding, McBean and Co. between the years 1926 and 1948.

Locus B is another concrete and stucco retaining wall (Feature 2) and two refuse concentrations (Concentrations 1 and 2) composed mostly of construction materials. This locus is 240-ft directly south of a currently occupied residence.

Feature 2 consists of a concrete and stucco retaining wall with sheet metal siding. The wall exterior has been painted purple with mosaic tile signage. Three stairs and small concrete ramp are located on the western end of feature. This feature has been used for target practice.

Concentration 1, located east of Feature 2, consists of a refuse scatter containing chicken wire, barbed wire, metal pipes, sheet metal scraps, juniper posts, and miscellaneous construction materials.

Concentration 2, west of Feature 2, also consists of a refuse scatter including corrugated metal, metal posts, braided metal wire, chicken wire, and milled wood scraps. Five standing metal posts are found within this concentration. Modern trash was also seen in the area.

This site was presumably used as a hunting camp with minimal structural modification. Refuse, primarily consisting of construction debris, is present but of mixed age, and the site lacks research potential.

Historic Trash UPDATE

The site labeled Historic Trash was re-identified and updated on November 19, 2015. The site is located in a wash between two north-south trending mounds within the eastern foothills of the San Emigdio Mountains. The site measures 65-ft north-south x 37-ft east-west, and is at an elevation of approximately 4,220-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

The site was originally recorded by the OHMVR Division at an unknown date, without site record or description, and a GPS point was used to locate the site. It consists of a refuse scatter within a

5 x 5-m area. It is situated in a wash just south of the intersection of Stipa Trail and Badger Trail. Associated refuse includes barbed wire, a water hose segment, wooden pallets, milled wood scraps, and a large wooden beam.

The site has been affected by natural erosion. Sheetwash covers approximately 75 percent of the site with minimal deposition. In general, the site is in poor condition. None of the items present is temporally diagnostic, however, and this resource does not appear to be historic in age.

P-19-189938 UPDATE

This resource, a residential structure, was originally recorded by the OHMVR Division (A. Perez et al.) in 2011. The structure consists of a vernacular California ranch house that is stripped-down Spanish Colonial Revival in style, and has an estimated construction date of 1933. James L. Ralphs, the credited "Founder of Gorman," is associated with this property, although his period of association (1945-1992) occurred 14 years after construction of the home. Alterations made to the house (doors, windows, surface coating) have resulted in a loss of historic integrity. During the current study, the structure remains virtually unchanged. Due to current occupancy, an investigation of the structure interior was not undertaken. The resource is in good condition and is in use as a park operational facility. Vegetation in the area moderately dense and typical of a Mixed-Chaparral zone with, juniper, pinyon, scrub oak, ephedra, wildflowers, and seasonal grasses. The site soil matrix is composed of light brown sandy silt with dispersed granite, quartzite, and quartz rocks.

P-19-189939 UPDATE

This resource was originally recorded by the OHMVR Division (A. Perez et al.) in 2011. The property was reported to consist of a postwar vernacular California ranch house with Spanish Colonial Revival influences. Built in 1948, the ranch house currently serves as an operations building for the Hungry Valley SVRA. An NRHP evaluation of the ranch house was undertaken by the DPR (A. D. Bevil) in January 2012. The evaluation concluded that the property does not meet the criteria for placement in either the California or National Register. During the current study, the property was revisited and remains virtually unchanged. The resource is in good condition and is in use as a park operational facility. Vegetation in the area moderately dense and typical of a Mixed-Chaparral zone with, juniper, pinyon, scrub oak, wildflowers, seasonal grasses. Non-native trees have been planted on the property. The site soil matrix is composed of light brown sandy silt with dispersed granite, quartzite, and quartz rocks.

Mesa Trail Site (P-15-0002761) UPDATE

The DPR files included a GPS point and label but no site record for this resource. The nature of this resource and when it was recorded are therefore unknown. The GPS location and surrounding area was carefully examined. No cultural resources of any kind could be identified. This resource is assumed to no longer exist or to have been mis-mapped.

5.2.3 Previously Recorded Multicomponent Resource Updates

42B UPDATE

Site 42B, part of the James Wilson homestead, was re-identified and updated on December 1, 2015. The site is situated at the base of a low east-west trending hill and on a southeast facing alluvial plain within the eastern foothills of the San Emigdio Mountains. The site measures 213-ft east-west by 168-ft east-west, and is at an elevation of approximately 4,120-ft amsl. Vegetation on site is moderately dense and typical of a Mixed-Chaparral Vegetation Zone with yucca, coastal sage, and annual grasses present. The site soil matrix is composed of light brown alluvium with dispersed granite, quartzite, and quartz rocks.

This resource was originally recorded by the DPR (J. Baldwin) in 1978. The site was reported to consist of a rectangular dugout placed into the side of a hill with an earthen terrace/pad extending from the mouth of dugout. The structure was once part of the James Wilson homestead, which was filed in the 1920s. ASM updated the resource to a multicomponent site. The site consists of a stone-lined platform (Feature 1), with a scatter of metal cans, amethyst glass, milled wood, a metal crate, and three CCS flakes located on the ridge that abuts Feature 1 to the north. All other features mentioned in 1978 no longer exist.

Feature 1 is a stone-lined platform that measures approximately 15-ft north-south by 20-ft east-west and situated at the base of a small hill. The southern boundary of the feature is lined with a single course of locally available granite cobbles. A small concentration of approximately 15 granitic cobbles is also found at the center of Feature 1.

The site has been impacted by erosion and cultural activities. Approximately 45 percent of the site shows evidence of a moderate sheetwash deposition. Additionally, a modern fence runs along the entire southern boundary of the site. In general, the site is in poor condition. The originally recorded historic component lacks integrity and research potential. The prehistoric component, a small and sparse lithic scatter, likewise lacks research potential.

CA-VEN-586/H UPDATE

CA-VEN-586 is a multi-component site, with prehistoric (Native American) and historic (Euro-American) resources. It was re-identified and updated on November 12, 2015. The site is situated on a large, flat south facing open terrace NE of a steep drainage (Maxey Canyon) within the eastern foothills of the San Emigdio Mountains. The site measures 264-m north-south by 155-m east-west, and is at an elevation of approximately 4,160-ft amsl. Vegetation on site is moderately dense, and typical of a Mixed-Chaparral Vegetation Zone with dispersed sage, scrub oak, yucca, juniper, and seasonal grasses supported by light brown sandy silt.

This resource was originally recorded by the DPR (J. Baldwin) in 1978. The site was revisited in 2002 by the OHMVR Division (L. Steidl et al.) and was reported to consist of a lithic scatter, a milling stone scatter, and a historical component associated with twentieth century ranching. A projectile point base resembling an Elko Eared atlatl dart was identified on site during the 2002

visit. This point types dates to the Middle Horizon in this region, or approximately from 4000 to 1500 YBP (Justice 2002).

During the current 2015 study, an abandoned structure (Feature 1), three bifacial granitic mano fragments (Artifacts 1, 5, and 7), a CCS projectile point (Artifact 2), a fused shale tool fragment (Artifact 3), and a coverall button (Artifact 4) were identified. A lithic scatter composed of one tertiary fine grained volcanic, two tertiary fused shale, three obsidian, and 75+ CCS flakes was also identified. A midden locus mentioned in the original record was relocated but it may be non-cultural as it lacked associated artifacts and fire-affected rock. The previously identified Elko point could not be relocated.

Feature 1 consists of a dilapidated wooden and sheet metal structure. This measures 18-ft east west by 20-ft north-south. It originally was board and batten construction but some of the walls were replaced at some point by corrugated tin. The roof was originally tar paper but is now entirely missing. The foundation for the structure is a single alignment of field stones. Wire nails were used for the construction, and the structure had a plank floor, now very deteriorated. Miscellaneous bottle and window glass fragments litter the area around the structure, with a lower density of historical refuse inter-mixed with contemporary trash.

Artifact 1 is an unshaped but bifacially worn granite mano fragment that measures 9.5 x 6 x 4.5-cm.

Artifact 2 is a CCS projectile point that measures 2.4 x 1.7 x 0.5-cm. It is short and squat in plan with a flat base. It appears to have been re-worked along at least one edge. It is a Vandenberg contracting stem atlatl point (Justice 2002:247), generally dating in this region to the Middle Horizon, from approximately 4000 to 1500 YBP (Figure 21).

Artifact 3 is a fused shale proximal biface fragment with basal grinding along the notch. The fragment measures 1.6 x 0.5 x 0.6-cm.

Artifact 4 is a metal coverall button. It is embossed with “The” in script over “Boss” in script over “UNION MADE”. This was made and used for work clothes manufactured by the Cohn, Goldwater and Company, Los Angeles, from 1930 – 1941 (Psota 2002), providing a general date for the historical component of the site.

Artifact 5 is a granitic cobble mano fragment, unshaped but unifacially worn, that measures 7 x 6.5 x 5.5-cm.

Artifact 6 is a white, flat slab granite metate that measures 46 x 43 x 13-cm.

Artifact 7 was originally identified as a pestle fragment but, upon closer inspection, it was determined to be a bifacially ground but unshaped granitic mano fragment. It measures 8 x 6.5 x 5.5-cm.



Figure 21. Artifact 2; Plan view of Vandenberg contracting stem point (~4000 to 1500 YBP; Justice 2002:247) recorded at site CA-VEN-586/H.

The site has been impacted by both natural erosion and cultural activities. Approximately 50 percent of the site displays a thin layer of sheetwash deposition. A heavily used OHV route (Tataviam Trail) is within close proximity to the east, which may have resulted in illicit artifact collecting. Modern dumping was seen on site and includes modern glass. Shell casings and multiple bullet holes around Feature 1 suggest repeated disturbance. In general, the site is in poor condition due to cultural disturbance.

Feature 1-most likely served as a line-shack for cattle grazing, used (very approximately) during the 1930s. It may also have been (or subsequently served) as a hunting cabin but, in either case, the historical component lacks integrity, partly due to collapse but also as a result of continued recreational use and the mixed-age surface artifact scatter that this has created. The prehistoric component has been disturbed by historical activities but appears to retain research potential. It appears to represent a Middle Horizon camp, based on the age of the projectile point and the variety of artifactual remains present.

CA-VEN-1658 UPDATE

CA-VEN-1658 was re-identified and updated on November 13, 2015. The site is located on a southeast facing alluvial fan within the eastern foothills of the San Emigdio Mountains. The site measures 462-ft east-west by 255-ft north-south, and is at an elevation of approximately 4,260-ft amsl. Vegetation on site is moderately dense, and typical of a Desert-Chaparral Vegetation Zone with dispersed sage, scrub oak, wild flowers, and annual grasses supported by light brown sandy silt.

This resource was last recorded by the OHMVR Division (L. Steidl et al.) in 2003 as a multicomponent site. The site was reported to consist of six historic and one prehistoric feature. During the current 2015 study, the site was found to be virtually unchanged. Features on site include three domestic refuse dumps (Features 1-3), a graded pad or terrace (Feature 4), an abandoned mine shaft (Feature 5), a prehistoric roasting oven (Feature 6), and a milled wood concentration (Feature 7). The majority of the site is situated on the gentle slopes of a southeast facing alluvial fan. A poorly maintained dirt road traverses the site.

Feature 1 is an historic-era refuse dump that measures approximately 82-ft (north-south) x 33-ft (east-west). Associated refuse includes ceramic fragments, clothing, assorted food cans, milled wood scraps, corrugated sheet metal, fuel cans, miscellaneous glass fragments, and one shell casing embossed on one end with "REM-UMC 1906". This was manufactured by the Remington – Union Metallic Cartridge Company in the early twentieth century. This feature is situated within a small and shallow depression.

Feature 2 is a sparse refuse scatter, similar to Feature 1. Associated refuse includes miscellaneous glass fragments, a tobacco tin, vehicle parts, porcelain ware, and assorted cans. Cans within this feature include evaporated milk cans that measure 4 $^{3}/_{8}$-in x 2 $^{15}/_{16}$-in, suggesting that the cans were manufactured between the years 1915-1930.

Feature 3 consists of a domestic refuse dump with a possible privy. Associated refuse includes milled wood scraps, corrugated sheet metal, assorted cans, fuel containers, a galvanized bucket, and miscellaneous glass fragments. Also recorded in this feature were car parts possibly related to the Ford Model A, which was manufactured between 1927 and 1931. These include the rear body fender, a lowered ragtop, and a folding engine hood.

Feature 4 is a graded pad or terrace that measures 33 x 23-ft and is situated on a moderate slope. No artifacts were observed on or near this feature.

Feature 5 is an abandoned mineshaft situated at the end of the dirt road that traverses the site. The feature has been completely backfilled and no cultural material was otherwise observed on or near this feature.

Feature 6 is a prehistoric roasting oven that measures approximately 11-m in diameter. This feature is situated on a gentle, southeast facing slope that spills into the northwest-southeast trending runoff drainage.

Feature 7 consists of a milled wood scrap concentration within a 5 x 5-m area. Approximately 25 pieces of wood were seen in this concentration.

The site has been affected by natural erosion. A light sheetwash deposit covers approximately 85 percent of the site. Due to the site's location away from recreational trails, cultural impacts have been kept at minimum. In general, the site is in fair condition. The historic component appears to the Depression era and it contains intact refuse concentrations that may have research potential. Likewise, the prehistoric roasting pit has research potential.

6.0 SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

6.1 SUMMARY OF RESULTS

Cultural resource studies in support of future planning efforts were completed by ASM Affiliates, Inc., for the 2015 SVRA Addition and the Hungry Valley SVRA study area, which is a unit of the DPR OHMVR division. These studies included background research on the ethnography, prehistory and history of the local region and study area; an intensive Phase I survey of the 2015 SVRA Addition component; and a field review and assessment of previously recorded cultural resources within the SVRA component.

Relocated sites, tabulated in terms of their functional components, are presented in Tables 6 – 9. Based on a CHRIS records search, the approximately 845-ac 2015 SVRA Addition had six known and previously recorded archaeological sites, one of which was surface collected in 2003 and no longer exists, while a second could not be relocated in 2003 or during the current study and is assumed destroyed. The remaining four previously recorded sites include two prehistoric lithic scatters, one historical site and one multicomponent site. Seven newly identified archaeological sites were recorded in the 2015 SVRA Addition area. These include two prehistoric lithic scatters, a bedrock milling site and a prehistoric camp dating to the Late Horizon (based on a surface projectile point). Three historical resources were also identified and recorded. New and previously recorded historical resources included three refuse dumps and two demolished structures. In addition, two isolated artifacts had been recorded but could not be relocated within the 2015 SVRA Addition, while two newly identified isolated artifacts were located and recorded.

A total of 137 resources had been previously recorded within the Hungry Valley SVRA. These included 112 sites, structures or structure complexes (e.g., ranches) and 25 isolates and isolated features. In addition, 31 GPS points, without associated site records, had been recorded with no or minimal labeling that were assumed to represent cultural resources (see Table 5). Only three of these could be relocated, two of which proved to be extant archaeological sites.

A total of 67 (59%) of the sites and structures could be relocated. The sites that could not be relocated are assumed to have been destroyed although, in some cases, it is possible that the resources were originally mis-mapped beyond our 300-m search radius. (Some of the 31 GPS points may have been isolated artifacts rather than sites.) Thirty-six (53%) of the relocated SVRA sites were prehistoric; 28 (42%) are historic; and three (5%) are multicomponent in age, containing both prehistoric and historical remains.

Twenty (56%) of the 36 prehistoric sites consist of or contain roasting pits (presumably agave ovens), 11 (31%) are campsites (some of which contain roasting pits), 14 (39%) are exclusively lithic scatters/workshops and 2 (6%) are exclusively plant processing stations. Three of the campsites appear to date to the Middle Horizon, roughly from 4000 to 1500 YBP, and two are Late Horizon in age, post-dating 800YBP, based on surface projectile points recorded. Six of the campsites could not be dated based on available surface evidence.

The remaining 28 (42%) of the relocated SVRA sites are historical/Euro-American in age and origin. They include remnants of cabins, homestead structures and houses, standing ranch houses, miscellaneous historical remains (primarily water conveyance systems), refuse dumps, and other kinds of ranch facilities. Many of these historic sites combine these different functional elements.

Table 6. 2015 SVRA Addition Prehistoric Sites (Includes Isolates)

	Site Components			
Site Number	Lithic Scatter	Roasting Oven	Milling	Midden
HV-ISO-1			+	
HV-ISO-2			+	
HV-NA-1	+			
HV-NA-3	+			
HV-NA-4			+	
HV-NA-5	+			
P-15-010300	+			
P-15-010301	+			
Totals	**5**	**0**	**3**	**0**

Table 7. 2015 SVRA Addition Historic Sites

	Site Components				
Site Number	Homestead/Ranch	Trash Scatter	Irrigation/Well	Mining	Other
HV-NA-2	+				
HV-NA-6		+			
HV-NA-7		+		+	
P-15-010849		+			
P-15-010850	+	+			
Totals	**2**	**4**	**0**	**1**	**0**

Table 8. SVRA Prehistoric Sites

	Site Components			
Site Number	Lithic Scatter	Roasting Oven	Milling	Midden
42B	+			
CA-LAN-904	+			
CA-LAN-905		+		
CA-LAN-907	+		+	
CA-LAN-908	+	+		
CA-LAN-909		+		
CA-LAN-911		+		
CA-LAN-912		+		
CA-LAN-914	+	+		
CA-LAN-915	+			
CA-LAN-917		+		
CA-LAN-920		+		
CA-LAN-923	+			
CA-LAN-924	+			
CA-LAN-925			+	
CA-LAN-926	+	+		
CA-LAN-933		+		
CA-LAN-934		+		
CA-LAN-935	+	+		

	Site Components			
Site Number	**Lithic Scatter**	**Roasting Oven**	**Milling**	**Midden**
CA-LAN-941		+		
CA-LAN-943	+		+	
CA-LAN-945	+			
CA-VEN-567		+		
CA-VEN-568		+		
CA-VEN-569		+		
CA-VEN-579	+	+		+
CA-VEN-580			+	
CA-VEN-582	+			
CA-VEN-583/584	+	+		
CA-VEN-585		+		
CA-VEN-586/H	+		+	
CA-VEN-588	+			
CA-VEN-590	+			
CA-VEN-591	+			
CA-VEN-592	+			
CA-VEN-593		+		
CA-VEN-1658		+		
CA-VEN-1660	+		+	
CA-VEN-1662	+			
CA-VEN-1663	+			
CA-VEN-1664	+			
Totals	**23**	**21**	**6**	**1**

Table 9. SVRA Historic Sites

	Site Components				
Site Number	**Homestead/Ranch**	**Trash Scatter**	**Irrigation/Well**	**Mining**	**Other**
8A	+				
20A					+
30C			+		
31A	+	+			
42A		+			
42B	+	+			
54C			+		
68A	+	+			
75A			+		
75B			+		
79A	+	+			
85A		+			
102F		+			
107C		+			
112A		+			
126A		+			
130C	+	+			
632013A			+		
632013B			+		
642013A		+			
642013D	+	+			
CA-LAN-2335H	+	+	+		
CA-LAN-2568H	+	+	+		
CA-LAN-3379			+		
CA-LAN-4280H		+			
CA-LAN-4281H		+			
CA-VEN-586	+				
CA-LAN-1658				+	

	Site Components				
Site Number	**Homestead/Ranch**	**Trash Scatter**	**Irrigation/Well**	**Mining**	**Other**
Historic Trash		+			
Mason Camp		+			+
Phil's Hunting Camp		+			
Totals	**10**	**20**	**9**	**1**	**2**

6.2 MANAGEMENT CONCERNS

6.2.1 Archaeological Site Condition Assessments

The field studies addressed two management issues: the condition of the archaeological sites and their potential eligibility to the CRHR. Archaeological site condition assessments were qualitative in nature but were undertaken using a standardized series of questions and estimates on a site record continuation sheet (Table 10). This included information on the landform context of each site; the nature and approximate areal percent of cultural impacts; and equivalent information on natural impacts. Note that natural impacts are ongoing, generally unavoidable and not necessarily all adverse. For example, sheetwash occurs on most sites that are on a slope or positioned downslope from a soil source. Depending upon position on or below a slope, sheetwash may either serve to bury and therefore preserve a site, or erode it away.

More important from the management perspective are the human caused (cultural) impacts because (in theory at least) these potentially may be controlled through management practices. Again, however, a caveat is in order. As noted in the Summary of Results, a significant number of previously recorded sites could not be relocated and, with only a few exceptions, it is not clear why these resources could not be found. The inability to relocate these sites may be due to destruction by natural causes, or by human activities, or because the sites were originally mis-mapped.

With these cautions in mind, Tables 11 – 13 provide our condition assessments for the 2015 SVRA Addition, newly recorded sites; the 2015 SVRA Addition, previously recorded sites; and SVRA sites, respectively. Note that our condition assessments included only archaeological sites, and not historical structures or isolates.

All of the newly recorded resources in the 2015 SVRA Addition (Table 9) were in good or fair condition. All previously recorded sites (Table 10), in contrast, either could not be relocated or are in poor condition. Two points are important in this respect. First, three of four of the previously recorded prehistoric sites had been all or partly surface collected in 2004, accounting for their current condition. A fourth prehistoric site had been destroyed between the period of its original recording in 2001 and the 2004 site update. These circumstances are unique to these sites, in this location.

Table 10. Example of condition assessment from HV-NA-2.

Site Condition Assessment

Landform: ■ Open valley bottom; ☐ Drainage/stream bottom;

☐ Drainage/stream terrace; ■ Slope (0 - 5 %); ☐ Ridge/hill top;

☐ Ridge/hill brow; ☐ Toe Slope/Swale; ☐ Shelter/cave;

■ Other (Describe): Site is located in a narrow, gradually sloped, NE-SE trending wash that overlooks Castac Valley to the east.

Human Caused Impacts: ☐ Road; ☐ Trail; ☐ Grading/excavation; ☐ Structures; ■ None

Vandalism: ☐ Dumping; ☐ Graffiti on rocks; ■ None

■ Other (Describe): Although outside of the site boundary, a two track road is located 137 ft. north of the site datum. This road is likely historic and associated with the original site.

Percentage of site with human caused impacts: 0%

Natural Impacts: Erosion: ■ Sheetwash/Rilling; ☐ Gullying; ☐ None

Total approx. percentage of impacted area: ~30%

■ Deposition: Approx. thickness of deposition: <1 – 2 cm in areas affected by erosion

☐ Other (Describe):

General Notes:

The site has been impacted by erosion. Approximately 30 percent of the site shows evidence of a light sheet-wash deposit. Due to its sloped position, it has been exposed to continued run-off from an east facing alluvial plain located southwest of the site. In general, the site is in fair condition.

The 2015 SVRA Addition historical sites are all in poor condition, mirroring a circumstance that tends to hold for the study area as a whole: on average, historical sites tend to be in poor condition, or at least more so than the prehistoric resources. There are likely a couple of reasons for this pattern. Historical sites and artifacts are more readily visible than surface prehistoric artifacts and historical artifacts are therefore more likely to be collected or structures destroyed by activities such as target shooting. Periodic clean-up in the form of grading and grubbing also has occurred. Though clean-up was probably intended to remove trash that could constitute an attractive nuisance, it also served to eliminate historical resources.

The circumstance is more complex for Hungry Valley SVRA (Table 11). Forty-five (40%) of the previously recorded resources could not be relocated and are either destroyed or were originally mis-mapped. In contrast, 33 (~49%) of the relocated sites are in good condition, 6 (9%) are fair, and 29 (43%) are poor. Although this suggests a high damage and attrition rate, only about 8 (12%) of the extant sites are estimated to have $\geq$ 10% damage due to cultural (human-caused) factors.

As observed above, historical sites disproportionally to prehistoric sites could not be relocated or are in poor condition. Much of this circumstance appears to have resulted from the intentional cleanup of historical debris and structures, in part resulting from the fact that the historic sites tend to be in accessible areas that are currently the focus of regular use. Perhaps more importantly, while there are examples of roads or trails that cross or abut prehistoric site boundaries and are therefore causing damage, this is generally uncommon. Although we cannot address the circumstances in the SVRA open areas that lack recorded sites, with only a few exceptions ongoing OHV activities do not appear to be adversely impacting the prehistoric sites that we examined to any significant degree.

Table 11. Conditions of the 2015 SVRA Addition Newly Recorded Sites

Site Name:	Cultural Impact:	Natural Impact:	Factors:	Site Condition:
HV-NA-1	0%	~60%	Erosion	Good
HV-NA-2	0%	~30%	Erosion	Good
HV-NA-3	~10%	0%	Disturbance	Fair
HV-NA-4	~20%	0%	Erosion	Good
HV-NA-5	0%	0%	None	Good
HV-NA-6	0%	~50%	Erosion	Good
HV-NA-7	0%	0%	None	Fair

Table 12. Conditions of the 2015 SVRA Addition Previously Recorded Sites

Site Name:	Cultural Impact:	Natural Impact:	Factors:	Site Condition:	Remarks:
P-15-002774					Not Relocated
P-15-002775					Not Relocated
P-15-005433					Not Relocated
P-15-005434					Not Relocated
P-15-010300	~20%	0%	Grading	Poor	
P-15-010301	~75%	~10%	Grading, Erosion	Poor	
P-15-010849	~15%	0%	Road, Dumping	Poor	
P-15-010850	~15%	~30%	Road, Grading	Poor	

Table 13. Conditions of SVRA Archaeological Sites

Site Name:	Type:	Cultural Impact:	Natural Impact:	Factors:	Site Condition:	Remarks:
3A	Historic					Not Relocated
3B	Historic					Not Relocated
8A	Historic	0%	~80%	Erosion	Poor	
15A	Historic					Not Relocated
20A	Historic	0%	~75%	Erosion	Poor	

Site Name:	Type:	Cultural Impact:	Natural Impact:	Factors:	Site Condition:	Remarks:
21A	Historic					Not Relocated
21B	Historic					Not Relocated
21C	Historic					Not Relocated
30C	Historic	0%	~90%	Erosion	Poor	
31A	Historic	~10%	~85%	Road, Erosion	Poor	
31B	Historic					Not Relocated
32A	Historic					Not Relocated
42A	Historic	~15%	~55%	Road, Erosion	Poor	
42B	Multicomponent	0%	~45%	Erosion	Poor	
54C	Historic	<1%	~80%	Dumping, Erosion	Poor	
59A	Historic					Not Relocated
68A	Historic	<1%	~80%	Dumping, Erosion	Poor	
72A	Historic					Not Relocated
73A	Historic					Not Relocated
75A	Historic	~80%	~10%	Dumping, Trails, Erosion	Poor	
75B	Historic	~50%	~10%	Trails, Erosion	Poor	
79A	Historic	<5%	~80%	Dumping, Erosion	Poor	
83A	Historic					Not Relocated
85A	Historic	0%	~80%	Erosion	Poor	
95A	Historic					Not Relocated
102F	Historic	0%	~80%	Erosion	Poor	
107C	Historic	0%	~40%	Erosion	Poor	
112A	Historic	<5%	~30%	Dumping, Erosion	Poor	
126A	Historic	<1%	~70%	Dumping, Erosion	Poor	
126B	Historic					Not Relocated
130C	Historic	0%	~40%	Erosion	Poor	
632013A	Historic	0%	~95%	Erosion	Poor	
632013B	Historic	0%	~75%	Erosion	Good	
642013A	Historic	<5%	~75%	Fence, Erosion	Poor	
642013D	Historic	0%	~80%	Erosion	Poor	
CA-LAN-903	Prehistoric					Not Relocated
CA-LAN-904	Prehistoric	<5%	~90%	Fence, Erosion	Fair	
CA-LAN-905	Prehistoric	0%	~60%	Erosion	Good	
CA-LAN-906	Prehistoric					Not Relocated
CA-LAN-907	Prehistoric	0%	~80%	Erosion	Good	
CA-LAN-908	Prehistoric	<1%	~70%	Dumping, Erosion	Good	
CA-LAN-909	Prehistoric	0%	~20%	Erosion	Good	
CA-LAN-910	Prehistoric					Not Relocated

Site Name:	Type:	Cultural Impact:	Natural Impact:	Factors:	Site Condition:	Remarks:
CA-LAN-911	Prehistoric	~10%	~50%	Fire, Erosion	Fair	
CA-LAN-912	Prehistoric	0%	~70%	Erosion	Good	
CA-LAN-913	Prehistoric					Not Relocated
CA-LAN-914	Prehistoric	0%	<5%	Erosion	Good	
CA-LAN-915	Prehistoric	0%	~40%	Erosion	Good	
CA-LAN-916	Prehistoric					Not Relocated
CA-LAN-917	Prehistoric	0%	~80%	Erosion	Good	
CA-LAN-918	Prehistoric					Not Relocated
CA-LAN-919	Prehistoric					Not Relocated
CA-LAN-920	Prehistoric	0%	~20%	Erosion	Good	
CA-LAN-921	Prehistoric					Not Relocated
CA-LAN-922	Prehistoric					Not Relocated
CA-LAN-923	Prehistoric	0%	~15%	Erosion	Good	
CA-LAN-924	Prehistoric	0%	~70%	Erosion	Good	
CA-LAN-925	Prehistoric	0%	0%	None	Good	
CA-LAN-926	Prehistoric	~10%	~40%	Structure, Road, Erosion	Fair	
CA-LAN-927	Prehistoric					Not Relocated
CA-LAN-928	Prehistoric					Not Relocated
CA-LAN-929	Prehistoric					Not Relocated
CA-LAN-930	Prehistoric					Not Relocated
CA-LAN-931	Prehistoric					Not Relocated
CA-LAN-932	Prehistoric					Not Relocated
CA-LAN-933	Prehistoric	0%	~30%	Erosion	Good	
CA-LAN-934	Prehistoric	0%	~80%	Erosion	Poor	
CA-LAN-935	Prehistoric	0%	~80%	Erosion	Good	
CA-LAN-936	Prehistoric					Not Relocated
CA-LAN-937	Prehistoric					Not Relocated
CA-LAN-938	Prehistoric					Not Relocated
CA-LAN-939	Prehistoric					Not Relocated
CA-LAN-940	Prehistoric					Not Relocated
CA-LAN-941	Prehistoric	0%	~75%	Erosion	Good	
CA-LAN-942	Prehistoric					Not Relocated
CA-LAN-943	Prehistoric	0%	~50%	Erosion	Good	
CA-LAN-944	Prehistoric					Not Relocated
CA-LAN-945	Prehistoric	<1%	~60%	Dumping, Erosion	Good	
CA-LAN-946	Prehistoric					Not Relocated
CA-LAN-2335H	Historic	~30%	~70%	Road, Dumping, Erosion	Poor	

Site Name:	Type:	Cultural Impact:	Natural Impact:	Factors:	Site Condition:	Remarks:
CA-LAN-2568H	Historic	~30%	~70%	Road, Trails, Dumping, Erosion	Poor	
CA-LAN-3379	Historic	<1%	~10%	Erosion	Poor	
CA-LAN-4280H	Historic	<5%	~60%	Dumping, Erosion	Poor	
CA-LAN-4281H	Historic	0%	~40%	Erosion	Poor	
CA-VEN-567	Prehistoric	0%	~80%	Erosion	Good	
CA-VEN-568	Prehistoric	0%	~50%	Erosion	Good	
CA-VEN-569	Prehistoric	0%	~80%	Erosion	Good	
CA-VEN-579	Prehistoric	0%	~50%	Erosion	Good	
CA-VEN-580	Prehistoric	<5%	0%	Road	Good	
CA-VEN-581	Prehistoric					Not Relocated
CA-VEN-582	Prehistoric	0%	~70%	Erosion	Good	
CA-VEN-583/584	Prehistoric	0%	~70%	Erosion	Good	
CA-VEN-585	Prehistoric	0%	~70%	Erosion	Good	
CA-VEN-586	Multicomponent	<5%	~50%	Dumping, Erosion	Poor	
CA-VEN-587	Prehistoric					Not Relocated
CA-VEN-588	Prehistoric	<5%	~40%	Trail, Erosion	Good	
CA-VEN-589	Prehistoric					Not Relocated
CA-VEN-590	Prehistoric	<1%	~75%	Dumping, Erosion	Fair	
CA-VEN-591	Prehistoric	0%	~75%	Erosion	Good	
CA-VEN-592	Prehistoric	~50%	~10%	Grading, Erosion	Poor	
CA-VEN-593	Prehistoric	0%	~80%	Erosion	Poor	
CA-VEN-1658	Multicomponent	0%	~85%	Erosion	Fair	
CA-VEN-1659	Prehistoric					Not Relocated
CA-VEN-1660	Prehistoric	<1%	~90%	Dumping, Erosion	Good	
CA-VEN-1661	Prehistoric					Not Relocated
CA-VEN-1662	Prehistoric	0%	~30%	Erosion	Good	
CA-VEN-1663	Prehistoric	0%	~30%	Erosion	Good	
CA-VEN-1664	Prehistoric	0%	~15%	Erosion	Good	
Historic Trash	Historic	0%	~75%	Erosion	Poor	
Mason Camp	Historic	<5%	~85%	Dumping, Erosion	Poor	
Phil's Hunting Camp	Historic	0%	~75%	Erosion	Fair	

6.2.2 CRHR Recommendations

Preliminary CRHR eligibility recommendations for all sites within the 2015 SVRA Addition and SVRA study area are provided in Table 14. Our site descriptions (above) and this table outline our rationale for these determinations but some general points about the process that we used to reach these recommendations are worth noting. Isolated artifacts (see Table 4) are categorically not CRHR eligible, and are not included in this table (unless they had been originally recorded as sites

rather than isolates). All sites that could not be relocated are recommended as Not Eligible, for straightforward reasons. Our evaluative emphasis in developing the recommendations for the other resources reflected the fact that, with just a couple of exceptions, all of these resources are archaeological sites rather than standing structures with potential architectural historical values. (The exceptions already have completed formal eligibility evaluations.) Research potential and value (CRHR Criterion 4) was for that reason the primary metric upon which we evaluated the sites. In keeping with this emphasis (and OHP guidelines), sparse lithic scatters were recommended as potentially not eligible, whereas any site with even a partially intact roasting pit/agave oven was recommended as potentially eligible: these remains can be radiometrically-dated, providing information about the chronology of local environmental adaptation and subsistence practices. In addition, they may contain paleoethnobotanical information providing additional subsistence information.

Table 14. CRHR Recommendations

Site	CRHR Recommendation	Comments
2015 SVRA Addition		
HV-NA-1	Potentially Eligible	Lithic Scatter
HV-NA-2	Potentially Not Eligible	Mixed age refuse dump without context
HV-NA-3	Potentially Eligible	Lithic Scatter
HV-NA-4	Potentially Eligible	Bedrock milling site
HV-NA-5	Potentially Eligible	Prehistoric Campsite, Late Horizon
HV-NA-6	Potentially Not Eligible	Historical/recent refuse dump, mixed age without context
HV-NA-7	Potentially Not Eligible	Trench and historic debris, lacks research potential
CA-VEN-977/KER-2774	Not Eligible	Not relocated, assumed destroyed
CA-VEN-978/KER-2775	Not Eligible	Not relocated, assumed destroyed
CA-KER-6059	Potentially Not Eligible	Sparse lithic scatter
CA-KER-6308	Potentially Not Eligible	Sparse lithic scatter
P-15-010849	Potentially Not Eligible	Demolished historical residence, no research potential
P-15-010850	Potentially Not Eligible	Demolished historical facility, no research potential
SVRA		
CA-VEN-567	Potentially Eligible	Roasting pit
CA-VEN-568	Potentially Eligible	Roasting pit
CA-VEN-569	Potentially Eligible	Roasting pit
CA-VEN-579	Potentially Eligible	Campsite
CA-VEN-580	Potentially Eligible	BRM station
CA-VEN 581	Not Eligible	Not relocated, assumed destroyed
CA-VEN-582	Potentially Eligible	Campsite
CA-VEN-583	Potentially Eligible	Plant processing station/roasting pit
CA-VEN-585	Potentially Eligible	Roasting pit

Site	CRHR Recommendation	Comments
CA-VEN-586/H	Potentially Eligible	Middle Horizon campsite with research potential; historical ranching (lacks integrity)
CA-VEN-587	Not Eligible	Not relocated, assumed destroyed
CA-VEN-588	Potentially Eligible	Extensive lithic scatter
CA-VEN-589	Not Eligible	Not relocated, assumed destroyed
CA-VEN-590	Potentially Not Eligible	Sparse lithic scatter
CA-VEN-591	Potentially Eligible	Lithic scatter with fire-affected rock
CA-VEN-592	Potentially Not Eligible	Lacks integrity and research potential
CA-VEN-593	Potentially Eligible	Roasting pit
CA-VEN-1659	Not Eligible	Not relocated, assumed destroyed
CA-VEN-1660	Potentially Eligible	BRM and roasting oven station
CA-VEN-1661	Not Eligible	Not relocated, assumed destroyed
CA-VEN-1662	Potentially Eligible	Middle Horizon camp
CA-VEN-1663	Potentially Not Eligible	Sparse lithic scatter, no research potential
CA-VEN-1664	Potentially Not Eligible	Sparse lithic scatter, no research potential
CA-LAN-903	Not Eligible	Not relocated, assumed destroyed
CA-LAN-904	Potentially Not Eligible	Sparse lithic scatter
CA-LAN-905	Potentially Eligible	Roasting pit
CA-LAN-906	Not Eligible	Not relocated, assumed destroyed
CA-LAN-907	Potentially Eligible	Plant processing station
CA-LAN-908	Potentially Eligible	Roasting pit and lithic scatter
CA-LAN-909	Potentially Eligible	Roasting pit
CA-LAN-910	Potentially Not Eligible	Not relocated, assumed destroyed
CA-LAN-911	Potentially Eligible	Roasting pit
CA-LAN-912	Potentially Eligible	Roasting pit
CA-LAN-913	Not Eligible	Not relocated, assumed destroyed
CA-LAN-914	Potentially Eligible	Roasting pit and artifacts
CA-LAN-915	Potentially Eligible	Temporary camp
CA-LAN-916	Not Eligible	Not relocated, assumed destroyed
CA-LAN-917	Potentially Eligible	Roasting pit
CA-LAN-918	Not Eligible	Not relocated, assumed destroyed
CA-LAN-919	Not Eligible	Not relocated, assumed destroyed
CA-LAN-920	Potentially Eligible	Roasting pit
CA-LAN-921	Not Eligible	Not relocated, assumed destroyed
CA-LAN-922	Not Eligible	Not relocated, assumed destroyed
CA-LAN-923	Potentially Eligible	Temporary camp
CA-LAN-924	Potentially Eligible	Plant processing station
CA-LAN-925	Potentially Eligible	BRM station
CA-LAN-926	Potentially Eligible	Temporary camp
CA-LAN-928	Not Eligible	Not relocated, assumed destroyed
CA-LAN-930	Not Eligible	Not relocated, assumed destroyed

Site	CRHR Recommendation	Comments
CA-LAN-931	Not Eligible	Not relocated, assumed destroyed
CA-LAN-932	Not Eligible	Not relocated, assumed destroyed
CA-LAN-933	Potentially Eligible	Roasting pit
CA-LAN-934	Potentially Eligible	Roasting pit
CA-LAN-935	Potentially Eligible	Roasting pit and lithic scatter
CA-LAN-936	Not Eligible	Not relocated, assumed destroyed
CA-LAN-937	Not Eligible	Not relocated, assumed destroyed
CA-LAN-938	Not Eligible	Not relocated, assumed destroyed
CA-LAN-939	Not Eligible	Not relocated, assumed destroyed
CA-LAN-940	Not Eligible	Not relocated, assumed destroyed
CA-LAN-941	Potentially Eligible	Roasting pit
CA-LAN-942	Not Eligible	Not relocated, assumed destroyed
CA-LAN-943	Potentially Eligible	Campsite
CA-LAN-944	Not Eligible	Not relocated, assumed destroyed
CA-LAN-945	Potentially Eligible	Lithic workshop
CA-LAN-946	Not Eligible	Not relocated, assumed destroyed
CA-LAN-2335H	Potentially Not Eligible	Lacks integrity and research potential
CA-LAN-3987	Not Eligible	Isolated artifact
CA-LAN-2568H	Potentially Not Eligible	Lacks integrity and research value
CA-LAN-3379	Potentially Not Eligible	Lacks integrity and research potential
CA-LAN-4280H	Potentially Not Eligible	Lacks integrity and research potential
CA-LAN-4281H	Potentially Not Eligible	Lacks context and research potential
3A	Not Eligible	Not relocated, assumed destroyed
3B	Potentially Not Eligible	Demolished 1903 homestead; no research potential
8A	Potentially Not Eligible	Demolished 1905 homestead, no research potential
15A	Potentially Not Eligible	Destroyed/removed livestock pen
20A	Potentially Not Eligible	Dugout structure; no research potential
21A	Potentially Not Eligible	Demolished structures; no research potential
21B	Not Eligible	Not relocated, assumed destroyed
21C	Potentially Not Eligible	Destroyed; no research potential
30C	Potentially Not Eligible	Lacks integrity and research value
31A	Potentially Not Eligible	Lacks integrity and research value
31B	Not Eligible	Not relocated, assumed destroyed
32A	Not Eligible	Not relocated, assumed destroyed
42A	Potentially Not Eligible	Lacks integrity and research value
42B	Potentially Not Eligible	Lacks integrity and research potential
54C	Potentially Not Eligible	Lacks integrity and research value
59A	Not Eligible	Not relocated, assumed destroyed
68A	Potentially Eligible	Homestead with research potential
72A	Not Eligible	Not relocated, assumed destroyed

Site	CRHR Recommendation	Comments
73A	Not Eligible	Not relocated, assumed destroyed
75A	Potentially Not Eligible	Capped well head and tanks; no research potential.
75B	Potentially Not Eligible	Water troughs; lack research value
79A	Potentially Not Eligible	Lacks integrity and research value
83A	Not Eligible	Not relocated, assumed destroyed
85A	Potentially Not Eligible	1940s refuse without context; lacks research value
95A	Not Eligible	Not relocated, assumed destroyed
102F	Potentially Not Eligible	Possible homestead in poor condition
107C	Potentially Eligible	Early homestead with research potential
112A	Potentially Eligible	Early homestead with research potential
126A	Potentially Not Eligible	Lacks context and research potential
126B	Not Eligible	Not relocated, assumed destroyed
130C	Potentially Not Eligible	Lacks integrity and research potential
632013A	Potentially Not Eligible	Lacks integrity and research potential
632013B	Potentially Not Eligible	Lacks research potential
642013A	Potentially Not Eligible	Lacks research potential
642013D	Potentially Not Eligible	Lacks research potential
Dewey Ralphs House	Not Eligible	Demolished; lacks integrity
Phil's Hunting Camp	Potentially Not Eligible	Mixed age; lacks research potential
Mason Camp	Potentially Not Eligible	Mixed age; lacks research potential
Historic Trash	Potentially Not Eligible	May not meet minimum age criterion
P-19-189938	Potentially Not Eligible	Lacks integrity
P-19-189939	Potentially Not Eligible	Evaluated, determined Not Eligible
P-19-100953	Not Eligible	Isolated feature
CA-VEN-1658	Potentially Eligible	Multicomponent with research potential
632013C	Not Eligible	Isolated feature

***Note: This table includes resources originally recorded as isolated artifacts or features**

For historical/Euro-American sites, research value was primarily determined based on two factors: the presence of intact refuse deposits, and a clear associative context for such deposits. Isolated, especially small/single incident, refuse dumps or isolated features, for example, lack any associative context and, for that reason, can only rarely contribute in any significant way to research concerns. Similarly, mixed age, low density surface refuse scatters containing historical and contemporary debris are also compromised and now have little research potential. Combined with the fact that many of the historical sites had been demolished and the ground surface grubbed, relatively few of these kinds of sites are recommended as CRHR eligible.

