Draft Initial Study/Environmental Checklist and Mitigated Negative Declaration for the Camp Borrego Education Center and Special Events Venue Project Borrego Springs, California

Prepared for

Anza-Borrego Foundation
P.O. Box 2001
Borrego Springs, CA 92004

Prepared by

RECON Environmental, Inc.
3111 Camino del Rio North, Suite 600
San Diego, CA 92108
P 619.308.9333

RECON Number 9923
November 24, 2021

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1.0 Introduction

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared in accordance with relevant provisions of the California Environmental Quality Act (CEQA) of 1970, as amended, and the CEQA Guidelines, as revised. This IS/MND evaluates the environmental effects of the Camp Borrego Education Center and Special Events Venue.

The IS/MND includes the following components:

- A Draft MND and the formal findings made by the California Department of Parks and Recreation ("State Parks" or "Parks") that the project would not result in any significant effects on the environment, as identified in the CEQA IS Checklist.

- A detailed project description.

- The CEQA IS Checklist, which provides standards to evaluate the potential for significant environmental impacts from the project and is adapted from Appendix G of the CEQA Guidelines. The project is evaluated in 21 environmental issue categories to determine whether the project's environmental impacts would be significant in any category. Brief discussions are provided that further substantiate the project's anticipated environmental impacts in each category.

Because the Camp Borrego Education Center and Special Events Venue fits into the definition of a "project" under Public Resources Code Section 21065 requiring discretionary approvals by the City, and because it could result in a significant effect on the environment, the project is subject to CEQA review. The IS Checklist was prepared to determine the appropriate environmental document to satisfy CEQA requirements: an Environmental Impact Report (EIR), a Mitigated Negative Declaration (MND), or a Negative Declaration (ND). The analysis in this IS Checklist supports the conclusion that the project may result in significant environmental impacts, but (1) revisions in the project plans or proposals made by or agreed to by the applicant before a proposed MND and IS are release for public review would avoid the effect or mitigate the effects to a point where clearly no significant effects would occur, and (2) there is no substantial evidence, in light of the whole record before the State Park, that the project is revised and may have a significant effect on the environment; therefore, an MND has been prepared.

This IS/MD will be circulated for 30 days for public and agency review, during which time individuals and agencies may submit comments on the adequacy of the environmental review. Following the public review period, State Parks will consider any comments received on the IS/MND when deciding whether to adopt the MND.

2.0 Draft Mitigated Negative Declaration

Project Name:

Camp Borrego Education Center and Special Events Venue

Project Location:

The proposed project is located in Anza-Borrego Desert State Park in Borrego Springs, California. Anza-Borrego Desert State Park is in San Diego County (Figure 1). The project is located in the Township 10S and Range 05E on the U.S. Geological Survey (USGS) 7.5-minute topographic map, Borrego Palm Canyon quadrangle (Figure 2). Figure 3 shows the project location on an aerial photograph.

Project Description:

The Anza-Borrego Desert State Park is a popular visitor destination in San Diego County. The Park was established in 1933. The project site was previously in use as an overnight campsite, Camp Borrego, but has not been in use since 2017. Camp Borrego was created to provide an outdoor experience and environmental education to underserved fifth graders, mostly from Imperial and San Diego counties. The Camp Borrego program was operated by a partnership between Anza-Borrego Foundation and State Parks. The Anza-Borrego Foundation has now allocated funding to conduct planning for a new and, expanded Camp Borrego. The Anza-Borrego Foundation proposes implementing three phases of the project, with the phases outlined below. Phase 1 would be the initial phase, and Phases 2 and 3 would be completed in the future. This document addresses the potential impacts associated with all three phases; however, any amphitheater renovations would require further environmental review from State Parks. The timing of the future phases is unknown.

The proposed project consists of the construction and operation of new facilities and associated infrastructure to accommodate the Camp Borrego Education Center and Special Events Venue sponsored by the Anza-Borrego Foundation within the park. The overall project site encompasses approximately 70 acres, and is located to the west of the existing Borrego Palm Canyon Campground facilities. The 70 acres include access roads and trails, parking, and the existing amphitheater. The project site can be accessed via an existing unpaved road off Palm Canyon Drive. The existing road provides public access to the surrounding campgrounds and trails. The proposed project is consistent with the Anza-Borrego Desert State Park General Plan (General Plan), and the project site lies within the "Focused-Use Zone I." This management zone offers the opportunity for developing full-service campgrounds and lodging.

The project proposes a permanent campsite with facilities to accommodate the Anza-Borrego Foundation's Camp Borrego Program. The proposed project would consist of the demolition of existing facilities, and the construction and operation of new camping facilities and associated infrastructure within the site area that would be completed in three separate phases. Figure 5 shows the anticipated phases and Figure 6 shows the ultimate project. The proposed project would result in the construction of the following three phases.

Phase I:

- Three 470-square-foot cabin buildings, with two cabin rooms in each building for a total of six individual cabins with an approximate capacity of six to eight people per cabin. The cabin buildings would be located east of the future camp commons.
- A 1,200-square-foot restroom facility with deck, to the west of the cabins and south of the future camp commons.
- Group gather area with fire rings and seat walls.
- Renovation of park trails, which includes grading to enhance the existing trails surrounding the campsite, as well as new trail and road construction (includes installation of base materials and 4-by-6-inch timber headers).
- A parking area consisting of 40 parking stalls, one accessible stall, one van-accessible stall, as well as entry/drop-off area.
- Grading to accommodate the immediate cabin site and facilities area. All buildings are to be elevated four feet off the finished grade to elevate structures off the floodplain.
- Construction of a new septic system and leach field.
- Infrastructure improvements, including extending and routing utilities to project site.

Phase 2:

- Three 470-square-foot cabin buildings, with two cabin rooms in each building for a total of six individual cabins with an approximate capacity of six to eight people per cabin. Cabins would be located next of the Phase 1 cabins to the east.
- A 1,400-square-foot shower facility with deck, located between the cabins.
- Trash enclosure.
- Extended parking and trail circulation within the camp area.
- Grading to accommodate the immediate cabin site and facilities area. All buildings are to be elevated four feet off the finished grade to elevate structures off the floodplain.
- Group gathering area with fire rings and seat walls.

Phase 3:

- A 5,900-square-foot camp commons, which would include a kitchen with a storage area for a refrigerator/freezer, covered gathering area with storage, an attached staff cabin building with two cabin rooms, two comfort stations, a stepped seating gathering area, and solar panels on the roof.
- Improvements to the existing amphitheater located at the west end of the project site. Improvements would include an accessible trail from the parking area to the amphitheater, a ramp along the side of the amphitheater, paving around amphitheater seating with an expanded gathering area, new slats for existing benches, and integrated accessible seating at the top and bottom of the amphitheater. Prior to any improvements to the amphitheater, State Parks would conduct additional environmental review.

Once all three phases are completed, the project would include the construction of twelve overnight cabins, restroom and showering facilities, a kitchen/common area with attached staff cabins and comfort stations, a new parking area for visitors, and both new and updated multi-use trails and

roads. As noted above, renovations to the existing amphitheater would be evaluated at a later time by State Parks and would include additional environmental review (see Figure 6).

The project features in Phase 1 would also include extending existing utility lines to the project site and construction of a new septic system and leach field. The septic tank and leach field would be located near the proposed restroom facilities (see Figure 5). Building materials and delivery of power will conform to sustainable practices, and the facility will be "off-the-grid" to the degree that functionality allows. Proposed Phase 1 improvements would additionally include storm water and gray water treatment basins, including planning and cobble placement, desert restoration, shade and screen tree plantings and temporary irrigation. In addition, there would be improvements to current pedestrian connections to existing facilities adjacent to the project site. Existing roads and pathways would be repaved in concrete and connect with the existing concrete Visitor's Center trail thereby creating a continuous, multi-purpose recreation trail from the Visitor's Center to the Palm Canyon day-use parking lot. A new 40-space parking lot would be constructed northwest of the camping facilities and would include a roundabout with a drop-off location. The parking lot would be constructed with compacted class II base rock and included in Phase 1 as well.

DETERMINATION: (To be completed by Lead Agency)

On the basis of this initial evaluation:

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

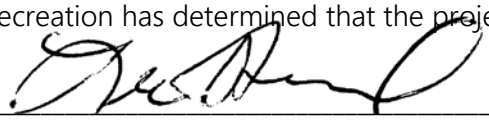
☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

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

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

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **NEGATIVE DECLARATION** pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier **EIR** or **NEGATIVE DECLARATION**, including revisions or mitigation measures that are imposed upon the proposed project, and nothing further is required.

Findings: Pursuant to the provisions of CEQA (Public Resources Code, Section 21000 et seq.) and based on information contained in the attached IS Checklist, the California Department of Parks and Recreation has determined that the project will not have a significant effect on the environment.



_____ November 24, 2021

Signature of Lead Agency Representative Date

3.0 Project Description

1. Project:

Camp Borrego Education Center and Special Events Venue

2. Lead Agency:

California State Parks

3. Contact Person and Phone Number:

Terry Gerson
Colorado Desert District
District Services Manager
California State Parks
(760) 767-3716
Terry.Gerson@parks.ca.gov

4. Project Location:

The proposed project is located in the Anza-Borrego Desert State Park in Borrego Springs, California.

5. Project Applicant/Sponsor:

Anza-Borrego Foundation

6. General Plan Designation:

Anza-Borrego Desert State Park General Plan

7. Zoning:

The project site is designated in the Focused-Use Zone I of the General Plan

8. Description of Project:

Project Background

The previous Camp Borrego encompassed approximately 20 acres and was located to the west of the existing Borrego Palm Canyon Campground facilities in Anza-Borrego Desert State Park. The larger area surrounding the camp is approximately 70 acres, and includes access roads and trails, and parking.. The nearby amphitheater is located northwest of the campsite, and is a State Park facility. The regional location is shown in Figure 1, the project location on a USGS map is shown in Figure 2, and the project location on an aerial map is shown in Figure 3.

Camp Borrego was created to provide an outdoor experience and environmental education to underserved fifth graders, mostly from Imperial and San Diego counties. The project site served as overnight accommodations for the campsite up until 2017, when it was determined that the camp was not in compliance with the State Fire Marshal requirements. The project site is also located in a Federal Emergency Management Agency (FEMA) mapped flood zone which shows inundation levels during the 100-year flooding event reaching a depth of three feet. The camp included eight sleeping yurts, storage facilities, and an amphitheater which is located northwest of the campsite. The existing campsite and facilities (see Figure 4) are within the FUZ I Management Zone of the General Plan, which is intended to provide a place for visitors to enjoy the desert with access to modern camping facilities.

Proposed Project

The proposed project (Figure 5) consists of the construction and operation of new overnight camping facilities and associated infrastructure within the Camp Borrego site, located in Anza-Borrego Desert State Park. The proposed project would be divided into three phases with Phase 1 being the initial phase and Phases 2 and 3 being completed in the future. The timing of these future phases is unknown. Once completed, the proposed project would include constructing twelve overnight cabins, restroom and shower facilities, a kitchen facility, a common area with a two attached staff cabins, a new parking site for visitors, and new and updated existing walking trails surrounding the project site. Improvements to the existing amphitheater would be evaluated by State Parks at a later time and would receive additional environmental review. The proposed project would include updating existing utility lines and the construction of a new septic system and leach field. The proposed project would also include some grading in the immediate vicinity of the cabins and campground facilities to raise the finish grade above the FEMA floodplain. All buildings would be elevated a minimum of four feet above the finish grade.

Camp Borrego would have two general purposes. The primary purpose would be to serve as a center for outdoor environmental education for children. Secondarily, Camp Borrego would be available to the general public for a variety of special events including group camping, ceremonies, conferences, and meetings. The camp would accommodate concurrent use by two school groups, each having up to 35 students and six to seven chaperones. Adding program staff of about two per group, the net capacity of the proposed project would be approximately 80 people. It is estimated that 15 to 18 school sessions would occur between January and March, with approximately 1,050 to 1,260 students visiting per year. Schools would likely stay for three days, or two night stays. Special event programs that would accommodate the broader public would occur when the camp is not in use for school programs, likely during late fall to early spring.

Access & Circulation

The project site is accessible via the existing unpaved road off Palm Canyon Drive. The proposed project would continue to utilize the existing roads and trails. Existing roads would be treated and renovated to minimize erosion and runoff. An additional parking lot would be constructed near the camping facilities with Americans with Disabilities Act compliant stalls and would include a drop-off zone for cars and buses. The parking lot would extend off the existing road. Existing walking trails will be utilized by pedestrians with convenient routes and trailheads to the main destinations in the Borrego Palm Canyon area. There is an existing pathway that would be repaved in concrete and

connect with existing concrete Visitor's Center trail thereby creating a continuous, multi-purpose recreation trail from the Visitor's Center to the Palm Canyon day-use parking lot. The project site would be accessible via a separate trail, which would minimize the access to the camp for non-campsite visitors.

9. Surrounding Land Use(s) and Project Setting:

The project site is located in the Anza-Borrego Desert State Park in Borrego Springs, California. The entire park is approximately 600,000 acres. Camp Borrego itself is operated by the Anza-Borrego Foundation, which is the official partner of the Anza-Borrego Desert State Park and State Parks. The project site is settled between the Borrego Palm Canyon Campground and the Borrego Palm Canyon Trailhead, and north of the Panoramic Overlook. The project site is approximately 100 feet from the toe of the steep slope that rises from the valley floor to form the Panoramic Overlook along the southern boundary of the camp. There are multiple trails and roads surrounding the project site that provide access to nearby trails and park destinations. The project site and surrounding land is located within the FUZ I Management Zone of the General Plan. Camping is restricted to designated campsites or areas in order to preserve the desert's character and to minimize negative impacts to the resources.

10. Other Required Agency Approvals or Permits Required:

California State Fire Marshal – Site Plan

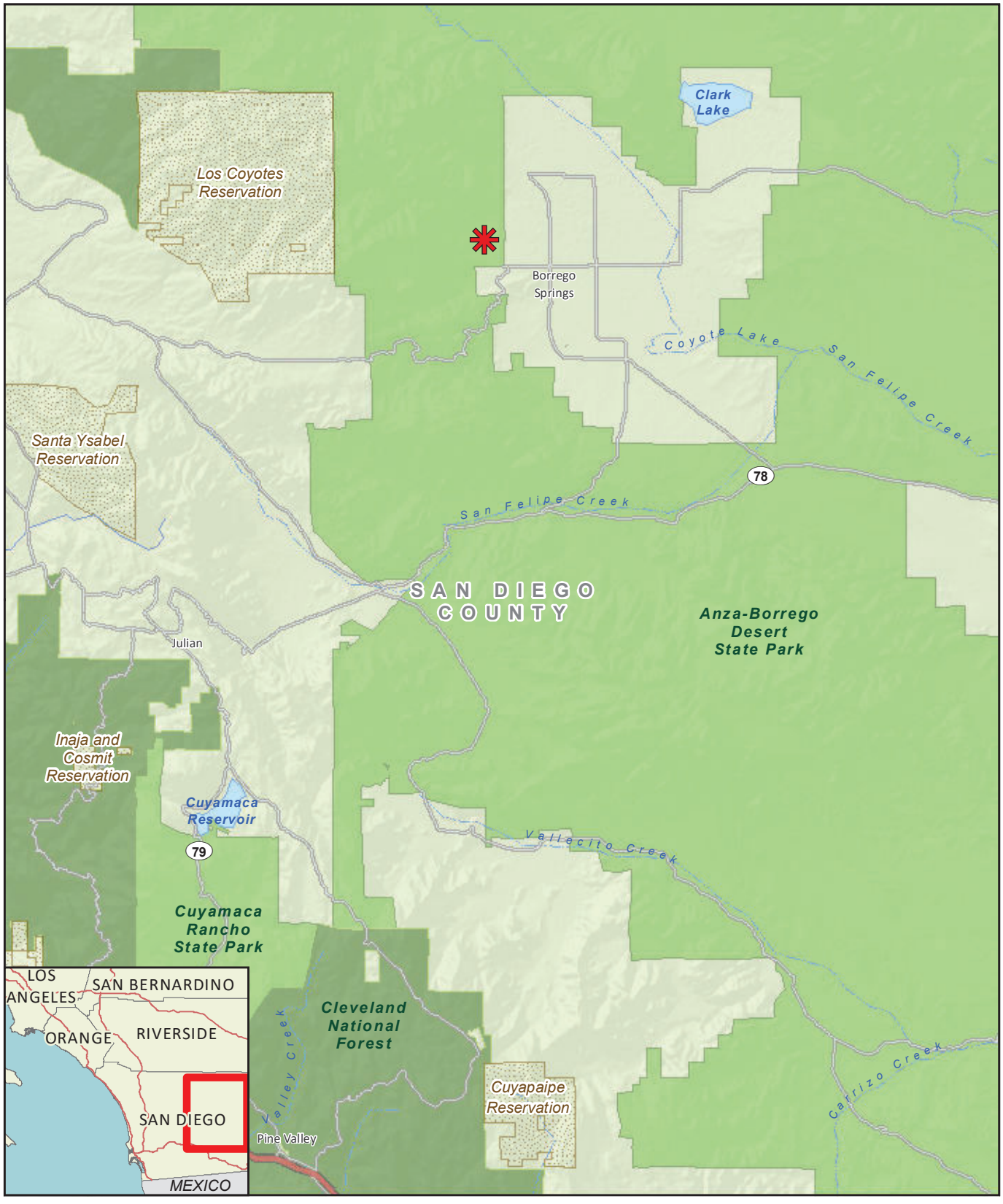
San Diego Regional Water Board Control – Septic System and Leach Field Plans

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

State Parks is in the process of sending a letter to the Native American Heritage Commission requesting them to search their files to identify spiritually significant and/or sacred sites or traditional use areas in the project vicinity.

12. Summary of Environmental Factors Potentially Affected:

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



Project Location

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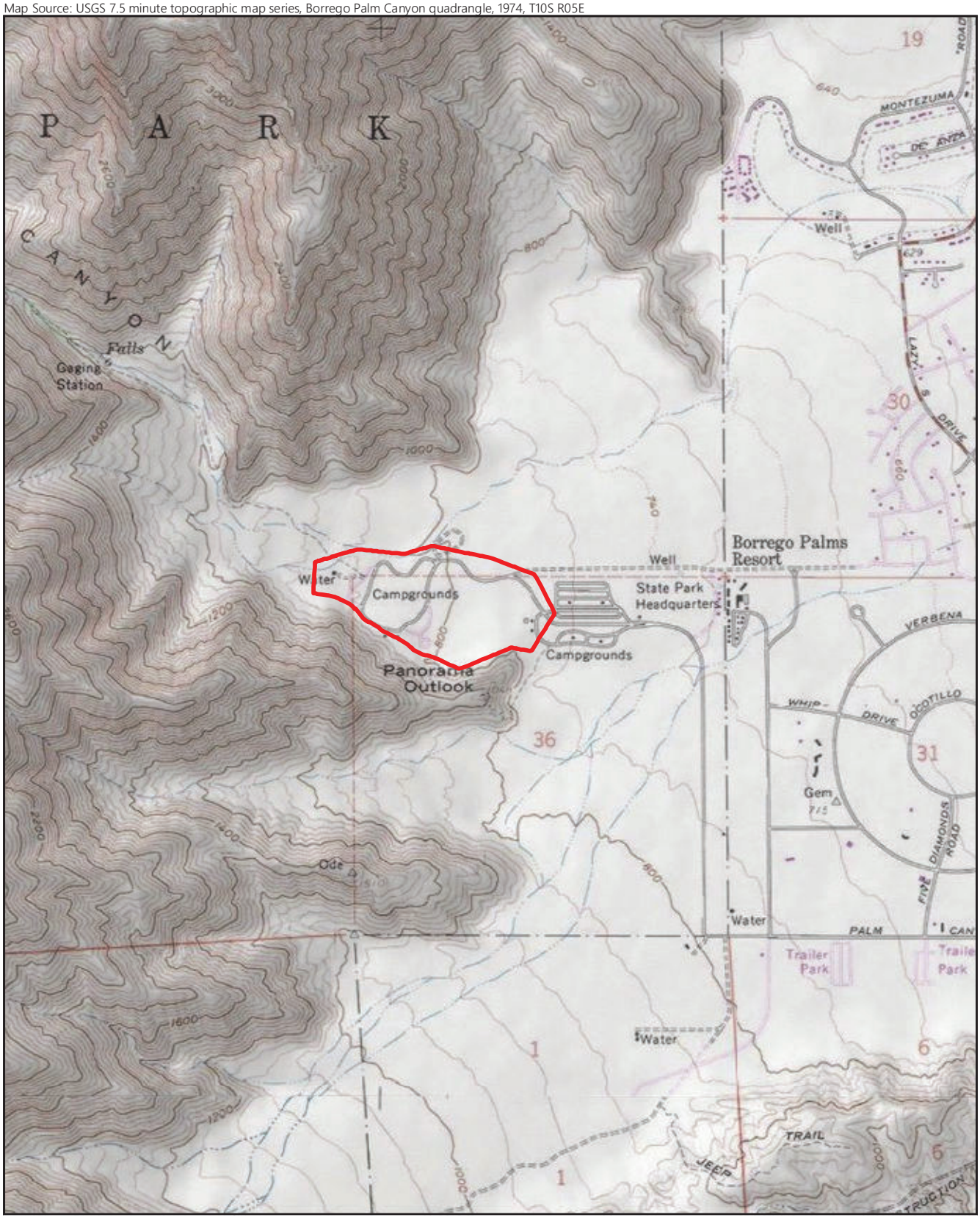
FIGURE 1
Regional Location

Map Source: USGS 7.5 minute topographic map series, Borrego Palm Canyon quadrangle, 1974, T10S R05E



Project Boundary

FIGURE 2
Project Location on USGS Map

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Image Source: NearMap (flown April 2021)

Project Boundary

FIGURE 3
Project Location
on Aerial Photograph

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Image Source: NearMap (flown April 2021)

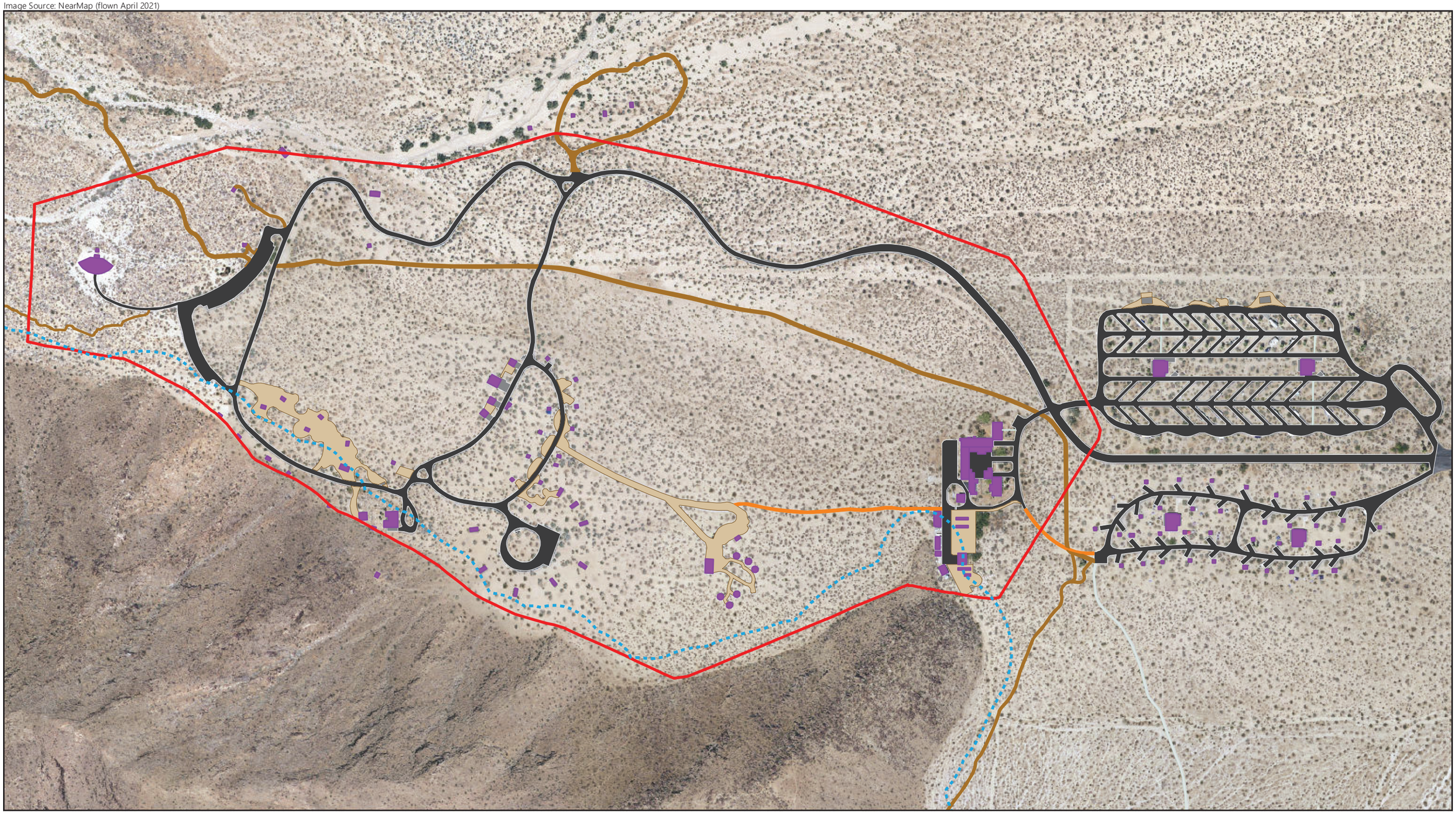

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FIGURE 4
Existing Site Conditions