Overall, we recommend that four (31%) of the thirteen recorded sites in the 2015 SVRA Addition area be considered as potentially CRHR eligible, and that 38 (32%) of the 118 recorded resources within the SVRA be similarly treated. We further recommend that two (15%) of the sites in the 2015 SVRA Addition and 41 (35%) of the SVRA resources be considered not eligible, either because they could not be relocated or because they represent categorically not eligible isolated artifacts. Finally, we recommend that seven (54%) of the 2015 SVRA Addition while 39 (33%) of the SVRA sites be considered potentially not eligible, primarily due to lack of integrity and/or associative context.

6.3 RESEARCH CONCERNS

The nature of the field studies conducted for this project resulted in coarse-grained data. Despite this fact, these data provide some general information useful for understanding the prehistory of this region. First, the projectile points identified during the study indicate that significant (or, at least, preserved) use of this mountainous region first began during the Middle Horizon, roughly 4000 YBP. This correlates closely with the pattern seen widely throughout south-central California, further supporting the idea that a major population radiation into new environments occurred at about this time.

Second, and as noted at the outset, a significant regional prehistoric archaeological research question concerns the impact of the Medieval Climatic Anomaly on human occupation in this part of California. Nearby portions of interior southern California, including the Carrizo Plain and inland Ventura County, experienced as much as 90% population decline, yet no clear indication of population loss has been identified in the Tehachapi Mountains to the east, or along the Buena Vista, Tulare and Kern lake margins in the southern San Joaquin Valley to the north. In both of these last two areas, population intensification rather than decline appears to have occurred, perhaps because of their locally-favorable water conditions.

Data from the field studies for this project are too coarsely-grained to reconstruct population changes during this portion of California prehistory. That said, it is notable that five prehistoric camps can be dated based on projectile point types found on the site surfaces. Three of these five sites, a slight majority, date from the Middle Horizon, prior to the Medieval Climatic Anomaly, and two to the Late Horizon, during and after this paleoclimatic event. Although very provisional, this is suggestive of a population decline within the study area at this critical temporal juncture. If this pattern is supported by additional research, it raises an important related question: why would a population decline occur in this location when, at Tejon Mountain Village, a short distance to the northeast, population intensification rather than decline has been identified?

Third, identified site types and site components within the current study area in fact provide a significant clue to this question. As noted above, 45% of the prehistoric sites contain one or more roasting pits, widely considered to have been used as agave ovens. Although it is possible that other plant bulbs may have been processed in these ovens, they are characteristic of adaptation to dry, desert conditions. By any measure, these features then represent a significant component of the prehistoric archaeological record in the study area, and they stand-out dramatically in comparison to the archaeological record in the immediate surrounding area.

Almost 60,000 ac of the Tejon Ranch, located across the I-5 freeway from the current study area, have been surveyed in the last 15 years (ASM Affiliates 2015), including approximately 28,000 acres for the Tejon Mountain Village project, in the uplands east of Lebec; 14,000 acres for the Centennial project, due east of Gorman; and about 15,000 acres for the Grapevine project in the northern foothills of the Tehachapis and open-flats of the adjacent San Joaquin Valley, at the mouth of Grapevine Canyon. These projects have resulted in the identification and recording of 174 prehistoric archaeological sites. A total of 100 sites, similarly, have been recorded within the Carrizo Plain National Monument to the northwest (Whitley et al. 2007).

Importantly, not one of these 274 nearby sites contains a known roasting pit/agave oven, although all of these areas presently contain at least some agave plants.

The number and dominance of these archaeological features within the current study area reflects a markedly different subsistence pattern than is found in areas immediately to the east and north. Although there certainly are some environmental differences between the study area and these surrounding locations, it is at this point unclear whether environment alone fully explains this pattern.

One related issue, in this regard, is the question of the boundary between the Chumash and Tataviam, and whether the differences in subsistence practices may be at least partly due to cultural rather than exclusively environmental factors. The boundary between the two groups is known to lie in the general vicinity of the study area, with the most recent reconstruction suggesting that the SVRA is more likely Chumash territory. Yet roasting pits are very common components of the Tataviam archaeological record, and they are rare, if not non-existent, in most portions of interior Chumash territory. All other things being equal, this could suggest that the SVRA was occupied by Tataviam rather than the Chumash.

While our existing evidence cannot resolve this question, the results of the current study indicate that the 2015 SVRA Addition and SVRA study area contains a prehistoric archaeological record that is regionally unusual, and that potentially could provide important information to our understanding of interior southern California prehistory. Interpretations of the information obtained so far, however, should best be treated as hypotheses upon which subsequent studies can build, rather than final answers to regional research questions.

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CONFIDENTIAL APPENDICES

APPENDIX F

Paleontological Resources Technical Report

PALEOSERVICES
SAN DIEGO NATURAL HISTORY MUSEUM

Paleontological Resources Technical Report

Hungry Valley State Vehicular Recreation Area General Plan Update + EIR
Los Angeles, Kern, & Ventura Counties, California

January 8, 2020

Prepared for:
California State Parks, Off-Highway Motor Vehicle Recreation Division

Under contract to:
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Executive Summary

California State Parks is updating the General Plan for Hungry Valley State Vehicular Recreation Area (SVRA), and will prepare an Environmental Impact Report (EIR) to evaluate potential environmental effects associated with adoption of the new plan. The Hungry Valley SVRA occupies a total of approximately 19,625 acres within Los Angeles, Kern, and Ventura counties, and lies along the west side of Interstate 5 to the south of Tejon Pass, with lands of the Los Padres National Forest to the west and the Angeles National Forest to the south. The northern portion of Hungry Valley SVRA includes 845 acres of land purchased by California State Parks in 2015. The Hungry Valley SVRA "Planning Area" (Planning Area) includes the existing Hungry Valley SVRA, along with additional future target acquisition areas and/or land viewed as a buffer area where land uses and physical characteristics are very similar to Hungry Valley SVRA and have a high potential for overlapping use. One of the EIR resource issues concerns potential effects on paleontological resources preserved within the Planning Area. This paleontological resource technical report was prepared in order to provide baseline data on the paleontological resources of the Planning Area, evaluate the significance of these resources, and examine potential impacts to paleontological resources that may occur as a result of future land use and development within the Planning Area.

Published geologic maps and reports indicate that the Planning Area encompasses an area underlain by a deformed (folded and faulted) sequence of Miocene- through Pliocene-age sedimentary deposits, which is locally mantled by ancient alluvial and landslide deposits of probable late Pleistocene to Holocene age. The documented paleontological resources of the Planning Area consist of fossil remains of freshwater invertebrates (e.g., mussels, pond snails, and ostracods), freshwater vertebrates (e.g., bony fish and pond turtles), and terrestrial vertebrates (e.g., tortoise, proboscidean, cat, horse, tapir, camel, and pronghorn antelope). These fossils occur within strata assigned to the Apple Canyon Sandstone member of the Ridge Route Formation and the lower member of the Hungry Valley Formation.

In recognition of the fact that paleontological resources are considered to include not only actual fossil remains and traces, but also the fossil collecting localities and the geological formations containing those fossils and localities, the Bureau of Land Management has developed a procedure for evaluating the paleontological resource potential of individual geological rock units. This procedure utilizes the Potential Fossil Yield Classification (PFYC) to assign ranks to rock units based on the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and the sensitivity of these fossils to adverse impacts. Under the PFYC system, geological formations with a higher potential are assigned a higher class number. This system was utilized to evaluate the paleontological resource potential of the geologic units exposed within the Planning Area with the following results: the Hungry Valley Formation, Ridge Route Formation, Peace Valley Formation, and Violin Breccia are assigned PFYC Class 4 (high potential) based on the documented presence of vertebrate fossils within these geologic units; Pleistocene alluvial deposits are assigned PFYC Class U (unknown potential) based on their age and sedimentary origin but undocumented fossil potential within the Planning Area; landslide deposits are assigned PFYC Class 2 (low potential) based on the lack of stratigraphic context of any recovered fossils; Holocene alluvial deposits are assigned PFYC Class 2 (low potential) based on their young age; and intrusive igneous rocks are assigned PFYC Class 1 (very low potential) based on their magmatic origin.

The GIS paleontological database produced for this report includes layers for mapped geology, paleontological potential, and documented fossil collection localities covering the Planning Area. It is anticipated that the GIS database and the information contained in this report will be used to establish goals for the management of paleontological resources preserved within Hungry Valley SVRA and the Planning Area.

Contents

Executive Summary i

1.0 Introduction 1

1.1 Description of Planning Area 1
1.2 Scope of Work 1
1.3 Definition of Paleontological Resources 2
1.4 Regulatory Framework 4
1.4.1 California Environmental Quality Act (CEQA) 4
1.4.2 California Public Resources Code (PRC) 4

2.0 Methods 4

2.1 Document Review and Paleontological Records Searches 4
2.2 Paleontological Field Surveys 5
2.3 Paleontological Resource Potential Criteria 5
2.3.1 PFYC Class 5 – Very High Potential 5
2.3.2 PFYC Class 4 – High Potential 6
2.3.3 PFYC Class 3 – Moderate Potential 6
2.3.4 PFYC Class 2 – Low Potential 6
2.3.5 PFYC Class 1 – Very Low Potential 6
2.3.6 PFYC Class U – Unknown Potential 6
2.3.7 PFYC Class W – Water 7
2.3.8 PFYC Class I – Ice 7
2.4 Distribution of Paleontological Resources in the Planning Area 7

3.0 Existing Conditions 8

3.1 Geologic Setting 8
3.2 Geologic History 9
3.3 Stratigraphic Nomenclature – "Peace Valley beds" 9

4.0 Geologic Units of the Planning Area 12

4.1 Holocene Alluvial Deposits (Qa) 12
4.2 Landslide Deposits (Qls) 14
4.3 Pleistocene Alluvial Deposits (Qoa) 16
4.4 Ridge Basin Group: Hungry Valley Formation (Thvl, Thvu) 18
4.5 Ridge Basin Group: Ridge Route Formation, Apple Canyon Sandstone Member (Trra) 24
4.6 Ridge Basin Group: Peace Valley Formation, Alamos Canyon Siltstone Member (Tpva) 29
4.7 Ridge Basin Group: Violin Breccia (Tvb) 31
4.8 Intrusive Igneous and Metamorphic Rocks (gr, gn) 31

5.0 Discussion of Paleontological Resources 34

5.1 Paleontological Potential 34
5.2 Taxonomic Diversity 35
5.3 Stratigraphic Distribution 35
5.4 Fossil Preservation 35
5.5 Impacts 36
5.6 Future Work 37

6.0 References 39

Contents: Appendices

Appendix 1: Map of Fossil Collection Localities (Confidential) A1

Appendix 2: List of Fossil Collection Localities A3

Appendix 3: Voucher Fossil Specimens A5

Appendix 4: LACM Records Search Results (Confidential) A10

1.0 Introduction

1.1 Description of Planning Area

Hungry Valley State Vehicle Recreation Area (SVRA) is the third largest SVRA in the California State Parks system, and is characterized by varied terrain, including flat grasslands, sandy washes, rolling hills, and steep slopes ranging from 3,000 to nearly 6,000 feet above sea level. Hungry Valley SVRA consists of approximately 19,625 acres primarily split between Los Angeles and Ventura counties, with a small area located in Kern County, and occupies the northwestern portion of the fault-bounded Ridge Basin. The northern portion of Hungry Valley SVRA includes 845 acres of land purchased by California State Parks in 2015. Overall, Hungry Valley SVRA is approximately bordered to the north and east by Interstate 5 (I-5) in the Tejon Pass, to the west by lands of the Los Padres National Forest, and to the south by lands of the Angeles National Forest (Figure 1). The community of Gorman is located along the northern border of the Hungry Valley SVRA.

The Hungry Valley SVRA Planning Area (Planning Area) was defined to provide a comprehensive management perspective for all lands within or adjacent to Hungry Valley SVRA, regardless of ownership or planning status (Figure 1). Land within the Planning Area has been identified as being within the sphere of influence for Hungry Valley SVRA. The core of the Planning Area consists of the established boundaries of Hungry Valley SVRA, including the 2015 Acquisition Area. Parcels that are currently identified as future target acquisition areas for the SVRA were added to ensure they receive consideration in the planning process. In addition to these specific areas, an additional buffer was added to the Planning Area to provide a greater ability to document and analyze the conditions immediately adjacent to the existing SVRA and further inform planning decisions. The buffer extends to a distance of one-quarter mile outside of the existing SVRA boundary, except in areas where a more logical physical limit exists within a quarter mile. The full quarter mile buffer is generally included on the west and south sides of the SVRA where United States Forest Service (USFS) lands have similar uses and physical characteristics, the goal being to design coordinated planning solutions for recreation and resource management. On the east and north sides of the SVRA, the buffer typically intersects a more logical physical limit before reaching the full quarter mile. Specifically, I-5 was determined to be a clear functional boundary for the sphere of influence of Hungry Valley SVRA. The northern boundary of the Planning Area generally conforms to the existing boundaries of Hungry Valley SVRA along Frazier Mountain Park Road and residential land uses to the north, which preclude the expansion of SVRA operations beyond this boundary. Potential effects of SVRA operations on areas outside the Planning Area will be considered throughout the planning process.

1.2 Scope of Work

California State Parks has begun the process of updating the General Plan for Hungry Valley SVRA to replace the existing General Plan, which was adopted in 1981. The updated General Plan will address changing conditions within the Planning Area, incorporate new data and studies, and include lands added to Hungry Valley SVRA since 1981. The goal of the General Plan is to establish a long-range vision for Hungry Valley SVRA that will guide future decisions about land use, services, and resource management over the next 20 to 30 years. As part of the update process, an Environmental Impact Report (EIR) will be prepared to evaluate potential environmental effects associated with adoption of the new General Plan.

One of the EIR resource issues of the General Plan process concerns potential effects on paleontological resources preserved within the Planning Area. Thick sequences of sedimentary strata, dramatically exposed in the Planning Area, represent an archive of the geological history of Ridge Basin—a narrow,

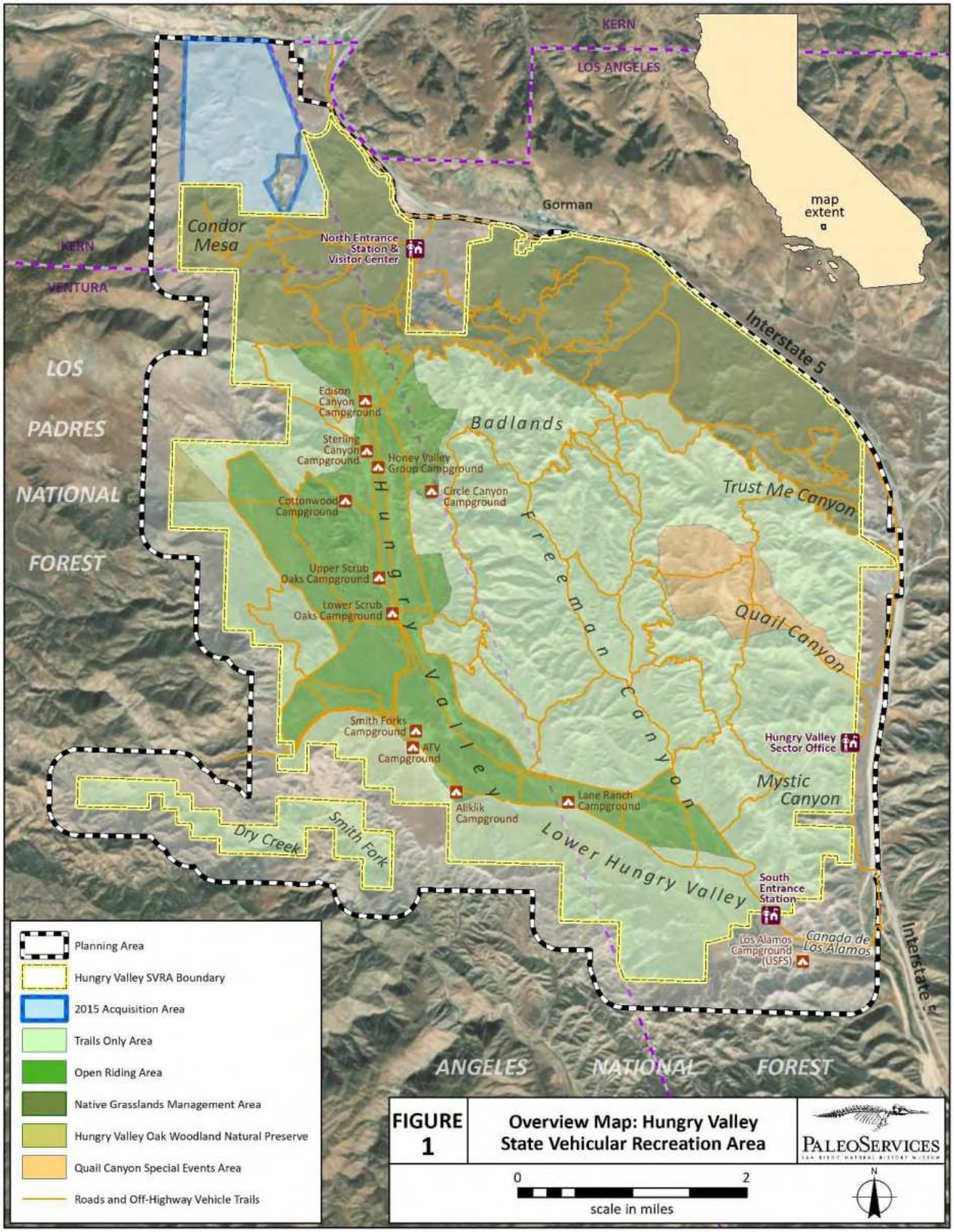
elongate depositional basin bounded in this area to the southwest by the San Gabriel fault and to the north by the San Andreas Fault. Besides serving as an archive of the geological history of the area, the sedimentary rocks exposed in the Planning Area also serve as an archive of the area's biological history as represented by buried fossil remains. Potentially fossil-bearing geological rock units (formations) are widespread within the Planning Area, and range in age from late Miocene (approximately 10 million years old) to early Pliocene (approximately 4.5 million years old), and late Pleistocene (400,000 years old). The existing General Plan provides only a very brief summary of the geological and paleontological history of the geologic units present within Hungry Valley SVRA, and does not identify any known fossil collection localities within the SVRA. Detailed information on the nature, distribution, and concentration of paleontological resources in the Planning Area as described and summarized in this comprehensive resource inventory and evaluation report will provide the basis for developing a paleontological resources management plan, whereby future land uses can be evaluated and designed to mitigate potential negative impacts to paleontological resources. Such mitigation may take the form of establishment of natural preserves, closure of sensitive areas, restriction of permitted land uses in sensitive areas, and periodic monitoring of the effects of land uses on the resource in sensitive areas.

The present report provides baseline data on the nature, distribution, and concentration of paleontological resources in the Planning Area. In putting together this report, information was obtained from a range of sources, including published geologic maps, published and unpublished geological and paleontological literature, institutional paleontological records searches, and paleontological field surveys. This information is summarized in a geologic map, a paleontological resource potential map, and a fossil collection locality map of the Planning Area, alongside in-depth textual discussions of each geologic unit and its documented paleontological resources.

1.3 Definition of Paleontological Resources

As defined here, paleontological resources (i.e., fossils) are the buried remains and/or traces of prehistoric organisms (i.e., animals, plants, and microbes). Body fossils such as bones, teeth, shells, leaves, and wood, as well as trace fossils such as tracks, trails, burrows, and footprints, are found in the geologic units/formations within which they were originally buried. The primary factor determining whether an object is a fossil or not is not how the organic remain or trace is preserved (e.g., "petrified"), but rather the age of the organic remain or trace. Although typically it is assumed that fossils must be older than approximately 11,700 years (i.e., the generally accepted end of the last glacial period of the Pleistocene Epoch), organic remains older than recorded human history and/or older than middle Holocene (about 5,000 radiocarbon years) can also be considered to represent fossils (SVP, 2010).

Fossils are considered important scientific and educational resources because they serve as direct and indirect evidence of prehistoric life and are used to understand the history of life on Earth, the nature of past environments and climates, the membership and structure of ancient ecosystems, and the pattern and process of organic evolution and extinction. In addition, fossils are considered to be non-renewable resources because typically the organisms they represent no longer exist. Thus, once destroyed, a particular fossil can never be replaced. Finally, paleontological resources can be thought of as including not only the actual fossil remains and traces, but also the fossil collecting localities and the geologic units containing those localities.


KERN
LOS ANGELES
map extent
Gorman
Condor Mesa
North Entrance Station & Visitor Center
KERN
VENTURA
LOS PADRES NATIONAL FOREST
Interstate 5
Edison Canyon Campground
Badlands
Sterling Canyon Campground
Honey Valley Group Campground
Circle Canyon Campground
Cottonwood Campground
Trust Me Canyon
Hungry Valley
Freeman Canyon
Upper Scrub Oaks Campground
Lower Scrub Oaks Campground
Quail Canyon
Smith Forks Campground
ATV Campground
Hungry Valley Sector Office
Mystic Canyon
Alliklik Campground
Lane Ranch Campground
Dry Creek
Smith Fork
Lower Hungry Valley
South Entrance Station
Los Alamos Campground (USFS)
Canada de Los Alamos
Interstate 5
ANGELES NATIONAL FOREST
Planning Area
Hungry Valley SVRA Boundary
2015 Acquisition Area
Trails Only Area
Open Riding Area
Native Grasslands Management Area
Hungry Valley Oak Woodland Natural Preserve
Quail Canyon Special Events Area
Roads and Off-Highway Vehicle Trails
FIGURE 1
Overview Map: Hungry Valley State Vehicular Recreation Area
PALEOSERVICES
0
2
scale in miles
N

1.4 Regulatory Framework

Because paleontological resources are considered scientifically and educationally significant nonrenewable resources, they are protected under the California Environmental Quality Act and the Public Resources Code.

1.4.1 California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA, Public Resources Code Section 21000 et seq.) protects paleontological resources on both state and private lands in California. This act requires the identification of environmental impacts of a proposed project, the determination of significance of the impacts, and the identification of alternative and/or mitigation measures to reduce adverse environmental impacts. The Guidelines for the Implementation of CEQA (Title 14, Chapter 3, California Code of Regulations: 15000 et seq.) outlines these necessary procedures for complying with CEQA. Paleontological resources are specifically included as a question in the CEQA Environmental Checklist (Section 15023, Appendix G):

- "Will the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature."

Also applicable to paleontological resources is the checklist question:

- "Does the project have the potential to… eliminate important examples of major periods of California history or pre-history."

1.4.2 California Public Resources Code (PRC)

Other state requirements for paleontological resource management are included in the Public Resources Code (Chapter 1.7), Section 5097.5 and 30244. These statutes prohibit the removal of any paleontological site or feature on public lands without permission of the jurisdictional agency, defines the removal of paleontological sites or features as a misdemeanor, and requires reasonable mitigation of adverse impacts to paleontological resources from developments on public (state) lands.

2.0 Methods

2.1 Document Review and Paleontological Records Searches

A review of existing relevant paleontological and geological literature was conducted to provide context for discussing the paleontological resources of the Planning Area. Consulted sources included published geologic maps and reports (e.g., Crowell, 1950, 1982, 2003; Dibblee and Minch, 2002, 2006a, 2006b; Olson and Swanson, 2017; Swanson and Olson, 2016), peer-reviewed publications (e.g., Link, 1982, 2003; Miller and Downs, 1974; Welton and Link, 1982; Young, 1982), and other relevant literature (e.g., unpublished dissertations, paleontological assessment reports, paleontological mitigation reports). This approach was followed in recognition of the direct relationship between paleontological resources and the geologic units within which they are entombed. Knowing the geologic history of a particular area and the fossil productivity of geologic units that occur in that area, it is possible to predict where fossils will or will not be encountered.

In addition, formal paleontological records searches of the collection data housed at the San Diego Natural History Museum (SDNHM) and Natural History Museum of Los Angeles County (LACM) were

conducted in order to determine whether there are recorded fossil collection localities in the Planning Area.

2.2 Paleontological Field Surveys

Paleontological field surveys were conducted of selected regions of the Planning Area to determine the nature and distribution of paleontological resources therein. The first paleontological field survey was conducted 26–28 August 2019 by Thomas A. Deméré, Katie M. McComas, Todd W. Ryan, and Jesse K. Shelmire, and was primarily focused on relocating existing fossil collection localities reported in institutional records searches from the southeastern and east central portions of the Planning Area. The second paleontological field survey was conducted 15–18 October 2019 by Todd W. Ryan and Jesse K. Shelmire, and primarily targeted previously unsurveyed areas in the northern, western, and central portions of the Planning Area.

Field crews consisted of teams of at least two SDNHM paleontologists. Each team was equipped with standard field equipment (e.g., field book, rock hammer, camera, hand lens, tape measure, Brunton compass and/or Midland Valley's Fieldmove Clino app) and an iPad or iPhone loaded with Esri's Collector app that was used to view relevant maps and collect field data. Collected field data included waypoints with photographic attachments that were keyed to field notes.

Voucher collections of fossils and hand samples of sedimentary rocks were recovered in the field to be further analyzed and described at the SDNHM. Collected fossils were assigned field numbers and waypoints, and relevant taphonomic and stratigraphic data were recorded in field notebooks and in Collector, accompanied with field observations including: the context in relation to the stratigraphy in which the fossil(s) was/were discovered, aerial extent of fossil-bearing strata, the density of fossils within the strata, recognition of the geologic units within which the fossil(s) was/were collected, photographic documentation, and additional pertinent observations.

2.3 Paleontological Resource Potential Criteria

In recognition of the fact that paleontological resources are considered to include not only actual fossil remains and traces, but also the fossil collecting localities and the geologic units containing those fossils and localities, the Bureau of Land Management (BLM) developed a procedure for evaluating the paleontological resource potential of individual geologic units. This procedure utilizes the Potential Fossil Yield Classification (PFYC) system to assign ranks to geologic units based on the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils (BLM, 2007, 2016). Under this system, geologic units with a higher potential are assigned a higher class number. The PFYC system is outlined below.

2.3.1 PFYC Class 5 – Very High Potential

Very high potential (PFYC Class 5) is assigned to highly fossiliferous geologic units that consistently and predictably produce significant paleontological resources. Units assigned to Class 5 have some or all of the following characteristics:

- Significant paleontological resources have been documented and occur consistently.
- Paleontological resources are highly susceptible to adverse impacts from surface disturbing activities.
- Unit is frequently the focus of illegal collecting activities.

2.3.2 PFYC Class 4 – High Potential

High potential (PFYC Class 4) is assigned to geologic units that are known to contain a high occurrence of paleontological resources. Units assigned to Class 4 typically have the following characteristics:

- Significant paleontological resources have been documented, but may vary in occurrence and predictability.
- Surface disturbing activities may adversely affect paleontological resources.
- Rare or uncommon fossils, including nonvertebrate (such as soft body preservation) or unusual plant fossils, may be present.
- Illegal collecting activities may impact some areas.

2.3.3 PFYC Class 3 – Moderate Potential

Moderate potential (PFYC Class 3) is assigned to geologic units where fossil content varies in significance, abundance, and predictable occurrence. Units assigned to Class 3 have some of the following characteristics:

- Marine in origin with sporadic known occurrences of paleontological resources.
- Paleontological resources may occur intermittently, but abundance is known to be low.
- Units may contain significant paleontological resources, but these occurrences are widely scattered.
- The potential for an authorized land use to impact a significant paleontological resource is known to be low-to-moderate.

2.3.4 PFYC Class 2 – Low Potential

Low potential (PFYC Class 2) is assigned to geologic units that are not likely to contain paleontological resources. Units assigned to Class 2 typically have one or more of the following characteristics:

- Field surveys have verified that significant paleontological resources are not present or are very rare.
- Units are generally younger than 11,700 years old.
- Units that consist of Recent aeolian deposits.
- Sediments that exhibit significant physical and chemical changes (i.e., diagenetic alteration) that make fossil preservation unlikely.

2.3.5 PFYC Class 1 – Very Low Potential

Very Low potential (PFYC Class 1) is assigned to geologic units that are not likely to contain recognizable paleontological resources. Units assigned to Class 1 typically have one or more of the following characteristics:

- Geologic units are igneous or metamorphic, excluding air-fall and reworked volcanic ash.
- Geologic units are Precambrian in age.

2.3.6 PFYC Class U – Unknown Potential

Unknown potential (PFYC Class U) is assigned to geologic units that cannot receive an informed PFYC assignment. Characteristics of Class U may include:

- Geologic units may exhibit features or preservational conditions that suggest significant paleontological resources could be present, but little information about the actual paleontological resources of the unit or area is known.

- Geologic units represented on a map are based on lithologic character or basis of origin, but have not been studied in detail.
- Scientific literature does not exist or does not reveal the nature of paleontological resources.
- Reports of paleontological resources are anecdotal or have not been verified.
- Area or geologic unit is poorly or under-studied.
- BLM staff has not yet been able to assess the nature of the geologic unit.

2.3.7 PFYC Class W – Water

PFYC Class W includes any surface area that is mapped as water. Most bodies of water do not normally contain paleontological resources. However, shorelines should be carefully considered for uncovered or transported paleontological resources. Reservoirs are a special concern because important paleontological resources are often exposed during low water intervals. In karst areas, sinkholes and cenotes may trap animals and contain paleontological resources. Dredging river systems may result in the disturbance of sediments that contain paleontological resources.

2.3.8 PFYC Class I – Ice

PFYC Class I includes any area that is mapped as ice or snow. Receding glaciers, including exposed lateral and terminal moraines should be considered for their potential to reveal recently exposed paleontological resources. Other considerations include melting snow fields that may contain paleontological resources with possible soft-tissue preservation.

2.4 Distribution of Paleontological Resources in the Planning Area

Field data were combined with the results of the institutional records searches, document review, and published geological mapping to produce a composite map showing the distribution of geologic units within the Planning Area (Figure 4). This map utilizes the field mapping of Dibblee (2002, 2006a, 2006b) and updated stratigraphic terminology of Crowell (2003). While newer geologic maps have been produced for the northern half of the Planning Area (Olson and Swanson, 2017; Swanson and Olson, 2016), these maps primarily provide more detailed mapping of Quaternary surficial deposits, and do not significantly inform the determination of where paleontological resources are likely to be encountered. However, some of the descriptions of geologic units from Olson and Swanson (2017) and Swanson and Olson (2016) were incorporated into the text of this report.

The composite geologic map was converted to a paleontological resource potential map (Figure 23), based on the understanding that the distribution of paleontological resources in an area is directly related to the distribution of the geologic units in which those resources are preserved.

In addition, a map of fossil collection localities within the Planning Area is included in Appendix 1. This map includes fossil collection localities documented during the paleontological field surveys, as well as previously documented fossil collection localities obtained from the document review and LACM paleontological records search (Appendix 4). Compiled locality data for these collection sites is presented in Appendix 2. Voucher fossil specimens collected during the field surveys are listed and figured in Appendix 3. The LACM paleontological records search letter is included as Appendix 4.

The composite geologic map, paleontological resource potential map, and fossil collection locality map were also provided to California State Parks as GIS layers that can be used as a tool for the management of paleontological resources within the Planning Area.

All of the maps presented in this report were prepared using Esri's ArcGIS software.

3.0 Existing Conditions

3.1 Geologic Setting

Hungry Valley SVRA is located within the northwestern portion of Ridge Basin, a narrow and elongated fault-bounded basin approximately 28 miles in length and up to 9 miles wide situated in the central Transverse Ranges Geomorphic Province of southern California. This is a region of complex geology that lies adjacent to a major tectonic plate boundary between the North American lithospheric plate on the northeast and the Pacific lithospheric plate on the southwest. The modern plate boundary itself is formed by the San Andreas Fault Zone—a zone of deformation characterized by right-lateral strike-slip faulting of continental proportions (Figure 2). Regional uplift of the area resulting from this tectonic activity combined with subsequent deep erosion of the elevated terrane have created a diverse landscape of resistant peaks (e.g., Frazier Mountain, Tecuya Mountain, and Alamo Mountain), low-lying valleys (e.g., Cuddy Canyon, Castac Valley, Hungry Valley, and Peace Valley), and localized elevated mesas (e.g., Condor Mesa). The geologic archive exposed by these tectonic and erosive forces preserves evidence of a complex history of not only the immediate area of Hungry Valley SVRA and Ridge Basin, but also of the larger Transverse Ranges Geomorphic Province. Situated in this setting at the "structural knot" of California, the Planning Area provides a rather unique opportunity as a natural laboratory for the investigation of the State's geologic history.

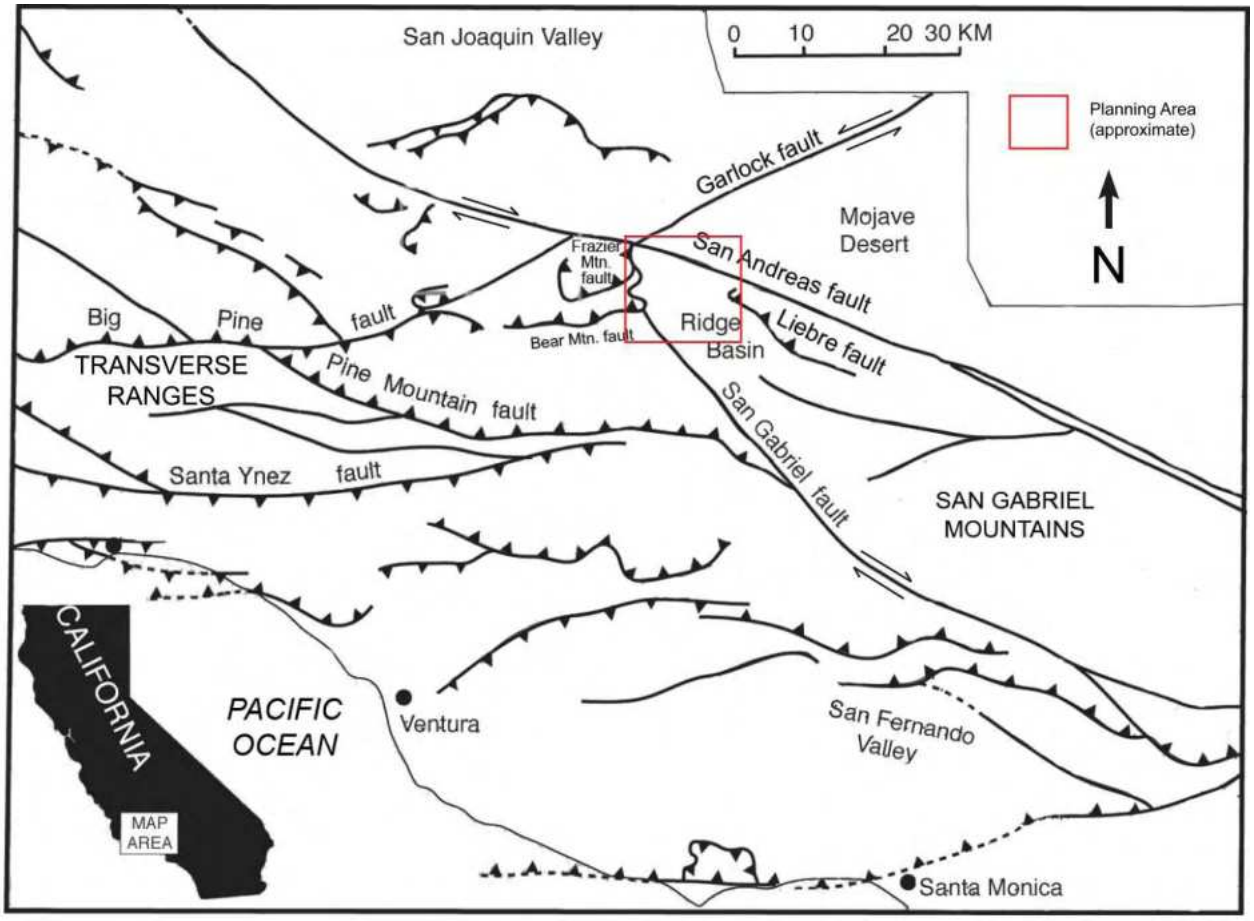


Figure 2. Regional fault map of the western Transverse Ranges of southern California, depicting the "Big Bend" region of the San Andreas Fault. Modified from Kellogg (2004).

3.2 Geologic History

For the most part, the geologic history of the Transverse Ranges Geomorphic Province is not unlike that of the rest of western California up until about 27 million years ago (Oligocene). Prior to that time, the western margin of the North American continent was the site of an active subduction zone, where the eastward-spreading Farallon Plate was being subducted beneath the northwestward-moving North American Plate. Then, beginning in the late Oligocene, the active spreading center between the Farallon and Pacific Plates (known as the East Pacific Rise) came into oblique contact with the generally linear subduction zone, and the tectonic regime at the point of contact began to shift from one of subduction to one of transtension (transform motion). Over the next 9 million years, as the zone of transtension lengthened north and south, pieces of the North America continent broke off to become various parts of the Pacific Plate. One of these pieces formed the continental shelf off central California, one formed part of the continental shelf off southern California, and one formed the Transverse Ranges. Continued transtensional plate interactions from 18 to 5 million years ago (spanning most of the Miocene) was accompanied by up to 110 degrees of clockwise rotation of the Transverse Ranges block and establishment of the proto-San Andreas fault system. Beginning about 5 million years ago (the early Pliocene), the Baja California crustal block (Peninsular California) was "captured" by the Pacific Plate, establishing the modern San Andreas Fault Zone and initiating a transpressional tectonic regime as Peninsular California moved northwestward and against the Transverse Ranges block. By 2 million years ago (the early Pleistocene), the "Big Bend" in the San Andreas Fault Zone was well established, with Frazier Mountain at its center and the resulting crustal shortening causing uplift and deformation of the surrounding region.

Not surprisingly, the geologic histories of Hungry Valley SVRA and Ridge Basin are tied directly to this regional geologic history. Ridge Basin began forming approximately 12 million years ago (during the late Miocene) as a pull apart basin within the proto-San Andreas fault system at the eastern edge of the rotating Transverse Ranges block. Strike-slip movement along the San Gabriel Fault formed the southwestern margin of the basin, which was initially connected to the Pacific Ocean via adjacent pull apart basins to the southwest. The San Gabriel Fault was continuously active for about 7 million years (from ~12 to 5 million years ago), and over this period the center of Ridge Basin shifted continuously northwestward as the area east of the fault moved to the southeast. It was in this dynamic setting that sediments began to accumulate that eventually would reach a composite thickness of over 46,000 feet. The infilling of the basin progressed from south to north. Initial deposition in a marine embayment (Castaic Formation) eventually gave way to a series of freshwater lakes and fluvial-deltaic systems (Ridge Route Formation and Peace Valley Formation), and eventually braided streams, flood plains, and alluvial fans (Hungry Valley Formation) (Figure 3). Movement along the San Gabriel Fault eventually ceased, and, as the modern San Andreas Fault Zone came into being around *5* million years ago (early Pliocene), folding and faulting began deforming the Ridge Basin sedimentary sequence, eventually uplifting the basin and initiating the still-ongoing processes of erosion.

3.3 Stratigraphic Nomenclature – "Peace Valley beds"

Several authors (Link, 1982; Welton and Link, 1982) have conflated the terrestrial vertebrate and freshwater invertebrate fossil-bearing "Peace Valley beds" within the Planning Area with the formally named and defined Peace Valley Formation. The present report relies on the most up-to-date available geologic mapping of the Planning Area (Crowell, 2003), which indicates that the strata originally informally referred to as the "Peace Valley beds" by Crowell (1950) and Miller and Downs (1974) are not the same strata now referred to the Peace Valley Formation. Instead, the strata formerly called "Peace Valley beds" are equivalent to strata of the Apple Canyon Sandstone member of the Ridge Route Formation (Crowell, 2003). Based on these conditions, the important vertebrate fossils that constitute

the Kinsey Ranch Local Fauna (see discussion in Section 4.4.2) are now correctly assigned to the Ridge Route Formation. The significance of this nomenclatural detail lies in the fact that without accurate assignment of a fossil-bearing stratum to its correct place in a stratigraphic sequence, the important information provided by the fossils regarding the temporal and geographic occurrence of paleoenvironments, paleocommunities, and evolutionary grade is unrealiable.

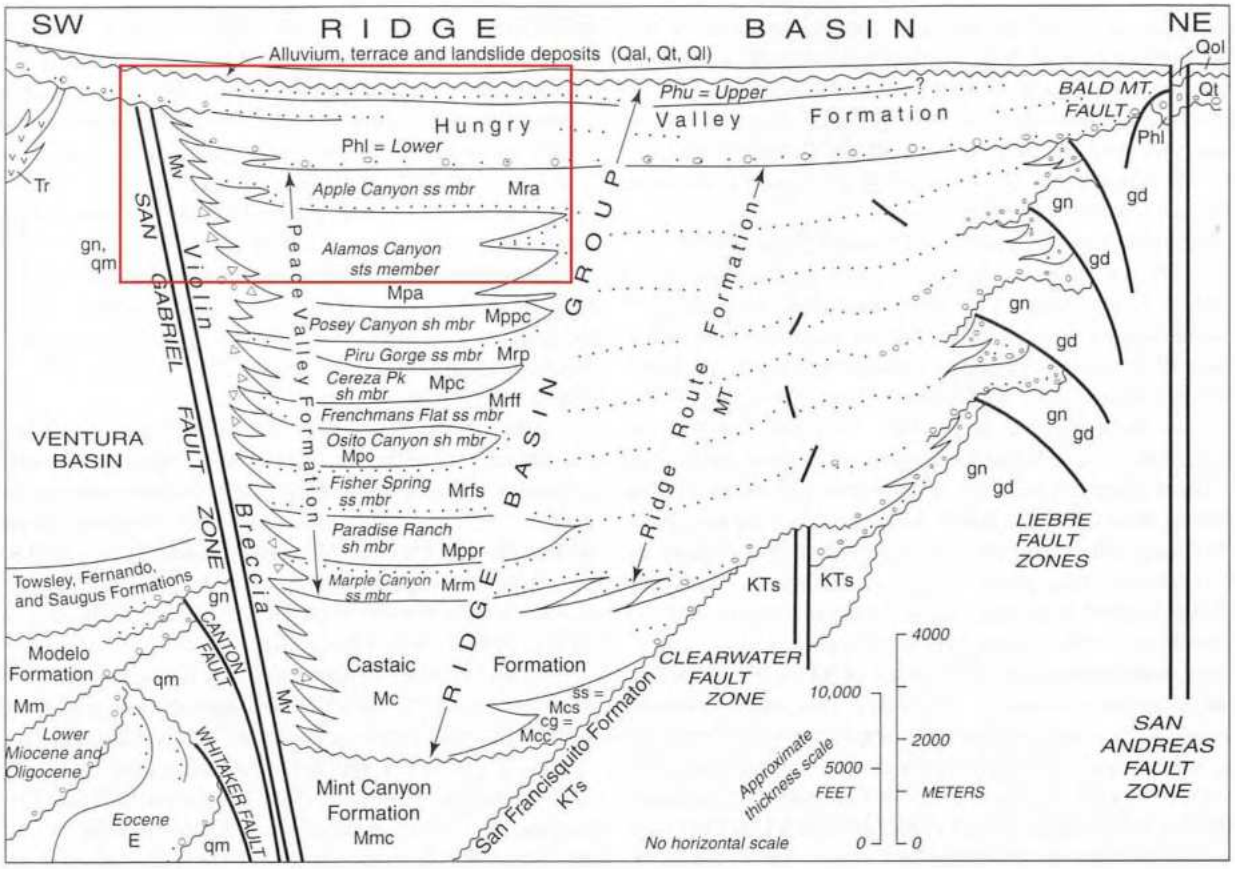
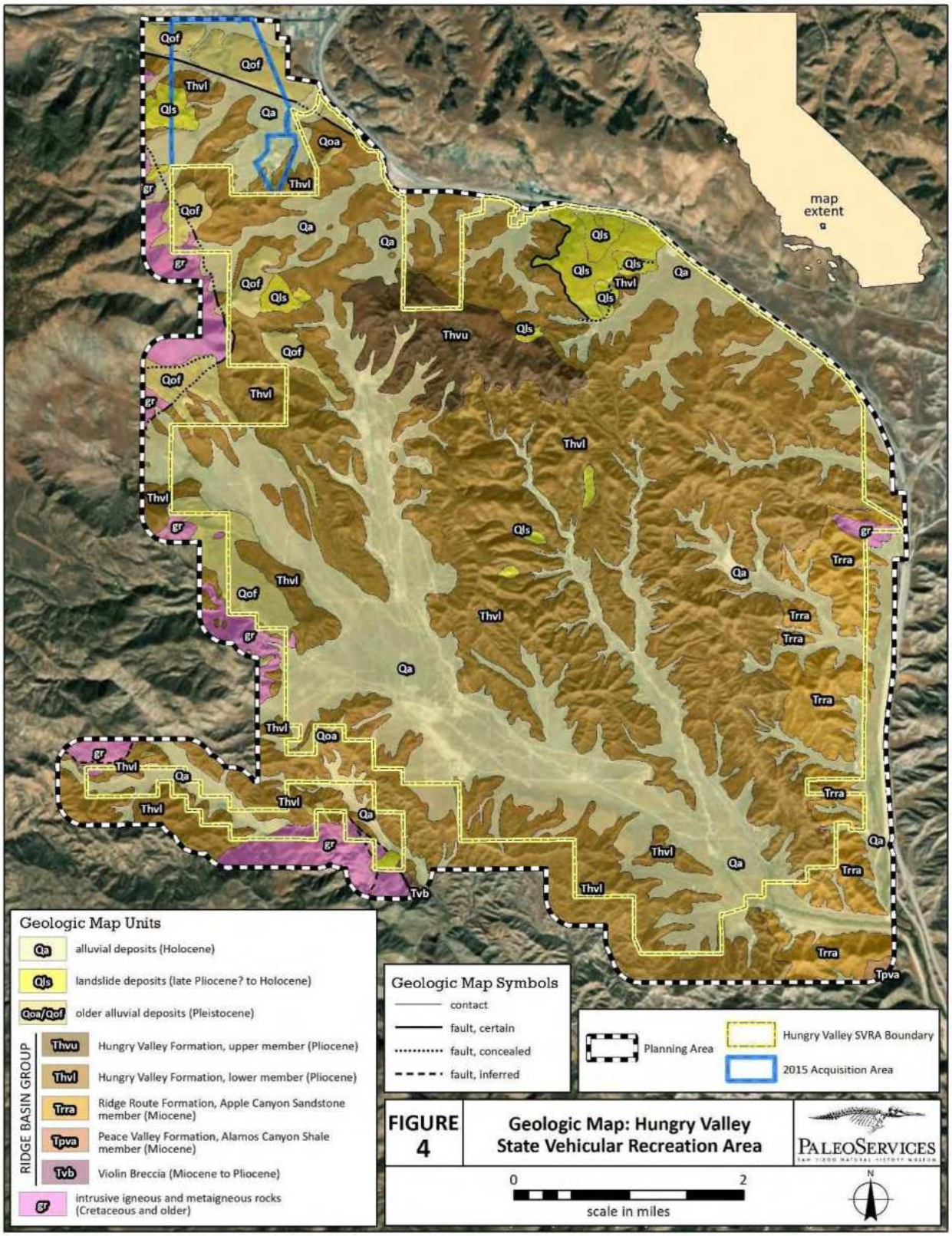


Figure 3. Overview stratigraphic cross section of Ridge Basin. Outlined in red are geologic units exposed within the Planning Area. Modified from Crowell (2003).


map extent
Geologic Map Units
Qa alluvial deposits (Holocene)
Qls landslide deposits (late Pliocene? to Holocene)
Qoa/Qof older alluvial deposits (Pleistocene)
RIDGE BASIN GROUP
Thvu Hungry Valley Formation, upper member (Pliocene)
Thvl Hungry Valley Formation, lower member (Pliocene)
Trra Ridge Route Formation, Apple Canyon Sandstone member (Miocene)
Tpva Peace Valley Formation, Alamos Canyon Shale member (Miocene)
Tvb Violin Breccia (Miocene to Pliocene)
gr intrusive igneous and metaigneous rocks (Cretaceous and older)
Geologic Map Symbols
contact
fault, certain
fault, concealed
fault, inferred
Planning Area
Hungry Valley SVRA Boundary
2015 Acquisition Area
FIGURE 4
Geologic Map: Hungry Valley State Vehicular Recreation Area
PALEOSERVICES
0
2
scale in miles
N

4.0 Geologic Units of the Planning Area

4.1 Holocene Alluvial Deposits (Qa)

4.1.1 Introduction

Holocene-age surficial sediments are widespread within the low-lying portions of the Planning Area. These sediments include gravel- and cobble-rich colluvial and alluvial fan deposits that are actively building outward from the bases of elevated slopes, and sandy wash deposits and valley alluvium deposited by the action of modern streams. For the purposes of this report, all Holocene alluvial sediments will be discussed together. Holocene sediments are primarily unconsolidated or poorly consolidated and mostly undissected, and are generally considered to be less than approximately 11,700 years old.

Alluvial deposits observed during the paleontological field surveys consisted of light tan to medium brown, unconsolidated, poorly sorted, medium- to coarse-grained sand with pebbles and cobbles (Figure 5). These sediments appeared to be derived primarily from the Hungry Valley Formation and older Pleistocene-age alluvial deposits.

4.1.2 Paleontology

Holocene alluvial sediments typically do not contain significant fossil resources due to their young age and the recognition that organic remains preserved in such deposits are conspecific with organisms living in the area today.

The document review and paleontological records searches found no documented fossil collection localities from Holocene-age alluvial deposits within the Planning Area. In addition, no fossils were observed in these deposits during the paleontological field surveys.

4.1.3 Paleontological Potential Rating

Alluvial sediments of Holocene age are assigned a low paleontological potential (PFYC Class 2) based on their relatively young age and lack of significant fossil resources. However, these deposits may be underlain in the shallow subsurface by geologic units with a higher PFYC ranking (e.g., Pleistocene-age alluvial deposits, or older sedimentary bedrock). Distinguishing between Holocene- and Pleistocene-age alluvial deposits is important when making paleontological resource management decisions, since Pleistocene-age deposits are considered to be potentially fossiliferous (see Section 4.3).

4.1.4 Distribution

Holocene alluvial deposits cover the low-lying portions of the Planning Area, and are especially widespread throughout Hungry Valley and the Distributed Riding Areas of the SVRA. Holocene alluvium is also present along the main axes of Freeman Canyon, Mystic Canyon, Quail Canyon, and Trust Me Canyon, along modern intermittent stream beds (i.e., Dry Creek and the Smith Fork of Piru Creek), and eroding from the elevated slopes in the northern portion of the SVRA.

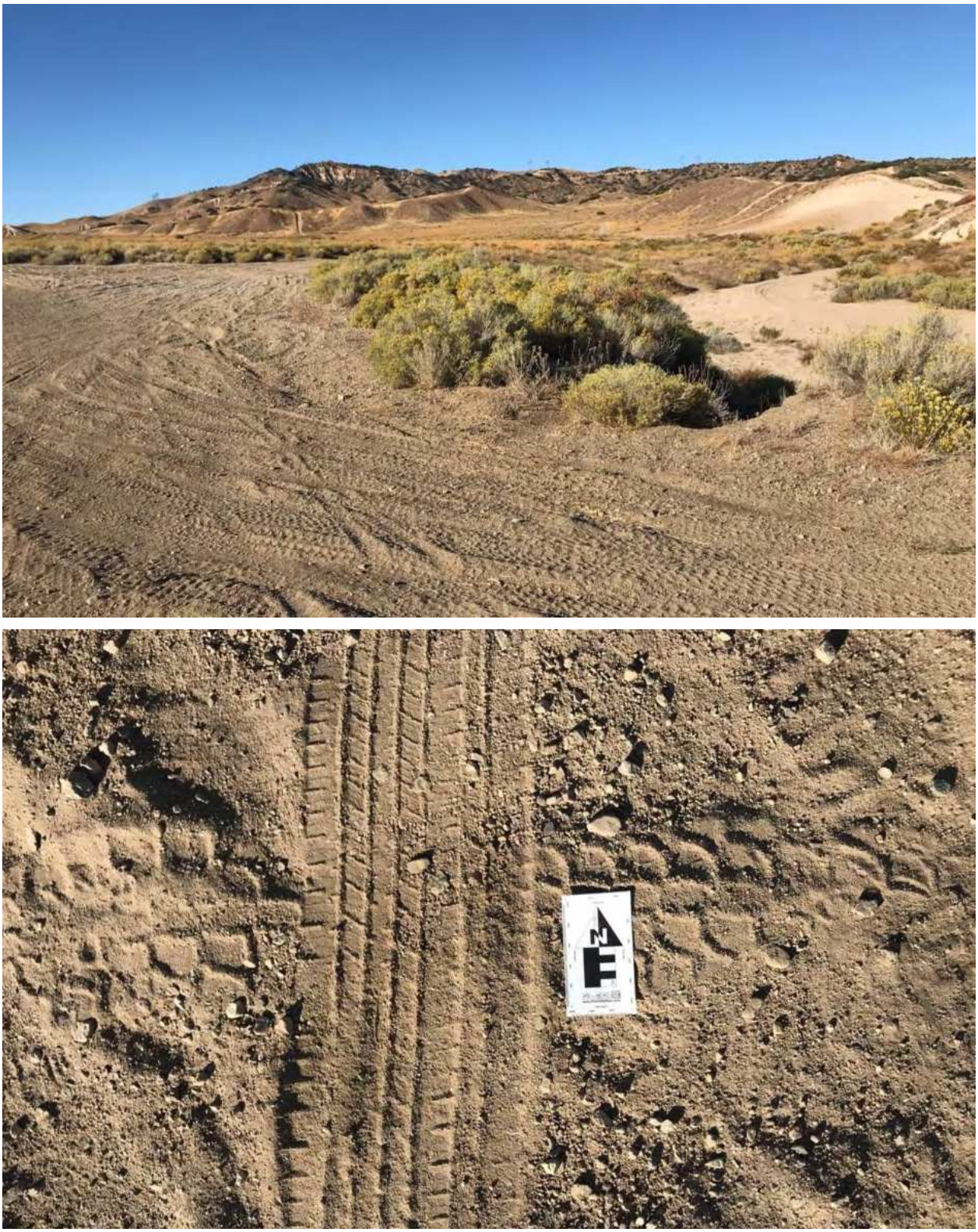


Figure 5. View of Holocene-age valley alluvium covering the floor of northern Hungry Valley, just east of Honey Valley Group Campground (above). These unconsolidated sediments are heavily impacted by off-road vehicles in the Planning Area, as evidenced by the numerous off-road vehicle tire tracks crisscrossing the surface (below). Scale bar measures 10 cm long.

4.2 Landslide Deposits (Qls)

4.2.1 Introduction

Most of the landslide deposits in the Planning Area are late Pleistocene to Holocene in age, of limited areal extent, and contain chaotic rock debris primarily derived from the lower member of the Hungry Valley Formation. One notable exception is the large, probably late Pliocene-age landslide located just southeast of Gorman, which is composed of a mixture of metamorphic and igneous rocks, possibly derived from a source area located north of the San Andreas Fault Zone.

Landslides within the Planning Area are primarily identifiable by their surface expression as gentle slope breaks below steep exposures of intact sedimentary strata. The majority of mapped landslide deposits observed during the paleontological field surveys were covered with dense vegetation. It was, therefore, difficult to directly observe the composition of the landslides. However, the overall appearance of the slides was that of debris accumulated at the base of a steep slope, rather than of large, displaced blocks of sedimentary strata (Figure 6). The older late Pliocene-age landslide near Gorman was examined during the survey, and found to be composed of metamorphic and igneous rock debris in a matrix of medium brown, unconsolidated, medium-grained sandstone (Figure 7).

4.2.2 Paleontology

Typically, landslide deposits are considered to have no paleontological potential because the stratigraphic context of any entrained fossil remains is lost, making them of limited scientific value. Deep-seated landslides containing large slumped blocks with intact, recognizable stratigraphy, however, do have the potential to produce significant paleontological resources because the stratigraphy remains intact and discovered fossils may retain their gross stratigraphic context.

The document review and paleontological records searches found no documented fossil collection localities from landslide deposits within the Planning Area. In addition, no fossils were observed in these deposits during the paleontological field surveys.

4.2.3 Paleontological Potential Rating

Landslide deposits within the Planning Area are assigned a low paleontological potential (PFYC Class 2) based on their chaotic internal structure and lack of appropriate contextual data of any entrained fossil remains.

4.2.4 Distribution

Landslide deposits are mapped near the San Andreas Fault Zone, at the northern end of Hungry Valley, and along Freeman Canyon. This mapped distribution was generally confirmed during the paleontological field surveys. Newer preliminary geologic mapping of the northern half of the Planning Area by Olson and Swanson (2017) and Swanson and Olson (2016) depicts additional small-scale landslides apparently derived from the lower member of the Hungry Valley Formation nearly everywhere it occurs. These localized slides likely represent the collapse of steep-sided slopes that are a common feature of the more rugged portions of the Planning Area.



Figure 6. View of a localized landslide (with headscarp) derived from the Hungry Valley Formation. Photo taken along the west side of Hungry Valley, to the northwest of the Edison Canyon Campground.



Figure 7. View of an outcrop mapped as an old landslide (possibly as old as late Pliocene), composed of fractured metamorphic and igneous rocks, with rock hammer for scale at bottom center. Photo taken just south of I-5, east of Gorman.

4.3 Pleistocene Alluvial Deposits (Qoa)

4.3.1 Introduction

Within the Planning Area, Pleistocene alluvial deposits include elevated terraces of alluvial fan gravel consisting of granitic or gneissic debris (primarily occurring in the western and northwestern portions of the Planning Area) and lower terraces of alluvial gravel and sand (limited outcrops occurring in the southwestern portion of the Planning Area). Buried older alluvial sediments also likely underlie the Holocene-age surficial sediments that line the floor of Hungry Valley. For the purpose of this report, all of these alluvial deposits are discussed together. Pleistocene-age alluvial deposits can often be distinguished from younger (i.e., Holocene) alluvial deposits based on the greater number of erosional features (e.g., gullies and badland topography) in the former and the undissected, level depositional surfaces of the latter. Additionally, Pleistocene-aged alluvial deposits may have a greater degree of induration and/or caliche formation than Holocene-aged deposits.

The majority of mapped Pleistocene alluvial deposits within the Planning Area are covered with dense vegetation, and thus could not be closely examined during the paleontological field surveys. The few available outcrops consisted of medium brown, poorly consolidated pebbly sands (Figure 8) or clast-supported pebble and cobble gravels with light tan sandy matrix (Figure 9).

4.3.2 Paleontology

Fossils recovered from Pleistocene-age alluvial deposits in inland valleys of southern California include remains of a large diversity of terrestrial vertebrates, and occasionally freshwater vertebrates (e.g., fish, amphibians) and invertebrates (e.g., ostracods). Recovered terrestrial vertebrates include reptiles (e.g., tortoise, snakes, lizards), birds (e.g., hawk, owl, song birds), small mammals (e.g., rabbits and hares, pocket mice, kangaroo rats, geomyid rodents, gopher, shrews, bats), and large mammals (e.g., mammoth, mastodon, camel, pronghorn, bison, deer, horse, ground sloth, mountain lion, saber-toothed cat, fox, wolf, bear) (e.g., Bowen, 1954; Jefferson, 1986, 1989, 1991a,b,c; McDonald, 1985, 1996; Miller, 1971; Reynolds and Jefferson, 1971; Reynolds and Reynolds, 1991, 1992; Roeder, 1985; Scott, 1997, 2000, 2002; Stewart et al., 2012). Terrestrial plant fossils are also known from Pleistocene-age alluvial deposits, but generally are more rarely preserved than vertebrate fossils. Fossils within alluvial deposits are most likely to be preserved within low-energy, fine-grained deposits and paleosols (ancient soils), rather than in high-energy conglomerates and fanglomerates. Because of their young age, Holocene alluvial deposits are not known to contain fossil remains.

The document review and paleontological records searches found no documented fossil collection localities from Pleistocene-age alluvial deposits within the Planning Area. In addition, no fossils were observed in these deposits during the paleontological field surveys.

4.3.3 Paleontological Potential Rating

Pleistocene alluvial sediments are assigned an unknown paleontological potential (PFYC Class U) due to a general variation in the concentration of fossils within these deposits in southern California, and the lack of precise grain size mapping of sediments across the Planning Area.

4.3.4 Distribution

The most extensive Pleistocene alluvial deposits in the vicinity of the Planning Area occur north of the San Andreas Fault Zone, within the northern portion of the 2015 Acquisition Area. Additional alluvial fan deposits are exposed at high elevations on Condor Mesa and uplifted smaller mesas to the south along the flanks of Frazier Mountain. Elsewhere, lower elevation river terrace deposits are exposed near Smith Fork and Dry Creek in the southwestern portion of the Planning Area. Finally, as mentioned above,

Pleistocene-age alluvial deposits likely underlie Holocene-age alluvial deposits in the larger valleys of the Planning Area (e.g., Hungry Valley).



Figure 8. Road cut exposure of Pleistocene alluvial deposits consisting of medium brown, poorly consolidated sandstone, located to the north of the San Andreas Fault Zone, in the northernmost portion of the Planning Area. Scale bar measures 10 cm long.



Figure 9. Natural outcrop of Pleistocene alluvial deposits consisting of pebble-cobble conglomerate, located south of Gold Hill Road, west of Smith Forks Campground. Rock hammer for scale.

4.4 Ridge Basin Group: Hungry Valley Formation (Thvl, Thvu)

4.4.1 Introduction

The Hungry Valley Formation consists of up to 4,500 feet of early Pliocene-age (approximately 4 million years old) interbedded mudstones, siltstones, sandstones, and conglomerates deposited primarily in braided stream, flood plain, and alluvial fan paleoenvironments (Crowell, 1950, 1982; Link, 2003). The formation crops out in the northern portion of Ridge Basin, west and south of the San Andreas Fault Zone, and is divisible into two informal members. The lower member (Thvl) consists of about 3,300 feet of alternating white to gray indurated sandstones and mudstones and orange to tan loosely consolidated coarse-grained sandstones and conglomerates with interbedded reddish and greenish mudstones. The upper member (Thvu) consists of about 1,300 feet of brown, massive, well-indurated conglomerates containing clasts of gneiss, granodiorite, volcanics, and marble.

In the eastern and southern portions of the Planning Area, the lower member of the Hungry Valley Formation gradationally overlies sedimentary rocks of the uppermost portion of the Ridge Route Formation (the Apple Canyon Sandstone member). In the western portion of the Planning Area, older deposits of the Hungry Valley Formation interfinger with the Violin Breccia adjacent to the San Gabriel fault, while to the northwest younger deposits of the Hungry Valley Formation overlap the San Gabriel fault and directly overlie crystalline basement rocks. The upper member overlies the lower member in the northern part of the Badlands at the head of Freeman Canyon. The formation is abruptly truncated in the north of the Planning Area by the San Andreas Fault Zone.

During the paleontological field surveys, the lower member of the Hungry Valley Formation was observed to consist of white to light gray to light brown, poorly sorted, moderately to well indurated, laminated to festoon cross-bedded, medium- to very coarse-grained sandstones with abundant subangular to rounded grit and dispersed pebbles (Figures 10–12). Cliff- or ridge-forming beds of resistant white pebbly coarse-grained sandstone were also characteristic of lower Hungry Valley Formation strata. Less common within these strata were rip-up clasts and lenses/pockets of brown mudstone (Figure 12). In contrast, the upper member of the Hungry Valley Formation was observed to consist of very poorly sorted, clast- to matrix-supported, rounded to subangular, pebble and large cobble conglomerates (Figure 13). The conglomerate matrix was composed of tan to light brown coarse-grained sandstone. The sandstone-dominated intervals of this unit were bedded and/or laminated, while the clast-supported conglomerate intervals appeared to be massive.

4.4.2 Paleontology

Important terrestrial vertebrate fossils are known from the lower Hungry Valley Formation (Miller and Downs, 1974; Welton and Link, 1982). These fossils constitute part of the Kinsey Ranch Local Fauna (Stock in Crowell, 1950), a terrestrial vertebrate fossil assemblage in part correlative with the Hemphillian North American Land Mammal Age (NALMA), which was recovered from the transitional contact zone between the Apple Canyon Sandstone member of the Ridge Route Formation and the lower member of the Hungry Valley Formation. Strata in this part of the Ridge Basin stratigraphic sequence formed in fluvial-deltaic and braided fluvial paleoenvironments (Link, 2003).

The LACM records search detailed a series of north–south trending vertebrate fossil localities from this transitional contact zone as exposed within the eastern portion of the Planning Area. The majority of these localities yielded fossils that constituted the Kinsey Ranch Local Fauna, as originally described by Miller and Downs (1974) and later discussed by Welton and Link (1982). This land mammal assemblage consists of pond turtle (*Clemmys* cf. *C. marmorata*), tortoise (cf. *Geochelone*), Proboscidea (probably

gomphothere), horse (*Pliohippus leardi*), tapir (*Tapirus* sp.), camels (cf. *Tanupolama*, cf. *Megatylopus*), and pronghorn antelope (?*Ottoceras*).

When revisited during the field surveys, these sites yielded fragmentary vertebrate fossils discovered as float (i.e., loose on the surface and not *in-situ*). Several bone fragments were found in float blocks of matrix that consisted of white to light gray, poorly sorted, moderately indurated, massive, angular to subrounded, very coarse-grained gritty sandstone with small pebbles and abundant, small, angular rip up clasts of light brown mudstone (Figure 14). Taken together, these sites from the basal strata of the Hungry Valley Formation produced fossil remains of turtle (Cryptodira), tortoise (Testudinidae), bird (Aves), camel (Camelidae?), and horse (Equidae) (SDSNH Localities 7748–7751).

In addition to these recorded localities, a new fossil collection locality (SDSNH Locality 7752) was documented near the north end of Freeman Canyon (Figure 15). Two nearly complete hypsodont (high-crowned) teeth were discovered in slope wash derived from the upper portion of the lower member of the Hungry Valley Formation. These teeth were identified as an extinct horse (*Equus* sp.). Notably, this is the first documented specimen of this genus recovered from the Hungry Valley Formation, and also represents the stratigraphically highest documented occurrence of vertebrate fossils within the lower member of the Hungry Valley Formation. This discovery indicates that further exploration of equivalent strata has the potential to yield additional fossils.

4.4.3 Paleontological Potential Rating

The Hungry Valley Formation is assigned a high paleontological potential (PFYC Class 4) based on the known occurrence of terrestrial vertebrates in this geologic unit. In addition, the presence of previously documented and newly discovered fossil vertebrate localities within the Planning Area supports a high paleontological potential for the Hungry Valley Formation, especially for strata of the lower member.



Figure 10. Typical appearance of Thvl in outcrop. These strata erode into steep-sided ridges, and generally consist of bright white, cross-bedded to laminated, medium- to very coarse-grained sandstone with grit and pebble stringers. Photo taken just to the southwest of Los Alamos Campground (USFS).



Figure 11. Exposures of the upper portion of Thvl in the Badlands at the north end of Freeman Canyon. These strata are capped by more resistant conglomerate beds of the upper member (Thvu). The darker tan/light brown color of Thvl strata here contrast with the more typical white sandstones of the lower Hungry Valley Formation observed elsewhere in the Planning Area.



Figure 12. Typical lithologies observed within Thvl strata included festoon cross-bedded sandstone with pebbles (outcrop measures about 4 feet tall; above), coarse-grained sandstone with brown mudstone rip-up clasts (measuring 7 cm across; below left), and laminated coarse-grained sandstone (below right).



Figure 13. Exposure of Thvu consisting of clast-supported pebble and cobble conglomerate with laminated sandstone interbeds (detail of the outcrop shown at bottom). Photos taken along Powerline Road, to the north of Edison Canyon Campground.

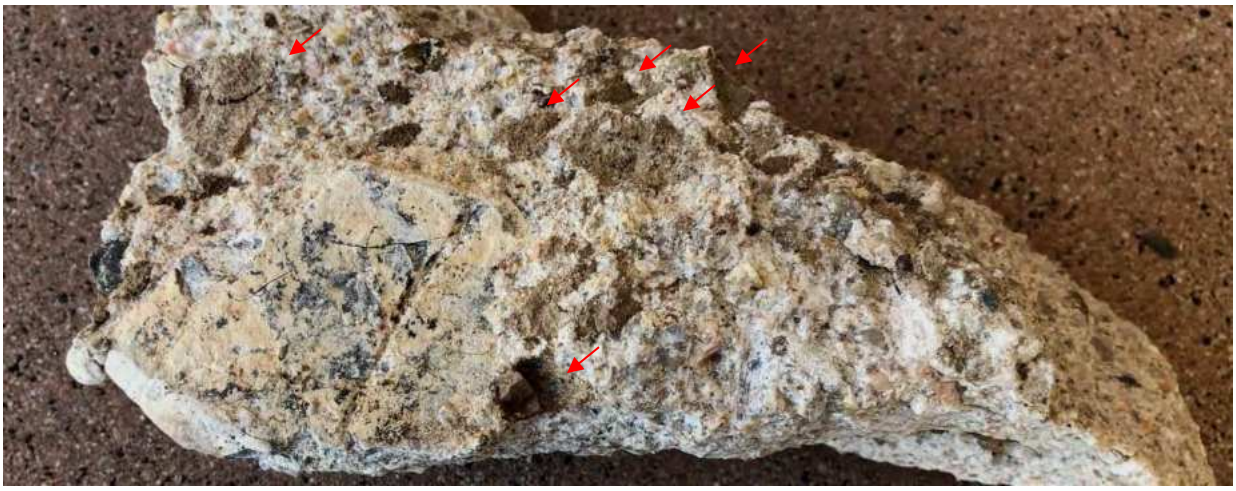


Figure 14. Vertebrate bone fragment (left side of photo) recovered within coarse-grained pebbly sandstone (Thvl) in an area just north of the South Entrance Station. Several light brown mudstone rip up clasts within the matrix block are indicated by red arrows. This block measures approximately 20 cm long.



Figure 15. Fossil-bearing outcrop of Thvl near the north end of Freeman Canyon. Fossil teeth and bone fragments were discovered in sediments washed out of the steep exposure (indicated by yellow flags placed by J.K. Shelmire; left). To the right is a close-up view of the fossil teeth as they were originally found.

4.4.4 Distribution

The Hungry Valley Formation, particularly the lower member, is widespread within the Planning Area. Natural erosion of the Hungry Valley Formation has resulted in the steep-sided ridgelines and spectacular high-relief topography that characterize the majority of the upland portions of the Planning

Area, including the Badlands area at the north end of Freeman Canyon. The Hungry Valley Formation is primarily located within Trails Only Areas, where OHV use is restricted to designated trails only.

4.5 Ridge Basin Group: Ridge Route Formation, Apple Canyon Sandstone Member (Trra)

4.5.1 Introduction

The late Miocene- to early Pliocene-age (approximately 8.4 to 5 million years old) Ridge Route Formation was named by Clements (1929) for outcrops along the old Ridge Route between Templin Highway and Liebre Mountain, approximately 5 miles east of the Planning Area (Link, 1982). As defined by Link (1982), the Ridge Route Formation consists of up to 30,000 feet of interbedded mudstones, sandstones, and conglomeratic sandstones deposited in alluvial fan, braided stream, deltaic, and lacustrine paleoenvironments (Crowell, 1982; Link, 2003). Five distinct sandstone and conglomerate tongues of the Ridge Route Formation extend across the basin from the east to interfinger with mudstones and shales of the Peace Valley Formation to the southwest and coarse angular conglomerates of the Violin Breccia further to the west (Link, 1982). In ascending order, the Ridge Route Formation tongues are referred to as the Marple Canyon Sandstone member, Fisher Spring Sandstone member, Frenchmans Flat Sandstone member, Piru Gorge Sandstone member, and Apple Canyon Sandstone member (Link, 1982, 2003). Of these, only the uppermost Apple Canyon Sandstone member occurs within the Planning Area (Crowell, 2003). These fluvio-deltaic strata were previously informally referred to as the "Peace Valley beds" by Crowell (1950) and Miller and Downs (1974). As described by Link (1982), this member consists of light brown, medium-grained arkosic sandstone with interbeds of conglomerate, mudstone, and minor limestone.

Within the Planning Area, the Apple Canyon Sandstone member of the Ridge Route Formation (Trra) overlies the Alamos Canyon Siltstone member of the Peace Valley Formation, and is gradationally overlain by and interfingers with strata of the lower member of the Hungry Valley Formation.

During the paleontological field surveys of the area to the north of Cañada de Los Alamos, the Apple Canyon Sandstone member was observed to consist of several interbedded lithologies, including: very pale orange, angular, massive to thinly laminated, fine- to medium-grained sandstones containing thin mudstone lenses or small (1-inch-diameter) rip up clasts of gray mudstone; sandy bioturbated mudstones; fissile sandy shale; and thin, discontinuous carbonate horizons (Figures 16–18). Typical sedimentary structures included symmetrical ripple marks (Figure 16) and load casts (Figure 18). The extreme upper portions of the Apple Canyon Sandstone member exposed to the west and north were generally indistinguishable from the lower member of the Hungry Valley Formation, and consisted of white to light gray, massive, coarse-grained sandstones with horizons of pebble and cobble conglomerate; light gray, poorly sorted, massive to cross-bedded, fine- to medium-grained sandstone; and lesser brown mudstone and grayish green siltstone (Figure 19).

4.5.2 Paleontology

Important paleontological resources are known from the various members of the Ridge Route Formation and include fossil plants (e.g., horsetail, avocado, palm, sycamore, cottonwood, poplar, willow, maple, and oak), freshwater and estuarine ostracods, mollusks (e.g., freshwater mussel *Anodonta*, pea clams *Musculium* and *Pisidium*, pond snail *Stagnicola*, mud snails *Fontelicella* and *Tryonia*, and an unidentified planorbid snail), and fish (e.g., scales of unidentified teleosts), as well as terrestrial vertebrates (e.g., the three-toed horse *Merychippus*, rhinoceros, ground sloth) (Axelrod, 1982; Crowell, 1950; Forester and Brouwers, 1982; Miller and Downs, 1974; Welton and Link, 1982; Young, 1982). Fossils documented specifically from the Apple Canyon Sandstone member include plants,

stromatolites, freshwater ostracods, and freshwater mollusks (e.g., the mussel *Anodonta* sp. and the pond snail cf. *Lymnaea*). In addition, a composite assemblage of terrestrial vertebrates—the Kinsey Ranch Local Fauna—was recovered from the transitional contact zone between the Apple Canyon Sandstone member of the Ridge Route Formation ("Peace Valley beds" of Crowell, 1950, and Miller and Downs, 1974; see discussion in Section 3.3) and the lower member of the Hungry Valley Formation. Notably, the holotype and other referred specimens of the extinct pronghorn *Ottoceros peacevalleyensis* (Miller and Downs, 1974) were collected from sandstone slabs of the Apple Canyon Sandstone member in Coyote Canyon, which lies just outside of the southeastern corner of the Planning Area [Note that this locality is erroneously referred to the Peace Valley Formation in Appendix 4]. These important fossil remains include a partial skull and lower jaws with dentition, and most of the axial skeleton (vertebrae and ribs) and appendicular skeleton (pelvic and shoulder girdles and limb bones).

Several of the CIT and LACM fossil collection localities that comprise the Kinsey Ranch Local Fauna are located within the easternmost portions of the Planning Area, in the vicinity of Quail Canyon, Mystic Canyon, and Cañada de Los Alamos. The localities from the "Peace Valley beds" specifically produced a composite fauna of pond turtle (*Clemmys* cf. *C. marmorata*), cat (Felidae), mastodon or mammoth (Proboscidea), horse (*Pliohippus leardi*), and camel (cf. *Tanupolama*). In addition, two invertebrate fossil localities published by Crowell (1950) are located just north of Cañada de Los Alamos, and yielded freshwater mussels (*Anodonta* sp.), pond snails (*Lymnaea* sp.), and fragmentary ostracods.

One of these sites was relocated during the paleontological field surveys and yielded a limb bone fragment of an unidentified large-bodied mammal (SDSNH Locality 7747). Further down section from the vertebrate localities, the invertebrate localities of Crowell (1950) were relocated. Localities from this general area yielded tubular stromatolites, freshwater snails (including *Physa* sp. and *Planorbella* sp.), freshwater mussels (*Anodonta* sp.), a poorly preserved clam (cf. Pelecypoda), ostracods (cf. *Cyprinotus*), and fish bones (Osteichthyes) (SDSNH Localities 7741–7746).

4.5.3 Paleontological Potential Rating

The Apple Canyon Sandstone member of the Ridge Route Formation is assigned a high paleontological potential (PFYC Class 4) based on the known occurrence of fossil assemblages of freshwater invertebrates and terrestrial vertebrates.

4.5.4 Distribution

The Apple Canyon Sandstone member of the Ridge Route Formation occurs in the eastern portion of the Planning Area, and is well exposed along portions of Quail Canyon, Mystic Canyon, and to the north and south of Cañada de Los Alamos. The upper terrestrial vertebrate-bearing portion of the unit is more widespread and is located within the Trails Only Areas of the SVRA, while the lower freshwater invertebrate- and fish-bearing strata are exposed only in the southeastern portion of the Planning Area, outside of the current Hungry Valley SVRA boundary.



Figure 16. Typical appearance of Trra deltatic and fluvial deltaic strata in outcrop in the Cañada de Los Alamos area, along the northwest side of Hungry Valley Road near Pyramid Lake Road (top). Strata here consisted of steeply north-dipping fine-grained sandstones, sandy shales, and mudstones. Symmetrical ripple marks were observed in some sandstone strata (bottom). Overview photo taken facing west along Hungry Valley Road.



Figure 17. Fossil-bearing sequence of Trra deltaic and fluvial deltaic strata to the north of Cañada de Los Alamos, along the north side of Hungry Valley Road. Strata here consisted of laminated fine-grained sandstones (light orange/tan color), crumbly mudstones (gray), and concreted sandstones with load casts (light brown, outlined in black). Fossil internal and external molds of the freshwater mussel *Anodonta* sp. were recovered from a concreted sandstone horizon located at top left (circled in white, with rock hammer for scale). Invertebrate fossils were recovered from some of the laminated sandstones. Photo taken facing east. A close up view of the area outlined in black is shown in Figure 18 below.



Figure 18. Laminated fine-grained sandstones (light orange/tan color) containing imbricated rip up clasts of gray mudstone alongside a hash of invertebrate fossil material (close up to right), overlain by concreted sandstones with load cast sedimentary structures. Rock hammer for scale.



Figure 19. Typical appearance of the upper portion of the Trra in outcrop. Strata here consisted of light gray medium- to coarse-grained sandstone. Photo taken to the north of Quail Canyon near Ralphs Ranch Road. Rock hammer for scale.

4.6 Ridge Basin Group: Peace Valley Formation, Alamos Canyon Siltstone Member (Tpva)

4.6.1 Introduction

The late Miocene- to early Pliocene-age (approximately 8.4 to 5 million years old) Peace Valley Formation was named by Crowell (1982) for outcrops in Peace Valley along I-5 between Templin Highway (approximately 11 miles south-southeast of the Planning Area) and Hungry Valley Road in the southeast corner of the Planning Area (Crowell, 1982). As defined by Link (1982) and Smith (1982), the Peace Valley Formation consists of up to 16,000 feet of interbedded mudstones and shales with minor interbeds of sandstones, siltstones, and carbonates deposited in deltaic and lacustrine paleoenvironments (Crowell, 1982; Link, 2003). The formation is well exposed in large road cuts along I-5 south of Coyote Canyon. These road cuts display well-stratified sequences of northwest dipping sedimentary rocks consisting of beds of shale alternating with beds of massive claystones and sandstones. Five distinct shale and siltstone tongues of the Peace Valley Formation have been recognized that broadly interfinger to the east with the fluvial and deltaic strata of the coeval Ridge Route Formation. In ascending order, these are referred to as the Paradise Ranch Shale member, Osito Canyon Shale member, Cereza Peak Shale member, Posey Canyon Shale member, and Alamos Canyon Siltstone member (Link, 2003; Smith, 1982). Only the uppermost Alamos Canyon Siltstone member crops out within the Planning Area (Crowell, 2003), and records deep, brackish water conditions (Smith, 1982).

Within the Planning Area, the uppermost Alamos Canyon Siltstone member of the Peace Valley Formation (Tpva) underlies the uppermost Apple Canyon Sandstone member of the Ridge Route Formation.

During the paleontological field surveys, the Alamos Canyon Siltstone member of the Peace Valley Formation was observed to primarily consist of light bluish gray and orange siltstone and shale, and greenish tan fine-grained sandstone (Figures 20–21). These strata are folded in the southeastern corner of the Planning Area, and therefore the dip of beds observed in outcrop varied from moderate (~30°) to near vertical. Due to the very steep topography encountered in the southeastern corner of the Planning Area, outcrops were primarily viewed by scaling the lower slopes located just outside of the Planning Area boundary along Coyote Canyon.

4.6.2 Paleontology

Important paleontological resources are known from the various members of the Peace Valley Formation and include insects (e.g., dragonfly nymphs), freshwater mollusks (e.g., freshwater mussel *Anodonta*, pea clams *Musculium* and *Pisidium*, pond snail *Stagnicola*, mud snails *Fontelicella* and *Tryonia*, and an unidentified planorbid snail), and fish (e.g., articulated skeletons of the stickleback *Pungitius haynesi* and the killifish *Empetrichthys erdisi* and *Fundulus* sp.) (Bell, 1973; Squires, 1982; Welton and Link, 1982; Young, 1982).

The LACM records search did not document any fossil collection localities from the Peace Valley Formation within the Planning Area (the “Peace Valley Formation” in Appendix 4 actually refers to the “Peace Valley beds”; see discussion in Section 3.3).

During the paleontological field surveys, however, shells of smooth-sided ostracods and fish scales were observed within thinly bedded siltstone strata of the Alamos Canyon Siltstone member of the Peace Valley Formation located just outside of the Planning Area (Figure 21). The exposures of the Peace Valley Formation within the Planning Area were located in steep-sided slopes, and were not easily prospected for fossils.



Figure 20. Massive and weakly bedded sandstones of the Alamos Canyon Siltstone member of the Peace Valley Formation observed in outcrop at the mouth of Coyote Canyon. Rock hammer for scale.



Figure 21. Shown to the left are light greenish tan, bedded to laminated, fine- to medium-grained sandstones observed along the north side of Coyote Canyon, with rock hammer for scale. On the right are steeply dipping clayey siltstone (gray) with fine-grained sandstone interbeds (tan) exposed where Hard Luck Road (from USFS Los Alamos Campground) turns south towards Pyramid Lake, with 10 cm scale bar. Well-preserved smooth-shelled ostracods and fish scales were recovered from the siltstones here.

4.6.3 Paleontological Potential Rating

The Alamos Canyon Siltstone member of the Peace Valley Formation is assigned a high paleontological potential (PFYC Class 4) based on the known occurrence of fossil assemblages of terrestrial plants and freshwater invertebrates and fish.

4.6.4 Distribution

The Alamos Canyon Siltstone member of the Peace Valley Formation is only exposed in the southeastern-most corner of the Planning Area, and is not present at the surface within the current boundary of Hungry Valley SVRA.

4.7 Ridge Basin Group: Violin Breccia (Tvb)

4.7.1 Introduction

The Violin Breccia consists of coarse angular conglomerates deposited during the late Miocene and early Pliocene (~11 to 4 Ma). The Violin Breccia was deposited continuously in a narrow strip along the scarp of the San Gabriel fault during strike-slip displacement, and consists of brecciated talus, boulders, and cobbles in sandy matrix that ranges from disorganized and poorly sorted to bedded and moderately sorted (Link, 2003). Across the north-south length of Ridge Basin, the Violin Breccia interfingers to the east with (from oldest to youngest): the marine Castaic Formation (not exposed within the Planning Area), the various members of the Peace Valley and Ridge Route Formations, and the lower member of the Hungry Valley Formation.

The only mapped outcrop of the Violin Breccia within the Planning Area could not be accessed during the field survey due to rugged terrain and heavy vegetation.

4.7.2 Paleontology

The Violin Breccia has yielded rare remains of vertebrates, wood, ostracods, and mollusks (Link, 1982).

The paleontological records searches found no documented fossil collection localities from the Violin Breccia within the Planning Area. As this geologic unit was not observed on the field survey, it was not possible to prospect for fossils.

4.7.3 Paleontological Potential Rating

The Violin Breccia is assigned a high paleontological potential (PFYC Class 4) based on the occurrence of scientifically significant terrestrial vertebrates.

4.7.4 Distribution

The Violin Breccia is exposed adjacent to the San Gabriel Fault along the Smith Fork of Piru Creek in the remote southwestern portion of the Planning Area.

4.8 Intrusive Igneous and Metamorphic Rocks (gr, gn)

4.8.1 Introduction

Crystalline basement rocks are present in limited outcrops within the northeast and western portions of the Planning Area, and consist primarily of Precambrian metamorphic rocks and Mesozoic plutonic rocks. The older metamorphic rocks, such as those that make up the bulk of Frazier Mountain, primarily consist of gneisses that have locally been intruded into by younger plutonic igneous rocks including gabbros and diorites. Most of the plutonic rock in the area were emplaced during the Cretaceous as subduction-driven magmas cooled and crystallized below the earth's crust. These crystalline rocks range in composition from granite to granodiorite and quartz diorite, and document the former occurrence of

a major magmatic arc that extended along the entire western margin of the North American Plate during much of Mesozoic time. For the purposes of this report, and in spite of the compositional and temporal differences between these geologic units, all intrusive igneous and metamorphic rocks in the Planning Area are discussed together.

4.8.2 Paleontology

Not surprisingly, the document review and paleontological records searches found no documented fossil collection localities from intrusive igneous or metamorphic rocks within the Planning Area, and no fossils were observed within these rocks during the paleontological field surveys.

4.8.3 Paleontological Potential Rating

The high temperatures and pressures associated with the plutonic and/or high-grade metamorphic origin of these rocks precludes the possibility for the preservation of fossils. Based on this finding, intrusive igneous and metamorphic rocks within the Planning Area are assigned a very low potential (PFYC Class 1).

4.8.4 Distribution

Intrusive igneous and metamorphic rocks are primarily exposed in the western and southwestern portions of the Planning Area, mostly outside of the existing park boundary. A small outcrop of quartz diorite is present in the east, along I-5 just south of the SR-138 interchange (Figure 22). Here, igneous rocks are either faulted against or in depositional contact with sedimentary rocks of the Ridge Basin Group, which are tilted to near vertical. Metamorphic gneissic rocks form the bulk of Frazier Mountain in the western part of the Planning area where they are onlapped by strata of the Hungry Valley Formation and Pleistocene alluvial fan sediments.