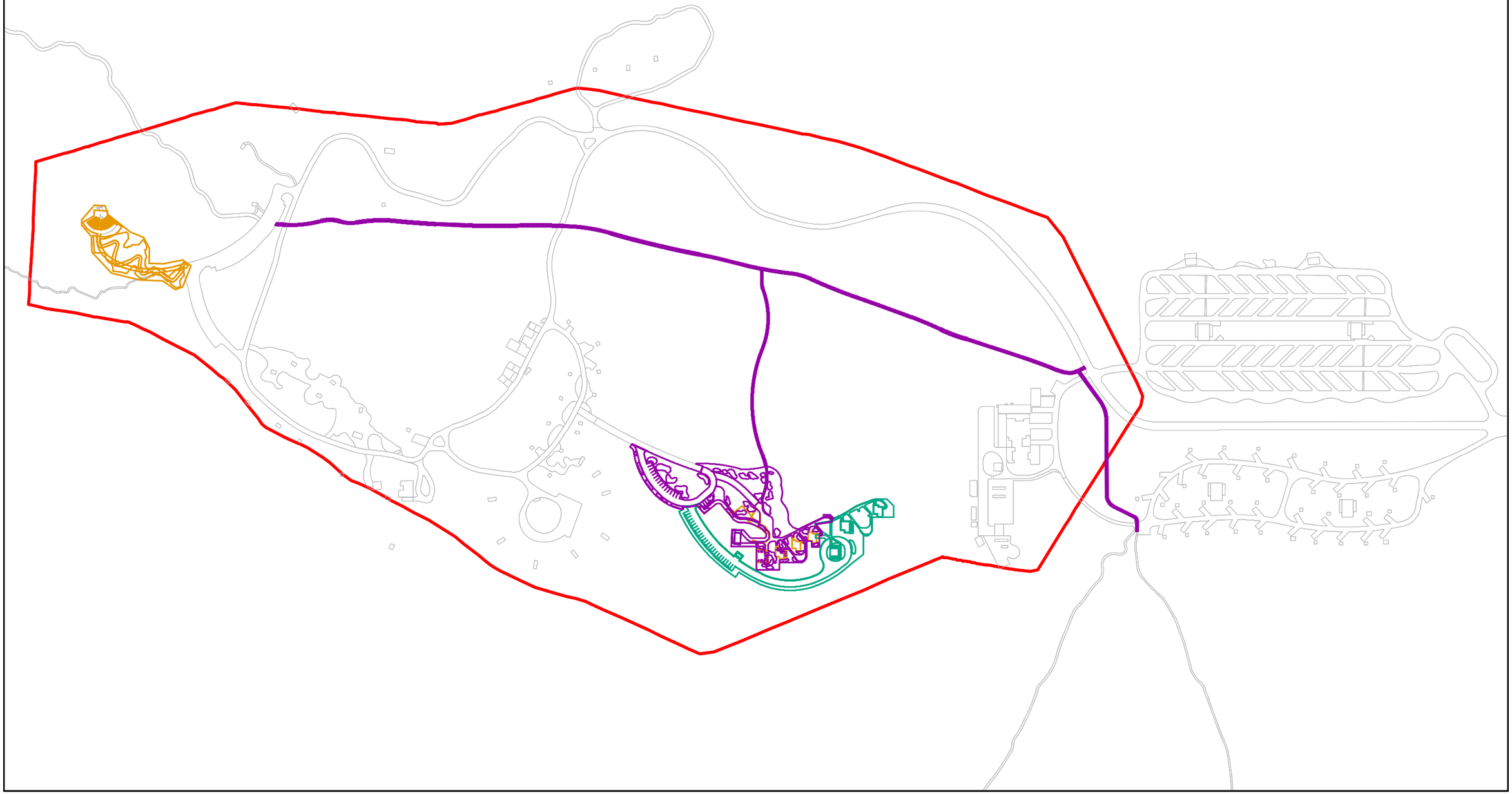

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FIGURE 5
Project Site Plan

Map Source: Ware Malcomb (2021)

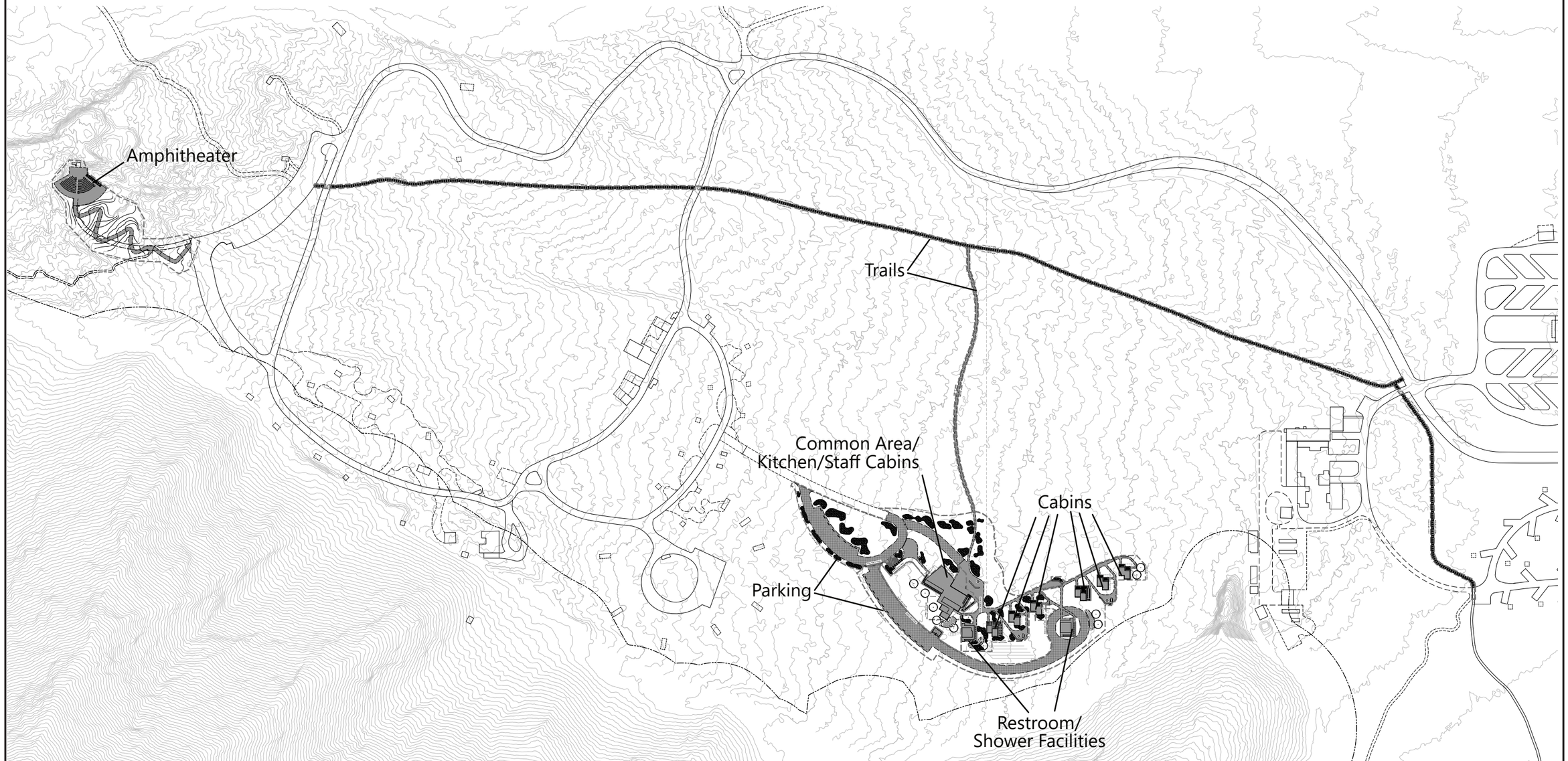

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FIGURE 6
Completed Project Site Plan

4.0 Initial Study Checklist

EVALUATION OF ENVIRONMENTAL IMPACTS:

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

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

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

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

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

    a. Earlier Analysis Used. Identify and state where they are available for review.

    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared

or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9. The explanation of each issue should identify:

    a. the significance criteria or threshold, if any, used to evaluate each question; and

    b. the mitigation measure identified, if any, to reduce the impact to less than significance.

4.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:

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

EXPLANATIONS:

a: Less Than Significant Impact

The project site is located to the north of the Panoramic Overlook in Anza-Borrego Desert State Park. In order to provide context and to reduce duplicative analysis, "scenic vistas" are defined as view or vistas generally panoramic in nature and identified as viewpoints or vistas (e.g., formal turnouts along roadways) or within planning documents. A substantial adverse effect on a scenic vista or view would occur where the majority of an existing view would be blocked or substantially interrupted. The northern side of the Panoramic Overlook looks out at the project site with its existing accommodations. The project site is approximately 100 feet from the toe of the steep slope that rises from the valley floor to form the Panoramic Overlook along the southern boundary of the camp. No proposed structure would be over 20 feet, 8 inches in height.

Any renovations done to the existing amphitheater would not have any substantial adverse effects on a scenic vista or view. Therefore, impacts would be less than significant.

b. No Impact

No State Scenic Highways traverse the project site, nor is the proposed project is within the view shed of a state scenic highway. Therefore, the proposed project would not damage scenic resources including but not limited to trees, rock outcroppings, and historic buildings withing or visible from a state scenic highway, and no impacts would occur.

c. Less Than Significant Impact

The project site is located north of the Panoramic Overlook; however, construction of the new camping accommodations will not exceed 20 feet, 8 inches from finish grade in height and will not obstruct the view from the Panoramic Overlook. All views of construction and related materials will be temporary. Therefore, construction of the proposed project would not have a substantially adverse effect on a scenic vista, damage scenic resources within a State Scenic Highway, or degrade the existing visual character of the site or its surroundings and impacts would be less than significant.

d. Less Than Significant Impact

The proposed project would not create any new significant source of light or glare and all construction work would be conducted during daylight hours. Project lighting would be minimal and comply with dark sky standards; therefore, impacts would be less than significant.

4.2 Agriculture and Forestry Resources

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	☐	☐	☐	☒

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 1220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104[g])?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

EXPLANATIONS:

a. No Impact

The project site is located within the Anza-Borrego Desert State Park, in an area zoned for camping that consists of existing camping sites, facilities, parking and access roads. The proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses. No impact would occur.

b. No Impact

The project site and surrounding area is not zoned for agricultural uses and are not subject to a Williamson Act contract. No impact would occur.

c. No Impact

The project site does not contain any forest or timberland as defined by Public Resources Code Section 12220[g], Public Resources Code Section 4526, or Government Code Section 51104(g) and is not zoned as forest or timberland. No impact would occur.

d. No Impact

The project site does not contain any forest or timberland as defined by Public Resources Code Section 12220[g], Public Resources Code Section 4526, or Government Code Section 51104(g). No impact would occur.

e. No Impact

There are no agricultural uses or forestlands on-site or in the vicinity of the project site. Therefore, the project would not result in conversion of farmland or forest land. No impact would occur

4.3 Air Quality

Would the project:

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

EXPLANATIONS:

a. Less Than Significant Impact

Project consistency is based on whether the proposed project would conflict with or obstruct implementation of the Regional Air Quality Standards (RAQS) and/or applicable portions of the State Implementation Plan (SIP), which would lead to increases in the frequency or severity of existing air quality violations.

The RAQS is the applicable regional air quality plan that sets forth the San Diego Air Pollution Control District (SDAPCD) strategies for achieving the National Ambient Air Quality Standards (NAAQS) and

California Ambient Air Quality Standards (CAAQS). The San Diego Air Basin (SDAB) is designated a non-attainment area for the federal and state ozone (O_3) standard. Accordingly, the RAQS was developed to identify feasible emission control measures and provide expeditious progress toward attaining the standards for ozone. The two pollutants addressed in the RAQS are reactive organic compounds (ROG) and nitrogen oxide (NO_X), which are precursors to the formation of ozone. Projected increases in motor vehicle usage, population, and growth create challenges in controlling emissions and, by extension, to maintaining and improving air quality. The RAQS was most recently adopted in 2016.

The growth projections used by the SDAPCD to develop the RAQS emissions budgets are based on the population, vehicle trends, and land use plans developed in general plans and used by the San Diego Association of Governments in the development of the regional transportation plan (RTP) and sustainable communities strategy (SCS). As such, projects that propose development that is consistent with the growth anticipated by San Diego Association of Governments growth projections and/or the General Plan would not conflict with the RAQS. In the event that a project would propose development that is less dense than anticipated by the growth projections, the project would likewise be consistent with the RAQS. In the event that a project proposes development that is greater than anticipated in the growth projections, further analysis would be warranted to determine if the project would exceed the growth projections used in the RAQS for the specific subregional area.