Figure 22. Plutonic igneous rock exposed in the road cut along Ralphs Ranch Road, just south of the I-5/SR-138 interchange, with paleo pick for scale. Close up of outcrop, with 3 cm hand lens for scale.

5.0 Discussion of Paleontological Resources

5.1 Paleontological Potential

Within the Planning Area are geologic units assigned a range of PFYC ratings, including high potential (PFYC Class 4), low potential (PFYC Class 2), very low potential (PFYC Class 1), and unknown potential (PFYC Class U).

Potentially vertebrate-fossil-bearing geologic units of the Ridge Basin Group (including the Hungry Valley Formation, Ridge Route Formation, Peace Valley Formation, and Violin Breccia) are all assigned to PFYC Class 4. In the case of the Hungry Valley Formation and Ridge Route Formation, a series of vertebrate fossil collection localities are documented within the Planning Area, and within the existing boundaries of the SVRA (see Appendices 1–4). The Peace Valley Formation and Violin Breccia, meanwhile, have produced vertebrate fossils at sites documented to the east and south of the Planning Area, and, by extension, are considered to have a high potential to yield additional fossils where exposed within the Planning Area. These high potential geologic units are widespread throughout the Trails Only Area of Hungry Valley SVRA. Because of their high potential rating, future development or expansion of off-road vehicle trails in areas where these formations are exposed should include attempts to mitigate significant impacts to paleontological resources during planning and construction. Documented fossil collection localities are concentrated in the eastern and southeastern portions of the Planning Area (see Appendix 1). These areas should receive special consideration during any future Park development because of the known presence of paleontological resources. Attempts should be made to prevent casual collecting at and/or vandalism of documented fossil collection localities within the Park. Regular yearly surveys are also recommended to assess whether the sites have been impacted or are in danger of being impacted by natural erosion or recreational activities within the Hungry Valley SVRA. Furthermore, a new vertebrate fossil collection locality was documented near the north end of Freeman Canyon, indicating that this area should be further prospected for paleontological resources to determine if additional fossils are present.

Pleistocene alluvium within the Planning Area is assigned an unknown potential (PFYC Class U). Similar deposits in southern California have produced scientifically important terrestrial vertebrate, invertebrate, and plant fossils. However, because limited outcrops were available during the paleontological field surveys to confidently characterize the fossil potential of these deposits as they occur within the Planning Area, and because the concentration of fossils within Pleistocene alluvial deposits elsewhere is variable, the preservational potential of Pleistocene alluvium in the Planning Area cannot be reliably predicted based on geologic mapping alone. Elevated alluvial fan and river terrace deposits occur in the northern and western portions of the Planning Area, respectively, while older alluvial valley deposits likely underlie younger alluvium in Hungry Valley and some of the larger canyons along the eastern side of the Planning Area. These deposits and their paleontological potential should be individually assessed during the planning phases of any specific future development projects within the Planning Area.

The remaining geologic units in the Planning Area are not likely to contain paleontological resources (PFYC Classes 1 and 2). These include Holocene alluvium (PFYC Class 2), landslide deposits (PFYC Class 2), and intrusive igneous and metamorphic rocks (PFYC Class 1). Holocene alluvium primarily underlies the Distributed Riding Area along Hungry Valley, where OHV use is heavy. Landslide deposits are common in the uplifted central and northern portions of the Planning Area, and typically lie at the base of steep-sided slopes. Intrusive igneous rocks are exposed in the western and southwestern portions of the Planning Area. Where these geologic units are exposed, impacts to paleontological resources are unlikely.

5.2 Taxonomic Diversity

The documented paleontological resources of Hungry Valley SVRA consist of fossil remains representing a variety of taxonomic groups including freshwater invertebrates (e.g., mussels, snails, and ostracods), freshwater vertebrates (e.g., bony fish and turtles), terrestrial plants, and terrestrial vertebrates (e.g., tortoise, cat, proboscidean, tapir, horse, camel, and antelope). This level of prehistoric biodiversity is especially noteworthy given the limited number of paleontological studies that have been conducted in the Planning Area and vicinity. The greater taxonomic diversity reported for similar age geologic units exposed in other areas of the Transverse Ranges (e.g., Cuyama Basin) is probably the result of a much greater level of paleontological field work over the years. It is likely that with increased interest in the paleontology of the SVRA and additional prospecting for fossils, the sedimentary rocks exposed in Hungry Valley SVRA will yield similar results.

5.3 Stratigraphic Distribution

The documented paleontological resources of Hungry Valley SVRA occur in sedimentary rock units ranging in age from Late Miocene (~12 Ma) to Pliocene (~4 Ma). Fossils from the Peace Valley Formation (Alamos Canyon Siltstone member) primarily occur in lacustrine laminated siltstone and mudstone strata and are often concentrated along individual bedding planes. Fossils in the Ridge Route Formation (Apple Canyon Sandstone member) occur in fluvial delta interbedded sandstone and siltstone strata, as well as braided fluvial massive to cross-bedded sandstone and pebbly sandstone strata. The braided fluvial strata of the upper part of the Apple Canyon Sandstone member grade upwards and laterally into similar looking deposits of the lower member of the Hungry Valley Formation, which also contain fossils. Prior to the field surveys, the basal portion of the Hungry Valley Formation represented the uppermost limit of fossils recovered from this formation. However, on the field surveys, fossils were also recovered from braided fluvial strata within the upper portion of the lower member of the Hungry Valley Formation.

5.4 Fossil Preservation

The documented paleontological resources of Hungry Valley SVRA exhibit a range of modes of preservation depending on the type of enclosing sedimentary rock (e.g., mudstone vs. siltstone vs. fine-grained sandstone vs. coarse-grained sandstone), the original depositional environment (e.g., lake, delta, flood plain, alluvial fan), and the burial history (e.g., rapid burial vs. subaerial exposure).

Fossils known from lacustrine deposits of the Peace Valley Formation are reported to include articulated skeletons of freshwater bony fishes (Welton and Link, 1982), which are preserved as compression fossils.

Fossils known from the Ridge Route Formation (including specimens observed in the Apple Canyon Sandstone member during the paleontological field surveys) exhibit a variety of preservational and taphonomic modes, and include invertebrate shell hashes, well-sorted ostracod coquinas, poorly sorted invertebrate and fish bone accumulations, and monotypic mussel shell beds (Young, 1982; Forester and Brouwers, 1982). Terrestrial vertebrate fossils often occur as isolated and fragmentary limb bones and teeth, but rare associated skeletons have also been reported (Downs and Miller, 1974; Welton and Link, 1982). The varied taphonomic patterns displayed by the invertebrate fossil occurrences suggests different depositional settings including quiet water accumulations of ostracods shells, bed load transport of molluscan shells, winnowed lag concentrations of molluscan shells, and rapid burial of mussel shoals. The taphonomic implications of the terrestrial vertebrate fossil occurrences are discussed below.

Fossils known from the Hungry Valley Formation (including specimens observed during the paleontological field surveys) generally are preserved as isolated skeletal elements, often broken and abraded and widely dispersed in sandstone strata. This taphonomic aspect suggests that the isolated bones underwent a cyclic series of burial and exhumation events that also involved some degree of water transport. Under this hypothesis, an originally intact skeleton would become partially buried on the ancient braid-delta floodplain only to be scoured out during a subsequent high water storm event and individual bones transported into adjacent stream channels where they would be temporarily buried. A still later storm event would erode the stream channel deposits, exhume the bones, and break and abrade them as they are transported to the next site of burial. In the end, this cycle must be broken in order for any of the bones to make it into the fossil record. Even then, the bones can eventually be exhumed by modern processes of erosion. In fact, the majority of the vertebrate fossil specimens observed and collected during the field surveys were found as "float," meaning they had eroded out of their original enclosing sedimentary matrix and had either remained in the same area or been transported to a new location where they were eventually discovered.

5.5 Impacts

During the paleontological field surveys, no evidence was observed that visitors to the SVRA were prospecting for or collecting fossil remains. This may be due to a lack of visitor knowledge of fossils in the SVRA, limited OHV access to those portions of the SVRA with known paleontological resources, a general rarity of visually obvious fossils in the SVRA, and the occurrence of dense vegetation and/or soil and talus obscuring fossil-producing strata.

Impacts to paleontological resources are unlikely to occur as a result of OHV activity in areas underlain by Holocene alluvial deposits. However, heavy impacts to areas where surficial Holocene sediments are relatively thin may result in alteration of the landscape to a point where underlying or adjacent geologic units (e.g., Pleistocene alluvial deposits or strata of the Ridge Basin Group) could become exposed at the surface and potentially impacted.

Impacts to Pleistocene alluvial deposits may result from development of the 2015 Acquisition Area for OHV or other uses. Currently, OHV trails extend onto Condor Mesa and the mesas west of Edison Canyon and Upper and Lower Scrub Oaks Campgrounds, which are all underlain by Pleistocene alluvial fan deposits. This OHV activity thus has the potential to impacts vertebrate fossils that may occur in these deposits.

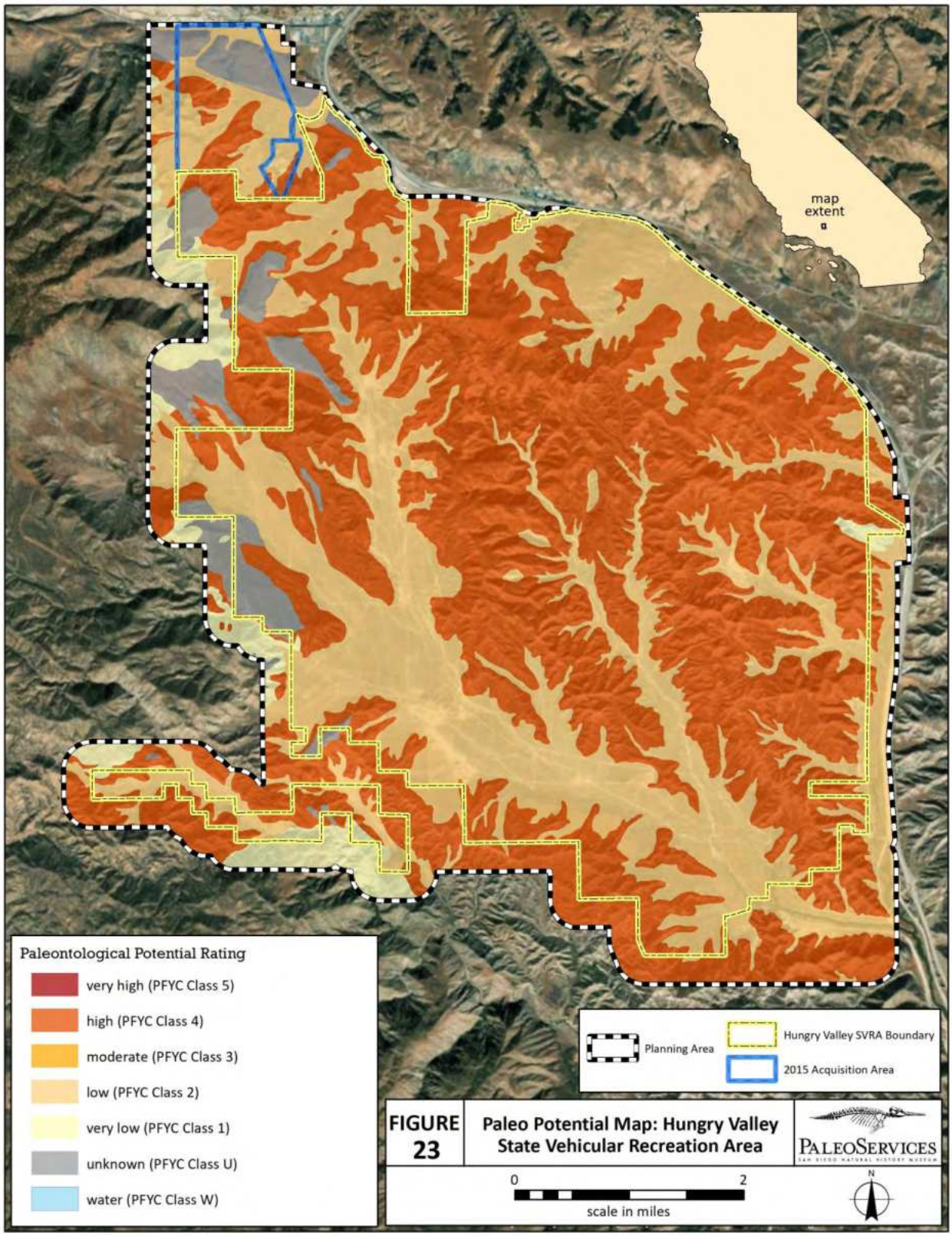
The restriction of OHVs to designated trails in areas containing outcrops of the Hungry Valley Formation should minimize most impacts to potentially fossil-bearing strata within this geologic unit (versus distributed riding in these areas). However, the trails provide easy access to outcrops of the Hungry Valley Formation, where the public could potentially come across vertebrate fossils. In addition, heavy use of the trails by OHVs has the potential to disturb fossil-bearing strata, as slopes within these strata are quite unstable, even for hikers.

Potential impacts to fossil-bearing strata in the Apple Canyon Sandstone member of the Ridge Route Formation are similar to those anticipated for the Hungry Valley Formation. The primary concern is the easy access to outcrops provided by existing roads and OHV trails, where vertebrate fossils could possibly be observed and casually collected.

The primary impacts to strata of the Peace Valley Formation within the Planning Area are likely to be natural erosion of the steep hillsides where they are exposed. Weathering of these exposures has already resulted in the formation of large talus slopes of crumbling shales and siltstones.

5.6 Future Work

The GIS paleontological database produced for this report includes layers for mapped geology, paleontological potential, and documented fossil collection localities covering the Planning Area (see static copies of these layers in Figure 4, Figure 23, and Appendix 1, respectively). These data were compiled to serve as a tool for determining whether individual future development projects and existing or planned land uses within the SVRA have the potential to impact non-renewable and scientifically important paleontological resources. For example, revision of designated use areas within the Hungry Valley SVRA (e.g., expansion or contraction of the Distributed Riding Area, Trails Only Area, and Quail Canyon Special Events Area), construction of new roads or OHV trails, construction of new public use facilities (e.g., campgrounds or interpretive facilities), construction of new park staff facilities (e.g., offices or housing), and expansion into the portions of the Planning Area that lie outside of the current Hungry Valley SVRA boundary. Based on the presence of several geologic units with high paleontological potential within the SVRA, along with a number of documented fossil collection localities that have yielded vertebrate fossils, the protection of paleontological resources should be viewed as an additional resource priority within the Hungry Valley SVRA Planning Area.


map extent
Paleontological Potential Rating
very high (PFYC Class 5)
high (PFYC Class 4)
moderate (PFYC Class 3)
low (PFYC Class 2)
very low (PFYC Class 1)
unknown (PFYC Class U)
water (PFYC Class W)
Planning Area
Hungry Valley SVRA Boundary
2015 Acquisition Area
FIGURE 23
Paleo Potential Map: Hungry Valley State Vehicular Recreation Area
PALEOSERVICES
0
2
scale in miles
N

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Appendix 1: Map of Fossil Collection Localities (Confidential)

Map of fossil collection localities within the Planning Area, including those documented during the paleontological field surveys and existing localities obtained from the document review and LACM paleontological records search.

Appendix 2: List of Fossil Collection Localities

Fossil collection localities within the Planning Area, including those documented during the paleontological field surveys and existing localities obtained from the document review and LACM paleontological records search.

Locality Number	Geologic Unit	Recovered Fossils
CIT 318	Hungry Valley Formation, lower member	unidentified vertebrate
CIT 444	Hungry Valley Formation, lower member	*Pliohippus* or *Plesippus* (tooth fragments)
CIT 466	Hungry Valley Formation, lower member	*Pliohippus* sp.
CIT 468	Hungry Valley Formation, lower member	*Pliohippus* sp.
CIT 469	Hungry Valley Formation, lower member	*Pliohippus* sp.
CIT 471	Hungry Valley Formation, lower member	*Pliohippus* sp., *Tapirus* sp., ?*Ottoceros*
CIT 486	Hungry Valley Formation, lower member	cf. *Clemmys*, cf. *Geochelone*, *Pliohippus* sp., cf. *Tanupolama*, ?*Ottoceros*
LACM 4233	Hungry Valley Formation, lower member	*Pliohippus* sp.
LACM 7049	Hungry Valley Formation, lower member	cf. *Geochelone*, Proboscidea, *Pliohippus* sp.
LACM 7050	Hungry Valley Formation, lower member	cf. *Clemmys*, *Pliohippus* sp.
CIT 467	Ridge Route Formation ("Peace Valley beds") or Hungry Valley Formation, lower member	*Geochelone* sp., *Tanupolama* sp.
LACM 7248	Ridge Route Formation ("Peace Valley beds") or Hungry Valley Formation, lower member	cf. *Clemmys*, cf. *Geochelone*, *Pliohippus* sp.
CIT 452	Ridge Route Formation ("Peace Valley beds")	*Pliohippus* sp., cf. *Tanupolama*
CIT 453	Ridge Route Formation ("Peace Valley beds")	?Felidae, Proboscidea, *Pliohippus* sp., cf. *Tanupolama*
CIT 459	Ridge Route Formation ("Peace Valley beds")	cf. *Clemmys*, *Pliohippus* sp., cf. *Tanupolama*
Crowell (1950), locs. 1 and 2	Ridge Route Formation ("Peace Valley beds")	*Anodonta* sp., *Lymnaea* sp., ostracods (fragmentary)
SDSNH 7741	Ridge Route Formation, Apple Canyon Sandstone member	cf. *Cyprinotus*, Osteichthyes
SDSNH 7742	Ridge Route Formation, Apple Canyon Sandstone member	cf. Pelecypoda

SDSNH 7743	Ridge Route Formation, Apple Canyon Sandstone member	Planorbidae, cf. *Cyprinotus*
SDSNH 7744	Ridge Route Formation, Apple Canyon Sandstone member	*Planorbella* sp., cf. *Cyprinotus*, Osteichthyes
SDSNH 7745	Ridge Route Formation, Apple Canyon Sandstone member	stromatolites, *Physa* sp., *Planorbella* sp., Ostracoda, Osteichthyes
SDSNH 7746	Ridge Route Formation, Apple Canyon Sandstone member	*Physa* sp., *Planorbella* sp., *Anodonta* sp.
SDSNH 7747	Ridge Route Formation, Apple Canyon Sandstone member	Mammalia (limb bone fragment)
SDSNH 7748	Hungry Valley Formation, lower member	Mammalia (tooth and bone fragments)
SDSNH 7749	Hungry Valley Formation, lower member	Mammalia (limb and other bone fragments)
SDSNH 7750	Hungry Valley Formation, lower member	Mammalia (bone fragments)
SDSNH 7751	Hungry Valley Formation, lower member	Testudinidae, Cryptodira, Aves, Camelidae?, Equidae, Mammalia (tooth and bone fragments)
SDSNH 7752	Hungry Valley Formation, lower member	*Equus* sp.

Appendix 3: Voucher Fossil Specimens

Inventory of fossil specimens collected during the paleontological field surveys by SDNHM staff, with figures of selected specimens.

Ridge Route Formation, Apple Canyon Sandstone member

SDSNH Locality 7741

Ostracoda – cf. *Cyprinotus* sp.: single and articulated shells

Osteichthyes (unidentified): vertebrae and bone fragments

SDSNH Locality 7742

cf. Pelecypoda: internal and external molds in matrix

SDSNH Locality 7743

Gastropoda, Planorbidae: internal molds

Ostracoda – cf. *Cyprinotus* sp.: shells in matrix

incertae sedis: shelly tubes

SDSNH Locality 7744

Gastropoda, *Planorbella* sp.: internal molds (Figure A1)

Ostracoda – cf. *Cyprinotus* sp.: single and articulated shells (Figure A2)

Osteichthyes (unidentified): bones in matrix (Figure A1)

SDSNH Locality 7745

Cyanobacteria: stromatolites

Gastropoda – *Physa* sp., *Planorbella* sp.: internal and external molds with shell

Ostracoda: shells in matrix

Osteichthyes (unidentified): bones in matrix

SDSNH Locality 7746

Gastropoda – *Physa* sp., *Planorbella* sp.: internal and external molds with shell (Figure A3)

Pelecypoda – *Anodonta* sp.: single and paired valves, internal and external molds with shell (Figure A3)

incertae sedis: shelly tubes in matrix

SDSNH Locality 7747

Mammalia (unidentified): limb bone fragment

Hungry Valley Formation, lower member

SDSNH Locality 7748

Mammalia (unidentified): tooth and bone fragments

SDSNH Locality 7749

Mammalia (unidentified): limb and other bone fragments

SDSNH Locality 7750

Mammalia (unidentified): bone fragments

SDSNH Locality 7751

Reptilia – Testudinidae: hyoplastron pieces

Reptilia – Cryptodira: carapace pieces

Aves (unidentified): bone fragment

Mammalia – Camelidae?: enamel fragment

Mammalia – Equidae: tooth fragments

Mammalia (unidentified): tooth fragment, bone fragments, partial proximal rib?, partial metapodial?

SDSNH Locality 7752

Mammalia – *Equus* sp.: right upper P4?, right upper M2 (Figure A4)

Mammalia (unidentified): bone fragments



Figure A1. Internal molds of the freshwater snail *Planorbella* sp. (L) and fish (Osteichthyes) bone fragments in matrix (R), collected from SDSNH Locality 7744. Scale bars equal to 5 mm.



Figure A2. Single and articulated shells of the ostracod cf. *Cyprinotus*, collected from SDSNH Locality 7744. Left scale bar equal to 5 mm, right scale bar equal to 1 mm.

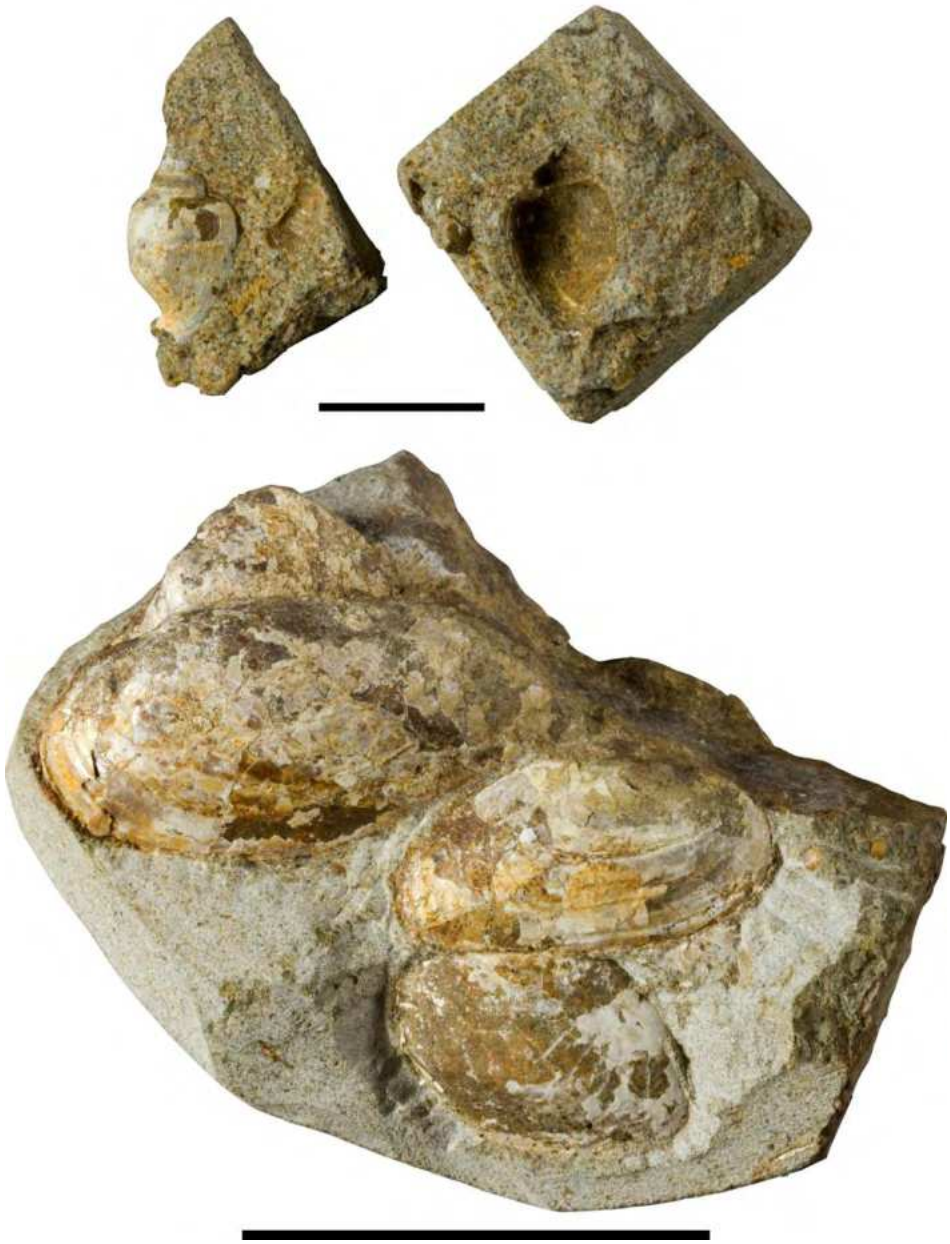


Figure A3. Whole shell (L) and external mold (R) of the freshwater snail *Physa* sp. (top), and whole shells of the freshwater mussel *Anodonta* sp. (bottom), collected from SDSNH Locality 7746. Top scale bar equal to 1 cm, bottom scale bar equal to 5 cm.

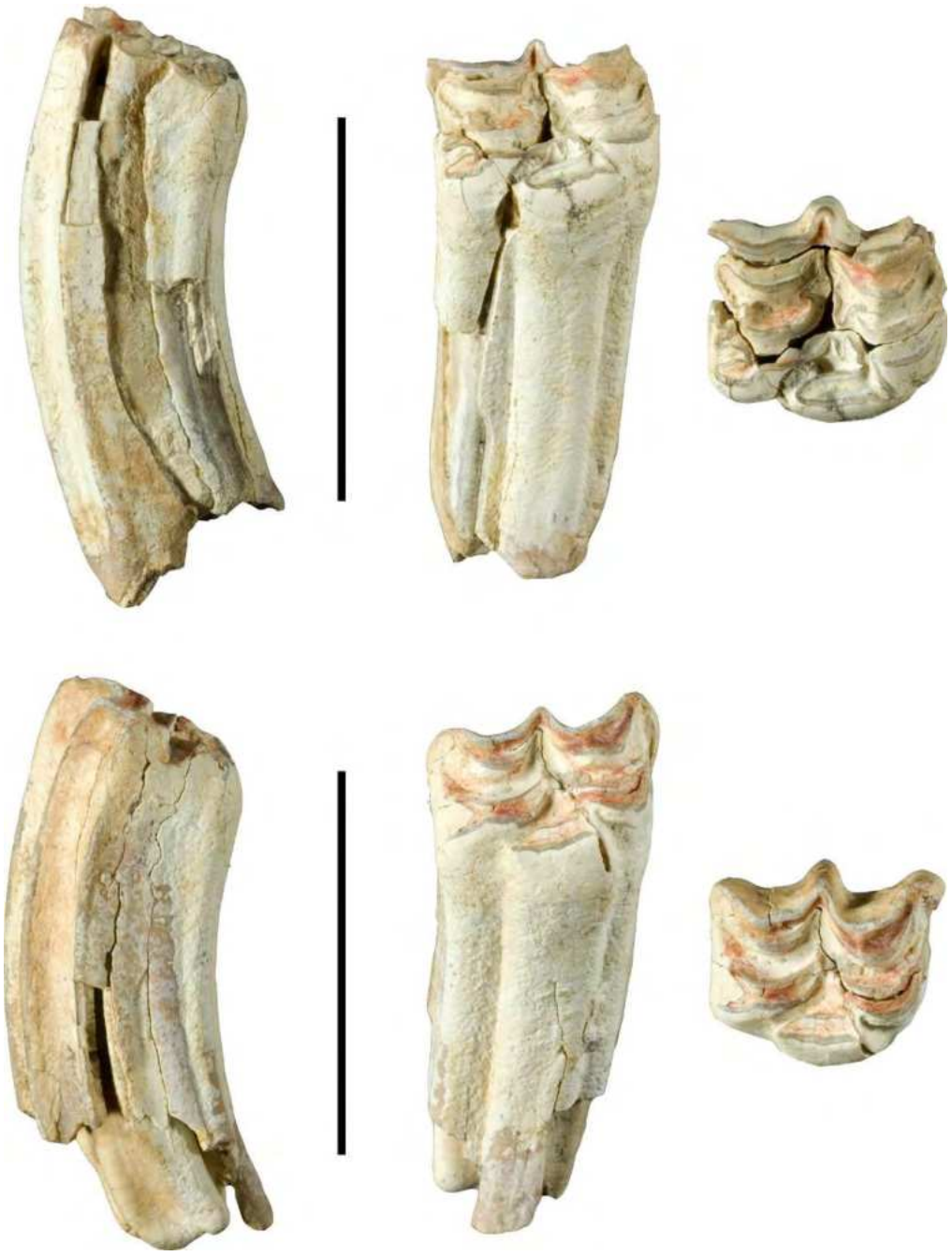


Figure A4. Horse (*Equus* sp.) teeth, upper right P4? (top) and M2 (bottom), collected from SDSNH Locality 7752, shown in distal, oblique lingual, and occlusal views (L–R). Scale bars equal to 5 cm.

Appendix 4: LACM Records Search Results (Confidential)

APPENDIX G

Noise Monitoring Reports

HUNGRY VALLEY SVRA NOISE MONITORING

JULY 31, 2021

SHORT-TERM MONITORING RESULTS



PREPARED FOR: State of California
Department of Parks and Recreation

October 13, 2021

CSDA | DESIGN GROUP

Table of Contents

Section **Page**

1.0 Executive Summary 1
2.0 Introduction and Project Description 1
3.0 Acoustical Criteria 1
3.1 County of Los Angeles Noise Ordinance 2
3.2 County of San Buenaventura (Ventura) Noise Ordinance 3
3.3 Kern County Noise Ordinance 4
3.4 Summary of Acoustical Criteria 5
4.0 Data Analysis Methodology 5
5.0 Existing Conditions and Observations 6
5.1 Noise Measurement Locations 6
5.1 Short Term Location – Gorman Elementary School 6
5.1.1 Measurement Notes 6
5.1 Short Term Location – Frazier Mountain High School 7
5.1.1 Measurement Notes 7
5.2 Weather 8
5.3 General Noise Conditions 9
6.0 Measurement Results 9
6.1 Gorman Elementary School – Measurement Observations 9
6.2 Gorman Elementary School - Measured Levels 10
6.3 Frazier Park High School - Measurement Observations 10
6.4 Frazier Mountain High School – Measured Levels 11
7.0 Appendix A: Definition of Terms and References 13
8.0 Appendix B: Fundamentals of Sound 14
9.0 Appendix C: Hourly Time History Graphs of Measurements 15
9.1 Gorman Elementary School Hourly Time History 15
9.2 Frazier Mountain High School Hourly Time History 21

List of Figures

Figure **Page**

Figure 1: Hungry Valley SVRA with Adjacent County Lines and Land Uses 2
Figure 2: Hungry Valley Noise Monitoring Locations 6
Figure 3: Microphone on Tripod –Gorman Elementary School Measurement Location 7
Figure 4: Microphone on Tripod – Frazier Mountain High School Measurement Location 8
Figure 5: Gorman Elementary School Measurement Location – Noise Source Distribution 10
Figure 6: Frazier Mountain High School Measurement Location – Noise Source Distribution 11
Figure 7: Example of Field Data Sheet showing the start time of the event, description, check box to note the sound is coming from the SVRA, and duration 15

List of Tables

Table **Page**

Table 1: County of Los Angeles Noise Element - Reprinted Table from Section 12.08.390 3
Table 2: County of Ventura Noise Element - Reprinted Table from Section 10.650.130 4
Table 3: GPS Coordinates of Monitoring Locations 6
Table 4: Detailed 7/31/2021 Meteorological Data 9

Table 5: Gorman Elementary School – Measured Levels 10
Table 6: Frazier Mountain High School – Measured Levels 11

1.0 Executive Summary

This report summarizes the measurement and observation of noise sources from and around the Hungry Valley State Vehicular Recreation Area (SVRA) in Gorman, California. Noise measurements were conducted during the morning and afternoon of Saturday, July 31, 2021, during normal park operating hours. Noise levels were monitored adjacent to Goman Elementary School, and the surrounding residences, as well as Frazier Mountain High School to identify sources related to park activity and differentiate these from the typical ambient environment.

- Fully attended, four-hour noise measurements were conducted at two locations to quantify and characterize noise from SVRA operations (which include Off Highway Vehicle [OHV] use). One short term (ST) measurement was taken adjacent to the Gorman Elementary School and one was taken adjacent to the Frazier Mountain High School. The measurements at Gorman Elementary School began around 8:15 AM and concluded around 1:30 PM and the measurements at Frazier Mountain High School began around 9:10 AM and concluded around 1:15 PM.

- The noise environment at the Gorman Elementary School was characterized by nearby road traffic (I5), birds chirping, and aircraft flyovers with OHV activity and wind noise being minor contributors. The noise environment at Frazier Mountain High School was characterized by OHV Activity, nearby road traffic, high wind noise, aircraft flyovers, and birds chirping.

- There were no noise exceedances measured at either the Gorman Elementary School or the Frazier Mountain High School measurement locations attributed to OHV Activity.

The definitions of relevant acoustical terminology and a discussion of the fundamentals of environmental sound propagation are included in Appendices A and B, respectively.

2.0 Introduction and Project Description

CSDA Design Group was contracted by the State of California to conduct continuous long-term (permanent) and short-term (attended) ambient sound monitoring at various SVRAs. Continuous ambient sound monitoring is required to support PRC 50900.02 (b). “The legislature hereby declares that effectively managed areas and adequate facilities for the use of off-highway vehicles and conservation and enforcement are essential for ecologically balanced recreation.” Short-term monitoring for seasonal changes in park use and “Special Events” supplement the continuous, unattended noise level monitoring to provide accurate prescriptions of environmental versus SVRA operational noise sources.

This report details the four-hour fully attended noise measurements conducted at Hungry Valley SVRA on July 31, 2021. This short-term monitoring session occurred during a “Special Event,” the Gorman Ridge Rally, and serves as a Special Event Monitoring session.

3.0 Acoustical Criteria

The Hungry Valley SVRA is located primarily in San Buenaventura (Ventura) County but is near the borders of Los Angeles and Kern Counties. Adjacent land uses include residential housing in Gorman, California (Los Angeles County) and Frazier Park (Kern County), as well as the Frazier Mountain High School (Kern County). As such, we have included a map showing these adjacencies and the county borders with respect to the campsite measurement locations. As the Kern County Noise Element does

not include quantitative noise limits for these land uses, the noise limits presented in the Ventura County Noise Element have been applied at the Frazier Park residences and Frazier Mountain High School.

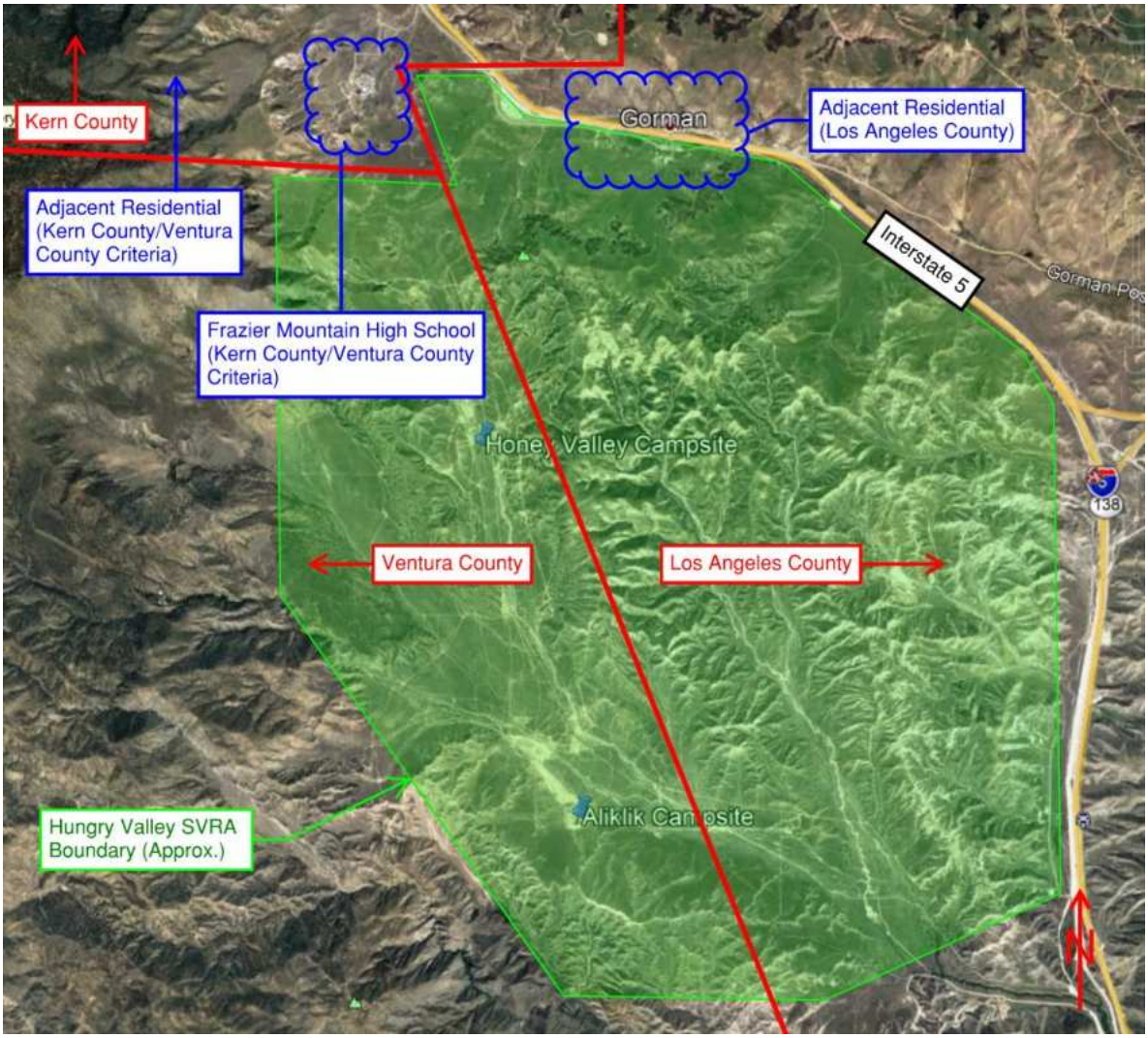


Figure 1: Hungry Valley SVRA with Adjacent County Lines and Land Uses

3.1 *County of Los Angeles Noise Ordinance*

The County of Los Angeles Noise Element, Chapter 12.08 – Noise Control, stipulates the following goals and policies applicable to the Hungry Valley SVRA.

- **Section 12.08.390 – Exterior Noise Standards:**
  - **Subsection A:** Unless otherwise herein provided, the following exterior noise levels shall apply to all receptor properties within a designated noise zone:

Table 1: County of Los Angeles Noise Element - Reprinted Table from Section 12.08.390

Noise Zone	Designated Noise Zone Land Use (Receptor Property)	Time Interval	Exterior Noise Level [dBA]
I	Noise-Sensitive Area	Anytime	45
II	Residential Properties	10:00 PM – 7:00 AM (nighttime)	45
		7:00 AM – 10:00 PM (daytime)	50
III	Commercial Properties	10:00 PM – 7:00 AM (nighttime)	55
		7:00 AM – 10:00 PM (daytime)	60
IV	Industrial Properties	Anytime	70

- **Subsection B:** Unless otherwise herein provided, no person shall operate or cause to be operated, any source of sound at any location within the unincorporated county, or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise level, when measured on any other property either incorporated or unincorporated, to exceed any of the following noise standards:

  - Standard No. 1 shall be the exterior noise level which may not be exceeded for a cumulative period of more than 30 minutes in any hour. Standard No. 1 shall be the applicable noise level from subsection A of this section; or, if the ambient L50 exceeds the foregoing level, then the ambient L50 becomes the exterior noise level for Standard No. 1.
  - Standard No. 2 shall be the exterior noise level which may not be exceeded for a cumulative period of more than 15 minutes in any hour. Standard No. 2 shall be the applicable noise level from subsection A of this section plus 5 dB; or, if the ambient L25 exceeds the foregoing level, then the ambient L25 becomes the exterior noise level for Standard No. 2.
  - Standard No. 3 shall be the exterior noise level which may not be exceeded for a cumulative period of more than five minutes in any hour. Standard No. 3 shall be the applicable noise level from subsection A of this section plus 20 dB; or, if the ambient L8.3 exceeds the foregoing level, then the ambient L8.3 becomes exterior noise level for Standard No. 3.
  - Standard No. 4 shall be the exterior noise level which may not be exceeded for a cumulative period of more than one minute in any hour. Standard No. 4 shall be the applicable noise level from subsection A of this section plus 15 dB; or, if the ambient L1.7 exceeds the foregoing level, then the ambient L1.7 becomes the exterior noise level for Standard No. 4.
  - Standard No. 5 shall be the exterior noise level which may not be exceeded for any period of time. Standard No. 5 shall be the applicable noise level from subsection A of this section plus 20 dB; or, if the ambient L0 exceeds the foregoing level then the ambient L0 becomes the exterior noise level for Standard No. 5.

3.2 *County of San Buenaventura (Ventura) Noise Ordinance*

The County of San Buenaventura Noise Section, Chapter 10.650 – Noise Control, stipulates the following noise limits applicable to the Hungry Valley SVRA.

- **Section 10.650.130 - Designated Noise Zones:**
  - **Subsection B.1:** The following exterior noise levels, unless otherwise indicated, shall apply to all receiving properties within a designated noise zone for the purpose of establishing noise level limits in subsection B.2. below:

Table 2: County of Ventura Noise Element - Reprinted Table from Section 10.650.130

Noise Zone	Designated Noise Zone Land Use (Receptor Property)	Time Interval	Exterior Noise Level [dBA]
I	Noise-Sensitive Properties	7:00 AM – 10:00 PM (daytime) 10:00 PM – 7:00 AM (nighttime)	50 45
II	Residential Properties	7:00 AM – 10:00 PM (daytime) 10:00 PM – 7:00 AM (nighttime)	50 45
III	Commercial Properties	7:00 AM – 10:00 PM (daytime) 10:00 PM – 7:00 AM (nighttime)	60 55
IV	Industrial and Agricultural	Anytime	70

  - **Subsection B.2:** Unless otherwise provided in this article, no person shall operate or cause to be operated any source of sound at any location within the city, or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise level when measured on any receiving property to exceed the following noise level limits:

    a) The exterior noise levels for that land use, as specified in Subsection B.1 above, for a total period of more than 30 minutes in any consecutive 60 minutes;
    b) The exterior noise levels plus five dB for a total period of more than 15 minutes in any consecutive 60 minutes;
    c) The exterior noise levels plus ten dB for a total period of more than five minutes in any consecutive 60 minutes; or
    d) The exterior noise levels plus 15 dB for a total period of more than one minute in any consecutive 60 minutes; or
    e) The exterior noise levels plus 20 dB for any period of time.