The project site is within an existing state park and the site is currently zoned as a campground, complying with the General Plan. The project would not increase the amount of available overnight recreational facilities at the park beyond levels designated in the General Plan and associated Environmental Impact Report. Further, as discussed below, the proposed project would not result in construction or operational emissions in excess of the applicable significance thresholds for all criteria pollutants. The proposed project would, therefore, not result in an increase in emissions that are not already accounted for in the RAQS. Thus, the proposed project would not obstruct or conflict with implementation of the RAQS. Impacts would be considered less than significant.

b. Less Than Significant Impact

The region is classified as attainment for all criteria pollutants except ozone, particulate matter (PM) with an aerodynamic diameter of 10 microns or less (PM_{10}), and PM with an aerodynamic diameter of 2.5 microns or less ($PM_{2.5}$). The SDAB is a non-attainment area for the 8-hour federal and state ozone standards, and a non-attainment area for 1-hour state ozone standards. Ozone is not emitted directly but is a result of atmospheric activity on precursors. NO_X and ROG are known as the chief "precursors" of ozone. These compounds react in the presence of sunlight to produce ozone. Emissions due to construction and operation of the proposed project were calculated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0 (California Air Pollution Control Officers Association [CAPCOA] 2021). CalEEMod output is provided in Appendix A.

The SDAPCD does not provide quantitative thresholds for determining the significance of construction or mobile source-related impacts. However, the SDAPCD does specify Air Quality Impact Analysis (AQIA) trigger levels for new or modified stationary sources (SDAPCD Rules 20.1, 20.2, and 20.3). The County of San Diego (County) Air Quality Guidelines (County of San Diego 2007) allow the use of the SDAPCD AQIA as CEQA significance thresholds. The County's significance level thresholds (SLTs), which are based on SDAPCD Rules 20.1, 20.2, and 20.3, were adopted from the

SDAPCD AQIA trigger level thresholds to align with attainment of the NAAQS and be protective of public health. Thus, air quality emissions below the SLTs would meet the NAAQS. The NAAQS were developed to protect public health, specifically the health of "sensitive" populations, including asthmatics, children, and the elderly. There is no level specified for ROG in the SDAPCD AQIA criteria. The County's threshold is based on the volatile organic compounds (VOC) threshold of significance from the South Coast Air Quality Management District (SCAQMD). Note that the terms ROG and VOC are considered interchangeable.

Construction

Construction-related activities are temporary, short-term sources of air emissions. Sources of construction-related air emissions include the following:

- fugitive dust from demolition and grading activities;
- construction equipment exhaust;
- construction-related trips by workers, delivery trucks, and material-hauling trucks; and
- construction-related power consumption.

Construction-related pollutants result from dust raised during demolition and grading, emissions from construction vehicles, and chemicals used during construction. Fugitive dust emissions vary greatly during construction and are dependent on the amount and type of activity, silt content of the soil, and the weather. Vehicles moving over paved and unpaved surfaces, demolition, excavation, earth movement, grading, and wind erosion from exposed surfaces are all sources of fugitive dust. Construction operations are subject to the requirements established in SDAPCD Regulation 4, Rules 52, 54, and 55.

Heavy-duty construction equipment is usually diesel powered. In general, emissions from diesel-powered equipment contain more NO_X, sulfur oxide (SO_X), and PM than gasoline-powered engines. However, diesel-powered engines generally produce less carbon monoxide (CO) and less ROG than gasoline-powered engines. Standard construction equipment includes tractors/loaders/backhoes, rubber-tired dozers, excavators, graders, cranes, forklifts, rollers, paving equipment, generator sets, welders, cement and mortar mixers, and air compressors.

Primary inputs are the numbers of each piece of equipment and the length of each construction stage. CalEEMod estimates the required construction equipment for a project based on surveys, performed by the South Coast Air Quality Management District and the Sacramento Metropolitan Air Quality Management District (SMAQMD) of typical construction projects, which provide a basis for scaling equipment needs and schedule with a project's size. Air emission estimates in CalEEMod are based on the duration of construction phases; construction equipment type, quantity, and usage; grading area; season; and ambient temperature, among other parameters. Project emissions were modeled using default construction equipment and duration for a park land use with approximately 20,000 square feet of structures (including cabins, kitchen, bathroom and shower facilities, gathering areas, and 5,000 square feet of amphitheater improvements) and a 40-space parking lot. The results are summarized in Table 1.

Table 1 Summary of Maximum Construction Emissions (pounds per day)						
	Pollutant					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Demolition	3	26	21	<1	2	1
Site Preparation	3	33	20	<1	20	12
Grading	4	39	30	<1	8	5
Building Construction	3	24	28	<1	5	2
Paving	1	10	15	<1	1	1
Architectural Coatings	15	1	4	<1	1	<1
Maximum Daily Emissions	**15**	**39**	**30**	**<1**	**20**	**12**
County SLTs	*75*	*250*	*550*	*250*	*100*	*55*
County = County of San Diego; SLT = significance level thresholds; ROG = reactive organic compounds; NO_X = nitrogen oxide; CO = carbon monoxide; SO_X = sulfur oxide; PM_{10} = particulate matter (PM) with an aerodynamic diameter of 10 microns or less; $PM_{2.5}$ = PM with an aerodynamic diameter of 2.5 microns or less						

As shown in Table 1, maximum construction emissions would be less than the County's SLTs for all criteria pollutants and would therefore result in a less than significant impact.

Operation

Mobile source emissions would originate from traffic generated by the proposed project. Area source emissions would result from the use of natural gas, consumer products, as well as the application of architectural coatings, and landscaping activities. As discussed, project emissions were modeled for a park land use with approximately 20,000 square feet of structures (including cabins, kitchen, bathroom and shower facilities, gathering areas, and 5,000 square feet of amphitheater improvements) and a 40-space parking lot. A single-family residence was also included in the modeling in order to account for emissions associated with the kitchen and campfires. For the campfires, it was assumed there would be a campfire every night of a two-month season and 100 pounds of wood would be burned each night.

As discussed previously, the proposed project would not increase the amount of available overnight recreational facilities at the park beyond levels designated in the General Plan and associated EIR. However, as a conservative analysis, mobile emissions were calculated assuming each camper and employee would generate one trip per day and would travel a distance of 50 miles, which is the approximate distance from the project site to the San Diego city center. This is conservative since campers would like carpool in vans or buses and may travel shorter distances from other locations in the county.

Area and energy source emissions associated with the proposed project include consumer products, natural gas used in space and water heating, architectural coatings, and landscaping equipment. Emissions were calculate using CalEEMod default values. This is conservative since the cabins would not include heating.

Table 2 summarizes the conservative estimate of operational emissions associated with the proposed project.

Table 2
Summary of Project Operational Emissions
(pounds per day)

	Pollutant					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area Sources	12	<1	13	<1	2	2
Energy Sources	<1	<1	<1	<1	<1	<1
Mobile Sources	1	1	8	<1	2	1
Total	**13**	**1**	**21**	**<1**	**4**	**2**
County SLTs	*75*	*250*	*550*	*250*	*100*	*55*

County = County of San Diego; SLT = significance level thresholds; ROG = reactive organic compounds; NO_X = nitrogen oxide; CO = carbon monoxide; SO_X = sulfur oxide; PM_{10} = particulate matter (PM) with an aerodynamic diameter of 10 microns or less; $PM_{2.5}$ = PM with an aerodynamic diameter of 2.5 microns or less
Note: Totals may vary due to independent rounding.

As shown in Table 2, the proposed project's daily operational emissions would not exceed the SLTs for any pollutant and, therefore, would result in a less than significant impact.

c. Less Than Significant Impact

Sensitive receptors include schools (preschool–12th grade), hospitals, resident care facilities, day-care centers, residences, and other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. The project site is settled between the Borrego Palm Canyon Campground and the Borrego Palm Canyon Trailhead, and north of the Panoramic Overlook. A campground and a maintenance facility with employee lodging are located to the east of the project site.

Construction of the proposed project would result in the generation of diesel particulate matter (DPM) emissions from the use of off-road diesel construction activities and on-road diesel equipment used to bring materials to and from the project site. Generation of DPM from construction projects typically occurs in a single area for a short period. The project would be required to comply with the County Grading Ordinance and SDAPCD Rule 55, which would reduce potential emissions of fugitive dust. Additionally, construction emissions are projected to be less than the County SLTs for all criteria pollutants and sensitive receptors would not be exposed to an incremental health risk. As mentioned, the County's SLTs were adopted to align with the NAAQS, which were developed to be protective of human health. Because the proposed project would not exceed the County's SLTs, no adverse health impacts would occur especially of sensitive populations.

Further, the proposed project would implement construction best management practices and would be conducted in accordance with California Air Resources Board (CARB) regulations. With ongoing implementation of U.S. Environmental Protection Act (EPA) and CARB requirements for cleaner fuels; off-road diesel engine retrofits; and new, low-emission diesel engine types, the DPM emissions of

individual equipment would be substantially reduced. Due to the limited time of exposure and the rural nature of the proposed project, and because the proposed project would not exceed the County's SLTs, project construction would not expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant.

d. Less Than Significant Impact

SDAPCD Rule 51 (Public Nuisance) and California Health & Safety Code, Division 26, Part 4, Chapter 3, Section 41700 prohibit the emission of any material which causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of the public. Projects required to obtain permits from SDAPCD, typically industrial and some commercial projects, are evaluated by SDAPCD staff for potential odor nuisance and conditions may be applied (or control equipment required) where necessary to prevent occurrence of public nuisance.

The proposed project does not include the construction or operation of heavy industrial or agricultural uses that are typically associated with odor complaints. During construction, diesel equipment may generate some temporary nuisance odors. A campground and a maintenance facility with employee lodging are located to the east of the project site. However, exposure to odors associated with project construction would be short-term and temporary in nature. There would be no permanent or operational source of odors associated with the proposed project. Impacts would be less than significant.

4.4 Biological Resources

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS?	☐	☐	☒	☐

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?	☐	☐	☒	☐
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

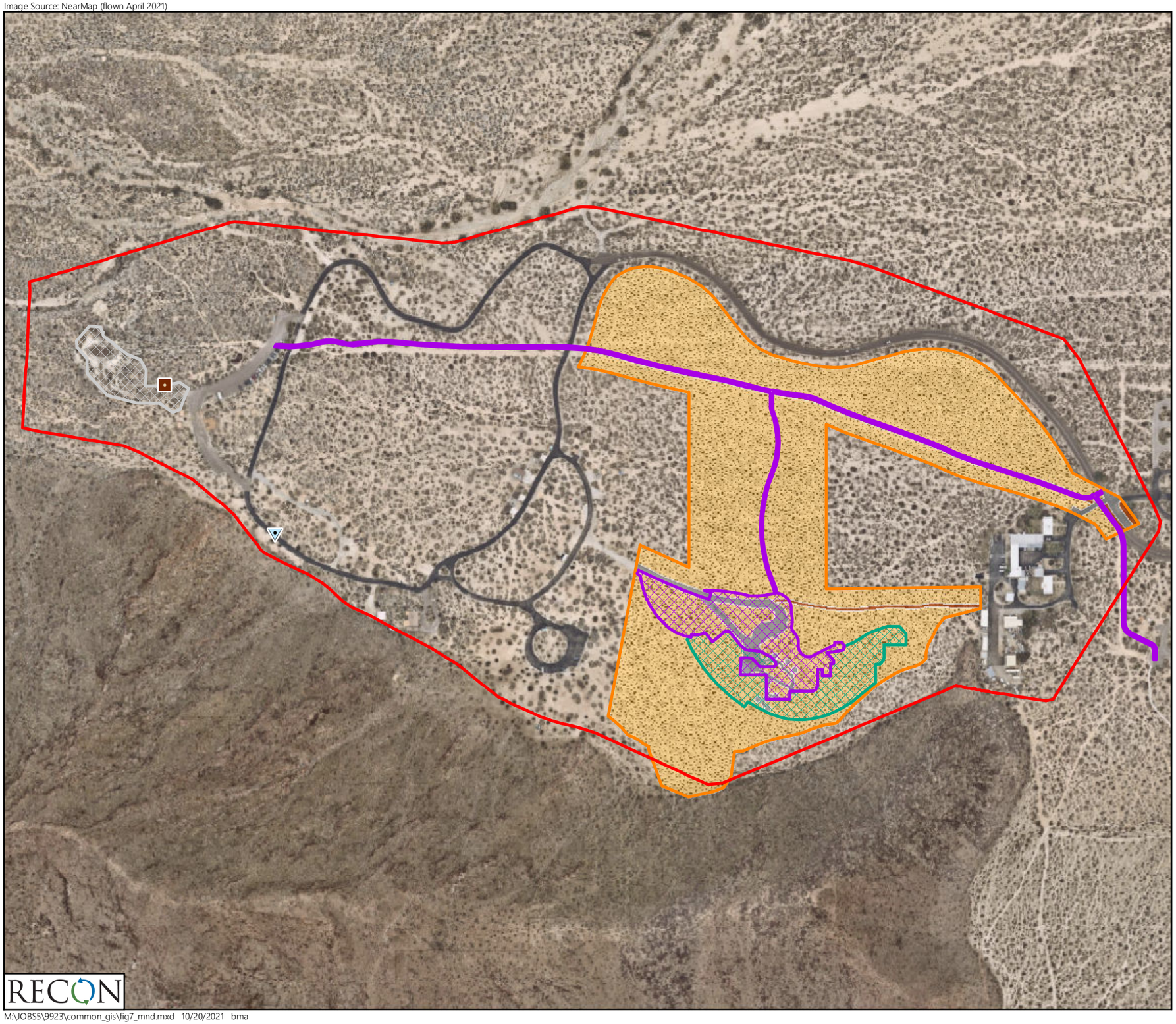
EXPLANATIONS:

a. Potentially Significant Unless Mitigation Incorporated

A biological resources letter report was completed by RECON Environmental, Inc. (RECON) in July 2021 to determine the biological resources present on the project site and potential associated impacts. The RECON report is summarized below and included as Appendix B to this IS/MND. Figure 7 shows the impacts to biological resources.

The project site supports three vegetation communities/land cover types: Sonoran creosote bush scrub, disturbed habitat, and urban/developed. The proposed project, which encompasses Phases 1 and 2, would result in a total of 4.4 acres of direct impacts to Sonoran creosote scrub, disturbed habitat, and urban/developed associated with the construction of new facilities within Camp Borrego. Impacts to Sonoran creosote bush scrub, disturbed habitat, and urban/developed are not considered significant as they are not considered sensitive by the California Natural Community List and do not require mitigation (CDFW 2020).

Image Source: NearMap (flown April 2021)



Project Boundary
Biological Study Area

Project Impacts
Phase 1
Phase 2
Phase 3

Sensitive Wildlife Observations
Black-tailed Gnatcatcher (*Polioptila melanura*)
Peninsular Bighorn Sheep (*Ovis canadensis nelsoni*))

Vegetation Community
Sonoran Creosote Bush Scrub
Disturbed Habitat
Urban/Developed

0 Feet 300

RECON

M:\JOBS5\9923\common_gis\fig7_mnd.mxd 10/20/2021 bma

FIGURE 7
Impacts to Biological Resources

No sensitive plant species were identified within the project site; however, a total of four sensitive plant species have a high potential to occur within the project area: hellhole scaleseed (*Spermolepis infernensis*; California Native Plant Society [CNPS] Rare Plant Ranking [CRPR] of 1B.2), Arizona carlowrightia (*Carlowrightia arizonica*; CRPR of 1B.2), Arizona spurge (*Euphorbia arizonica*; CRPR of 2B.3), and Colorado desert larkspur (*Delphinium parishii* ssp. s*ubglobosum*; CRPR of 4.3). Although direct impacts may occur to these sensitive plant species from vegetation removal and other construction activities, suitable habitat for these species is generally widespread throughout the park and these impacts would occur to a relatively small amount of habitat in an area already influenced by park operations. This loss would not impact the regional long-term survival of these species. Therefore, potential direct impacts would be considered less than significant, and no mitigation would be required.

One sensitive wildlife species, Peninsular bighorn sheep (*Ovis canadensis;* federally threated, state threatened, and CDFW fully protected) was observed outside of the project site, within the future project area for Phase 3, which will undergo additional environmental review. Black-tailed gnatcatcher (*Polioptila melanura;* CDFW watch list) was also observed adjacent to the project site. In addition, a total of four sensitive wildlife species have a high or moderate potential to occur within the project site: Palm Springs round-tailed ground squirrel (*Xerospermophilus tereticaudus chlorus*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and California big-eared bat (*Macrotus californicus*). The removal of structures within the project impact footprint during the maternity season (March 1 through August 31) could potentially result in direct impacts to sensitive roosting bats. Vegetation removal or grading within the project impact footprint during the avian breeding season for the Colorado Desert (January 15 through July 15) could also potentially result in direct impacts to nesting and migratory birds, including black-tailed gnatcatcher. Direct impacts to roosting bats and nesting birds would be significant and require mitigation.

Direct impacts to peninsular bighorn sheep habitat are less than significant as the project impact area is currently being used for park operations and thus provides low-quality breeding habitat for bighorn sheep. However, peninsular bighorn sheep are anticipated to travel through this area at times due the presence of high-quality rocky terrain and water sources in the immediately surrounding area. Thus, increased noise and human activity during project construction could potentially result in indirect impacts to peninsular bighorn sheep. Indirect impacts to roosting bats and nesting birds would be significant and require mitigation.

Mitigation Measures

To address potential impacts to peninsular bighorn sheep, sensitive bats, and migratory birds, the following measures would be implemented.

MM-BIO-1: General Avoidance and Minimization Measures

The following avoidance and minimization measures shall be implemented during project construction activities.

- Construction limits of the project shall be clearly flagged so that adjacent native vegetation is avoided.

- Construction work and operations and maintenance areas shall be kept clean of debris, such as trash and construction materials. Fully covered trash receptacles that are animal-proof will be installed and used during construction to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. Trash contained within the receptacles will be removed at least once a week from the proposed project site.

- Staging and storage areas for spoils, equipment, materials, fuels, lubricants, and solvents shall be located within the project impact footprint or adjacent developed areas.

- To prevent inadvertent entrapment of special-status wildlife during construction, all excavated steep-walled holes or trenches shall be covered with plywood or similar materials at the close of each working day. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped wildlife. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape.

- All pipes, culverts, or similar structures with a diameter of four inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until the animal has either moved from the structure on its own accord or until the animal has been captured and relocated by a qualified biologist.

- No night-time construction will occur.

- Construction vehicles will be limited to 10 miles per hour when in the state park.

MM-BIO-2: Peninsular Bighorn Sheep Avoidance

Prior to the initiation of any vegetation removal, grading, or construction activities, State Parks shall develop and implement a strategic construction plan in consultation with CDFW and USFWS that anticipates peninsular bighorn sheep response to construction activities. Measures shall include biological monitoring during construction and avoidance of construction during the summer season (July 1 to September 30) to ensure that construction does not disrupt bighorn sheep movements, including access to water sources. Any necessary permit requirements from CDFW and USFWS as a result of the federal and state Endangered Species Acts would be fulfilled prior to initiation of any project activities.

MM-BIO-3: Nesting Bird Avoidance

If ground disturbance and/or vegetation clearance activities are scheduled to occur during the general avian breeding season for the Colorado Desert (January 15 through July 15), a pre-construction nesting bird survey shall be conducted by a qualified biologist within the project impact footprint and a 100-foot buffer around the project footprint. Surveys shall be conducted within 3 days prior to initiation of activity and will be conducted between dawn and noon. If an active nest is detected during the pre-construction survey, avoidance buffers shall be implemented as determined by a qualified biologist. The buffer will be of a distance to ensure avoidance of adverse effects to the nesting bird by accounting for topography, ambient conditions, species, nest location, and activity

type. All nests will be monitored as determined by the qualified biologist until nestlings have fledged and dispersed or it is confirmed that the nest has been unsuccessful or abandoned.

MM-BIO-4:

Prior to demolition of any buildings or structures, a qualified bat biologist shall conduct presence/absence surveys for maternity roosting bats within the project impact footprint during the maternity roosting season (March 1 through August 31). If a potential maternity roost is present, the following measures shall be implemented to reduce the potential impact on special-status bat species to a less than significant level:

a) Maternity Roosting Season Avoidance. All demolition activities, or bat roost exclusion, shall occur outside the general bat maternity roosting season of March 1 through August 31 to reduce any potentially significant impact to maternity roosting bats. The qualified bat biologist shall have at least three years of experience in conducting bat habitat assessments, day roosting surveys, and acoustic monitoring, ad have adequate experience identifying local bat species (visual and acoustic identification), type of habitat, and differences in roosting behavior and types (i.e., day, night, maternity). Items b and c below will be required to ensure no impacts occur to roosting bats during the exclusion process.

b) Replacement Roost Installation. If there is a potential or known maternity roost within a structure to be demolished, a replacement roost installation shall occur outside of the maternity roosting. At least one month prior to the exclusion of bats from the roost(s), two bat boxes from a reputable vendor, such as Bat Conservation and Management, will be installed to allow bats sufficient time to acclimate to a new potential roost location. The bat boxes shall be installed in an area that is close to suitable foraging habitat as determined by a qualified bat biologist. Additionally, the bat boxes will be oriented to the south or southwest, and the area chosen for the bat boxes must receive sufficient sunlight (at least 6 hours daily) to allow the bat boxes to reach an optimum internal temperature (approximately 90 degrees Fahrenheit) to mimic the existing bat roost. The bat boxes will be suitable to house crevice-roosting bat species, and large enough to contain a minimum of 50 bats (e.g., Four Chamber Premium Bat House or Bat Bunker Plus). The bat boxes shall be installed on a 20-foot-tall steel pole. Monitoring will be conducted each month during construction and quarterly thereafter until it can be established that the bat box is being used by bats and the species of bats using the box is determined.

c) Survey Report. Following completion of the survey, the bat biologist will complete a survey report which records the findings.

b. Less than Significant Impact

Per the Biological Resources Letter (see Appendix B) no riparian habitat or sensitive natural communities are present within the biological study area. The proposed project would result in a total of 4.4 acres of direct impacts to Sonoran creosote scrub, disturbed habitat, and urban/developed associated with the construction of new facilities within Camp Borrego, which are not considered sensitive by the California Natural Community List (see Appendix B).

Therefore, the proposed project would have less than a significant impact on any riparian habitat or other community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS.

c. No Impact

No potential jurisdictional resources, including waters or wetlands, were observed within the project area. Therefore, the proposed project would have no impact on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

d. Less than Significant Impact

Although the proposed project would occur within a wildlife movement corridor associated with Borrego Palm Canyon, the proposed project would be rebuilding existing structures associated with Camp Borrego and does not propose any new uses within the project impact footprint. In addition, the project is consistent with adjacent uses, which include park maintenance buildings to the east and a campground to the west. The proposed project would be limited to a small approximately 4.4-acre area, with a 100foot setback from the adjacent steep slopes and away from any canyon mouths, allowing for existing wildlife movement to continue unobstructed through the project impact area. As a result, the project would not cause any loss of functionality of the wildlife corridor. Wildlife nursery sites are specific, established locations used repeatedly by some wildlife species for breeding purposes. No wildlife nursery sites were expected to occur in the biological study area based on the literature review, and none are expected based on the current human uses in the area. Therefore, the project would result in less than significant impacts to the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

e. Less Than Significant Impact

The proposed project includes the construction and operation of overnight camping cabins and associated facilities. The project would not result in biological impacts beyond those anticipated in the General Plan and associated EIR. Therefore, the project would not conflict with any local policies or ordinances protecting biological resources. Therefore, impacts would be less than significant.

f. No Impact

The project area is not located within an area with an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. The project would have would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. Therefore, no impacts would occur.

4.5 Cultural Resources

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of an historical resource pursuant to §15064.5?	☐	☐	☐	☒
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c. Disturb human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

EXPLANATIONS:

A project archeological survey report was completed by State Parks in July 2021 to determine the cultural resources present on the project site and potential associated impacts. The survey area was larger than the project impact area. This section is based on the information and analysis presented in the report.

a. No Impacts

Based on the archeological survey report (Appendix C), there were no historic resources identified within the project impact area. Two historic resources were identified within the survey area. One historic resource has been recommended not eligible for as historical resources under California Register of Historical Resources. The other resource has not been evaluated. The latter is far enough away from the project impact area that no significant visual impacts would result with the proposed project. Therefore, the proposed project would not cause a substantial adverse change in the significance of an historical resource pursuant to §15064.5. Therefore, no impact would occur.

b. Potentially Significant Unless Mitigation Incorporated

The archaeological survey report (see Appendix C) indicated that there were three archaeological sites mapped within the survey area. None of these are within the project impact area. Two sites are assumed significant under CEQA and should be avoided, while the one site is not *in situ* and therefore not significant. No impacts will occur to these sites; however, due to the positive results of the survey, construction activities could have the potential to unearth previously unknown buried cultural resources. Impacts to potentially significant buried cultural resources would be considered a

significant impact. Implementation of mitigation measure CUL-1 would reduce impacts to a level less than significant.

Mitigation Measure

CUL-1 Develop a Construction Monitoring Program. Construction monitoring is recommended during ground-disturbing activities within the project impact areas. The construction monitoring program would mitigate potential impacts to undiscovered significant archaeological resources. The Construction Monitoring Program would include the following:

- The construction monitoring program would require both archaeological and Native American monitors to attend a pre-construction meeting and to be present during ground-disturbing activities, such as vegetation clearing, grading, or trenching. The frequency of inspections would be determined by the project archaeologist in consultation with the Native American monitor and would vary based on the rate of excavation, the materials excavated, and the presence and abundance of artifacts and features.

- If previously unidentified potentially significant cultural resources are discovered, construction activities would be diverted away from the discovery and the resources evaluated for significance. Isolates and non-significant deposits would be minimally documented in the field. Significant archaeological discoveries include intact features, stratified deposits, previously unknown archaeological sites, and human remains. The Principal Investigator would inform the Park Archaeologist of the discovery and together determine its significance. To mitigate potential impacts to significant cultural resources, a Data Recovery Program for any newly discovered cultural resource would be prepared by the Principal Investigator, approved by the Park Archaeologist, and implemented using professional archaeological methods. Construction activities would be allowed to resume after the completion of the recovery of an adequate sample or the recordation of features.