  - **Subsection B.4:** If the ambient noise level exceeds that permissible for any of the noise level limits in subsections (a), (b), (c) and (d) of subsection 2. above, the noise level limit shall be increased in five dB increments as appropriate to encompass or reflect said ambient noise level. In the event the ambient noise level exceeds the noise level limit in subsection 2.(e) above, this limit shall be increased to the maximum ambient noise level.

3.3 *Kern County Noise Ordinance*

The Kern County Noise Ordinance does not stipulate any relevant, quantitative, noise regulations for noise levels emanating from operations at the SVRA. As such, quantitative noise limits from the County of Ventura Noise Ordinance will be applied to the adjacent residential in Frazier Park (Kern County) and Frazier Mountain High School (Kern County) as both measurement locations are within Ventura County.

3.4 *Summary of Acoustical Criteria*

The acoustical criteria discussed in the County of Los Angeles and County of San Buenaventura Noise Ordinances above were applied to both measurement locations at SVRA as the SVRA is located on the border of these two counties:

- **Adjacent Residential:** Adjacent land uses at the northeastern/northern border of the SVRA include residential housing in Gorman, California (Los Angeles County) and Frazier Park, California (Kern County). Note that as no quantitative noise limits were provided in the Kern County Noise Ordinance, the exterior noise limits provided in the Ventura County Noise Ordinance are applied to the residences in Frazier Park (see Table 2) as both short term measurement locations are within the County of Ventura. Exterior residential noise limits provided by the County of Los Angeles in Table 1 are applied to the residences in Gorman, California.
- **Adjacent Commercial:** Adjacent land uses at the northeastern/northern border of the SVRA include the Gorman Elementary School in Gorman, California (Los Angeles County) and the Frazier Park High School in Frazier Park, California (Kern County). As no quantitative noise limits were provided in the Kern County Noise Ordinance, the exterior noise limits provided in the Ventura County Noise Ordinance are applied to the Frazier Park High School (see Table 2). Exterior commercial noise limits provided by the County of Los Angeles in Table 1 are applied to the Gorman Elementary School. It should be noted that as the residential exterior noise criterion is lower than the commercial exterior noise criterion, the residential exterior noise criterion takes was applied at the Gorman Elementary School measurement location.

4.0 Data Analysis Methodology

The following step-by-step procedure explains the data analysis methodology:

1. During the attended short term field measurements, field staff log the type/source of any noisy events (e.g., aircraft flyovers, OHV noise).

2. The four-hour meter data is imported into our analysis software, NoiseWorks, and a visual inspection of the time history graphs, presented in Section 9.0, is conducted to determine the major noise sources any significant exceedances of the noise criterion established in Section 3.0.

3. The ambient noise level (i.e., the level without OHV noise) is established at the measurement location by masking (excluding) the events denoted during the measurement time period as OHV Noise. If a noise source comes from the SVRA, it is excluded from the ambient calculation. Once all SVRA related events are masked, the ambient level is established.

4. The average hourly noise level including SVRA noise is then calculated and compared to the ambient levels to determine whether noise from the SVRA is above the ambient.

5. The difference in average hourly noise levels between the ambient and SVRA included data sets are compared to the prescribed criteria in Section 3.0 to determine if any exceedances occurred.

5.0 Existing Conditions and Observations

5.1 *Noise Measurement Locations*

Figure 2 indicates where the fully attended noise monitoring measurements were taken with respect to the SVRA and nearby ambient noise level contributors; Table 3 shows the GPS coordinates of the monitoring locations.

Table 3: GPS Coordinates of Monitoring Locations

Location	GPS Coordinates
Gorman Elementary School (Loc-1)	34° 47' 31.32" N 118° 51' 14.32" W
Frazier Mountain High School (Loc-2)	34° 47"49.34" N 118° 53'33.66" W

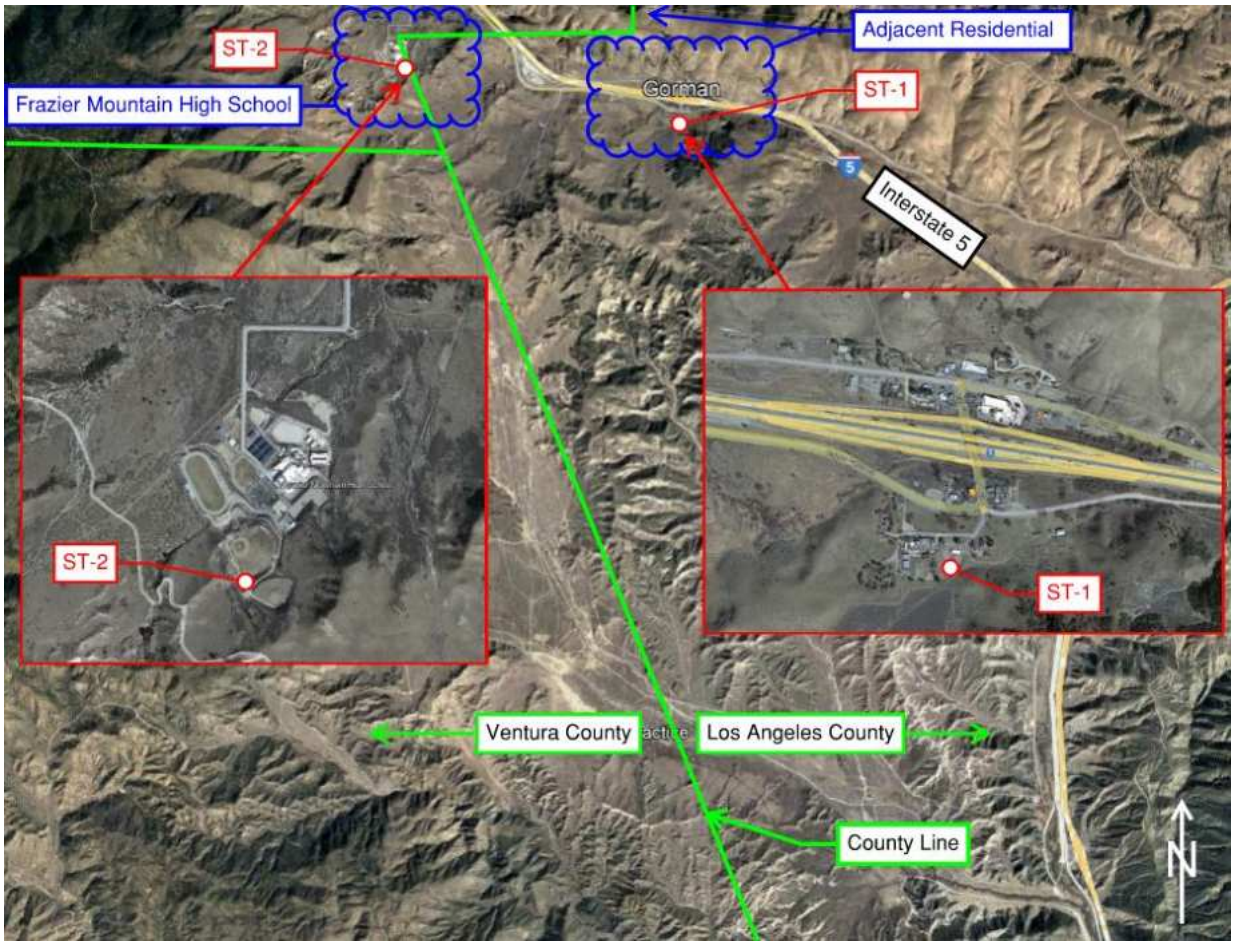


Figure 2: Hungry Valley Noise Monitoring Locations

5.1 *Short Term Location – Gorman Elementary School*

5.1.1 Measurement Notes

The measurement was taken on a tripod five feet above the ground and more than 10 feet from any reflecting surface. Figure 3 shows an image of the monitoring location and setup.



Figure 3: Microphone on Tripod –Gorman Elementary School Measurement Location

The measurement commenced at about 8:15 AM and ended at about 1:30 PM on July 31, 2021.

The equipment was calibrated immediately before and after the measurement with no significant drift in response.

5.1 *Short Term Location – Frazier Mountain High School*

5.1.1 Measurement Notes

The measurement was taken on a tripod five feet above the ground and more than 10 feet from any reflecting surface. Figure 4 shows an image of the monitoring location and setup.



Figure 4: Microphone on Tripod – Frazier Mountain High School Measurement Location

The measurement commenced at about 9:15 AM and ended at about 1:15 PM on July 31, 2021.

The equipment was calibrated immediately before and after the measurement with no significant drift in response.

5.2 *Weather*

On July 31, 2021, during the measurement period, the average wind speed ranged from 7 miles per hour (mph) to 16 mph; wind noise was audible during the measurement time period but did not significantly affect the measurements. The temperature ranged from a low of 85°F to a high of 105°F, while the average was 95°F. The humidity ranged from a low of 15% to a high of 28%, with no precipitation during the measurement time period. Detailed meteorological data is included in Table 4 below.

Table 4: Detailed 7/31/2021 Meteorological Data

Time	Temp. (°F)	Humidity	Cloud Cover	Precipitation	Wind Direction	Wind Speed
7:00 AM	85°F	28%	Fair	0.0 in	NE	7 mph
8:00 AM	87°F	23%	Fair	0.0 in	N	14 mph
9:00 AM	87°F	24%	Fair	0.0 in	NNW	14 mph
10:00 AM	91°F	25%	Fair	0.0 in	NW	9 mph
11:00 AM	94°F	25%	Fair	0.0 in	NW	12 mph
12:00 PM	98°F	20%	Fair	0.0 in	NW	10 mph
1:00 PM	100°F	17%	Fair	0.0 in	NW	14 mph
2:00 PM	102°F	18%	Fair	0.0 in	WNW	16 mph
3:00 PM	104°F	16%	Fair	0.0 in	NW	15 mph
4:00 PM	105°F	15%	Partly Cloudy	0.0 in	NW	16 mph

5.3 *General Noise Conditions*

OHV noise, birds chirping, high wind noise, nearby road traffic, and aircraft flyovers were the dominant contributors to the noise environment at both monitoring locations. The specific nature of these noises, as well as an analysis of those levels above the prescribed criteria, are discussed below.

6.0 Measurement Results

There were no exceedances of the prescribed thresholds at either location attributed to the SVRA. Results for both locations are discussed below:

6.1 *Gorman Elementary School – Measurement Observations*

Typical noises included nearby road traffic (Interstate 5), birds chirping, and aircraft flyovers with OHV activity and wind noise being minor contributors. There were no exceedances of the prescribed thresholds at the adjacent residential or elementary school land uses.

Hourly graphs of the measured noise levels, with typical noise source indications, can be found in Appendix C. It should be noted that staff hand recorded noise events for this measurement location, rather than marking the typical noise sources on the measurement graphs, an example of which is included in Appendix C. A summary of the typical noise sources at this measurement location is shown below in Figure 5. Note that this is a representative graph of the noise environment; as many events occurred simultaneously, percentages presented are approximate.

Please note that road traffic indicated in Appendix C and in the figure below refers to the non-OHV vehicles passing by on Interstate 5.

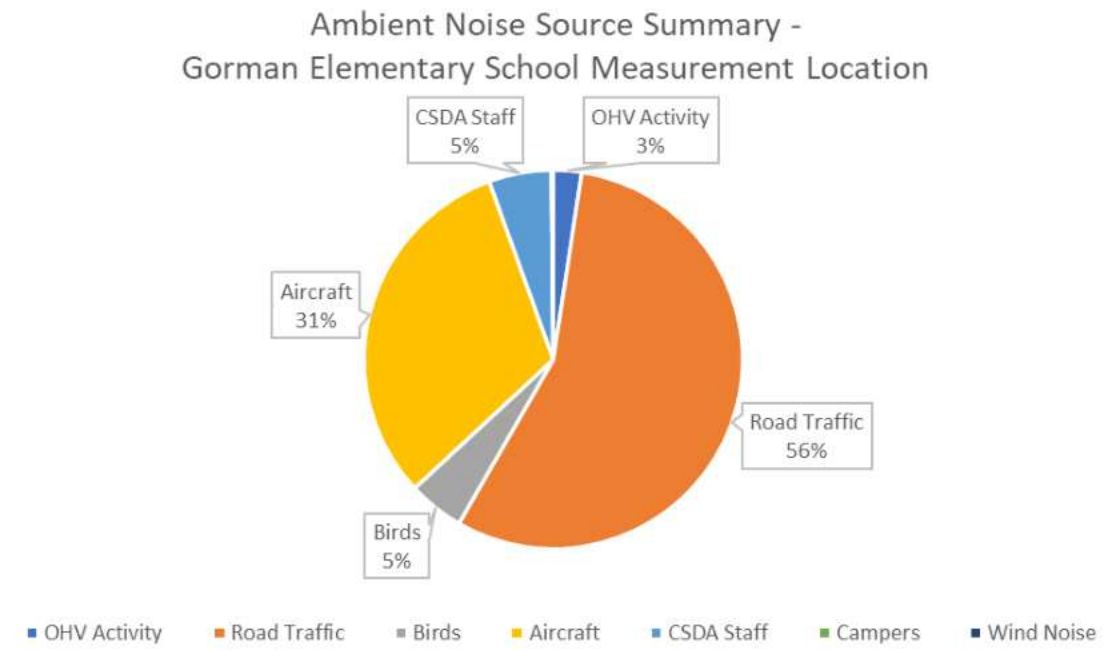


Figure 5: Gorman Elementary School Measurement Location – Noise Source Distribution

6.2 *Gorman Elementary School - Measured Levels*

Table 5 provides a summary of the measurement results.

Table 5: Gorman Elementary School – Measured Levels

Start Time	Duration	Duration(s)	Leq(dBA)	Criteria	L_{50} (dBA)	Criteria	L_{25} (dBA)	Criteria	$L_{8.3}$ (dBA)	Criteria	$L_{1.7}$ (dBA)	Criteria	L_{max} (dBA)
8:19:10 AM	0:40:50	2450	65	50	55	55	57	60	65	65	77	70	85
9:00:00 AM	1:00:00	3600	55	50	54	55	56	60	57	65	58	70	62
10:00:00 AM	1:00:00	3600	53	50	51	55	53	60	55	65	58	70	73
11:00:00 AM	1:00:00	3600	53	50	51	55	54	60	56	65	58	70	65
12:00:00 PM	1:00:00	3600	52	50	51	55	53	60	55	65	57	70	64

Green denotes noise standard compliance,
Yellow denotes an exceedance due to **non**-SVRA activity
Red denotes an exceedance due to SVRA activity

Note that the applied criteria are for the adjacent residential land uses to the north of the measurement location. As such, **noise levels attributed to the SVRA are expected to be in compliance at the nearest residential land use**.

6.3 *Frazier Park High School - Measurement Observations*

Typical noises included OHV Activity, nearby road traffic, high wind noise, aircraft flyovers, and birds chirping. Nearby road traffic and aircraft flyovers were the highest contributors to the noise environment. There were no exceedances of the prescribed thresholds at the adjacent commercial land uses.

Hourly graphs of the measured noise levels, with typical noise source indications, can be found in Appendix C. A summary of the typical noise sources at this measurement location is shown below in Figure 6. Note that this is a representative graph of the noise environment; as many events occurred simultaneously, percentages presented are approximate.

Please note that road traffic indicated in Appendix C and in the figure below refers to the non-OHV vehicles passing at the Frazier Mountain High School.

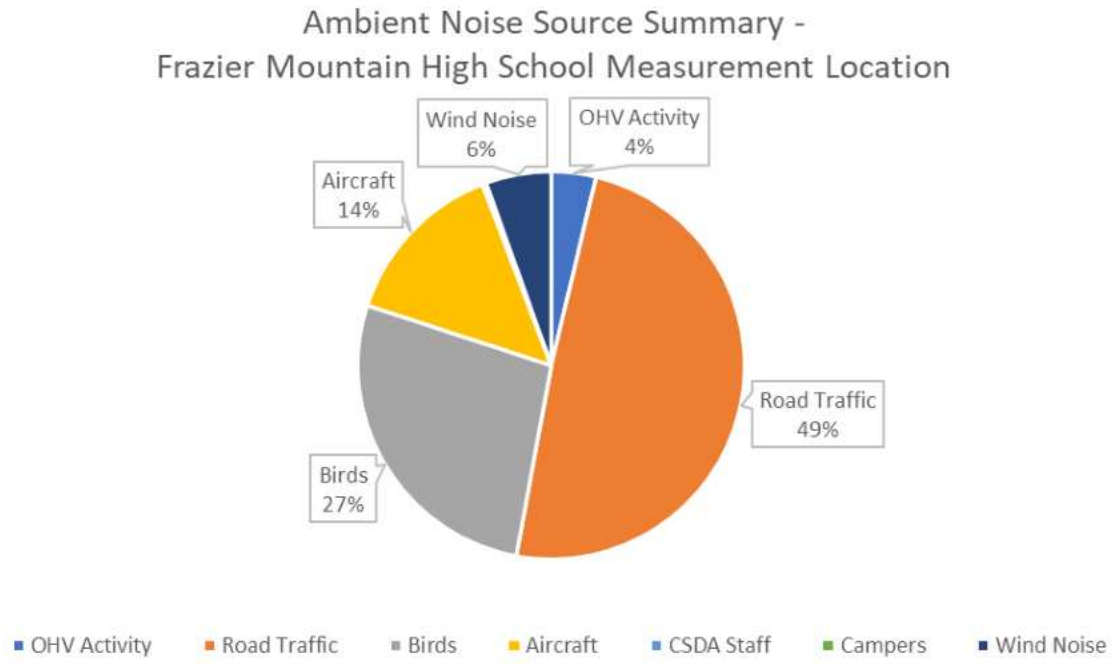


Figure 6: Frazier Mountain High School Measurement Location – Noise Source Distribution

6.4 *Frazier Mountain High School – Measured Levels*

Table 6 provides a summary of the measurement results.

Table 6: Frazier Mountain High School – Measured Levels

Start Time	Duration	Duration(s)	Leq(dBA)	Criteria	L_{50} (dBA)	Criteria	L_{25} (dBA)	Criteria	$L_{8.3}$ (dBA)	Criteria	$L_{1.7}$ (dBA)	Criteria	L_{max} (dBA)
9:09:16 AM	0:50:44	3044	41	60	37	65	39	70	43	75	49	80	63
10:00:00 AM	1:00:00	3600	39	60	36	65	38	70	40	75	46	80	59
11:00:00 AM	1:00:00	3600	40	60	37	65	39	70	42	75	48	80	60
12:00:00 PM	1:00:00	3600	40	60	37	65	39	70	43	75	49	80	56
1:00:00 PM	0:15:29	929	42	60	36	65	39	70	46	75	52	80	57

Green denotes noise standard compliance,
Yellow denotes an exceedance due to **non**-SVRA activity
Red denotes an exceedance due to SVRA activity

Note that the applied criteria are for Frazier Mountain High School; CSDA did not measure noise levels attributed to the SVRA that exceeded the prescribed criteria at this measurement location. Additionally, the nearest residential land use is located in Frazier Park, which is a mile and a half further from the measurement location. As such, **noise levels are expected to be in compliance at the nearest residential land use**.

This concludes our noise monitoring report for the measurements conducted at Hungry Valley SVRA on July 31, 2021. Please do not hesitate to reach out with any questions or concerns.

7.0 Appendix A: Definition of Terms and References

A-Weighted Sound Level: A term for the A-Weighted sound pressure level. The sound level is obtained by use of a standard sound level meter and is expressed in decibels. Sometimes the unit of sound level is written as dB(A).

Day/Night Average Sound Level (L_{dn} or DNL): A descriptor established by the U.S. Environmental Protection Agency to describe the average day-night level with a 10 dB penalty applied to noise occurring during the nighttime hours (10 pm to 7 am) to account for the increased sensitivity of people during sleeping hours. A 10 dB increase in sound level is perceived by people to be twice as loud.

L_{eq}: The equivalent continuous sound level which would contain the same sound energy as the time varying sound level.

Los Angeles County – Noise Element:
https://library.municode.com/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT12ENPR_CH12.08NOCO

Kern County – Noise Section:
https://library.municode.com/ca/kern_county/codes/code_of_ordinances?nodeId=TIT8HESA_CH8.36NOCO

San Buenaventura (Ventura) – Noise Section:
https://library.municode.com/ca/san_buenaventura/codes/code_of_ordinances?nodeId=DIV10PUPEMORE_CH10.650NOCO

8.0 Appendix B: Fundamentals of Sound

Noise is typically defined as unwanted sound and has the potential of negatively affecting human health. Noise in the community has often been cited as a health problem since it affects general well-being and contributes to undue stress and annoyance. At especially high noise levels, hearing loss can occur. Details about the fundamentals of sound and common noise descriptors, as well as further discussion regarding human response to noise and common noise sensitive receivers, are provided below.

Sound is the energy (disturbance or vibration), that is transmitted in the form of waves through a medium, such as air or water. Sound waves are typically described in terms of in terms of intensity and frequency. Sound intensity refers to the amount of energy in a sound wave and is quantified on a logarithmic "decibel" scale. Levels of sound intensity correspond to different degrees of loudness, where 0 dBA generally corresponds with the threshold of human hearing and sound levels of 120 dBA to 140 dBA, or higher correspond to thresholds of pain. The frequency of sound is defined as the number of cycles per second and is measured in Hertz (Hz). Humans are typically sensitive to sound levels between 20 Hz to 20,000 Hz, where the frequency of a sound wave corresponds to the perceived pitch.

Since human ears are not equally sensitive to all frequencies, noise measurements are therefore weighted to account for the ear's frequency-dependent response to sound. The most common example of frequency-weighting is known as A-weighted decibel level ("dBA"; "dB(a)"), which is applied to most environmental noise measurements. Since sound levels are measured on a logarithmic scale, decibel addition is also based on a logarithmic scale. For example, a 65 dBA sound source when added to another 65 dBA source (a doubling of the sound pressure) does not result in 130 dBA, but rather in a total incremental increase of 3 dBA. In general, a change in sound level between 1 dBA to 3 dBA is barely noticeable to humans, where a change of 10 dBA is perceived as a doubling or halving of sound level.

Sound levels reduce with respect to distance at different rates, depending on the source type. In general, noise from sources such as stationary mechanical equipment and construction machinery (known as "point sources") reduce between 6 dBA to 7.5 dBA per doubling of distance from the source. Noise from sources such as a busy highway (known as "line sources") reduce between 3 dBA to 4.5 dBA per doubling of distance from the source. The presented ranges of attenuation depend on the type of ground surface between the noise source and the receiver. Highways and hard surfaces such as concrete or asphalt typically have an attenuation rate of 6 dBA for point sources and 3 dBA for line sources, whereas softer surfaces, such as vegetated terrain, have an attenuation rate of 7.5 dBA for point sources and 4.5 dBA for line sources. Atmospheric conditions as well as shielding affects (such as the existence of buildings or noise walls between source and receiver) could also affect noise levels from different positions.

9.0 Appendix C: Hourly Time History Graphs of Measurements

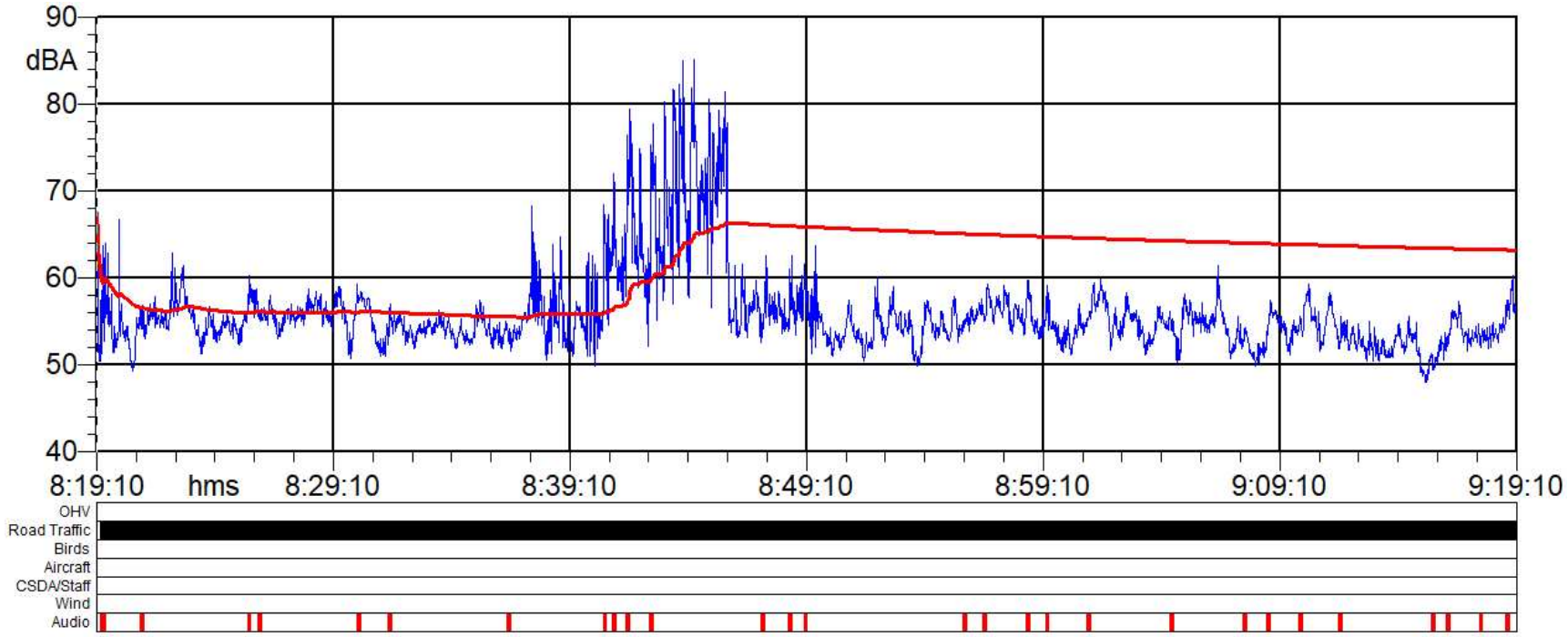
Note that the Bold Red Line running through the graphs below indicates the average L_{eq} during the measurement time period. The noise source categories below the time history graphs mark what noise source was specifically heard (often times more than one) during the attended monitoring session and are included to better illustrate the noise environment and relative noise source levels.

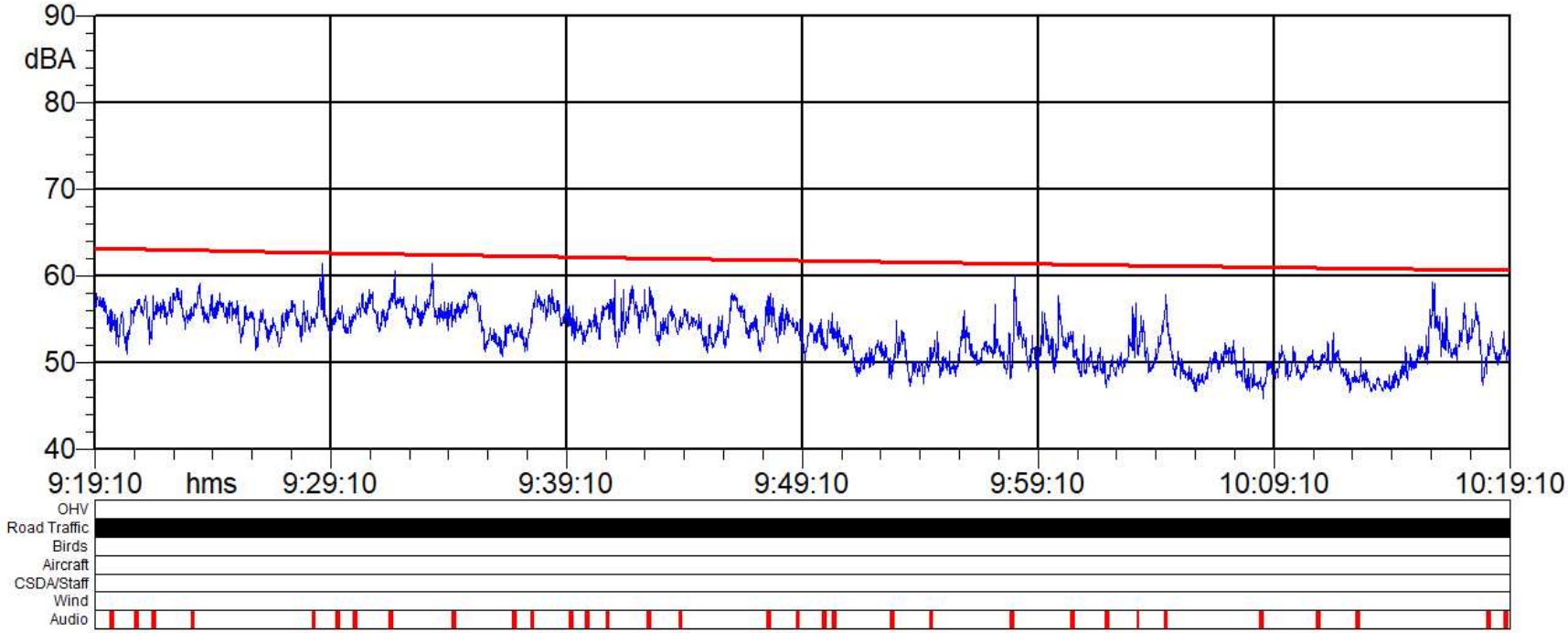
9.1 *Gorman Elementary School Hourly Time History*

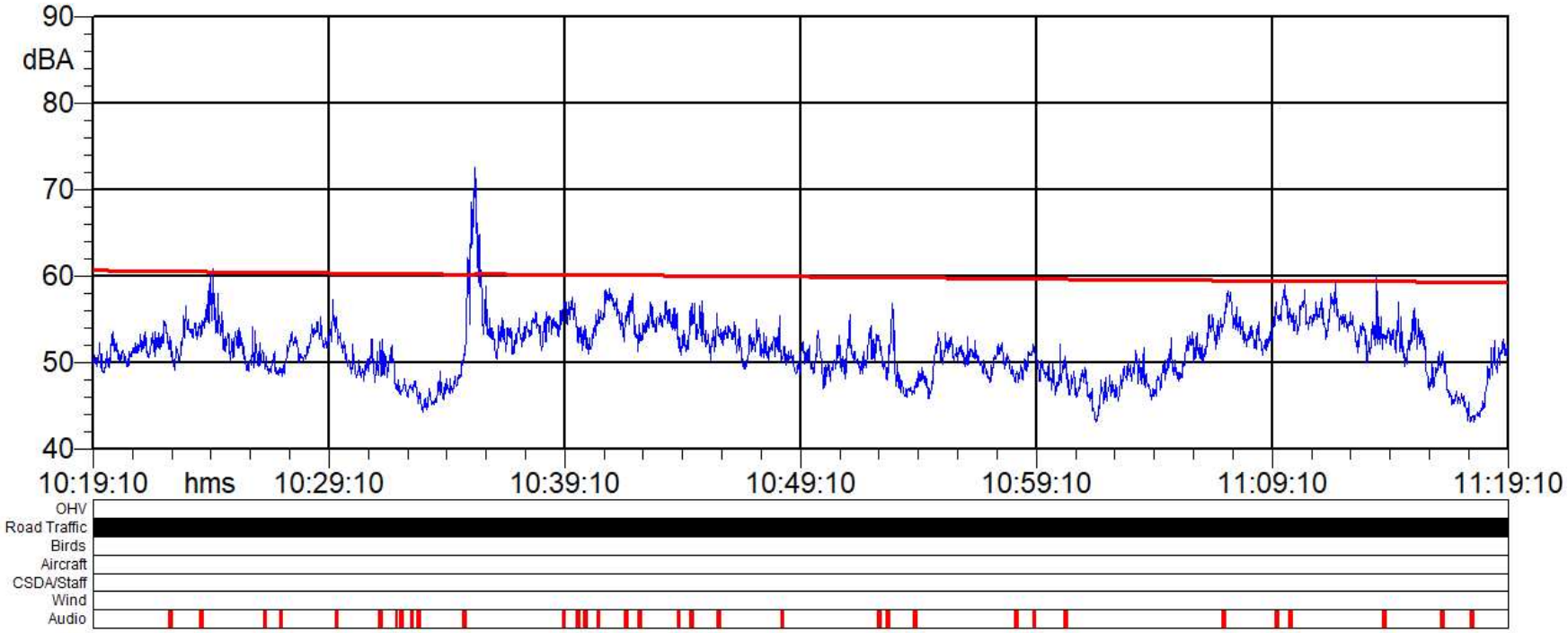
It should be noted that the majority of noise sources not attributed to road traffic for this monitoring location were marked by hand, rather than on the meter, as indicated by the continuous "Road Traffic" marker on the hourly plots below. We compared the field data sheets (example below in Figure 7), with the time history sound level in NoiseWorks (see hourly plots below). If a noise source comes from the SVRA, we note the level and compare it to the prescribed criteria outline in Table 1.

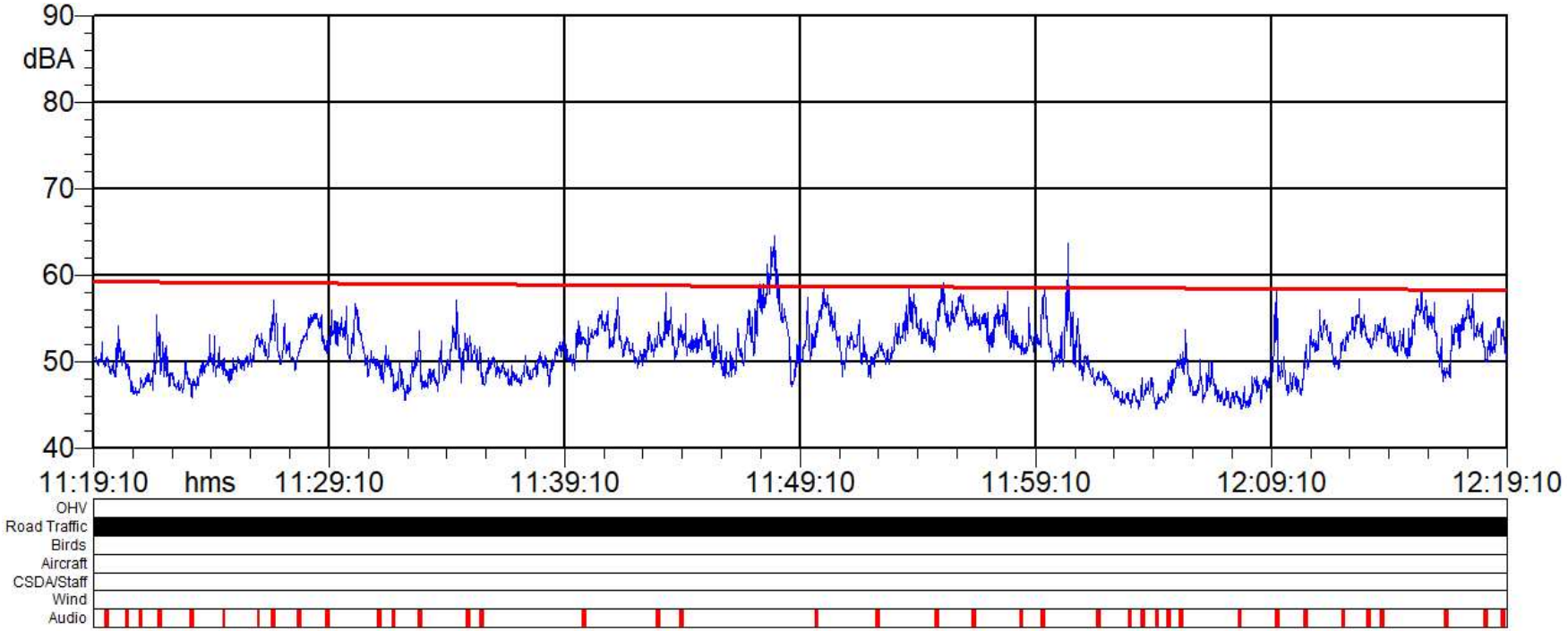
Start Time	Description	SVRA?	Duration
8:51	AIRCRAFT		20SEC.
8:52	AIRPLANE		20 SEC.
8:54	AIRPLANE		20SEC
9:04	AIRPLANE		30 SEC
9:06	BIRD CHIRPING		7 MIN
9:17	GRASS HOPPER		2 SEC
9:18	AIRCRAFT		30SEC.
9:21	BIRD CHIRPING		5 SEC
9:22	AIRPLANE		30SEC.
9:22	BUG CLICK		2SEC.
9:24	AIRPLANE		2 MIN.
9:27	BIRD CHIRP		2SEC.
9:2[illegible]7	AIRPLANE		2 MIN.

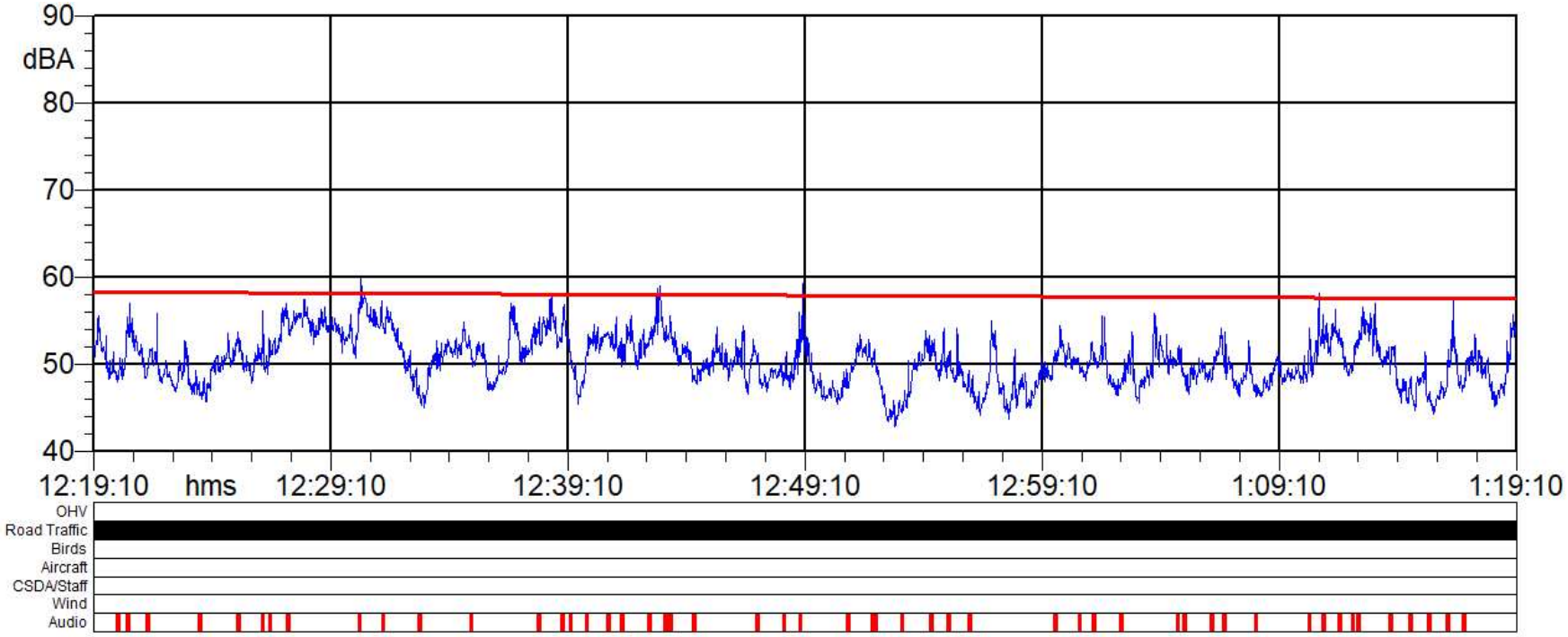
Figure 7: Example of Field Data Sheet showing the start time of the event, description, check box to note the sound is coming from the SVRA, and duration


90
dBA
80
70
60
50
40
8:19:10
hms
8:29:10
8:39:10
8:49:10
8:59:10
9:09:10
9:19:10
OHV
Road Traffic
Birds
Aircraft
CSDA/Staff
Wind
Audio

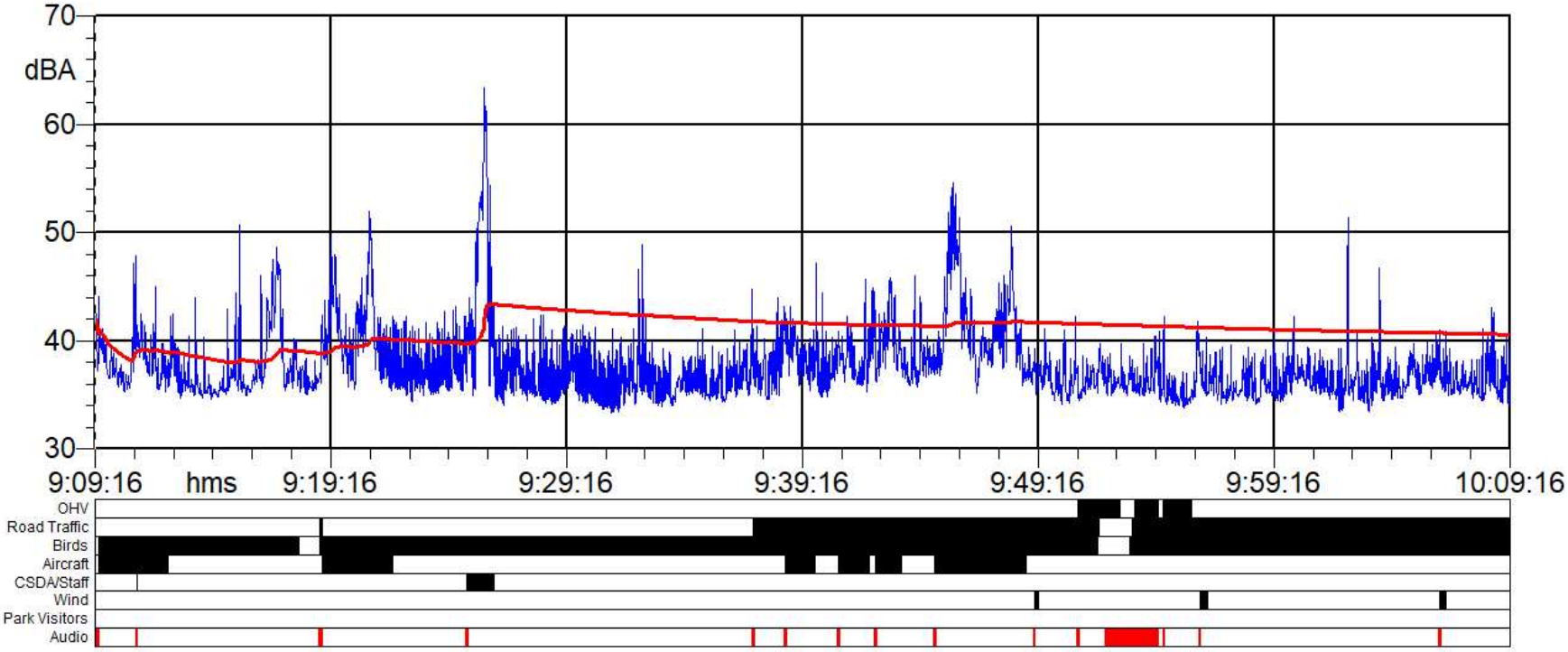

90
dBA
80
70
60
50
40
9:19:10
hms
9:29:10
9:39:10
9:49:10
9:59:10
10:09:10
10:19:10
OHV
Road Traffic
Birds
Aircraft
CSDA/Staff
Wind
Audio

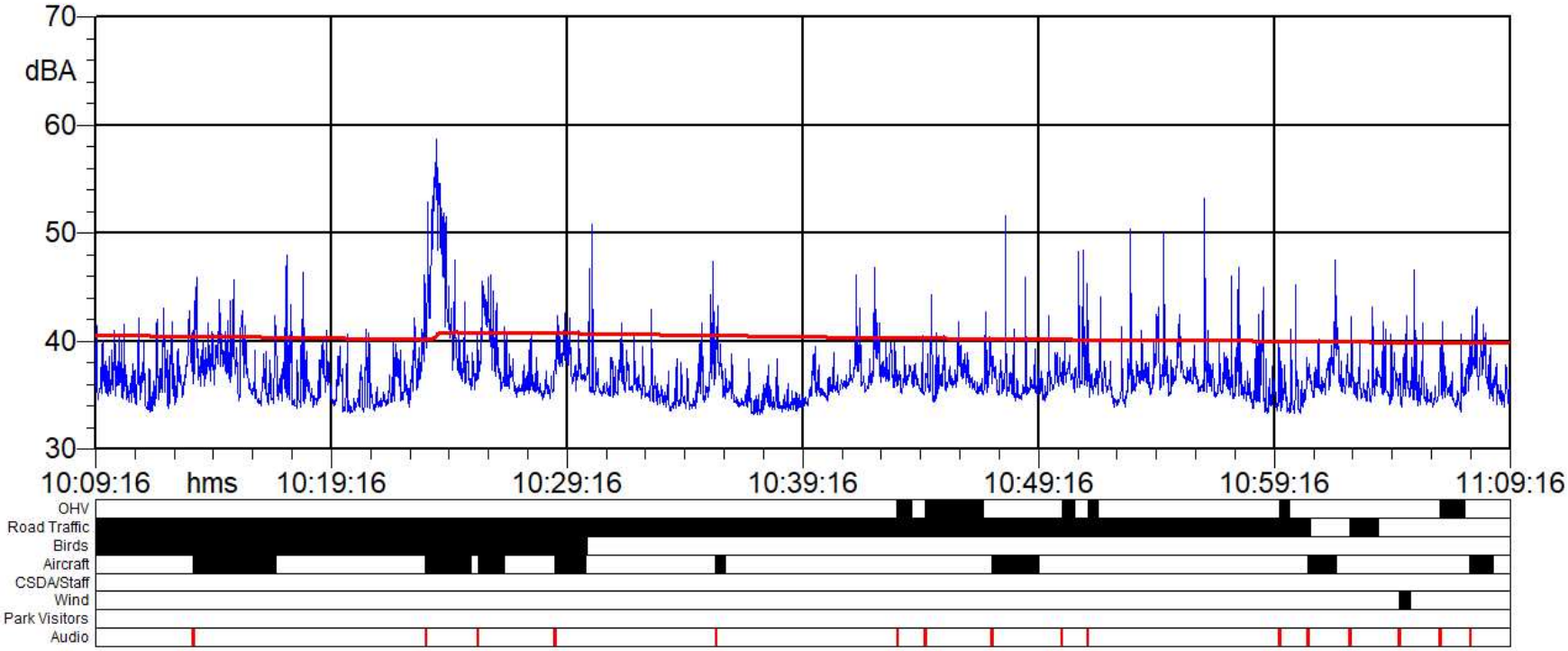

90
dBA
80
70
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50
40
10:19:10
hms
10:29:10
10:39:10
10:49:10
10:59:10
11:09:10
11:19:10
OHV
Road Traffic
Birds
Aircraft
CSDA/Staff
Wind
Audio

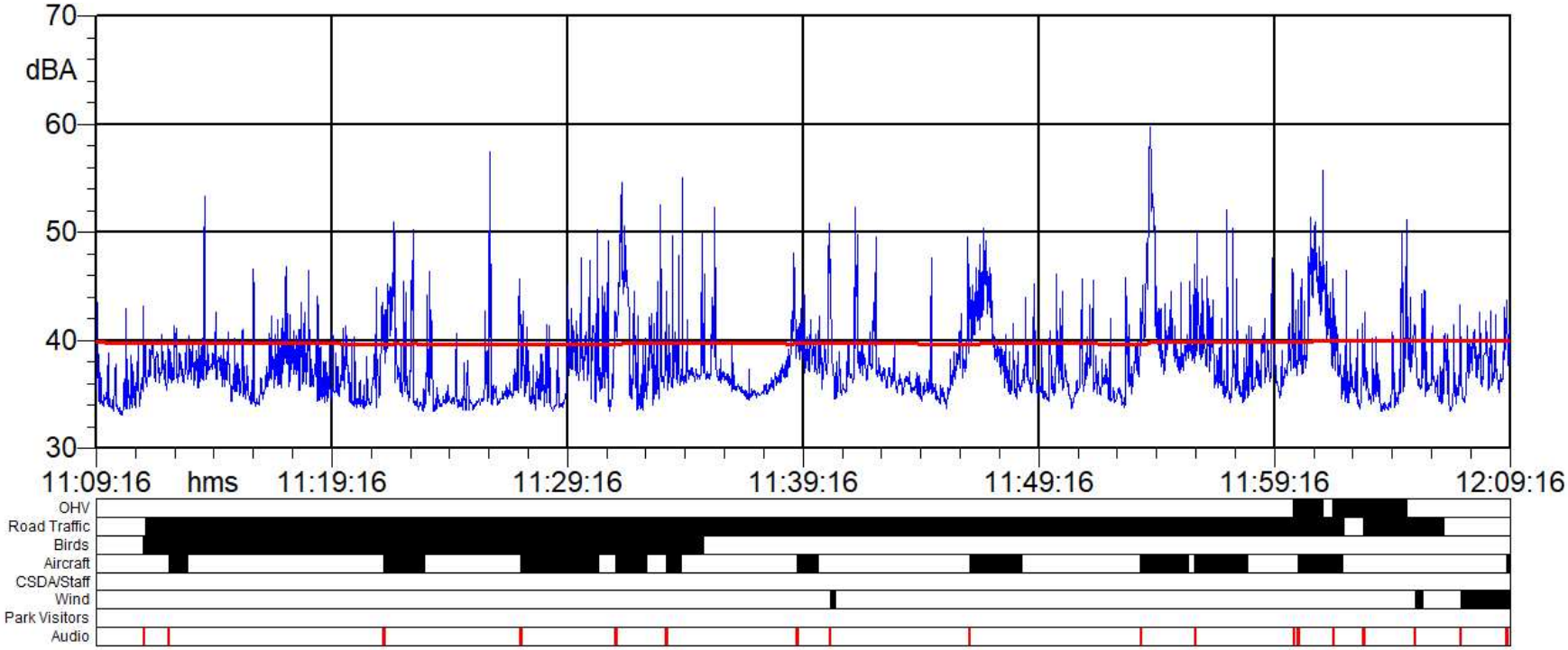

90
dBA
80
70
60
50
40
11:19:10
hms
11:29:10
11:39:10
11:49:10
11:59:10
12:09:10
12:19:10
OHV
Road Traffic
Birds
Aircraft
CSDA/Staff
Wind
Audio

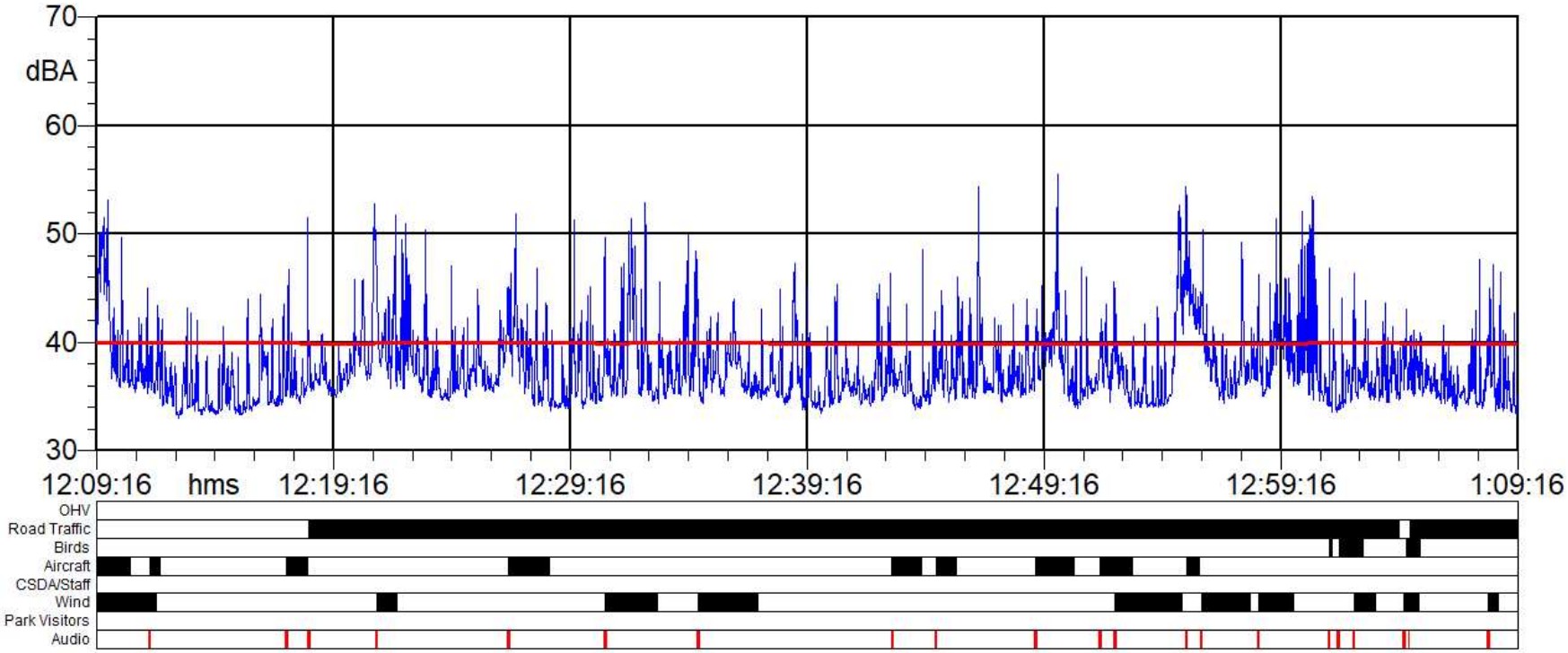

90
dBA
80
70
60
50
40
12:19:10
hms
12:29:10
12:39:10
12:49:10
12:59:10
1:09:10
1:19:10
OHV
Road Traffic
Birds
Aircraft
CSDA/Staff
Wind
Audio

9.2 *Frazier Mountain High School Hourly Time History*




70
dBA
60
50
40
30
10:09:16
hms
10:19:16
10:29:16
10:39:16
10:49:16
10:59:16
11:09:16
OHV
Road Traffic
Birds
Aircraft
CSDA/Staff
Wind
Park Visitors
Audio


70
dBA
60
50
40
30
11:09:16
hms
11:19:16
11:29:16
11:39:16
11:49:16
11:59:16
12:09:16
OHV
Road Traffic
Birds
Aircraft
CSDA/Staff
Wind
Park Visitors
Audio


70
dBA
60
50
40
30
12:09:16
hms
12:19:16
12:29:16
12:39:16
12:49:16
12:59:16
1:09:16
OHV
Road Traffic
Birds
Aircraft
CSDA/Staff
Wind
Park Visitors
Audio

HUNGRY VALLEY SVRA NOISE MONITORING

LONG-TERM MONTHLY MONITORING REPORT - JANUARY 2022



PREPARED FOR: The Off-Highway Motor Vehicle Recreation Division

December 13, 2022

CSDA | DESIGN GROUP

Table of Contents

Section **Page**

1.0 Executive Summary 1
2.0 Introduction and Project Description 1
3.0 Acoustical Criteria 2
3.1 County of Los Angeles Noise Ordinance 2
3.2 County of San Buenaventura (Ventura) Noise Ordinance 3
3.3 Kern County Noise Ordinance 4
3.4 Summary of Acoustical Criteria 4
4.0 Data Analysis Methodology 4
5.0 Existing Conditions and Observations 5
5.1 Noise Monitoring Locations 5
5.2 Long Term Location NMT-1 (Stipa Trail) 5
5.2.1 Monitoring Setup 5
5.3 Long Term Location NMT-2 (South Entrance) 7
5.3.1 Monitoring Notes 7
5.4 Weather 8
6.0 Monitoring Discussion 9
7.0 Appendix A: Definition of Terms and References 12
8.0 Appendix B: Fundamentals of Sound 13
9.0 Appendix C: Hourly Time History Graphs of Measurements 14
9.1 Long Term Measurement Location NMT-1 (Stipa Trail) - January 2022 Time History 14
9.2 Long Term Measurement Location NMT-2 (South Entrance) - January 2022 Time History 16
10.0 Appendix D: Meteorological Data January 2022 22

List of Figures

Figure **Page**

Figure 1: Hungry Valley SVRA Noise Monitoring Location 5
Figure 2: Long Term Monitoring Location NMT-1 (Stipa Trail) 6
Figure 3: Long Term Monitoring Location NMT-2 (South Entrance) 8
Figure 4: Hungry Valley SVRA Computer Noise Model 10
Figure 5: Location NMT-1 Time History Hourly Graphs – January 23, 2022 14
Figure 6: Location NMT-1 Time History Hourly Graphs – January 25, 2022 to January 30, 2022 15
Figure 7: Location NMT-2 Time History Hourly Graphs – December 27, 2021 to January 2, 2022 16
Figure 8: Location NMT-2 Time History Hourly Graphs – January 3, 2022 to January 9, 2022 17
Figure 9: Location NMT-2 Time History Hourly Graphs – January 10, 2022 to January 16, 2022 18
Figure 10: Location NMT-2 Time History Hourly Graphs – January 17, 2022 to January 23, 2022 19
Figure 11: Location NMT-2 Time History Hourly Graphs – January 24, 2022 to January 30, 2022 20
Figure 12: Location NMT-2 Time History Hourly Graphs – January 31, 2022 to February 6, 2022 21
Figure 13: Meteorological Data January 2022 22

List of Tables

Table **Page**

Table 1: County of Los Angeles Noise Element - Reprinted Table from Section 12.08.390 2
Table 2: County of Ventura Noise Element - Reprinted Table from Section 10.650.130 3
Table 3: GPS Coordinates of Monitoring Locations 5
Table 4: Short-term attended measurements conducted to date 9

1.0 Executive Summary

This report summarizes the noise measurements from and around the Hungry Valley State Vehicular Recreation Area (SVRA) near Gorman, California. Continuous, unattended noise measurements were conducted during the month of January 2022 at the SVRA. Noise levels were monitored at two locations within the park to quantify noise sources related to park activity.

- Location: Hungry Valley State Vehicular Recreation Area (SVRA)
  Nearest City: Santa Clarita and Gorman, CA
  County: Los Angeles, Ventura, and Kern
  Park Operating Hours: 24 hours a day, 7 days a week.

- Long term noise measurements were conducted at two locations to quantify noise from SVRA operations (which include Off Highway Vehicle [OHV] use). One long term (NMT-1) monitor was installed on a pole along Stipa Trail, and another long-term (NMT-2) monitor was installed on a pole along Hungry Valley Road near the park south entrance.

- A computer noise model is created using data from long-term noise monitoring stations and short-term attended noise monitoring. The model is used to predict noise levels throughout the park and at the nearest sensitive receptors, as well as to calculate the noise limit at the noise monitoring station.

- The time history graphs presented in Section 9.0 are evaluated to determine if the noise levels exceed the calculated noise limit.

- Based on noise levels measured in January 2022, there were no exceedances from OHV activity at the noise monitoring locations.

The definitions of relevant acoustical terminology and a discussion of the fundamentals of environmental sound propagation are included in Appendices A and B, respectively.

2.0 Introduction and Project Description

CSDA Design Group was contracted by the Off-Highway Motor Vehicle Recreation (OHMVR) Division of California State Parks to conduct continuous long-term (unattended/permanent) and short-term (attended) ambient sound monitoring at various SVRAs with the goal of understanding ambient noise conditions generated from park operations. Continuous ambient sound monitoring is required to support Public Resources Code - PRC 5090.02 (b).

> *"The legislature hereby declares that effectively managed areas and adequate facilities for the use of off-highway vehicles and conservation and enforcement are essential for ecologically balanced recreation."*

CSDA selected permanent sound monitoring locations through a review of staff site visits, preliminary acoustic measurements, and maps indicating site boundaries and nearby receptors.

Short-term monitoring for seasonal changes in park use and "Special Events" supplement the continuous, unattended noise level monitoring to provide accurate prescriptions of environmental versus SVRA operational noise sources.

This report details the long-term noise measurements conducted at Hungry Valley SVRA for the month of January 2022.

3.0 Acoustical Criteria

3.1 *County of Los Angeles Noise Ordinance*

The County of Los Angeles Noise Element, Chapter 12.08 – Noise Control, stipulates the following goals and policies applicable to the Hungry Valley SVRA.

- **Section 12.08.390 – Exterior Noise Standards:**
  - **Subsection A:** Unless otherwise herein provided, the following exterior noise levels shall apply to all receptor properties within a designated noise zone:

Table 1: County of Los Angeles Noise Element - Reprinted Table from Section 12.08.390

Noise Zone	Designated Noise Zone Land Use (Receptor Property)	Time Interval	Exterior Noise Level [dBA]
I	Noise-Sensitive Area	Anytime	45
II	Residential Properties	10:00 PM – 7:00 AM (nighttime)	45
		7:00 AM – 10:00 PM (daytime)	50
III	Commercial Properties	10:00 PM – 7:00 AM (nighttime)	55
		7:00 AM – 10:00 PM (daytime)	60
IV	Industrial Properties	Anytime	70

  - **Subsection B:** Unless otherwise herein provided, no person shall operate or cause to be operated, any source of sound at any location within the unincorporated county, or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise level, when measured on any other property either incorporated or unincorporated, to exceed any of the following noise standards:

    - Standard No. 1 shall be the exterior noise level which may not be exceeded for a cumulative period of more than 30 minutes in any hour. Standard No. 1 shall be the applicable noise level from subsection A of this section; or, if the ambient L50 exceeds the foregoing level, then the ambient L50 becomes the exterior noise level for Standard No. 1.
    - Standard No. 2 shall be the exterior noise level which may not be exceeded for a cumulative period of more than 15 minutes in any hour. Standard No. 2 shall be the applicable noise level from subsection A of this section plus 5 dB; or, if the ambient L25 exceeds the foregoing level, then the ambient L25 becomes the exterior noise level for Standard No. 2.
    - Standard No. 3 shall be the exterior noise level which may not be exceeded for a cumulative period of more than five minutes in any hour. Standard No. 3 shall be the applicable noise level from subsection A of this section plus 20 dB; or, if the ambient L8.3 exceeds the foregoing level, then the ambient L8.3 becomes exterior noise level for Standard No. 3.
    - Standard No. 4 shall be the exterior noise level which may not be exceeded for a cumulative period of more than one minute in any hour. Standard No. 4 shall be the applicable noise

level from subsection A of this section plus 15 dB; or, if the ambient L1.7 exceeds the foregoing level, then the ambient L1.7 becomes the exterior noise level for Standard No. 4.

- Standard No. 5 shall be the exterior noise level which may not be exceeded for any period of time. Standard No. 5 shall be the applicable noise level from subsection A of this section plus 20 dB; or, if the ambient L0 exceeds the foregoing level then the ambient L0 becomes the exterior noise level for Standard No. 5.

3.2 *County of San Buenaventura (Ventura) Noise Ordinance*

The County of San Buenaventura Noise Section, Chapter 10.650 – Noise Control, stipulates the following noise limits applicable to the Hungry Valley SVRA.

- **Section 10.650.130 - Designated Noise Zones:**
  - **Subsection B.1:** The following exterior noise levels, unless otherwise indicated, shall apply to all receiving properties within a designated noise zone for the purpose of establishing noise level limits in subsection B.2. below:

Table 2: County of Ventura Noise Element - Reprinted Table from Section 10.650.130

Noise Zone	Designated Noise Zone Land Use (Receptor Property)	Time Interval	Exterior Noise Level [dBA]
I	Noise-Sensitive Properties	7:00 AM – 10:00 PM (daytime) 10:00 PM – 7:00 AM (nighttime)	50 45
II	Residential Properties	7:00 AM – 10:00 PM (daytime) 10:00 PM – 7:00 AM (nighttime)	50 45
III	Commercial Properties	7:00 AM – 10:00 PM (daytime) 10:00 PM – 7:00 AM (nighttime)	60 55
IV	Industrial and Agricultural	Anytime	70

  - **Subsection B.2:** Unless otherwise provided in this article, no person shall operate or cause to be operated any source of sound at any location within the city, or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise level when measured on any receiving property to exceed the following noise level limits:

    a) The exterior noise levels for that land use, as specified in Subsection B.1 above, for a total period of more than 30 minutes in any consecutive 60 minutes;
    b) The exterior noise levels plus five dB for a total period of more than 15 minutes in any consecutive 60 minutes;
    c) The exterior noise levels plus ten dB for a total period of more than five minutes in any consecutive 60 minutes; or
    d) The exterior noise levels plus 15 dB for a total period of more than one minute in any consecutive 60 minutes; or
    e) The exterior noise levels plus 20 dB for any period of time.

  - **Subsection B.4:** If the ambient noise level exceeds that permissible for any of the noise level limits in subsections (a), (b), (c) and (d) of subsection 2. above, the noise level limit shall be increased in five dB increments as appropriate to encompass or reflect said ambient noise

level. In the event the ambient noise level exceeds the noise level limit in subsection 2.(e) above, this limit shall be increased to the maximum ambient noise level.

3.3 *Kern County Noise Ordinance*

The Kern County Noise Ordinance does not stipulate any relevant, quantitative, noise regulations for noise levels emanating from operations at the SVRA.

3.4 *Summary of Acoustical Criteria*

The Hungry Valley SVRA is located primarily in Ventura and Los Angeles County but is also near the border of Kern County. Adjacent land uses include residential and commercial in Gorman, California (Los Angeles County), Gorman Elementary School in Gorman, California (Los Angeles County), residential and commercial in Frazier Park (Kern County), as well as the Frazier Mountain High School (Kern County).

As the Kern County Noise Ordinance does not include quantitative noise limits for these land uses, the noise limits presented in the Ventura County Noise Ordinance have been applied at the Frazier Park residences and commercial properties as well as at the Frazier Mountain High School. Exterior residential noise limits provided by the County of Los Angeles are applied to the residences in Gorman, California. As the Los Angeles County residential exterior noise criterion is lower than the commercial exterior noise criterion, the residential exterior noise criterion was applied at the Gorman Elementary School.

The acoustical criteria applied are as follows:

- **Adjacent Residential:** $L_{eq\text{-}1hr}$ noise levels shall not exceed 50 dBA between 7am and 10pm and 45 dBA between 10pm and 7am.
- **Adjacent Commercial:** $L_{eq\text{-}1hr}$ noise levels shall not exceed 60 dBA between 7am and 10pm and 55 dBA between 10pm and 7am.

4.0 Data Analysis Methodology

The following step-by-step procedure explains the data analysis methodology:

1. Data from the noise monitoring stations is viewed and downloaded remotely through a web server.

2. A computer noise model is created using USGS topography data, park maps and/or site observations, and data from long-term noise monitoring and short-term attended noise monitoring. 3D noise models for each park are created in CadnaA (version 2020 MR 1) software, which meets the requirements of ISO 17534-1 for calculation of sound outdoors. The models are used to predict noise levels throughout the park and at the nearest sensitive receptors.

3. Applicable criteria for each receiver location are adjusted based on the results of the sound model, which accounts for sound attenuation between the long-term measurement location and the receptors.

4. The time history graphs presented in Section 9.0 are evaluated to determine if the noise levels exceed the adjusted criteria calculated in Section 6.0.

5.0 Existing Conditions and Observations

5.1 *Noise Monitoring Locations*

Figure 1 indicates the noise monitoring locations with respect to the SVRA and nearby ambient noise level contributors. Table 3 shows the GPS coordinates of the monitoring locations.

Table 3: GPS Coordinates of Monitoring Locations

Location	GPS Coordinates
NMT-1 (Stipa Trail)	34°47'43.09"N 118°53'31.04"W
NMT-2 (South Entrance)	34°42'35.08"N 118°48'59.17"W

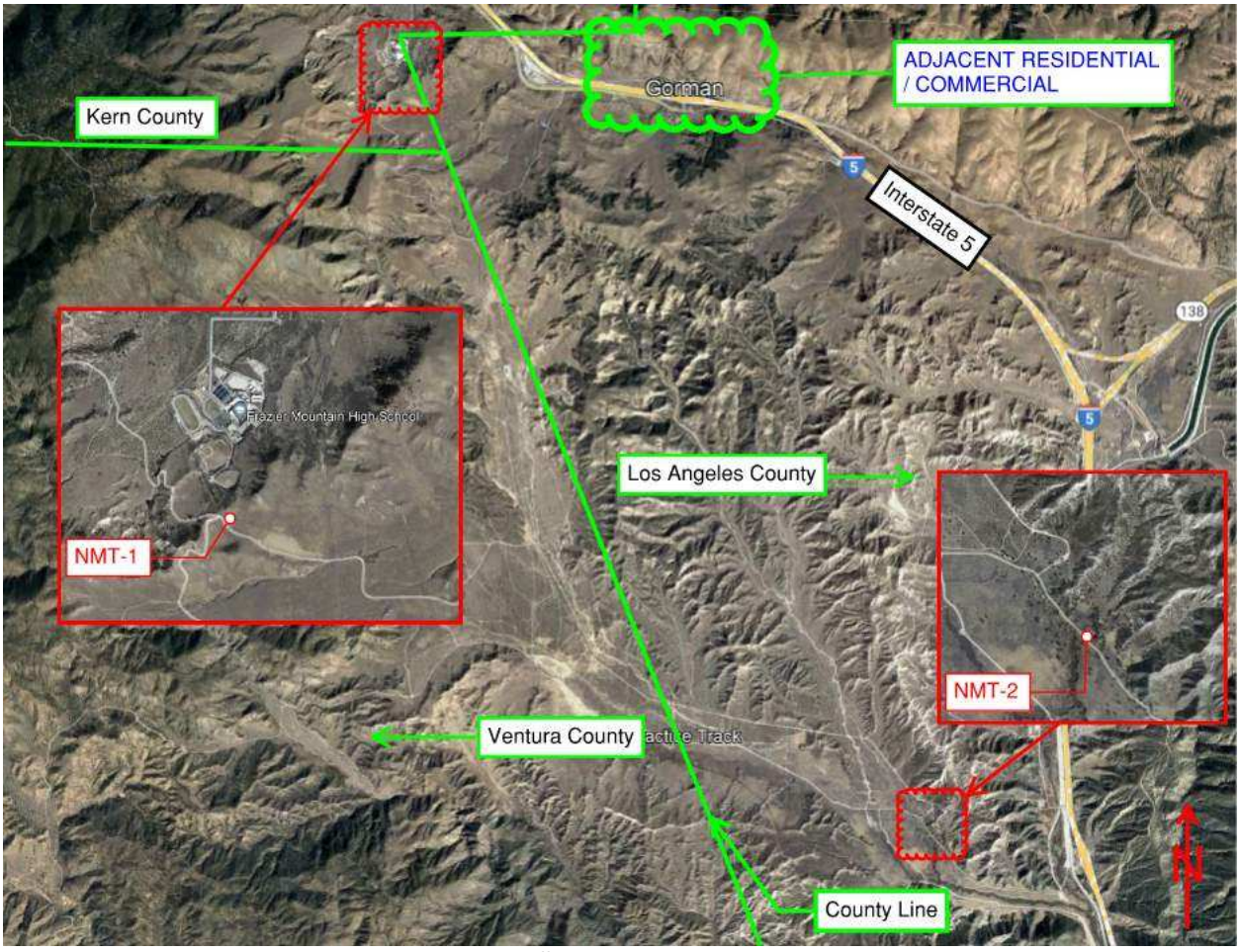


Figure 1: Hungry Valley SVRA Noise Monitoring Location

5.2 *Long Term Location NMT-1 (Stipa Trail)*

5.2.1 Monitoring Setup

To measure noise, a noise monitor was installed on July 13, 2021 to provide continuous noise monitoring, twenty-four hours per day, every day of the week during peak season, off-peak season,

special events, and holiday weekends. The data is viewable online and is downloaded remotely for data analysis.

The continuous noise monitor consists of:

- One Type 1 Larson Davis 831-C sound level meter with microphone
- Digital signal processing, which processes all incoming data in real time
- Cellular (4G) Modem for wireless data transfer
- One replaceable battery charged via a solar panel for continuous monitoring

The noise monitor continuously measures broadband and spectral sound levels on a 1 second time domain with audio recordings for exceedance events.

The noise meter is placed in a box and the microphone is at the top of a pole approximately 20 feet above the ground and more than 10 feet from any reflecting surface. Figure 2 shows an image of the monitoring location and setup.



Figure 2: Long Term Monitoring Location NMT-1 (Stipa Trail)

The microphone was calibrated immediately before the start of the monitoring and is calibrated annually.

5.3 *Long Term Location NMT-2 (South Entrance)*

5.3.1 Monitoring Notes

To measure noise, a noise monitor was installed on July 13, 2021 to provide continuous noise monitoring, twenty-four hours per day, every day of the week during peak season, off-peak season, special events, and holiday weekends. The data is viewable online and is downloaded remotely for data analysis.

The continuous noise monitor consists of:

- One Type 1 Larson Davis 831-C sound level meter with microphone
- Digital signal processing, which processes all incoming data in real time
- Cellular (4G) Modem for wireless data transfer
- One replaceable battery charged via a solar panel for continuous monitoring
- Wind Monitor

The noise monitor continuously measures broadband and spectral sound levels on a 1 second time domain with audio recordings for exceedance events.

The noise meter is placed in a box and the microphone is at the top of a pole approximately 20 feet above the ground and more than 10 feet from any reflecting surface. Figure 3 shows an image of the monitoring location and setup.

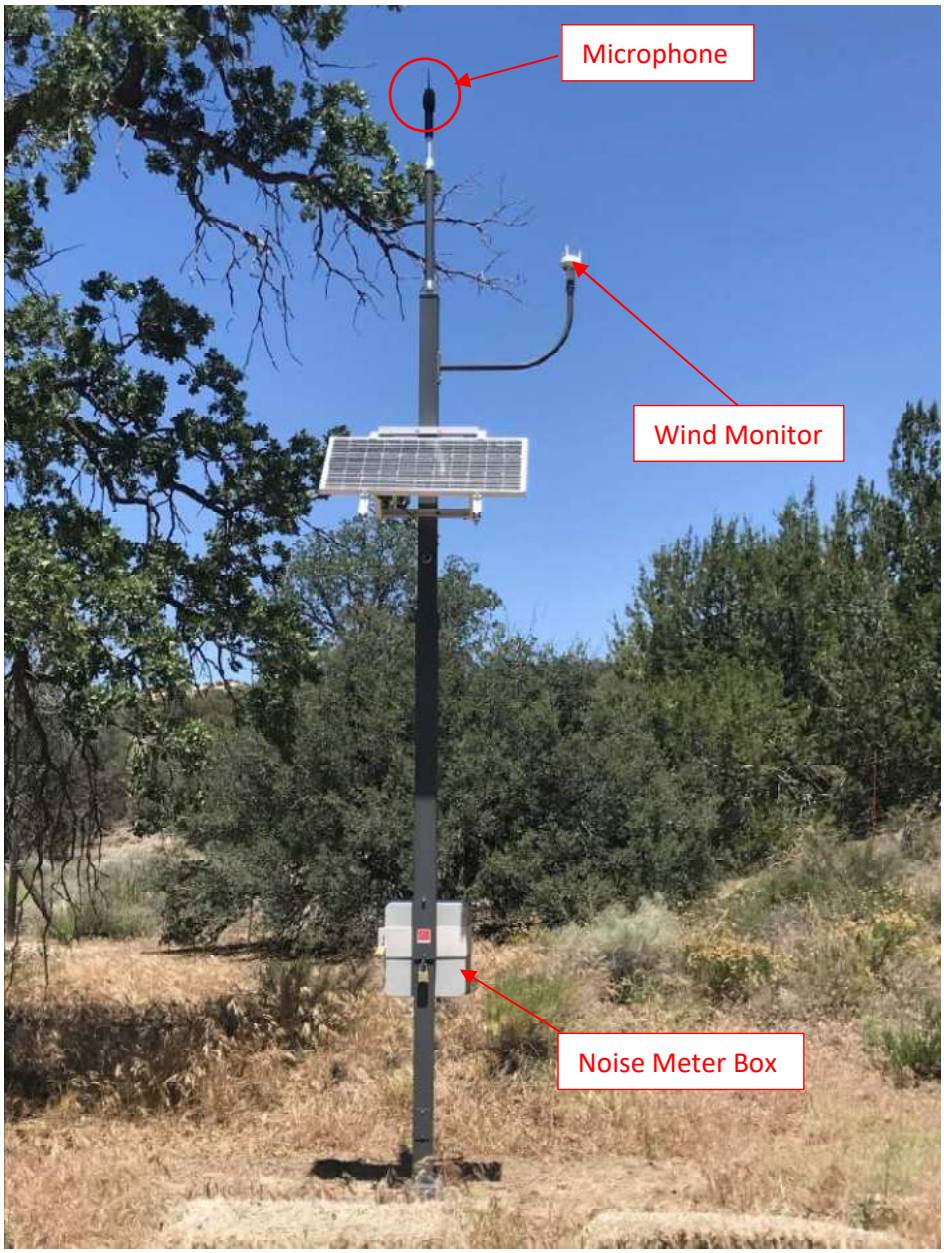


Figure 3: Long Term Monitoring Location NMT-2 (South Entrance)

The microphone was calibrated immediately before the start of the monitoring and is calibrated annually.

5.4 *Weather*

The following is a summary of the weather during the month of January 2022:

- Average wind speed ranged from 0 miles per hour (mph) to 32.5 mph.
- Maximum wind gust speed was 39 mph; wind noise was audible during the measurement time period but did not significantly affect the measurements. Detailed wind information can be seen in weekly graphs for NMT-2 in Appendix C.
- Temperature ranged from a low of 27°F to a high of 68°F.

- Humidity ranged from a low of 16% to a high of 99%.
- There was about 0.03 inches of precipitation during the measurement time period.

Detailed meteorological data is included in Appendix D.

6.0 Monitoring Discussion

A computer noise model was created for each SVRA park based on topographic data, trail maps (if available), long-term measurement data from permanent noise monitors, and short-term measurement data from special event monitoring. Based on results of the computer noise model, data from the permanent noise monitors at the interior of the SVRA project site has been correlated with noise level data measured at various parts of the SVRA park. Due to the limited measurement data gathered at each of the parks, measured reference sound levels at each short-term measurement location are treated as representative of other areas of the park with similar OHV activity. Future noise measurements will be used to refine the noise contours estimated for each SVRA park. See Table 4 for short-term attended measurements done to date at the Hungry Valley SVRA. No special event monitoring was done during the month of January 2022.

Table 4: Short-term attended measurements conducted to date

Location	Measurement Date
ST-1, ST-2	April 17, 2021
ST-3, ST-4	July 31, 2021
ST-5, ST-6, ST-7, ST-8	May 22, 2022
ST-9, ST-10	October 22, 2022

The noise contour models created for each SVRA park provides OHMVR and SVRA staff with noise level estimates along the perimeter of the SVRA parks, and at sensitive receptors, which may be evaluated against noise standards and/or the ambient (non-SVRA) noise level to determine compliance and/or the likelihood of complaints.

Figure 4 below shows the computer model created for the park based on our short term attended measurements on site and the long-term monitoring data. The model only includes noise levels from OHV activity (not from interstate I-5, airplane flyovers, or any other noise sources). As shown in the figure, the noise levels at the nearest sensitive residential and commercial receptors are less than 35 dBA; these noise levels meet the criteria in Section 3.4. Please note that as more attended measurements are done over the course of the next 3-4 years, this model will be refined to represent more accurate noise levels at various parts of the park and the receptors.

Based upon the correlation between the short-term “attended monitoring” noise levels and the permanent monitor levels, an offset (or difference between noise levels) has been established for OHV activity. This offset was used in the calibration of the computer noise model.

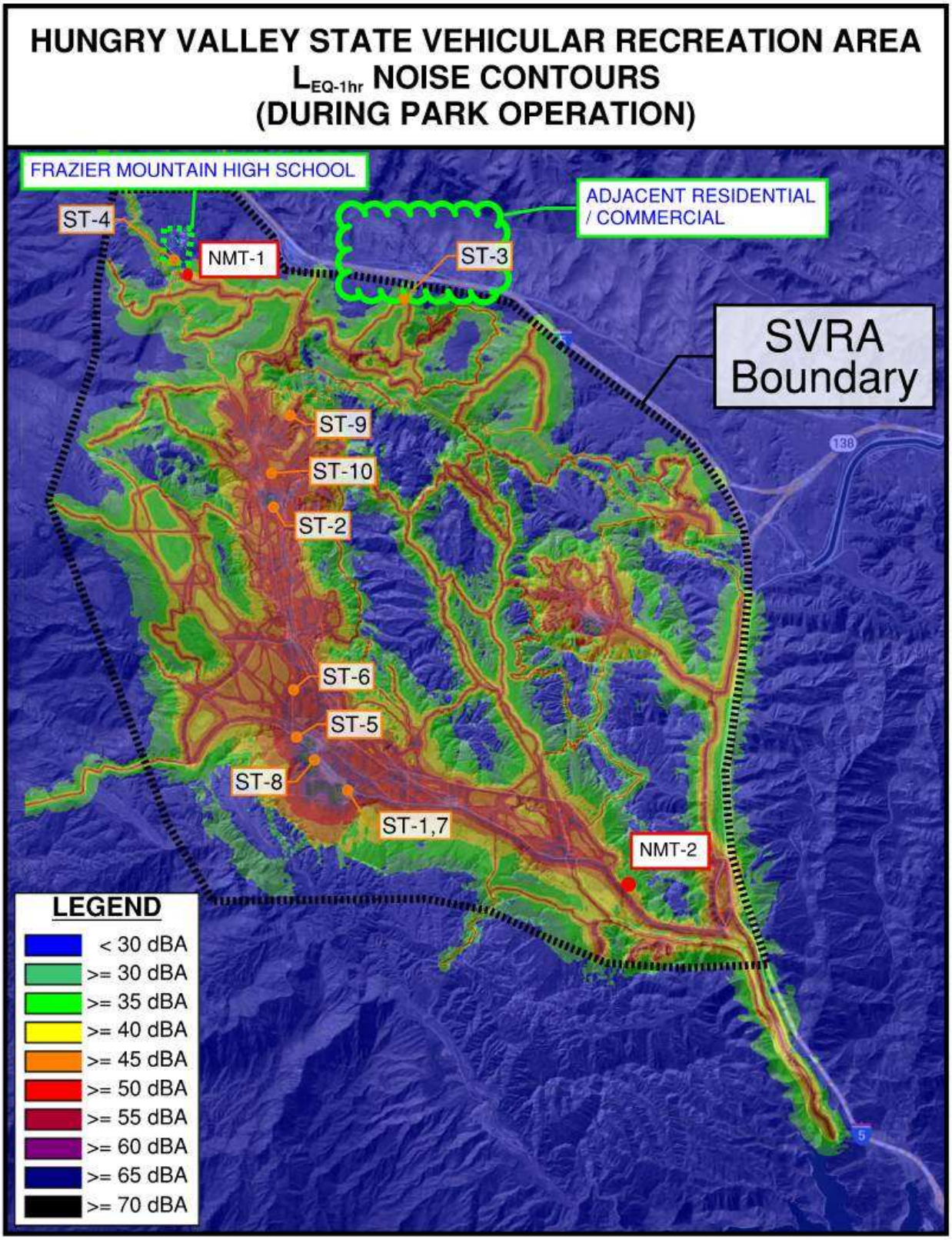


Figure 4: Hungry Valley SVRA Computer Noise Model

Weekly graphs of the measured noise levels are provided in Appendix C. A standard SVRA vehicle noise level reduction between the long-term noise monitor and the nearest sensitive receptors has been estimated based on the computer model results.

As represented in the noise contours estimated for this park, the average noise level at the long-term monitoring stations NMT-1 is $L_{eq\text{-}1hr}$ 56 dBA and NMT-2 is $L_{eq\text{-}1hr}$ 54 dBA due to SVRA activity. Due to distance attenuation and correlation with our short-term measurement results, the expected SVRA-generated noise levels at the nearest sensitive residential and commercial receptors to the north are $L_{eq\text{-}1hr}$ 35 dBA. Therefore, the noise levels at the residential and commercial receptors meet the $L_{eq\text{-}1hr}$ 50 dBA residential and $L_{eq\text{-}1hr}$ 60 dBA commercial criteria presented in Section 3.4.

Since the residential criteria is more stringent, only the residential criterion is analyzed. Based on our computer noise model, to account for the distance reduction between NMT stations and the closest residential receptor, the criteria used for the NMT-1 and NMT-2 long-term monitors has been increased by 20 dBA for the $L_{eq\text{-}1hr}$ graphs (as shown in Appendix C). Even though the sensitive receptors to the north are far away from NMT-2 and therefore NMT-2 criteria can be higher, the criterion at NMT-2 is kept the same as NMT-1.

Accordingly, the calculated criteria at the noise monitoring stations (associated with a residential criterion of $L_{eq\text{-}1hr}$ 50 dBA between 7am and 10pm and 45 dBA between 10pm and 7am) are 70 dBA between 7am and 10pm and 65 dBA between 10pm and 7am for $L_{eq\text{-}1hr}$. The criteria are shown as a "red" line on the graphs in Appendix C. Since the park is busier during the daytime (between 7am and 10pm), the criterion during daytime is only shown in the graphs. A visual check of the graphs is done to confirm nighttime criteria compliance.

Based on the weekly graphs shown in Appendix C, there were no exceedances from OHV activity at the noise monitoring location. Please note that there was an equipment failure during a few days in January 2022 and, therefore, there is no noise data available for those days in the graphs.

This concludes our noise monitoring report for the measurements conducted at the Hungry Valley SVRA park during the month of January 2022. Please do not hesitate to reach out with any questions or concerns.

7.0 Appendix A: Definition of Terms and References

A-Weighted Sound Level: A term for the A-Weighted sound pressure level. The sound level is obtained by use of a standard sound level meter and is expressed in decibels. Sometimes the unit of sound level is written as dB(A).

Day/Night Average Sound Level (L_{dn} or DNL): A descriptor established by the U.S. Environmental Protection Agency to describe the average day-night level with a 10 dB penalty applied to noise occurring during the nighttime hours (10 pm to 7 am) to account for the increased sensitivity of people during sleeping hours. A 10 dB increase in sound level is perceived by people to be twice as loud.

L_{eq}: The time-weighted average noise level during the stated measurement period.

L_{max}: The highest sound level reached when measuring noise with a sound level meter using the A-weighted network and slow time weighting.

Imperial County Noise Ordinance:
https://library.municode.com/ca/imperial_county/codes/code_of_ordinances

Weather Underground:
https://www.wunderground.com/dashboard/pws/KCALEBEC7/table/2021-12-31/2021-12-31/monthly

8.0 Appendix B: Fundamentals of Sound

Noise is typically defined as unwanted sound and has the potential of negatively affecting human health. Noise in the community has often been cited as a health problem since it affects general well-being and contributes to undue stress and annoyance. At especially high noise levels, hearing loss can occur. Details about the fundamentals of sound and common noise descriptors, as well as further discussion regarding human response to noise and common noise sensitive receivers, are provided below.