- All cultural material collected during the Data Recovery and Construction Monitoring Programs would be processed and curated at a State Park's facility that meets federal standards per 36 Code of Federal Regulations Part 79 unless the tribal monitors request the collection.

- If human remains are discovered, work shall halt in that area and the procedures set forth in the California Public Resources Code (Section 5097.98) and State Health and Safety Code (Section 7050.5) will be followed. The Principal Investigator shall contact the Park and County Coroner.

- After the completion of the monitoring, an appropriate report shall be prepared. If no significant cultural resources are discovered, a brief letter shall be prepared. If significant cultural resources are discovered, a report with the results of the monitoring and data recovery (including the interpretation of the data within the research context) shall be prepared.

c. Less Than Significant Impact

Based on the project archeological survey report (see Appendix C), no cemeteries, formal or informal, have been identified on site or within the project vicinity. It is not anticipated that human remains would be encountered on the project site during construction. If human remains are encountered during the excavation state of the project, the project would comply with §15064.5 of the CEQA Guidelines regarding the discovery and disposition of human remains. Therefore, impacts would be less than significant.

4.6 Energy

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

EXPLANATIONS:

a. Less Than Significant Impact

The proposed project would result in the temporary use of energy during project construction and operational energy use in connection with the operation of the cabins and associated facilities. Construction would require energy for the procurement and transportation of materials and preparation of the project site (e.g., grading, materials hauling). The impacts from construction of the project would be temporary.

The proposed project would generate operational energy demand associated with the operation of vehicular traffic and on-going use and maintenance of the site. The proposed project consists of the operation of fourteen overnight cabins and associated facilities. Potential energy associated with operation and maintenance of new recreational facilities does not constitute the wasteful or inefficient use of energy. Therefore, impacts from project construction and operation would be less than significant.

b. Less Than Significant Impact

The proposed project site is on State Park's land and would not obstruct a state or local plan. The construction and operation of the proposed project would have a less than significant impact related to energy usage and efficiency.

4.7 Geology and Soils

Would the project:

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

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

EXPLANATIONS:

a.i. Less than Significant Impact

The project site is not located within a currently established Alquist-Priolo Earthquake Fault Zone. The nearest known active-fault zone is Clark Lake, located approximately 5.4 miles northeast of the project boundary. The nearest known active fault is the Coyote Creek Fault, located approximately 5.4 miles northeast of the project boundary. Therefore, the proposed project would not cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area of based on other substantial evidence of a known fault, and impacts would be less than significant.

a.ii. Less than Significant Impact

The project site is located in the seismically active southern California region. To ensure the structural integrity of all buildings and structures, project structures would be designed consistent with seismic requirements of the California Building Code. Therefore, compliance with the California Building Code would ensure that the project would not expose people or structures to adverse effects from strong seismic ground shaking, and impacts would be less than significant.

a.iii. Less than Significant Impact

The proposed project is located in a seismically active area. The geotechnical report (Appendix D), states that there is no guarantee that seismic-related ground failure is impossible; however, the project structures would be designed to be consistent with seismic requirements of the California building code. In regard to liquefaction, the geotechnical report states that due to the anticipated depth of the ground water table being greater than 50 feet below the ground surface, the liquefaction potential is low. Therefore, impacts would be less than significant.

a.iv. Less than Significant Impact

The findings in the geotechnical report (see Appendix D) state that there was no evidence of previous or incipient slope instability at or adjacent to the project site during the study, and that the project site is relatively flat. The report concludes that landslides are not present on or adjacent to the project site and would not be a concern for the proposed project. Therefore, impacts would be less than significant.

b. Less Than Significant Impact

Topsoil generally consists of the first six inches below ground surface and is considered an important part of the natural environment, as it provides nutrients and organic matter to plant life. Topsoil erosion may occur due to storm water or wind events that wash or blow away the soil. The proposed project is designed to fit the natural minimize impacts to the land; however minor grading will be necessary. The geotechnical report (see Appendix D) states that the proposed project would not increase the potential for erosion if designed properly, therefore the impacts would be less than significant.

c. Less Than Significant Impact

The soils on-site and in the Anza-Borrego Desert State Park are primarily various grain-sized sand and sandy loam. The findings in the geotechnical report (see Appendix D) state that the alluvial fan gravels are potentially compressible in their present condition, but that remedial grading of the upper proportion of the material should be performed. The report claimed there was no evidence of previous or incipient slope instability at or adjacent to the site during the study, and that the project site is relatively flat. The report concludes that landslides are not present on or adjacent to the site and would not be a concern for the project. In addition, the report states that liquefaction potential is low. The project would be constructed in accordance with recommendations of the geotechnical report, standard engineering and seismic safety design techniques, and applicable State Park guidelines, thereby minimizing potential impacts. Therefore, impacts would be less than significant.

d. No Impact

Soil expansion occurs when certain types of clay soils expand when saturated and shrink when dried. The project site does not contain expansive soils as the soils on site and in the Anza-Borrego Desert State Park are primarily various grain-sized sand and sandy loam. No impact would occur.

e. Less Than Significant Impact

The proposed project includes the construction of a new wastewater treatment system (septic tank) for the campsite and facilities. The proposed septic system and leach field would be located near the camping cabins and facilities, and the proposed plans would be designed to minimize the impacts to the land and desert floor. Additionally, the alluvial soils are well suited for septic systems. Therefore, impacts would be less than significant.

f. Less Than Significant Impact

The proposed project is located in Anza-Borrego Desert State Park, where paleontological resources have been discovered. The General Plan includes an analysis of resources found and paleontological sensitive areas. Based on Figure 4.6, Paleontological Sensitivity, of the General Plan, the project site is not in a sensitive area. Although the project site is not in a paleontological sensitive area, there is the possibility to encounter paleontological resources during the grading process. The project would be required to follow General Plan goals and guidelines which call for ongoing monitoring, protection, analysis, and recovery of paleontological resources (§3.3.1.3) as well as Public Resource Code (§5019.53 and §5097.5) and Department Resource Management Directives relevant to protection of paleontological resources. Grading and soil disturbance associated with facility expansion and development would be minimal. Consistent with Guideline §3.3.1.3, if fossils are uncovered during grading and soil disturbance, work would be controlled and redirected to allow resource recordation, recovery, and/or protection prior to additional development. Therefore, implementation of the General Plan goals and guidelines would reduce potential impacts to paleontological resources to a level less than significant.

4.8 Greenhouse Gas Emissions

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

EXPLANATIONS:

a. Less Than Significant Impact

Assembly Bill (AB) 32 set forth California's first greenhouse gas (GHG) target though adoption of the 2008 Scoping Plan and called on the state to reduce emissions to 1990 levels by 2020. In 2017, the State of California adopted the Climate Change Scoping Plan Update which indicated that the state was on track for achieving the AB 32 goals and incorporated new GHG emissions reduction goals contained in Senate Bill (SB) 32, which extended the goals of AB 32 and set a 2030 goal of reducing emissions 40 percent from 2020 levels. The SB 32 targets double the rate of emissions reductions

outlined in AB 32. To address these updated targets, project-level screening thresholds have been adopted by various agencies across the state.

GHG emissions were evaluated using guidance from the CAPCOA. In response to AB 32, CAPCOA guidance states that projects should be screened to determine if their associated GHG emissions exceed 900 metric tons of carbon dioxide equivalent (MT CO_2E) (CAPCOA 2008).

In April 2020, the SMAQMD published updated project screening levels and determined that projects estimated to generate less than 1,100 MT CO_2E per year would not result in a significant, cumulative impact (SMAQMD 2021). This threshold was developed to demonstrate compliance with the statewide reduction targets in 2030 and the threshold was determined by SMAQMD to capture 98 percent of total GHG emissions. The CAPCOA screening level threshold of 900 MT CO_2E is more conservative than the SMAQMD screening level, therefore, the CAPCOA threshold is in line with the post-2020 reduction goals established by SB 32. Thus, for the purposes of this analysis, the 900 MT CO_2E screening level was used in accordance with CAPCOA guidance. The screening level does not indicate impact significance; rather, it is intended to be used to screen out smaller projects that do not generate substantial amounts of GHG emissions and allows regulatory and discretionary actions to focus on the more significant sources of GHG emissions. If a project exceeds this threshold, a climate change analysis would need to be completed to analyze any potential project-specific impact. Projects that emit less than 900 MT CO_2E per year would not likely be considered cumulatively considerable and would not interfere with the ability of the state to achieve its GHG reduction targets.

The proposed project's GHG emissions were calculated using CalEEMod. CalEEMod calculates emissions from mobile (on-road vehicles), energy (electricity and natural gas), area (fireplaces, consumer products [cleansers, aerosols, and solvents], landscape maintenance equipment, architectural coatings), water and wastewater, and solid waste sources. GHG emissions are estimated in terms of total MT CO_2E. Emissions were calculated using the construction and operational parameters discussed in Section 4.3(b) and the CalEEMod default values for water and wastewater and solid waste. Based on guidance from the SCAQMD, total construction GHG emissions resulting from a project should be amortized over 30 years and added to operational GHG emissions to account for their contribution to GHG emissions over the lifetime of a project (SCAQMD 2009).

Table 3 summarizes the project's GHG emissions. CalEEMod output is provided in Attachment 1. As shown, GHG emissions are projected to be less than the 900 MT CO_2E screening threshold. GHG impacts would be less than significant.

Table 3 Total Project Greenhouse Gas Emissions (MT CO_2e per Year)	
Source	Project GHG Emissions
Mobile	320
Energy	4
Area	5
Water	65
Waste	1
Construction (amortized)	55
Total GHG Emissions	**450**
Screening Threshold	*900*

b. Less Than Significant Impact

Executive Order (EO) S-3-05 and EO B-30-15 established GHG emission reduction targets for the state, and AB 32 launched the CARB Climate Change Scoping Plan that outlined the reduction measures needed to reach the 2020 target, which the state has achieved. As required by SB 32, CARB's 2017 Climate Change Scoping Plan outlines reduction measures needed to achieve the interim 2030 target.

The project would not exceed the 900 MT CO_2E screening threshold for GHG emissions. As discussed, this threshold was established based on the determination that projects under the threshold would not exceed AB 32 GHG reduction targets. Further, the CAPCOA screening level threshold of 900 MT CO_2E is more conservative than screening levels adopted by other air quality management districts that were developed to demonstrate compliance with the statewide reduction targets in 2030. Therefore, the CAPCOA threshold is in line with the post-2020 reduction goals established by SB 32. Since project emissions would not exceed the 900 MT CO_2E screening level threshold, the project would not impede achievement of the state GHG emissions reduction targets codified by AB 32 (2006) and SB 32 (2016), and therefore would be considered less than cumulatively considerable under CEQA.

The 2017 Scoping Plan identifies state strategies for achieving the state's 2030 interim GHG emissions reduction target codified by SB 32. Measures under the 2017 Scoping Plan scenario build on existing programs such as the Low Carbon Fuel Standard, Advanced Clean Cars Program, renewable portfolio standard (RPS), SCS, Short-Lived Climate Pollutant Reduction Strategy, and the Cap-and-Trade Program. The proposed project would comply with all applicable provisions contained in the 2017 Scoping Plan since the adopted regulations would apply to new development or the emission sectors associated with new development.

- **Transportation** – State regulations and 2017 Scoping Plan measures that would reduce the project's mobile source emissions include the California Light-Duty Vehicle GHG Standards (AB 1493/Pavley I and II), and the Low Carbon Fuel Standard, and the heavy-duty truck regulations. These measures are implemented at the state level.

- **Energy** – State regulations and 2017 Scoping Plan measures that would reduce the project's energy-related GHG emissions include RPS. The project would be served by San Diego Gas and Electric, which has achieved 44 percent renewables as of 2019. The project's energy related GHG emissions would decrease as San Diego Gas and Electric increases its renewables procurement towards the 2030 goal of 60 percent. The project would be "off-the-grid" to the degree that functionality and aesthetics allow.

- **Water** – State regulations and 2017 Scoping Plan measures that would reduce the project's electricity consumption associated with water supply, treatment, and distribution, and wastewater treatment include RPS and California Green Building Standards Code. The project's water consumption would be limited to the bathroom and shower facilities and the kitchen. The project would comply with all applicable water requirements. Sewer disposal would likely occur through an on-site septic system.

- **Waste** – State regulations and 2017 Scoping Plan measures that would reduce the project's solid waste-related GHG emissions are related to landfill methane control, increases efficiency of landfill methane capture, and high recycling/zero waste. The project would comply with all state park waste disposal requirements.

The project would not exceed the 900 MT CO_2E screening threshold for GHG emissions and would not conflict with implementation of statewide GHG reduction goals or the 2017 Scoping Plan. The project would also not conflict with implementation of San Diego Forward because the project is consistent with the land uses under the General Plan that informed the growth projects of the RTP/SCS. The project would not increase the amount of available overnight recreational facilities at the State Park beyond levels designated in the General Plan and associated EIR. Therefore, the project would not conflict with the reduction targets or GHG emission reduction strategies of the RTP/SCS. Therefore, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs, and impacts would be less than significant.

4.9 Hazards and Hazardous Materials

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

EXPLANATIONS:

a: Less Than Significant Impact

The proposed project would not create a significant hazard to the public or environment because it does not propose the use, transport, or disposal of hazardous substances. The proposed project

consists of cabins and associated campsite facilities, which are not characterized to routinely store, use, or dispose of hazardous materials or waste. Construction activities would require the temporary use of hazardous substances, such as fuel for construction purposes. Minor hazardous materials may be used during project operation as well, such as cleaning and maintenance supplies. Materials used during construction and operation would not be considered a significant hazard to the public. Any handling of potentially hazardous materials would be required to comply with all existing laws relevant to transport, use, and disposal of hazardous materials. Therefore, impacts would be less than significant.

b. Less Than Significant Impact

Project construction and operation would require minor use of hazardous materials such as fuel and cleaning materials. Operation could also generate pollutants from vehicles such as oil and grease. Hazardous materials would be handled and stored in compliance with all local, state, and federal regulations pertaining to hazardous materials.

c. No Impact

The proposed project is not located within one-quarter mile of an existing or proposed school. The nearest school is approximated 2.8 miles away. The proposed project would not involve any activities that would result in hazardous emissions or the handling of hazardous materials, substances, or waste that could impact an existing or proposed school. Therefore, no impact would occur.

d. No Impact

The project is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, no impact would occur.

e. No Impact

The proposed project is located 6.3 miles away from the Borrego Valley Airport. Per the Borrego Valley Airport Land Use Consistency Plan (ALUCP 2006), the project is outside the Borrego Valley Airport Influence Area (AIA). The project does not propose any hazardous visuals including distracting lights, glare, or other obstacles that would interfere with aircraft instruments or radio communications. The proposed project does not include the construction of any tall structures that would serve as a safety hazard to aircraft operations. Therefore, there would be no impacts.

f. Less Than Significant Impact

The proposed project is for the construction and operation of a campsite and accompanying facilities. Project construction would temporarily increase traffic along existing access roads but would include traffic control measures to allow for continued access. Vehicle trips generated during construction and operation would not impair or interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, impacts would be less than significant.

g. Less Than Significant Impact

The proposed project could result in fire risks and thereby expose people and/or structure to potential wildland fire hazards. Potential fire hazards during project construction could occur from the use of equipment and other construction related activities that are known to cause sparks and other sources or ignition in dry areas. This would be a temporary construction impact. Project operation could also result in potential fire hazards due to use of campfires. Sprinklers will be used in the proposed camp facilities consistent with California Department of Forestry and Fire Protection requirements. In addition, the proposed project would comply with the California Building Code. Therefore, impacts would be less than significant.

4.10 Hydrology and Water Quality

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner, which would:	☐	☐	☒	☐
i. result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv. impede or redirect flood flows?	☐	☐	☒	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

EXPLANATIONS:

a. Less Than Significant Impact

Groundwater at Anza-Borrego Desert State Park originates mainly from precipitation and subsequent infiltration through soils and surface rocks into saturated subterranean water-bearing bodies termed aquifers. Natural recharge of the aquifers occurs mainly by percolation from the mountain streams as they enter and flow across the valleys. Approximately 192,000 acres of these ground water basins occur within the park (California State Parks 2005). The ground water basin is located in the Borrego Springs Subbasin, which is considered a critically over drafted subbasin and is part of the Borrego Valley Basin, a basin that is subject to the Sustainable Groundwater Management Act. After decades of excessive pumping, the Borrego Groundwater Basin is considered critically overdrafted and dramatic reductions in water consumption by current and future water users are needed to bring the basin into sustainability. The County of San Diego and Borrego Water District, in cooperation with stakeholder groups in the Valley, completed a Groundwater Sustainability Plan (GSP) for the Borrego Springs Groundwater Subbasin in August of 2019. The sustainability goal in the GSP is to ensure that by 2040, and thereafter, the Subbasin is operated within its sustainable yield and does not exhibit undesirable results as defined by California Water Code Section 10721(x) (County of San Diego 2019). The Anza-Borrego Desert State Park is a stakeholder group and their engagement purpose is to inform and be involve with sustaining a vital ecosystem. Construction and operation of the proposed project would comply with the GSP. As the proposed project would be replacing the existing campgrounds with new cabins and facilities, as well as utilizing the existing water lines, there would be no permanent substantial increase in water usage.

The proposed project would consist of grading and vegetation removal to allow for the construction of fourteen cabins and related facilities and infrastructure. These activities have the potential to impact water quality due to temporary increases in sedimentation, erosion, and other temporary construction impacts.

Project operation would have the potential to result in water quality impacts due to on-going maintenance activities, the operation of mechanized equipment and increased vehicle access. Maintenance activities have the potential to affect water quality depending on the materials used for facility maintenance. Potential impacts due to maintenance activities would be temporary and would not substantially degrade surface or groundwater quality. Therefore, impacts would be less than significant.

b. Less Than Significant Impact

The proposed project would result in a temporary increase of water use, which would occur during project construction. Construction water use would be minimal and would not interfere with groundwater recharge. Project operation would increase water demand; however, the existing water distribution system serving the park has sufficient capacity to accommodate the increased demand. The proposed project would not increase the approved number of campsites as outlined in the General Plan. As a result, the proposed project would not decrease groundwater supply or interfere substantially with groundwater recharge. Impacts would be less than significant.

c.i. Less Than Significant Impact

The proposed project is located in Borrego Palm Canyon, which is situated in an alluvial fan (California State Parks 2005). The project site is subject to flooding due to the nature of alluvial fan flooding patterns. In addition, there is potential for sediment to gather at the project site. Ground-disturbing activities have the potential to result in temporary increases in erosion. Additionally, the proposed project could result in localized increases in erosion throughout operation due to the introduction of new facilities (e.g., cabins and comfort stations). However, the proposed project would not alter the project site's existing drainage pattern in a way that would result in substantial erosion or siltation to the project site or surrounding area as roadways would be restored to pre-existing conditions once construction is complete. Therefore, the proposed project would not substantially alter the existing drainage pattern in manner that would result in substantial erosion or siltration on- or off-site, and impacts would be less than significant.

c.ii. Less Than Significant Impact

The proposed project would construct new aboveground structures (cabins, comfort stations, storage, etc.) that could impede or redirect flows. However, the new facilities would be replacing existing facilities on the project site. Construction would include storm water and gray water treatment basins. In addition, all structures would be elevated a minimum of four feet from the desert floor. All exterior paved surfaces within Camp Borrego will be compacted decomposed granite or vehicular-rated road base material designed with the goal of minimizing run-off, grading, and disturbances to the desert floor. The introduction of fourteen cabins, comfort stations, related facilities and other project improvements would not substantially increase the rate or amount of

surface runoff in a manner which would result in flooding on- or off-site, and impacts would be less than significant.

c.iii. Less Than Significant Impact

The proposed project would construct new aboveground structures (cabins, comfort stations, storage, etc.) that could impede or redirect flows. However, the new facilities would be replacing the existing facilities on the project site. Construction would include storm water and gray water treatment basins. In addition, all structures would be elevated a minimum of four feet from the desert floor. All exterior paved surfaces within Camp Borrego will be compacted decomposed granite or vehicular-rated road base material designed with the goal of minimizing run-off, grading, and disturbances to the desert floor. The introduction of fourteen cabins, comfort stations, related facilities and other project improvements would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, and impacts would be less than significant.

c.iv. Less Than Significant Impact

The proposed project would construct new aboveground structures (cabins, comfort stations, storage, etc.) that could impede or redirect flows. However, the new facilities will be replacing the existing facilities on the project site. Construction would include storm water and gray water treatment basins. In addition, all structures would be elevated a minimum of four feet from the desert floor. All exterior paved surfaces within Camp Borrego will be compacted decomposed granite or vehicular-rated road base material designed with the goal of minimizing run-off, grading, and disturbances to the desert floor. The introduction of fourteen cabins, comfort stations, related facilities and other project improvements would not substantially alter the existing drainage pattern of the site such that the project would significantly impede or redirect flood flows. The proposed site plans are consistent with the recreational facilities located nearby in the park. Therefore, impacts would be less than significant.

d. Less Than Significant Impact

The proposed project is located approximately 53 miles from the coast; therefore, in the event of a tsunami, would not be inundated.

Anza-Borrego Desert State Park and project site are subject to flooding, and as a result the proposed project could be exposed to potential flooding related hazards. The project site is located in a FEMA mapped flood zone, Zone AO, which shows inundation levels during the 100-year flooding event reaching a depth of three feet.

e. Less Than Significant Impact

As discussed above, the proposed project would not significantly impact surface or groundwater quality, nor would it substantially affect groundwater recharge. The proposed project would not increase the overall amount of existing camping sites at the park beyond levels analyzed in the General Plan EIR. As a result, the proposed project would not significantly increase groundwater demand or interfere with groundwater recharge. Therefore, the proposed project would not result

in significant water quality or groundwater quality impacts that would conflict or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Impacts would be less than significant.

4.11 Land Use and Planning

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

EXPLANATIONS:

a. No Impact

The project site is within an existing state park and the site is currently zoned as a campground, complying with the General Plan. The project does not involve the development of new infrastructure such as major roadways which would interfere with the connectivity of surrounding areas. The project is consistent with the General Plan, and the FUZ I Management Zone goals include the opportunity to develop recreational facilities such as family and group campgrounds and lodging. The construction and operation of the proposed project would increase the number of recreational facilities currently available within the park but would not increase the number of available sites beyond levels identified in the FUZ I Management Zone in the General Plan. The land use for the project site area would remain the same, as would the use of the surrounding areas. As a result, the proposed project would not include any components that would physically divide an established community; therefore, no impacts would occur.

b. No Impact

The proposed project is subject to the General Plan. The project site is located in the FUZ I Management Zone, which limits camping and recreational facilities to designated campgrounds and areas. FUZ I offers the opportunity for developing family and group campgrounds and lodging. FUZ I is a heavily used zone that restricts camping to designated sites and areas in order to preserve the desert's character and to minimize negative impacts to resources. The project site would be compliant with General Plan goals and mitigation measures mentioned in Section 4.4, which refer to protecting the native bighorn sheep in the park. The project would include a setback of 100 feet from

the toe of the slope. The project would not conflict with any adopted land use plan, policy, or regulation and, therefore, no impacts would occur.

4.12 Mineral Resources

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

EXPLANATIONS:

a. No Impact

No mineral resources have been identified within the boundaries of the project site. Mineral resource extraction is not permitted under the Resource Management Directives of the Department of Parks and Recreation. Therefore, no impacts will occur.

b. No Impact

The General Plan designated no mineral resource recovery sites in the immediate vicinity of the proposed project site. There would be no potentially significant loss of availability of a known mineral or locally important mineral recourse recovery site delineated on a local general plan, specific plan or other land use plan would occur as a result of this project. Therefore, there would be no impacts.

4.13 Noise

Would the project result in:

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

EXPLANATIONS:

a. Less Than Significant Impact

Construction

Section 36.409 of the County Municipal Code states:

> Except for emergency work, it shall be unlawful for any person to operate construction equipment or cause the construction equipment to be operated, exceeding an average sound level of 75 dB(A) for an 8-hour period, between 7 a.m. and 7 p.m., when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received.

Project construction activities would include grading, updating existing utility lines, a new septic system and leach field, and building construction. Project construction noise would be generated by diesel engine-driven construction equipment used for site preparation and grading, building

construction, loading, unloading, and placing materials and paving. Diesel engine-driven trucks also would bring materials to the site and remove the soils from excavation.

Construction equipment with a diesel engine typically generates maximum noise levels from 70 to 95 A-weighted decibels dB(A) equivalent noise level (L_{eq}) at a distance of 50 feet (Federal Highway Administration [FHWA] 2006 and 2008, Federal Transit Authority 2006). During construction, equipment moves to different locations and goes through varying load cycles, and there are breaks for the operators and for non-equipment tasks, such as measurement. During grading activities, typical construction equipment average hourly noise levels would be 82 dB(A) L_{eq} at 50 feet. Grading and construction activities would occur within an approximate five-acre area located more than 500 feet from the nearest adjacent use to the east. Noise levels of 82 dB(A) L_{eq} at 50 feet would attenuate to 62 dB(A) L_{eq} at 500 feet and would not exceed the County's Noise Ordinance limit of 75 dB(A) L_{eq}. Other construction activities within the project area would consist of trail improvements, gathering spaces, and planting that would require less heavy equipment than the camping facility construction area, and are not anticipated to generate construction noise levels in exceed of 75 dB(A) L_{eq} at the adjacent uses to the east. Although the existing adjacent uses would be exposed to construction noise levels that could be heard above ambient conditions, the exposure would be temporary. As construction activities associated with the project would comply with noise level limits from the County's Noise Ordinance, temporary increases in noise levels from construction activities would be less than significant.