Sound is the energy (disturbance or vibration), that is transmitted in the form of waves through a medium, such as air or water. Sound waves are typically described in terms of intensity and frequency. Sound intensity refers to the amount of energy in a sound wave and is quantified on a logarithmic "decibel" scale. Levels of sound intensity correspond to different degrees of loudness, where 0 dBA generally corresponds with the threshold of human hearing and sound levels of 120 dBA to 140 dBA, or higher correspond to thresholds of pain. The frequency of sound is defined as the number of cycles per second and is measured in Hertz (Hz). Humans are typically sensitive to sound levels between 20 Hz to 20,000 Hz, where the frequency of a sound wave corresponds to the perceived pitch.

Since human ears are not equally sensitive to all frequencies, noise measurements are therefore weighted to account for the ear's frequency-dependent response to sound. The most common example of frequency-weighting is known as A-weighted decibel level ("dBA"; "dB(a)"), which is applied to most environmental noise measurements. Since sound levels are measured on a logarithmic scale, decibel addition is also based on a logarithmic scale. For example, a 65 dBA sound source when added to another 65 dBA source (a doubling of the sound pressure) does not result in 130 dBA, but rather in a total incremental increase of 3 dBA. In general, a change in sound level between 1 dBA to 3 dBA is barely noticeable to humans, where a change of 10 dBA is perceived as a doubling or halving of sound level.

Sound levels reduce with respect to distance at different rates, depending on the source type. In general, noise from sources such as stationary mechanical equipment and construction machinery (known as "point sources") reduce between 6 dBA to 7.5 dBA per doubling of distance from the source. Noise from sources such as a busy highway (known as "line sources") reduce between 3 dBA to 4.5 dBA per doubling of distance from the source. The presented ranges of attenuation depend on the type of ground surface between the noise source and the receiver. Highways and hard surfaces such as concrete or asphalt typically have an attenuation rate of 6 dBA for point sources and 3 dBA for line sources, whereas softer surfaces, such as vegetated terrain, have an attenuation rate of 7.5 dBA for point sources and 4.5 dBA for line sources. Atmospheric conditions as well as shielding affects (such as the existence of buildings or noise walls between source and receiver) could also affect noise levels from different positions.

9.0 Appendix C: Hourly Time History Graphs of Measurements

9.1 *Long Term Measurement Location NMT-1 (Stipa Trail) - January 2022 Time History*

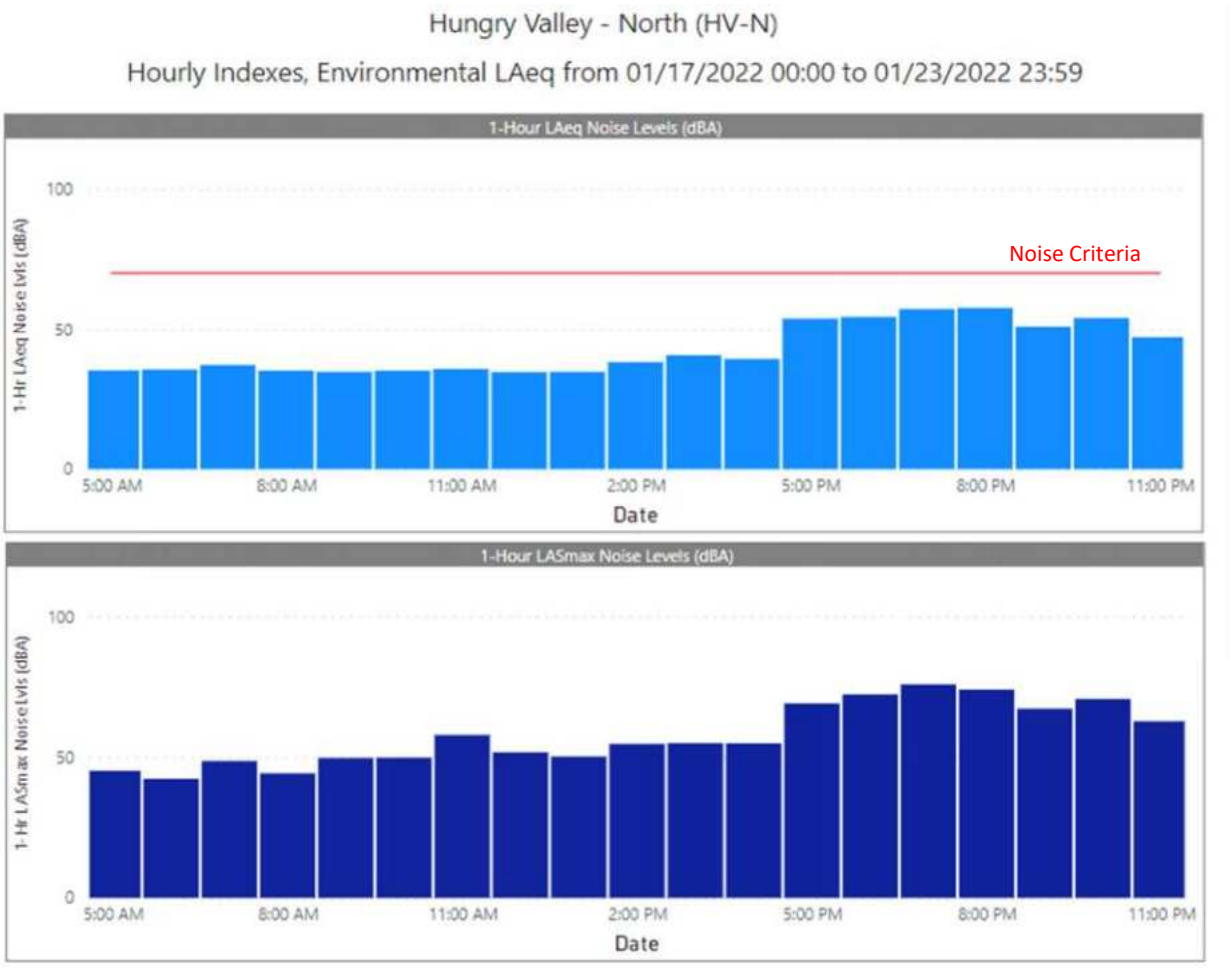


Figure 5: Location NMT-1 Time History Hourly Graphs – January 23, 2022



Figure 6: Location NMT-1 Time History Hourly Graphs – January 25, 2022 to January 30, 2022

9.2 *Long Term Measurement Location NMT-2 (South Entrance) - January 2022 Time History*



Figure 7: Location NMT-2 Time History Hourly Graphs – December 27, 2021 to January 2, 2022

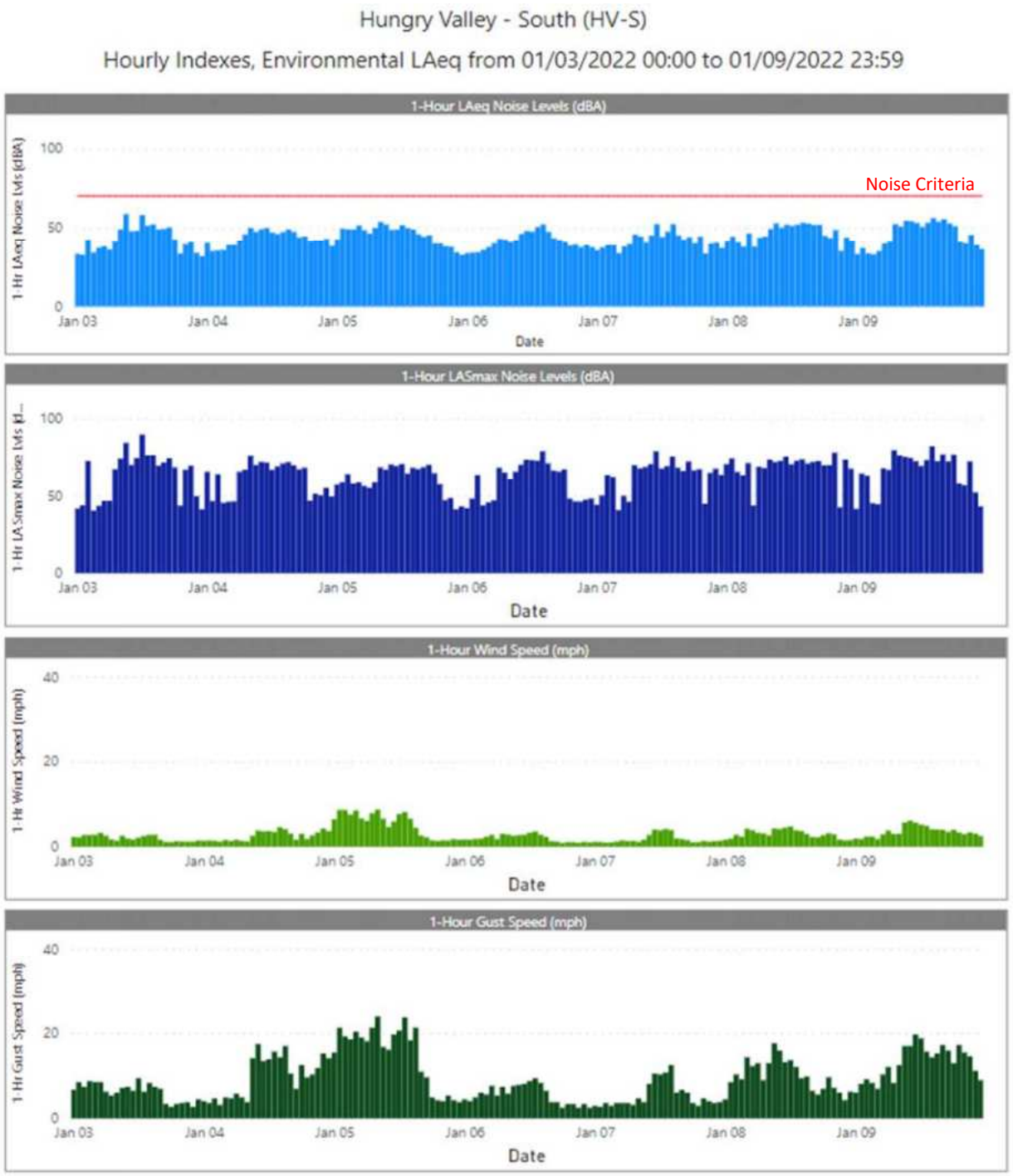


Figure 8: Location NMT-2 Time History Hourly Graphs – January 3, 2022 to January 9, 2022

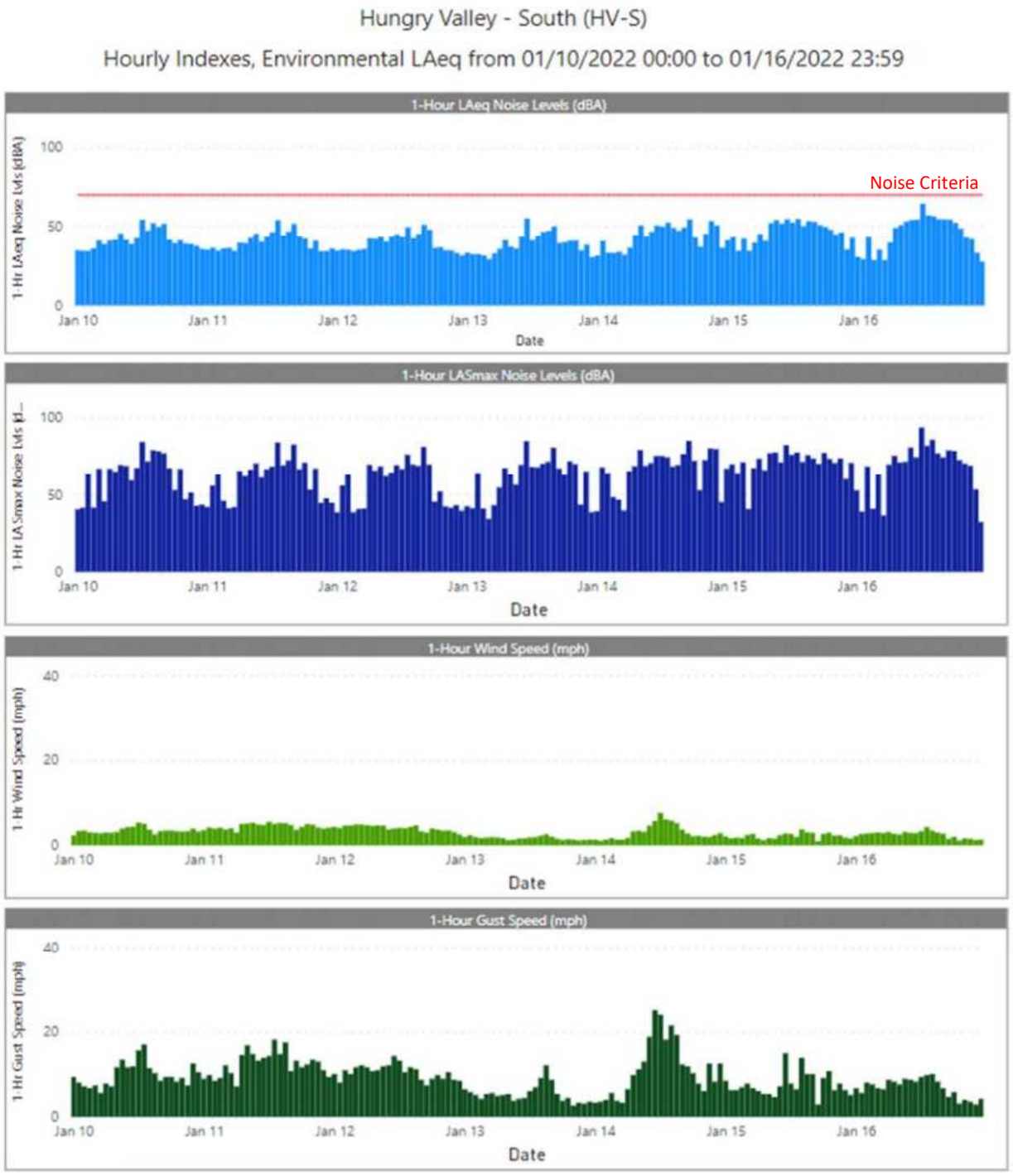


Figure 9: Location NMT-2 Time History Hourly Graphs – January 10, 2022 to January 16, 2022

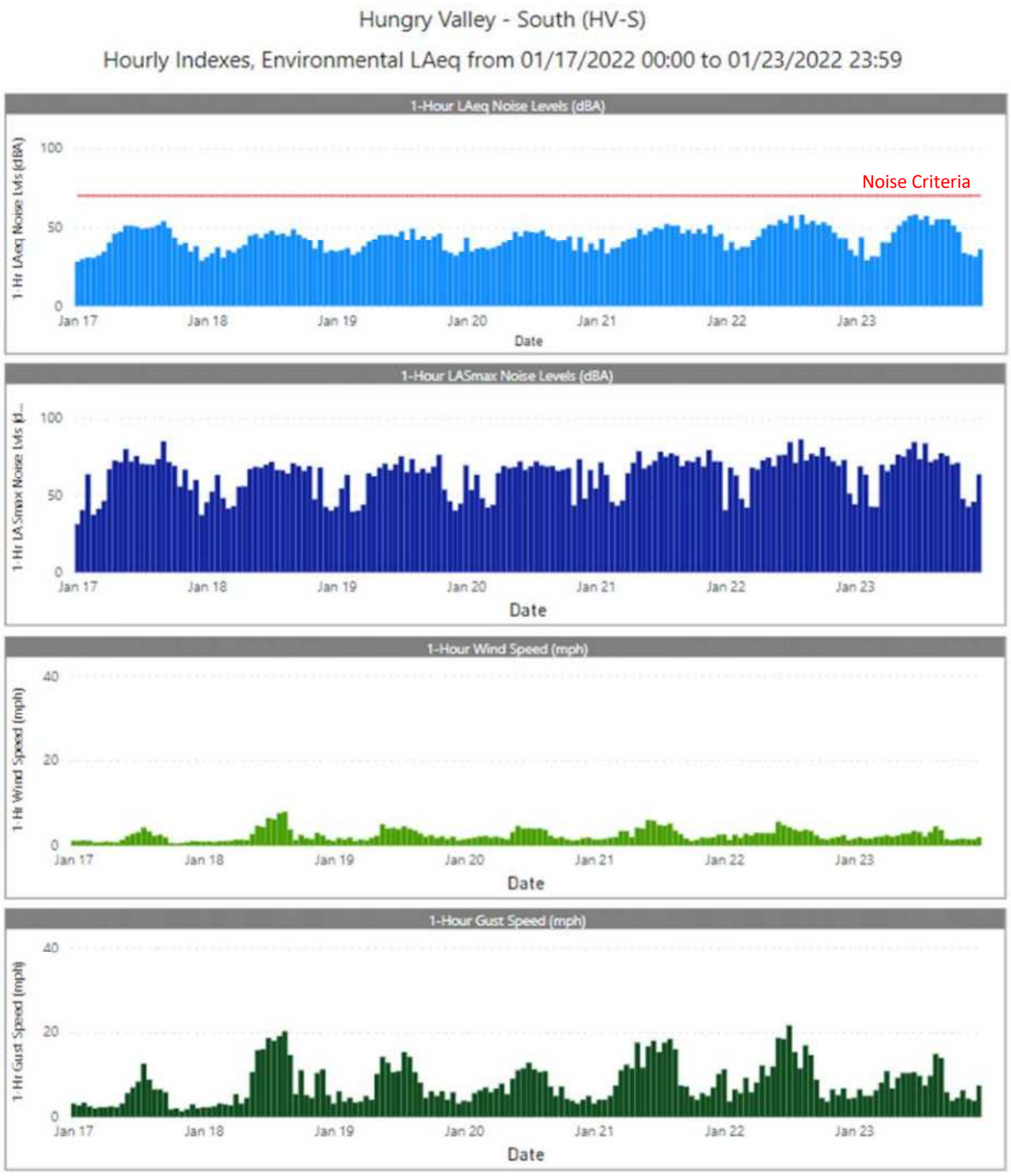


Figure 10: Location NMT-2 Time History Hourly Graphs – January 17, 2022 to January 23, 2022

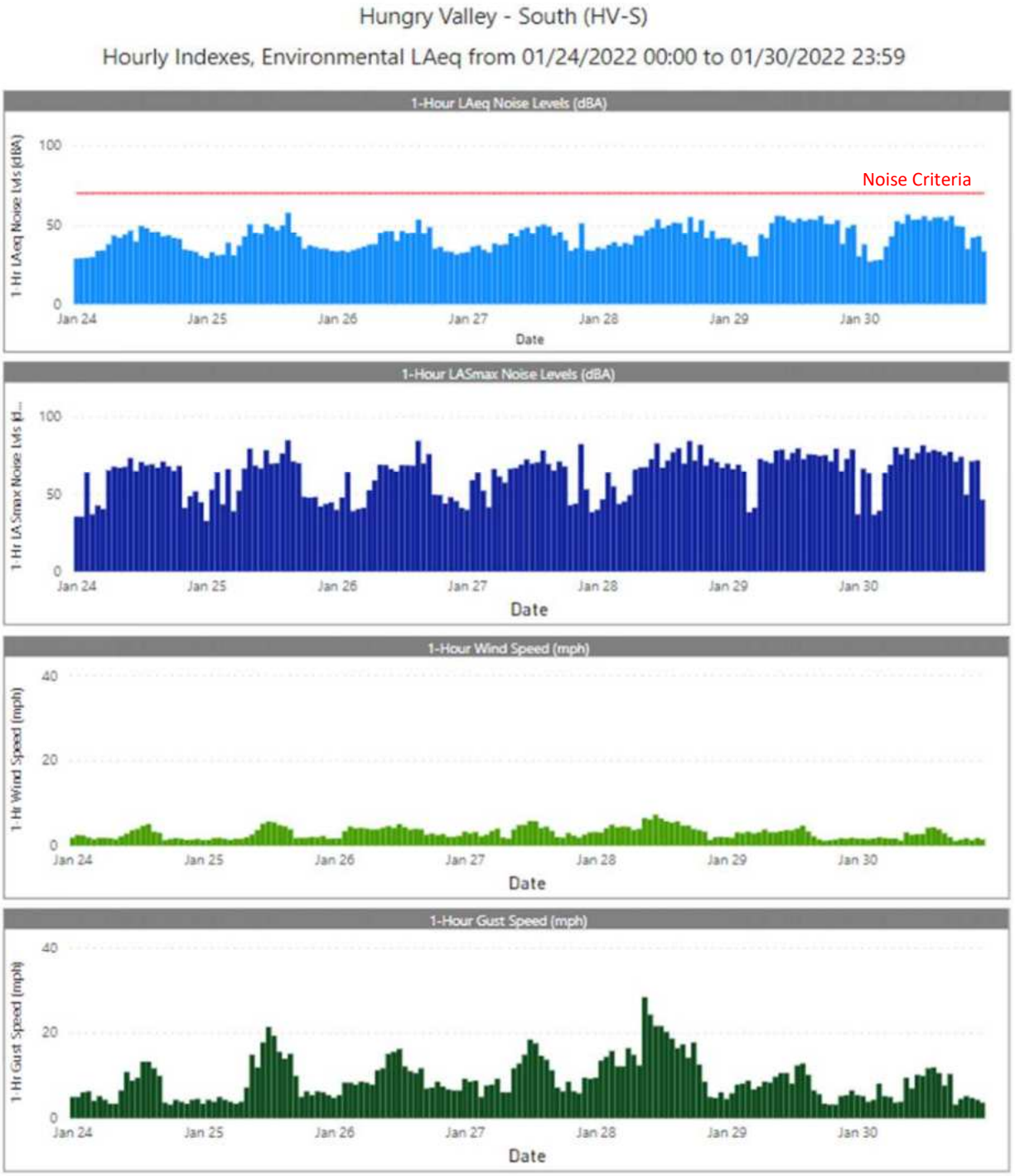


Figure 11: Location NMT-2 Time History Hourly Graphs – January 24, 2022 to January 30, 2022

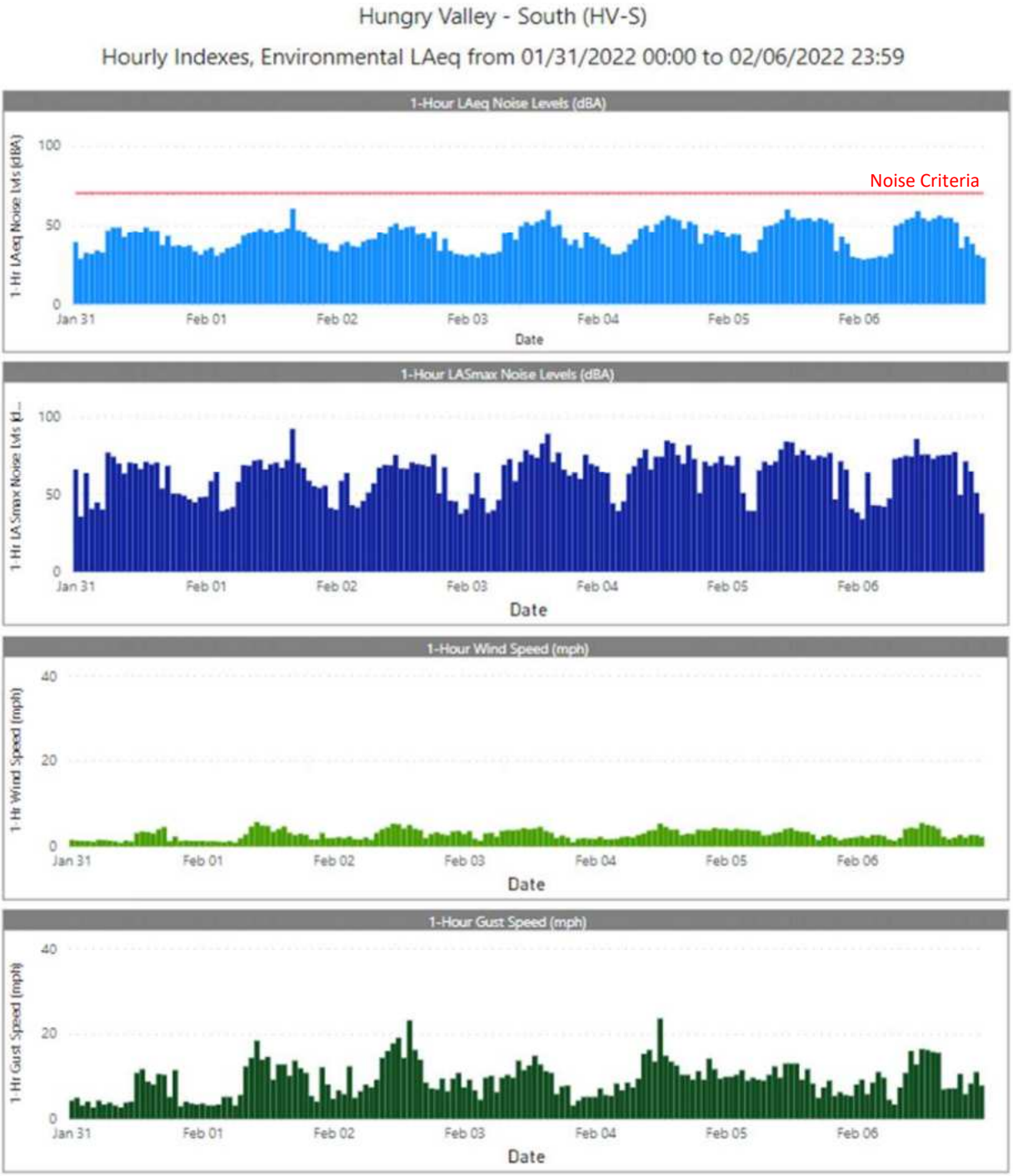


Figure 12: Location NMT-2 Time History Hourly Graphs – January 31, 2022 to February 6, 2022

10.0 Appendix D: Meteorological Data January 2022

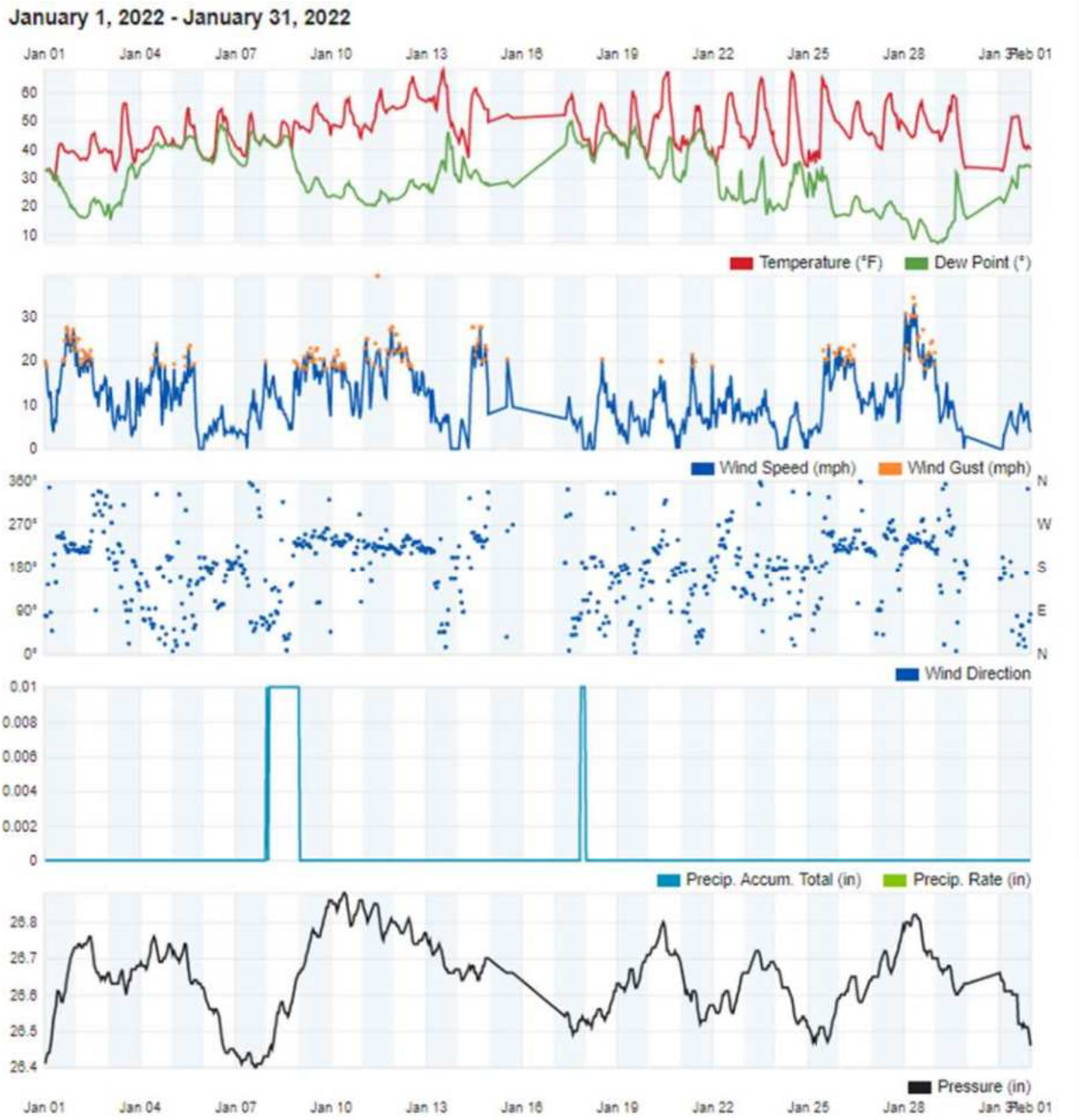


Figure 13: Meteorological Data January 2022

HUNGRY VALLEY SVRA NOISE MONITORING

MARCH 10, 2024

SHORT-TERM MONITORING RESULTS



PREPARED FOR: State of California
Department of Parks and Recreation

Sent: April 3, 2024

CSDA | DESIGN GROUP

Table of Contents

Section **Page**

1.0 Executive Summary 1
2.0 Introduction and Project Description 1
3.0 Acoustical Criteria 2
3.1 County of Los Angeles Noise Ordinance 2
3.2 County of San Buenaventura (Ventura) Noise Ordinance 3
3.3 Kern County Noise Ordinance 4
3.4 Summary of Acoustical Criteria 4
4.0 Data Analysis Methodology 4
5.0 Existing Conditions and Observations 4
5.1 Noise Measurement Locations 4
5.2 Location ST-1 – Jack Rabbit Trail (Measurement Notes) 6
5.3 Location ST-2 – Powerline Road (Measurement Notes) 7
5.4 Weather 7
5.5 General Noise Conditions 8
6.0 Measurement Results 8
6.1 Location ST-1 – Measurement Observations 8
6.2 Location ST-1 – Measured Levels 9
6.3 Location ST-2 – Measurement Observations 10
6.4 Location ST-2 – Measured Levels 11
7.0 Appendix A: Definition of Terms and References 12
8.0 Appendix B: Fundamentals of Sound 13
9.0 Appendix C: Hourly Time History Graphs of Measurements 14
9.1 Location ST-1 Hourly Time History 14
9.2 Location ST-2 Hourly Time History 17

List of Figures

Figure **Page**

Figure 1: Hungry Valley Park Map 5
Figure 2: Location ST-1 - Microphone on Tripod 6
Figure 3: Location ST-2 - Microphone on Tripod 7
Figure 4: Location ST-1 – Noise Source Distribution 9
Figure 5: Location ST-2 – Noise Source Distribution 10
Figure 6: ST-1 Hourly Graph, Hour 1 14
Figure 7: ST-1 Hourly Graph, Hour 2 15
Figure 8: ST-1 Hourly Graph, Hour 3 16
Figure 9: ST-2 Hourly Graph, Hour 1 17
Figure 10: ST-2 Hourly Graph, Hour 2 18
Figure 11: ST-2 Hourly Graph, Hour 3 19

List of Tables

Table **Page**

Table 1: County of Los Angeles Noise Element - Reprinted Table from Section 12.08.390 2
Table 2: County of Ventura Noise Element - Reprinted Table from Section 10.650.130 3
Table 3: GPS Coordinates of Monitoring Locations 6

Table 4: Detailed 3/10/2024 Meteorological Data 8
Table 5: Location ST-1 – Measured Levels 9
Table 6: Location ST-2 – Measured Levels 11

1.0 Executive Summary

This report summarizes the measurement and observation of noise sources from and around the Hungry Valley State Vehicular Recreation Area (SVRA) near Gorman, California. Noise measurements were conducted on Sunday, March 10, 2024, during normal park operating hours. Noise levels were monitored at two locations within the park to identify sources related to park activity and differentiate these from the typical ambient environment.

- Location: Hungry Valley State Vehicular Recreation Area (SVRA)
  Nearest City: Santa Clarita and Gorman, CA
  County: Los Angeles, Ventura, and Kern
  Park Operating Hours: 24 hours a day, 7 days a week.

- Fully attended, three-hour noise measurements were conducted at two locations to quantify and characterize noise from SVRA operations (which include Off Highway Vehicle [OHV] use). One short term (ST) measurement was taken along Jack Rabbit Trail (ST-1) and one was taken along Powerline Road (ST-2).

- The noise environments were characterized by OHV, wind, aircraft flyovers, birds, CSDA staff, and general ambient noise.

- There were no noise exceedances measured at the measurement locations attributed to OHV activity.

The definitions of relevant acoustical terminology and a discussion of the fundamentals of environmental sound propagation are included in Appendices A and B, respectively.

2.0 Introduction and Project Description

CSDA Design Group was contracted by the State of California to conduct continuous long-term (permanent) and short-term (attended) ambient sound monitoring at various SVRAs. Continuous ambient sound monitoring is required to support PRC 50900.02 (b).

> *"The legislature hereby declares that effectively managed areas and adequate facilities for the use of off-highway vehicles and conservation and enforcement are essential for ecologically balanced recreation."*

Short-term monitoring for seasonal changes in park use and "Special Events" supplement the continuous, unattended noise level monitoring to provide accurate descriptions of environmental (non-SVRA) versus SVRA operational noise sources.

This report details the fully attended noise measurements conducted at Hungry Valley SVRA on March 10, 2024. This short-term monitoring session occurred during a busy (peak visitation) period (BlackSwanMoto Training) and serves as a Special Event Monitoring session.

3.0 Acoustical Criteria

3.1 *County of Los Angeles Noise Ordinance*

The County of Los Angeles Noise Element, Chapter 12.08 – Noise Control, stipulates the following goals and policies applicable to the Hungry Valley SVRA.

- **Section 12.08.390 – Exterior Noise Standards:**
  - **Subsection A:** Unless otherwise herein provided, the following exterior noise levels shall apply to all receptor properties within a designated noise zone:

Table 1: County of Los Angeles Noise Element - Reprinted Table from Section 12.08.390

Noise Zone	Designated Noise Zone Land Use (Receptor Property)	Time Interval	Exterior Noise Level [dBA]
I	Noise-Sensitive Area	Anytime	45
II	Residential Properties	10:00 PM – 7:00 AM (nighttime)	45
		7:00 AM – 10:00 PM (daytime)	50
III	Commercial Properties	10:00 PM – 7:00 AM (nighttime)	55
		7:00 AM – 10:00 PM (daytime)	60
IV	Industrial Properties	Anytime	70

  - **Subsection B:** Unless otherwise herein provided, no person shall operate or cause to be operated, any source of sound at any location within the unincorporated county, or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise level, when measured on any other property either incorporated or unincorporated, to exceed any of the following noise standards:

    - Standard No. 1 shall be the exterior noise level which may not be exceeded for a cumulative period of more than 30 minutes in any hour. Standard No. 1 shall be the applicable noise level from subsection A of this section; or, if the ambient L50 exceeds the foregoing level, then the ambient L50 becomes the exterior noise level for Standard No. 1.
    - Standard No. 2 shall be the exterior noise level which may not be exceeded for a cumulative period of more than 15 minutes in any hour. Standard No. 2 shall be the applicable noise level from subsection A of this section plus 5 dB; or, if the ambient L25 exceeds the foregoing level, then the ambient L25 becomes the exterior noise level for Standard No. 2.
    - Standard No. 3 shall be the exterior noise level which may not be exceeded for a cumulative period of more than five minutes in any hour. Standard No. 3 shall be the applicable noise level from subsection A of this section plus 20 dB; or, if the ambient L8.3 exceeds the foregoing level, then the ambient L8.3 becomes exterior noise level for Standard No. 3.
    - Standard No. 4 shall be the exterior noise level which may not be exceeded for a cumulative period of more than one minute in any hour. Standard No. 4 shall be the applicable noise level from subsection A of this section plus 15 dB; or, if the ambient L1.7 exceeds the foregoing level, then the ambient L1.7 becomes the exterior noise level for Standard No. 4.
    - Standard No. 5 shall be the exterior noise level which may not be exceeded for any period of time. Standard No. 5 shall be the applicable noise level from subsection A of this section

plus 20 dB; or, if the ambient L0 exceeds the foregoing level then the ambient L0 becomes the exterior noise level for Standard No. 5.

3.2 *County of San Buenaventura (Ventura) Noise Ordinance*

The County of San Buenaventura Noise Section, Chapter 10.650 – Noise Control, stipulates the following noise limits applicable to the Hungry Valley SVRA.

- **Section 10.650.130 - Designated Noise Zones:**
  - **Subsection B.1:** The following exterior noise levels, unless otherwise indicated, shall apply to all receiving properties within a designated noise zone for the purpose of establishing noise level limits in subsection B.2. below:

Table 2: County of Ventura Noise Element - Reprinted Table from Section 10.650.130

Noise Zone	Designated Noise Zone Land Use (Receptor Property)	Time Interval	Exterior Noise Level [dBA]
I	Noise-Sensitive Properties	7:00 AM – 10:00 PM (daytime) 10:00 PM – 7:00 AM (nighttime)	50 45
II	Residential Properties	7:00 AM – 10:00 PM (daytime) 10:00 PM – 7:00 AM (nighttime)	50 45
III	Commercial Properties	7:00 AM – 10:00 PM (daytime) 10:00 PM – 7:00 AM (nighttime)	60 55
IV	Industrial and Agricultural	Anytime	70

  - **Subsection B.2:** Unless otherwise provided in this article, no person shall operate or cause to be operated any source of sound at any location within the city, or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise level when measured on any receiving property to exceed the following noise level limits:

    a) The exterior noise levels for that land use, as specified in Subsection B.1 above, for a total period of more than 30 minutes in any consecutive 60 minutes;
    b) The exterior noise levels plus five dB for a total period of more than 15 minutes in any consecutive 60 minutes;
    c) The exterior noise levels plus ten dB for a total period of more than five minutes in any consecutive 60 minutes; or
    d) The exterior noise levels plus 15 dB for a total period of more than one minute in any consecutive 60 minutes; or
    e) The exterior noise levels plus 20 dB for any period of time.

  - **Subsection B.4:** If the ambient noise level exceeds that permissible for any of the noise level limits in subsections (a), (b), (c) and (d) of subsection 2. above, the noise level limit shall be increased in five dB increments as appropriate to encompass or reflect said ambient noise level. In the event the ambient noise level exceeds the noise level limit in subsection 2.(e) above, this limit shall be increased to the maximum ambient noise level.

3.3 *Kern County Noise Ordinance*

The Kern County Noise Ordinance does not stipulate any relevant, quantitative, noise regulations for noise levels emanating from operations at the SVRA.

3.4 *Summary of Acoustical Criteria*

The Hungry Valley SVRA is located primarily in Ventura and Los Angeles County but is also near the border of Kern County. Adjacent land uses include residential and commercial in Gorman, California (Los Angeles County), Gorman Elementary School in Gorman, California (Los Angeles County), residential and commercial in Frazier Park (Kern County), as well as the Frazier Mountain High School (Kern County).

As the Kern County Noise Ordinance does not include quantitative noise limits for these land uses, the noise limits presented in the Ventura County Noise Ordinance have been applied at the Frazier Park residences and commercial properties as well as at the Frazier Mountain High School. Exterior residential noise limits provided by the County of Los Angeles are applied to the residences in Gorman, California. As the Los Angeles County residential exterior noise criterion is lower than the commercial exterior noise criterion, the residential exterior noise criterion was applied at the Gorman Elementary School.

The acoustical criteria applied are as follows:

- **Adjacent Residential:** $L_{eq\text{-}1hr}$ noise levels shall not exceed 50 dBA between 7am and 10pm.
- **Adjacent Commercial:** $L_{eq\text{-}1hr}$ noise levels shall not exceed 60 dBA between 7am and 10pm.

4.0 Data Analysis Methodology

The following step-by-step procedure explains the data analysis methodology:

1. During the attended short term field measurements, field staff log the type/source of any noisy events (e.g., aircraft flyovers, OHV noise).

2. The three-hour meter data is imported into our analysis software, NoiseWorks, and a visual inspection of the time history graphs, presented in Section 9.0, is conducted to determine if the OHV noise sources caused any significant exceedances of the noise criterion established in Section 3.0.

3. The ambient noise level (i.e., the level without OHV noise) is established at the measurement location by masking (excluding) the events denoted during the measurement time period as OHV Noise. If a noise source comes from the SVRA, it is excluded from the ambient calculation. Once all SVRA related events are masked, the ambient level is established.

4. The average hourly noise levels with only SVRA noise are compared to the prescribed criteria in Section 3.0 to determine if any exceedances occurred.

5.0 Existing Conditions and Observations

5.1 *Noise Measurement Locations*

Figure 1 below provides an overview of the entire vehicular recreation area; it is labeled with county lines, and measurement locations. Exact GPS coordinates for all locations can be found in Table 3.

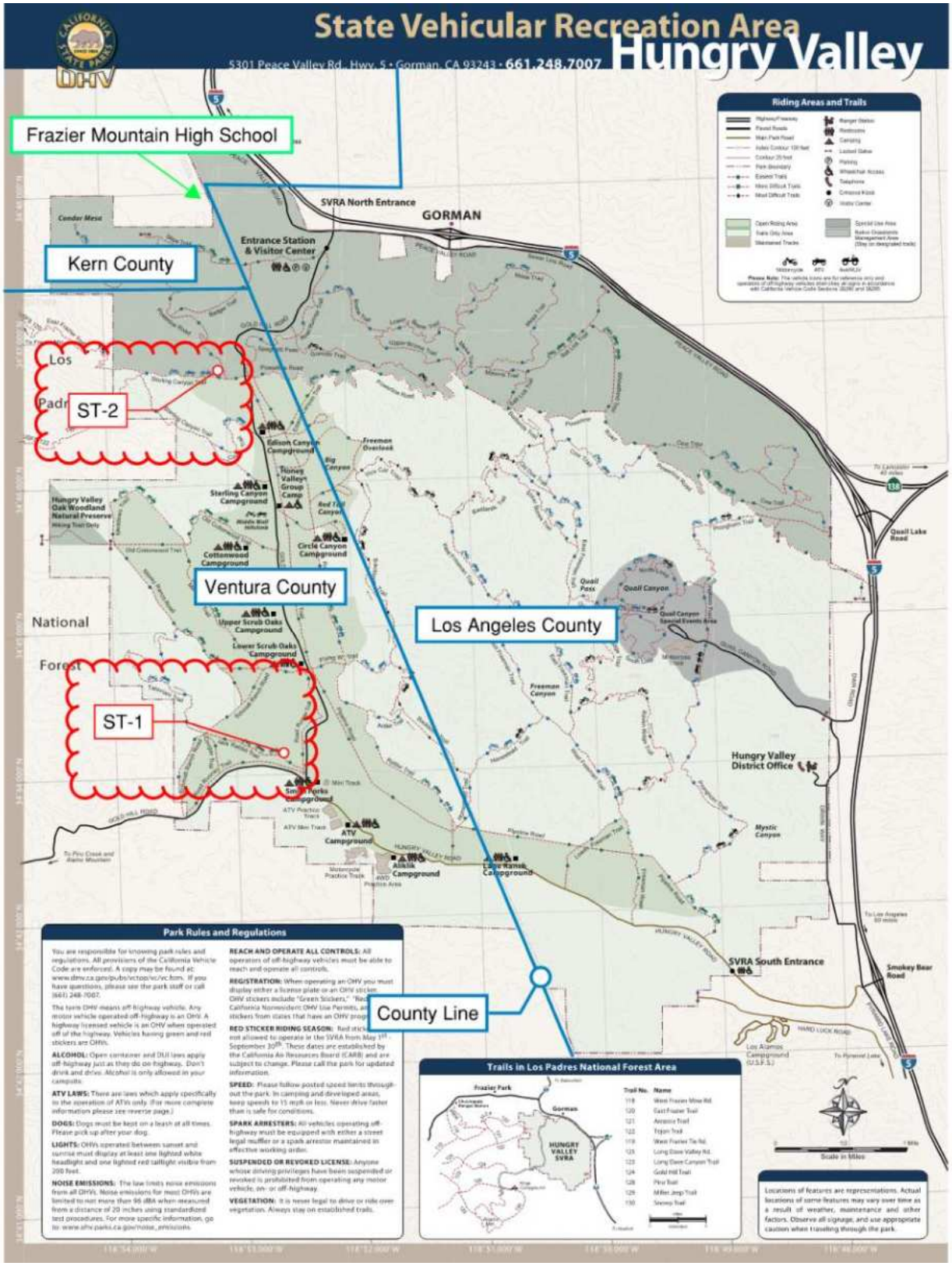


Figure 1: Hungry Valley Park Map

Table 3: GPS Coordinates of Monitoring Locations

Location	GPS Coordinates
ST-1 Jack Rabbit Trail	34°44'7.829"N 118°52'39.297"W
ST-2 Powerline Road	34°46'46.314"N 118°53'2.472"W

5.2 *Location ST-1 – Jack Rabbit Trail (Measurement Notes)*

The measurement was taken on a tripod five feet above the ground and more than 10 feet from any reflecting surface. Figure 2 shows an image of the monitoring location and setup.



Figure 2: Location ST-1 - Microphone on Tripod

The measurement commenced at 9:00 AM and ended at 12:00 PM on March 10, 2024.

The equipment was calibrated immediately before and after the measurement with no significant drift in response.

5.3 *Location ST-2 – Powerline Road (Measurement Notes)*

The measurement was taken on a tripod five feet above the ground and more than 10 feet from any reflecting surface. Figure 3 shows an image of the monitoring location and setup.



Figure 3: Location ST-2 - Microphone on Tripod

The measurement commenced at 1:00 PM and ended at 4:00 PM on March 10, 2024.

The equipment was calibrated immediately before and after the measurement with no significant drift in response.

5.4 *Weather*

The following is a summary of the weather during the measurement period on March 10, 2024:

- Wind speed ranged from 0 miles per hour (mph) to 11.4 mph.
- Maximum wind gust speed was 11.4 mph; wind noise was audible during the measurement time period but did not significantly affect the measurements.
- Temperature ranged from a low of 34.2°F to a high of 63.5°F.
- Humidity ranged from a low of 46% to a high of 99%.
- There was no precipitation during the measurement time period.

Detailed meteorological data is included in Table 4 below.

Table 4: Detailed 3/10/2024 Meteorological Data

Time	Temp. (°F)	Humidity	Precipitation	Wind Speed	Wind Gust Speed
9:00 AM	44.2	98%	0.0 in	0 mph	0 mph
10:00 AM	52.7	47%	0.0 in	2.6 mph	2.6 mph
11:00 AM	59.5	57%	0.0 in	3.9 mph	3.9 mph
12:00 PM	61.3	49%	0.0 in	4.3 mph	4.3 mph
1:00 PM	61.5	52%	0.0 in	4.7 mph	4.7 mph
2:00 PM	82	19%	0.0 in	7 mph	9 mph
3:00 PM	57.3	73%	0.0 in	2.8 mph	2.8 mph
4:00 PM	53.5	83%	0.0 in	2.5 mph	2.5 mph

5.5 *General Noise Conditions*

OHV activity, birds chirping, wind noise, general ambient, and aircraft flyovers were the dominant contributors to the noise environment at the monitoring locations. The specific nature of these noises, as well as an analysis of those levels above the prescribed criteria, are discussed below.

6.0 Measurement Results

6.1 *Location ST-1 – Measurement Observations*

Typical noises included OHV activity, aircraft flyovers, birds chirping, CSDA staff, and general ambient. Noise from OHV was the dominant contributor to the noise environment.

Hourly graphs of the measured noise levels, with typical noise source indications, can be found in Appendix C. A summary of the typical noise sources at this measurement location is shown below in Figure 4. Note that this is a representative graph of the noise environment; as many events occurred simultaneously, percentages presented are approximate.

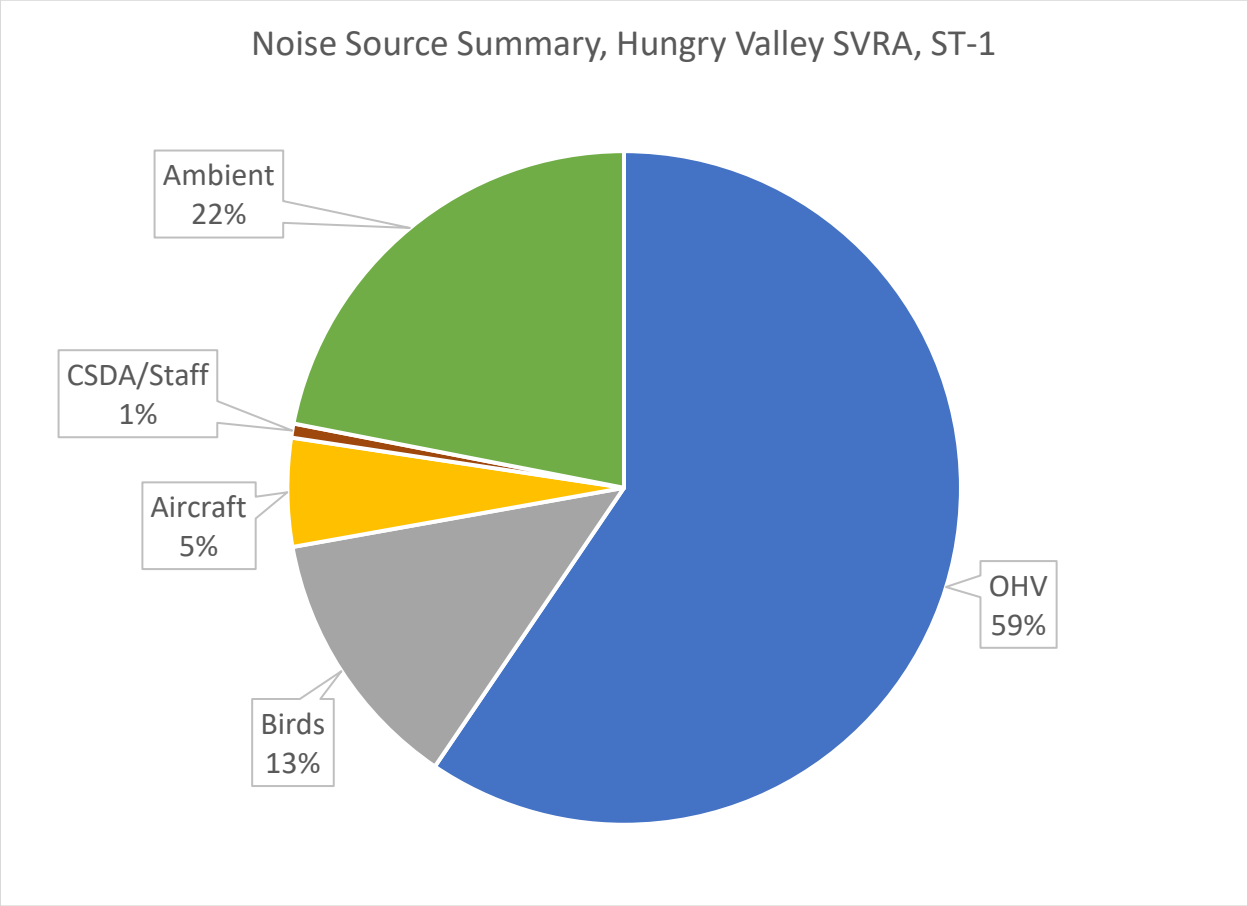


Figure 4: Location ST-1 – Noise Source Distribution

6.2 *Location ST-1 – Measured Levels*

Table 5 provides a summary of the measurement results.

Table 5: Location ST-1 – Measured Levels

Start Time (Hourly Intervals)	Measured Levels at SVRA		Calculated Levels at Receivers		Criteria	
	L_{eq} Avg. Ambient (No SVRA) [dBA]	L_{eq} Avg. - Only SVRA[1] [dBA]	Nearest Residential Receptor: L_{eq} - Only SVRA[1, 2] [dBA]	Nearest Commercial Receptor: L_{eq} - Only SVRA[1, 3] [dBA]	L_{eq} Residential Criteria [dBA]/ Meets Criteria?	L_{eq} Commercial Criteria [dBA]/ Meets Criteria?
9:00 AM	33	48	<30	<30	50/Y	60/Y
10:00 AM	<30	53	<30	<30	50/Y	60/Y
11:00 AM	<30	47	<30	<30	50/Y	60/Y

Notes:

[1] Noise levels include only OHV and park visitors and noise levels measured due to aircraft, CSDA/Staff, birds, and general ambient were removed from measurements.

[2] The source is 60 feet away from the measurement location and the nearest residential land use to the north is over 22,000 feet (4+ miles) away from the measurement location and we anticipate an approximate 26 dBA reduction in SVRA only noise levels at the nearest residential land use.

[3] The source is 60 feet away from the measurement location and the nearest commercial land use to the north is over 22,000 feet (4+ miles) away from the measurement location and we anticipate an approximate 26 dBA reduction in SVRA only noise levels at the nearest commercial land use.

As shown in Table 5, noise levels from OHV activity did not exceed the nearest residential and commercial land use criteria as they are several miles from the measurement location.

6.3 *Location ST-2 – Measurement Observations*

Typical noises included OHV activity, aircraft flyovers, wind, and general ambient. Noise from OHV was the dominant contributor to the noise environment.

Hourly graphs of the measured noise levels, with typical noise source indications, can be found in Appendix C. A summary of the typical noise sources at this measurement location is shown below in Figure 5. Note that this is a representative graph of the noise environment; as many events occurred simultaneously, percentages presented are approximate.

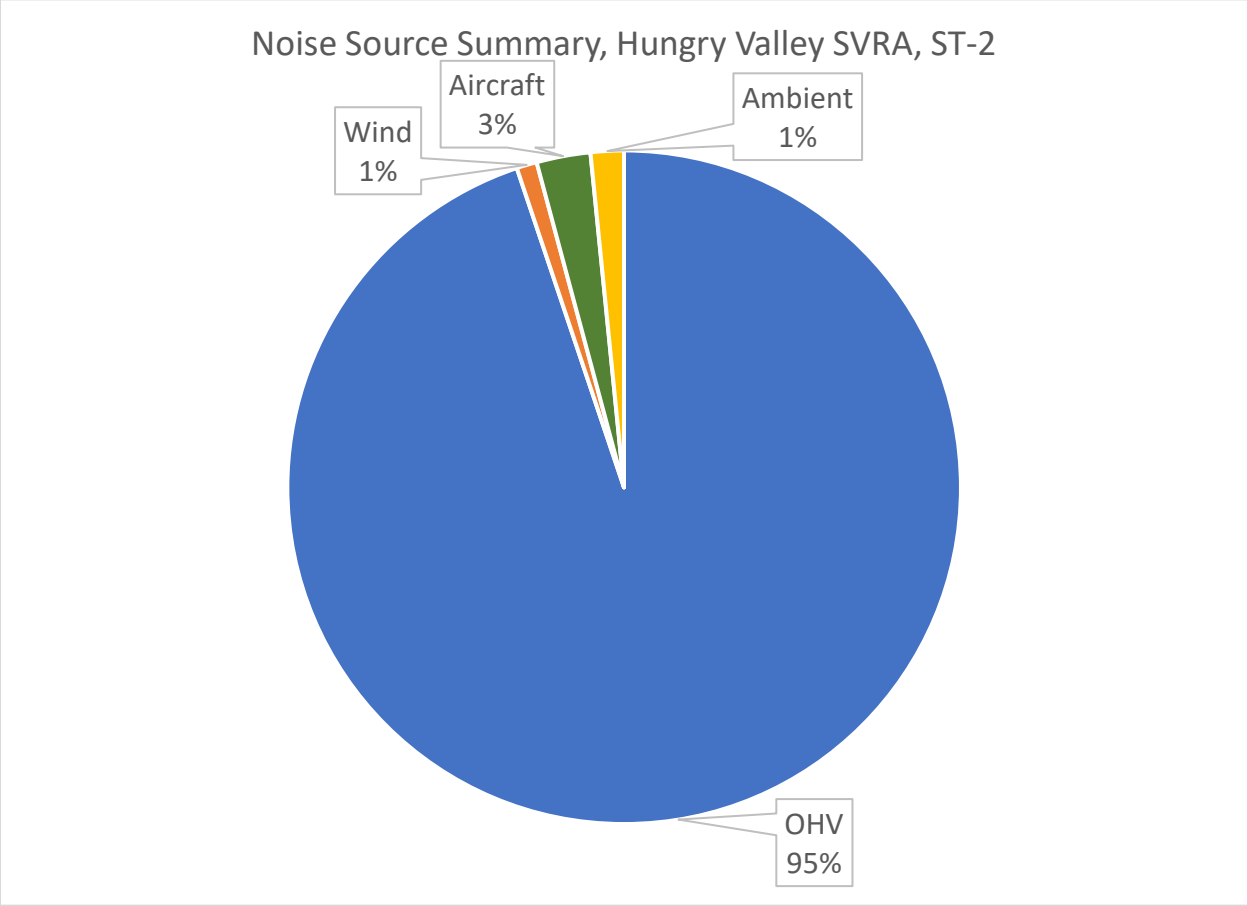


Figure 5: Location ST-2 – Noise Source Distribution

6.4 *Location ST-2 – Measured Levels*

Table 6 provides a summary of the measurement results.

Table 6: Location ST-2 – Measured Levels

Start Time (Hourly Intervals)	Measured Levels at SVRA		Calculated Levels at Receivers		Criteria	
	L_{eq} Avg. Ambient (No SVRA) [dBA]	L_{eq} Avg. - Only SVRA[1] [dBA]	Nearest Residential Receptor: L_{eq} Avg. - Only SVRA[1, 2] [dBA]	Nearest Commercial Receptor: L_{eq} - Only SVRA[1, 3] [dBA]	L_{eq} Avg. Residential Criteria [dBA]/ Meets Criteria?	L_{eq} Commercial Criteria [dBA]/ Meets Criteria?
1:00 PM	42	58	36	37	50/Y	60/Y
2:00 PM	<30	55	33	34	50/Y	60/Y
3:00 PM	<30	58	36	37	50/Y	60/Y

Notes:

[1] Noise levels include only OHV and noise levels measured due to aircraft, wind, and general ambient were removed from measurements.

[2] The source is 60 feet away from the measurement location and the nearest residential land use to the north is over 9,500 feet (1.8+ miles) away from the measurement location and we anticipate an approximate 22 dBA of reduction in SVRA only noise levels at the nearest residential land use.

[3] The source is 60 feet away from the measurement location and the nearest commercial land use to the north is over 7,000 feet (1.3+ miles) away from the measurement location and we anticipate an approximate 21 dBA reduction in SVRA only noise levels at the nearest commercial land use.

As shown in Table 6, noise levels from OHV activity did not exceed the nearest residential and commercial land use criteria as they are several miles from the measurement location.

7.0 Appendix A: Definition of Terms and References

A-Weighted Sound Level: A term for the A-Weighted sound pressure level. The sound level is obtained by use of a standard sound level meter and is expressed in decibels. Sometimes the unit of sound level is written as dB(A).

Day/Night Average Sound Level (L_{dn} or DNL): A descriptor established by the U.S. Environmental Protection Agency to describe the average day-night level with a 10 dB penalty applied to noise occurring during the nighttime hours (10 pm to 7 am) to account for the increased sensitivity of people during sleeping hours. A 10 dB increase in sound level is perceived by people to be twice as loud.

L_{eq}: The time-weighted average noise level during the stated measurement period.

L_{max}: The highest sound level reached when measuring noise with a sound level meter using the A-weighted network and slow time weighting.

Los Angeles County – Noise Element:
https://library.municode.com/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT12ENPR_CH12.08NOCO

Kern County – Noise Section:
https://library.municode.com/ca/kern_county/codes/code_of_ordinances?nodeId=TIT8HESA_CH8.36NOCO

San Buenaventura (Ventura) – Noise Section:
https://sanbuenaventura.municipal.codes/SBMC/10.650

Weather Underground:
https://www.wunderground.com/dashboard/pws/KCALEBEC7/table/2021-12-31/2021-12-31/monthly

Hungry Valley SVRA Site:
https://ohv.parks.ca.gov/?page_id=1192

8.0 Appendix B: Fundamentals of Sound

Noise is typically defined as unwanted sound and has the potential of negatively affecting human health. Noise in the community has often been cited as a health problem since it affects general well-being and contributes to undue stress and annoyance. At especially high noise levels, hearing loss can occur. Details about the fundamentals of sound and common noise descriptors, as well as further discussion regarding human response to noise and common noise sensitive receivers, are provided below.

Sound is the energy (disturbance or vibration), that is transmitted in the form of waves through a medium, such as air or water. Sound waves are typically described in terms of intensity and frequency. Sound intensity refers to the amount of energy in a sound wave and is quantified on a logarithmic "decibel" scale. Levels of sound intensity correspond to different degrees of loudness, where 0 dBA generally corresponds with the threshold of human hearing and sound levels of 120 dBA to 140 dBA, or higher correspond to thresholds of pain. The frequency of sound is defined as the number of cycles per second and is measured in Hertz (Hz). Humans are typically sensitive to sound levels between 20 Hz to 20,000 Hz, where the frequency of a sound wave corresponds to the perceived pitch.

Since human ears are not equally sensitive to all frequencies, noise measurements are therefore weighted to account for the ear's frequency-dependent response to sound. The most common example of frequency-weighting is known as A-weighted decibel level ("dBA"; "dB(a)"), which is applied to most environmental noise measurements. Since sound levels are measured on a logarithmic scale, decibel addition is also based on a logarithmic scale. For example, a 65 dBA sound source when added to another 65 dBA source (a doubling of the sound pressure) does not result in 130 dBA, but rather in a total incremental increase of 3 dBA. In general, a change in sound level between 1 dBA to 3 dBA is barely noticeable to humans, where a change of 10 dBA is perceived as a doubling or halving of sound level.

Sound levels reduce with respect to distance at different rates, depending on the source type. In general, noise from sources such as stationary mechanical equipment and construction machinery (known as "point sources") reduce between 6 dBA to 7.5 dBA per doubling of distance from the source. Noise from sources such as a busy highway (known as "line sources") reduce between 3 dBA to 4.5 dBA per doubling of distance from the source. The presented ranges of attenuation depend on the type of ground surface between the noise source and the receiver. Highways and hard surfaces such as concrete or asphalt typically have an attenuation rate of 6 dBA for point sources and 3 dBA for line sources, whereas softer surfaces, such as vegetated terrain, have an attenuation rate of 7.5 dBA for point sources and 4.5 dBA for line sources. Atmospheric conditions as well as shielding affects (such as the existence of buildings or noise walls between source and receiver) could also affect noise levels from different positions.

9.0 Appendix C: Hourly Time History Graphs of Measurements

Note that the Bold Red Line running through the graphs below indicates the average L_{eq} during the measurement time period. The noise source categories below the time history graphs mark what noise source was specifically heard (often times more than one) during the attended monitoring session and are included to better illustrate the noise environment and relative noise source levels.

9.1 *Location ST-1 Hourly Time History*

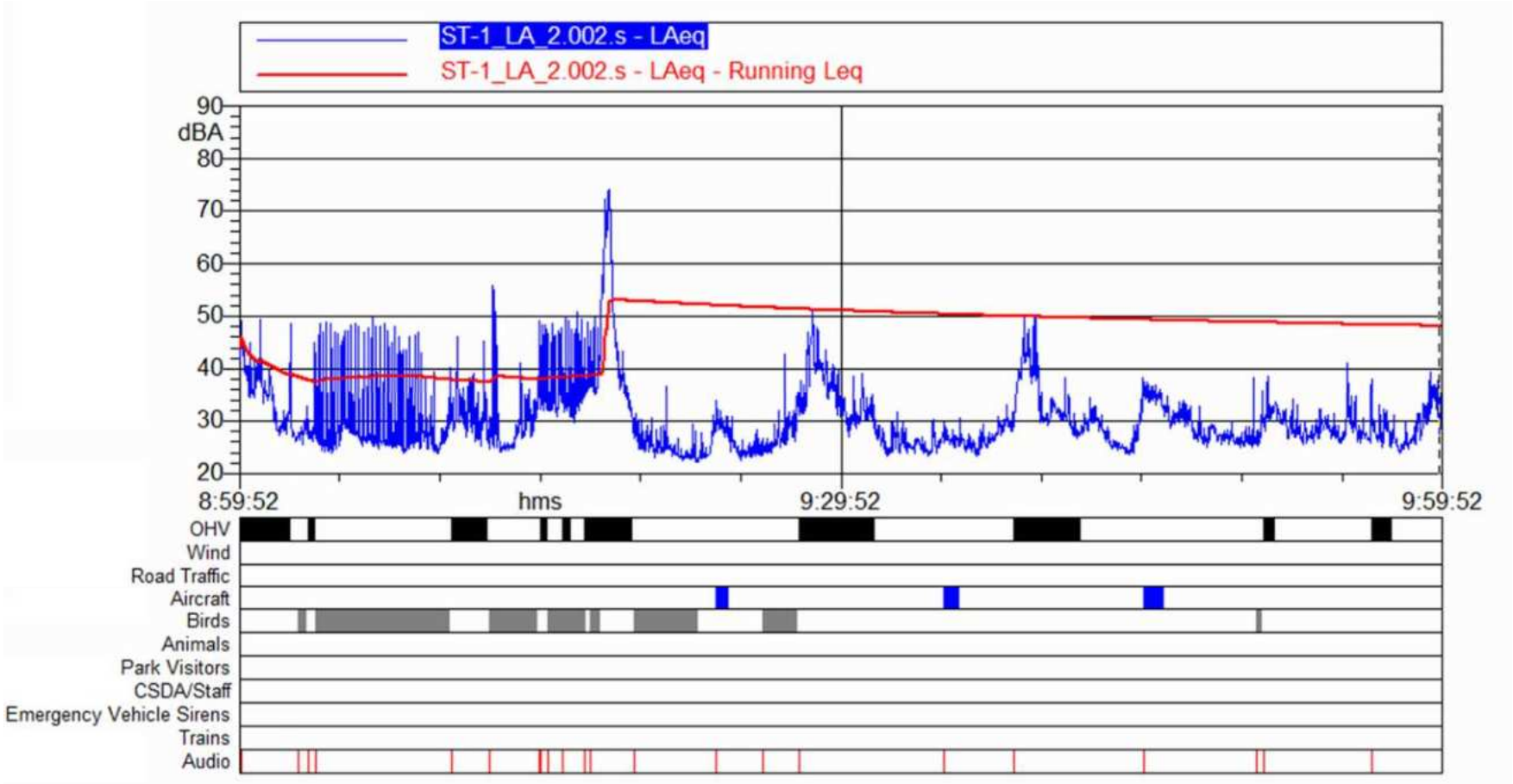


Figure 6: ST-1 Hourly Graph, Hour 1

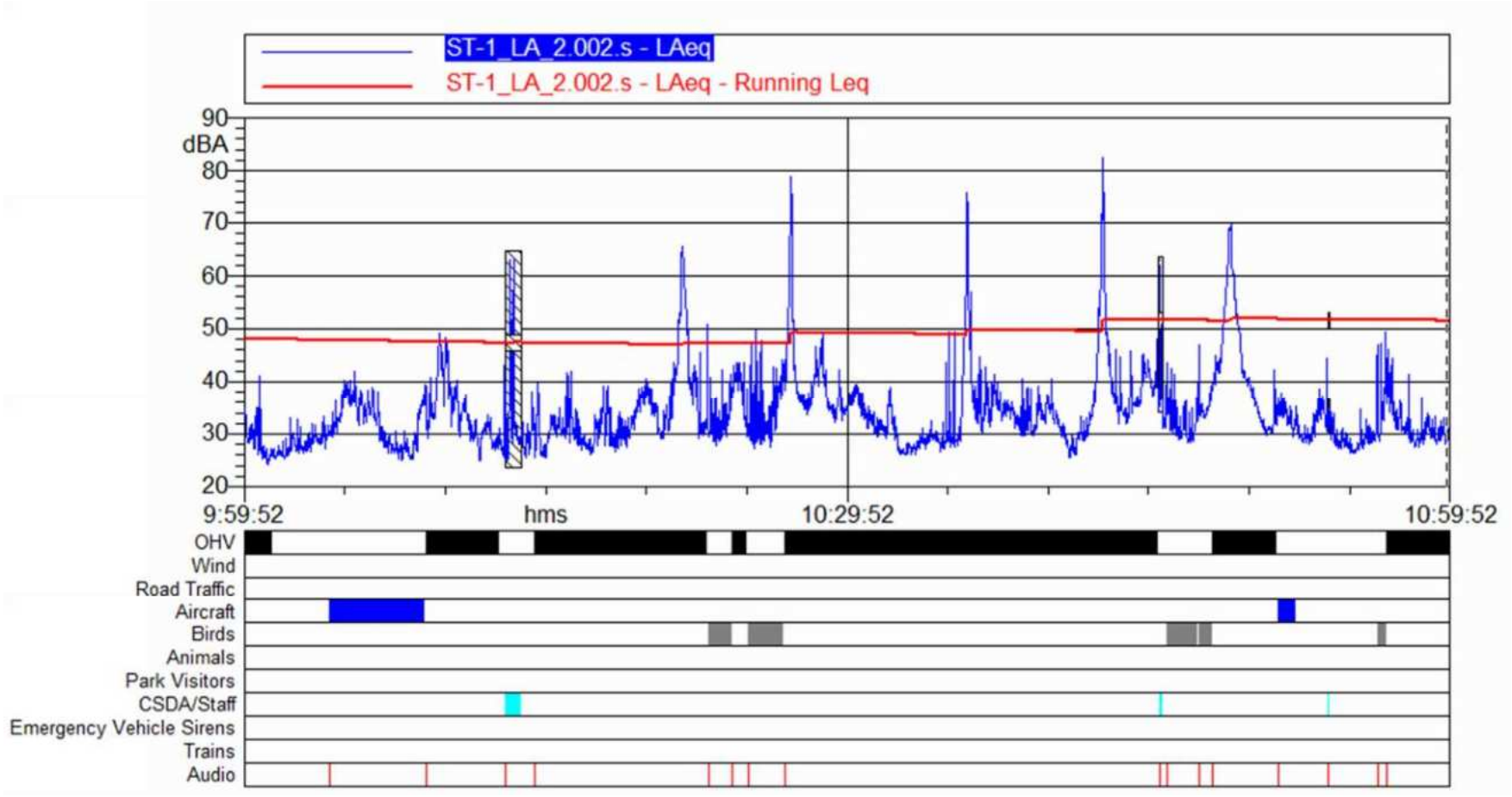


Figure 7: ST-1 Hourly Graph, Hour 2

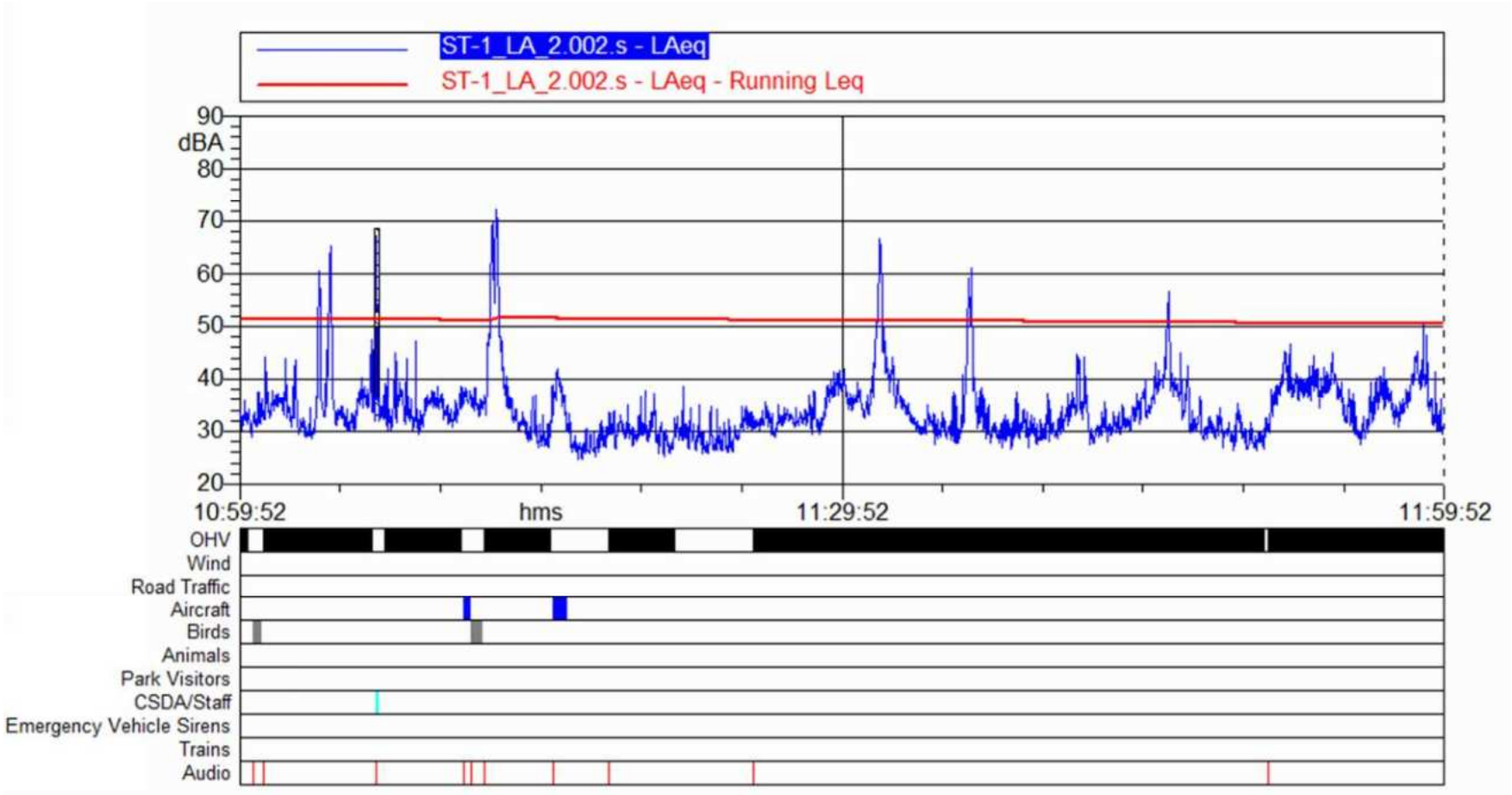


Figure 8: ST-1 Hourly Graph, Hour 3

9.2 *Location ST-2 Hourly Time History*

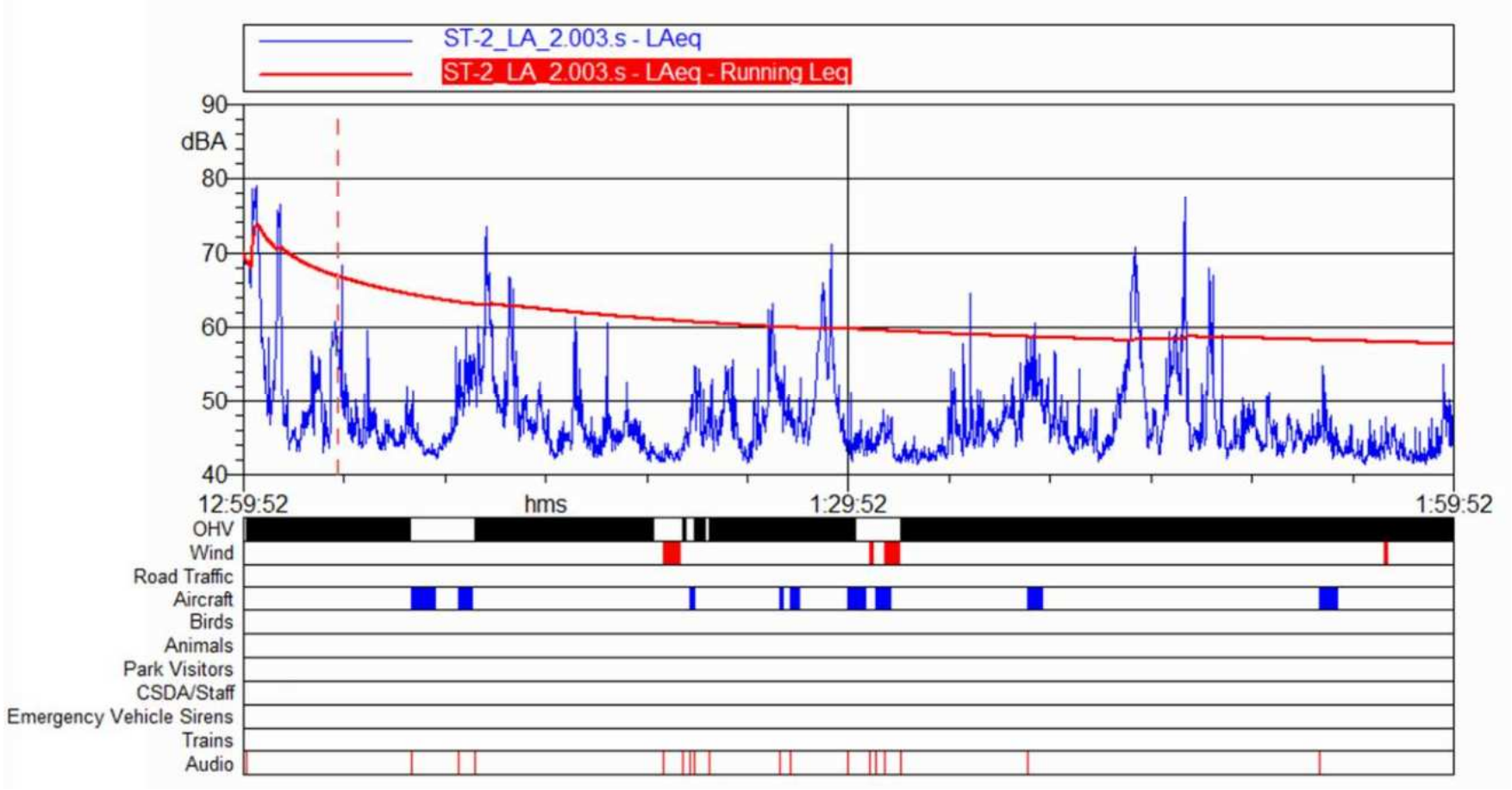


Figure 9: ST-2 Hourly Graph, Hour 1

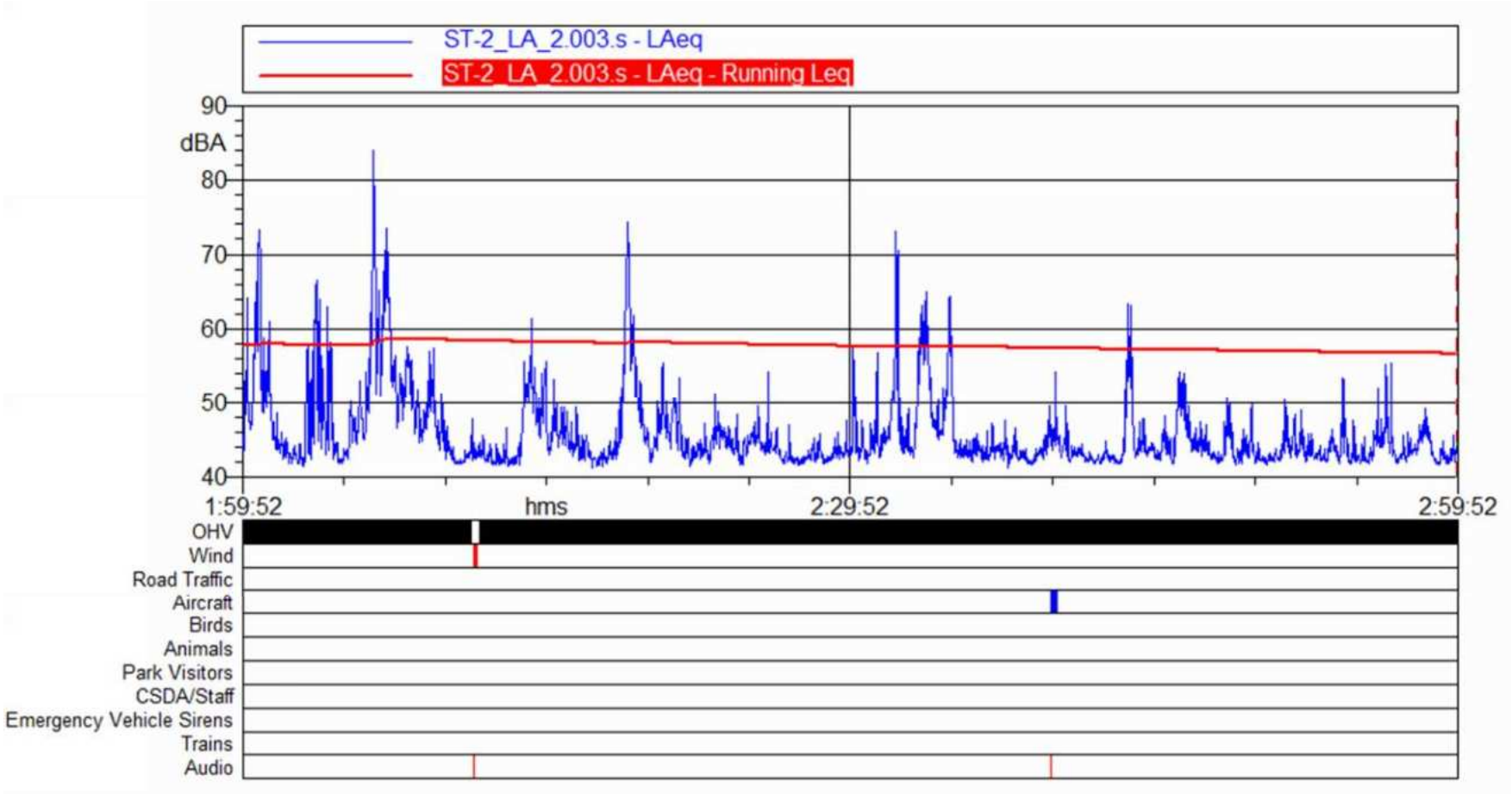


Figure 10: ST-2 Hourly Graph, Hour 2

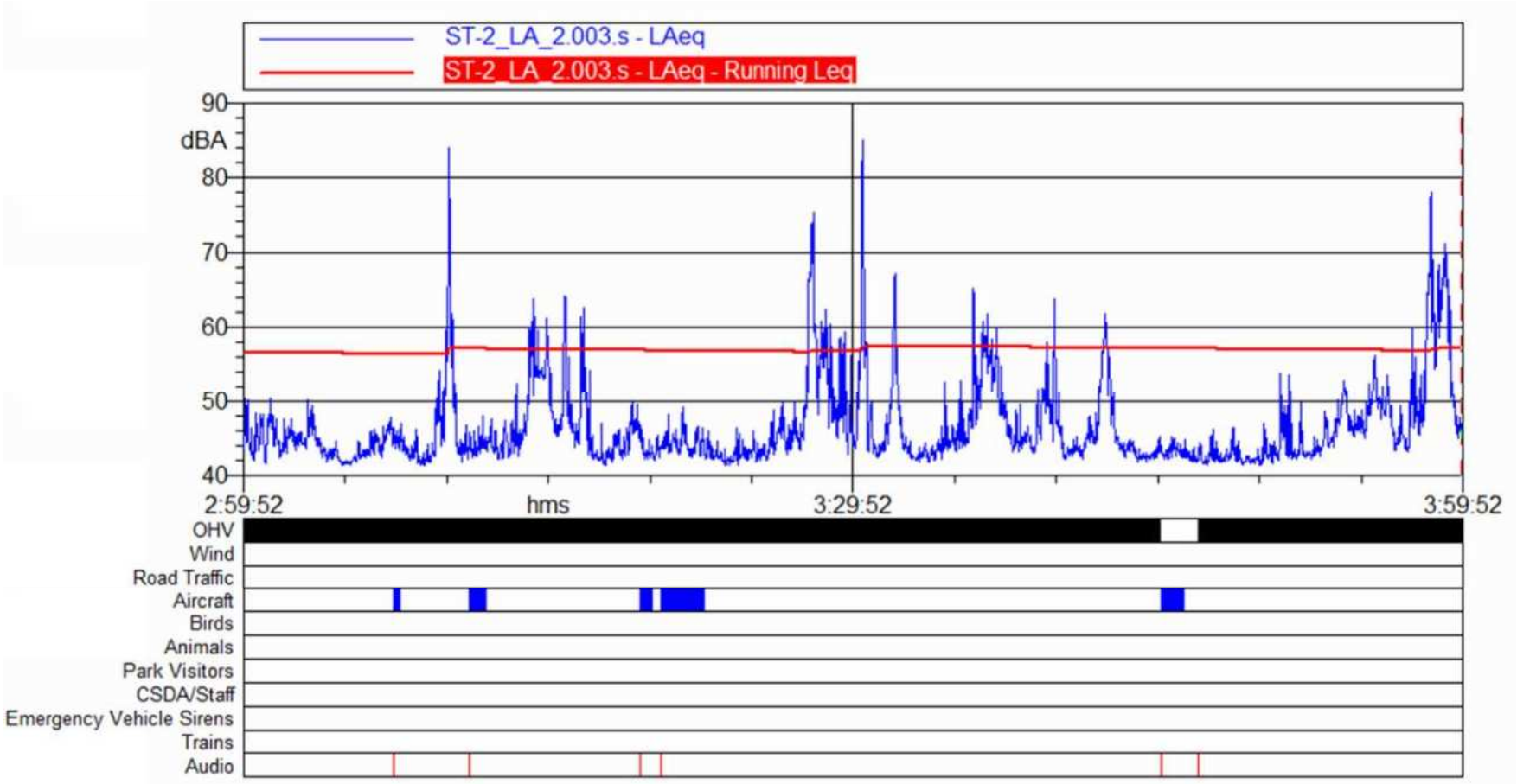


Figure 11: ST-2 Hourly Graph, Hour 3