Operation

The project site is located in a remote area of the park and is not located adjacent to any major roadways or significant noise sources. Noise levels in the vicinity of the project site are relatively quiet and typical of similar desert campgrounds. Future campers would not be exposed to noise levels that exceed the County's noise compatibility level of 65 community noise equivalent level (CNEL) for transient lodging, passive recreational parks, and nature preserves. As previously mentioned in the IS/MND, the project would not increase the total number of campsites available in the park beyond existing levels discussed in the General Plan. The project would therefore not result in a significant increase in ambient noise levels due to vehicle traffic on area roadways.

No operational components of the project would generate significant noise levels. Gathering would occur at the proposed campfires and existing amphitheater, however, noise generated at these locations would be limited to people talking, singing, and educational programs. The amphitheater would not be a significant source of amplified noise. Additionally, there are no noise sensitive land uses located in the vicinity of the amphitheater. Noise associated with camping activities would be similar to the surrounding environment and would be less than significant.

b. Less Than Significant Impact

Based on County noise guidelines, non-transportation vibration sources such as impact pile drivers or hydraulic breakers are significant when their peak particle velocity (PPV) exceeds 0.1 inch per second (in/sec) PPV. Based on this guidance, vibration impacts would be significant if the level exceeds 0.1 at the nearest noise sensitive land uses.

Construction activities produce varying degrees of ground vibration, depending on the equipment and methods employed. While ground vibrations from typical construction activities very rarely reach levels high enough to cause damage to structures, special consideration must be made when sensitive or historic land uses are near the construction site (Caltrans 2013). The construction activities that typically generate the highest levels of vibration are blasting and impact pile driving. However, the project would not require blasting or pile driving.

On-site construction equipment that would cause the most noise and vibration would be associated with site grading. According to the Caltrans, vibration levels associated with the use of bulldozers range from approximately 0.003 to 0.089 in/sec PPV at 25 feet. The closest structure is located more than 500 feet from where grading activities would occur. There are no structures within 25 feet of the construction area. Therefore, vibration levels at not anticipated to exceed 0.1 in/sec PPV. Groundborne vibration impacts during project construction would be less than significant. The project does not include any operational sources of vibration.

c. No Impact

No public or private airports are located within two miles of the project site and would thus not result in the exposure of people on or off-site to excessive noise levels. The closest airport to the project site is the Borrego Valley Airport, which is 6.3 miles away. As this is more than two miles away from the project site, no impacts would occur.

4.14 Population and Housing

Would the project:

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

EXPLANATIONS:

a. No Impact

This project would not induce population growth, either directly or indirectly, as the project site is currently configured to be an overnight camp located in Anza-Borrego Desert State Park. The project site is consistent with the FUZ I Management Zone, which is defined in the General Plan as a zone that experiences high activity due to being one of two zones with designated campgrounds. As proposed, the proposed project would be limited to new construction of cabin and ancillary use accommodations, group gathering areas, existing roads and parking lots, and site improvements for utility lines. The proposed project would increase visitor use to the project site but would not induce permanent population growth in the area. No impact would occur.

b. No Impact

The proposed project would not displace the owners of existing homes as there are no existing homes on the project site. Therefore, the project would not displace substantial numbers of existing housing or people, and no impact would occur.

4.15 Public Services

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i. Fire protection?	☐	☐	☒	☐
ii. Police protection?	☐	☐	☒	☐
iii. Schools?	☐	☐	☐	☒
iv. Parks?	☐	☐	☒	☐
v. Other public facilities?	☐	☐	☒	☐

EXPLANATIONS:

a.i. Less Than Significant Impact

The proposed project is not anticipated to cause substantial adverse physical impacts or affect response times for any fire departments or protection services. The proposed project improvements would seasonally increase the number of people in the area, and incrementally increase the demands for fire protection services. The proposed project could potentially cause fire-related hazards due to the operation of equipment during construction, as well as during operation with camp use (e.g., campfires). The addition of fourteen new cabins and accompanying campground facilities would be sprinklered. The project would be accommodated by the existing service providers and would not significantly impact service ratios or response times. Therefore, the impacts would be less than significant.

a.ii. Less Than Significant Impact

The proposed project would increase demands for police protection services due to the introduction of new development (e.g., cabins) and associated facilities, however the increase would not be substantial. The project introduces additional personnel (e.g., campers and staff), which would increase demand for police protection services. In addition to local police protection services, State Park Rangers serve as police officers to the Anza-Borrego Desert State Park. The new cabins and facilities would be accommodated by existing service providers and would not significantly impact service ratios, response times or any other requests related to police services. Therefore, the impacts would be less than significant.

a.iii. No Impact

The project site is within Anza-Borrego Desert State Park and the camp would be operated by the Anza-Borrego Foundation. While the camp is an educational camp, it will not affect the capacity of local schools or create the need for additional schools and create physical impacts. No impacts would occur.

a.iv. Less Than Significant Impact

The project site is within Anza-Borrego Desert State Park and the camp would be operated by the Anza-Borrego Foundation. While the camp is an educational camp that will provide recreational opportunities such as hiking and nature exposure for the campers (e.g., fifth graders), it will not affect the ability of the park to accommodate the recreational use envisioned for the park visitors as described in the General Plan. No additional park facilities or improvements would be required for the park and no impact would occur.

a.v. Less Than Significant Impact

The proposed project would provide all necessary public facilities on-site, resulting in no substantial impact to other public facilities. The project site facilities would be used exclusively by the Camp Borrego campers and staff.

4.16 Recreation

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b. Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☒	☐

EXPLANATIONS:

a. Less Than Significant Impacts

The proposed project would provide overnight camp accommodations and associated facilities, which would increase recreational use within the immediate area of the park. However, the reestablishment of a camp in this location is consistent with the General Plan, and the FUZ I Management Zone goals include the opportunity to develop recreational facilities such as family and group campgrounds and lodging. The construction and operation of the proposed project would increase the amount of currently available recreational facilities within the -park but would not increase the number of available sites beyond levels identified in the FUZ I Management Zone in the General Plan.

b. Less Than Significant Impacts

The construction and operation of new camp facilities and associated support infrastructure would expand available recreational amenities within the park. The project would not result in any new impacts beyond those previously evaluated within this IS/MND. All impacts would be mitigated to a less than significant level in accordance with the requirements of CEQA. Therefore, impacts will be less than significant.

4.17 Transportation

Would the project:

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

EXPLANATIONS:

a. Less Than Significant Impact

The proposed project includes the construction and operation of overnight camping cabins and associated facilities. Project construction activities would temporarily contribute to additional vehicle trips on the local circulation system. The proposed project would not increase the amount of available overnight recreational facilities at the park beyond levels designated in the General Plan and associated EIR. The proposed project follows the Infrastructure and Operations Goals outlined in the General Plan and would not result in a long-term measurable increase in traffic. As the FUZ I Management Zone is a designated camping area within the park, the project site regularly sees a high density of users with vehicles. As a result, the proposed project would not conflict with a plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Therefore, impacts would be less than significant.

b. Less Than Significant Impact

Vehicle trips associated with project construction would be temporary and would not affect intersection and roadway segment operations on the surrounding roadway network. In addition, operational vehicle trips would include campsite visitors and patrons, and periodic maintenance that would not significantly affect intersection and roadway operations. As previously mentioned in the IS/MND, the proposed project would not increase the total number of campsites available in the

park beyond existing levels discussed in the General Plan. The proposed project would not result in a significant effect related to vehicle miles traveled; therefore, impacts are less than significant.

c. No Impact

The proposed project would not substantially increase hazards due to a geometric design feature or incompatible use. The proposed project consists of the construction and operation of overnight cabins and related camp infrastructure within the park. The proposed project would include improvements and additions to the existing parking areas adjacent to the project site. The proposed project does not include any design features that affect access and circulation, nor would they create any hazardous traffic conditions. Therefore, no impacts would occur.

d. Less Than Significant Impact

The proposed project would not result in inadequate emergency access. The park, including the project site, would remain accessible via the existing access roads. Project construction will lead to additional trucks and vehicles on the access roads, but this would be temporary. Roadways would be restored to pre-existing conditions once construction is completed. Therefore, less than significant impacts would occur.

4.18 Tribal Cultural Resources

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?	☐	☐	☒	☐

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	☐	☒	☐	☐

EXPLANATIONS:

a.i: Less Than Significant Impact

State Parks is in the process of sending a letter to the Native American Heritage Commission requesting them to search their files to identify spiritually significant and/or sacred sites or traditional use areas in the project vicinity. The project site is within a developed campground within Anza-Borrego Desert State Park and the improved camp would continue to be operated by the Anza-Borrego Foundation for educational purposes. No spiritually significant or sacred sites are known to exist within the existing campground. Should any be identified in consultation with the Native American Heritage Commission or AB 52 consultation with Native American governments with an interest in the project, they would be avoided through project design.

a.ii: Potentially Significant Unless Mitigation Incorporated

Given the resources found during the archeology survey (see Appendix C), construction activities would have the potential to unearth previously unknown tribal cultural resources and the discovery of which would be considered a significant impact. Implementation of mitigation measure CUL-1 described in Section 4.5b above would reduce impacts to a level less than significant.

4.19 Utilities and Service Systems

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
c. Result in a determination by the wastewater treatment provided which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e. Comply with federal, state, and local management and reduction statutes and regulation related to solid waste?	☐	☐	☒	☐

EXPLANATIONS:

a. Less Than Significant Impact

The proposed project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities. However, the proposed project would require the extension of existing utility lines to the site and would include the installation of a new septic system. The upgrading of existing water distribution system infrastructure would occur within existing developed areas and roadways. Therefore, impacts would be less than significant.

b. Less Than Significant Impact

The proposed project would construct camping cabins, comfort stations, and facilities on a site that is in a Management Zone (FUZ I) designated for camping and related use. According to State Parks, the existing water distribution has existing capacity to accommodate the increase in demand associated with the proposed project. The proposed project would not increase the total number of camping sites at the State Park beyond levels discussed in the General Plan. Therefore, the Park's existing water supply will be sufficient, and impacts will be less than significant.

c. Less Than Significant Impact

The project site will utilize existing State Park infrastructure, with the wastewater generated by the project being treated at the park's on-site wastewater treatment system. The proposed project will include the installation of a new septic system in place of the existing system. The project would incrementally increase the park's wastewater flows, but it is not anticipated to affect the existing capacity of the facility. There is an adequate capacity to accommodate the project's increased demand for wastewater treatment as there will be no need for any new or expanded facilities to accommodate the project. Therefore, impacts would be less than significant.

d. Less Than Significant Impact

The proposed project would generate solid waste; however, solid waste generated by construction and operation for the proposed project would be disposed of by Republic Services, who currently offer waste and recycling services to the Borrego Springs area. There are five permitted active landfills in San Diego County with remaining capacity. Therefore, there is sufficient existing permitted solid waste capacity to accommodate the project's solid waste disposal needs, and impacts would be less than significant.

e. Less Than Significant Impact

The proposed project would comply with federal, state, and local statutes and solid waste regulations. The project would generate debris and require disposal, however current landfill capacities within the San Diego region would be able to accommodate debris generated during demolition and construction activities, as well as solid waste generated during operation. Therefore, impacts would be less than significant.

4.20 Wildfire

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

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

EXPLANATIONS:

a. Less Than Significant Impacts

Construction and operation of the proposed project would not interfere with an adopted emergency response plan or emergency evacuation plan. The introduction of addition personnel (e.g., campers and staff) within the park could increase demand for emergency response services, but the proposed project would not substantially impair and/or otherwise interfere with the implementation of an adopted emergency response plan or emergency evacuation plan. Therefore, this represents a less than significant impact.

b. Less Than Significant Impacts

The proposed project could increase fire risks and expose people and/or structures to potential wildfire risks. Potential fire hazards could occur during construction due to the operation of equipment and other activities that can cause sparks or other sources of ignition in dry areas, however, would be a temporary construction impact. The project site has limited flammable material, which includes Sonoran creosote bush scrub, disturbed habitat, and urban/developed. Project operation could also result in potential fire hazards due to the introduction of new facilities, increased site use, and additional campfires.

Cabins and ancillary facilities would be equipped with sprinklers and would be utilized in the event of a fire. The proposed project would comply with the applicable fire safety provisions of the California Building Code. Therefore, impacts would be less than significant.

c. Less Than Significant Impacts

The proposed project would connect to existing, underground State Park infrastructure and would not require new installation of infrastructure that may exacerbate wildfire risk. The proposed project, with the construction of fourteen cabins and accompanying facilities, would not substantially impact the park such that it would significantly exacerbate fire risk. Therefore, impacts would be less than significant.

d. Less Than Significant Impacts

The proposed project site is located in a FEMA mapped flood zone. However, the proposed cabins would be elevated to be four feet above the FEMA floodplain mapping for the area, and would not be anticipated to expose people or structure to significant risks. A less than significant impact would occur.

4.21 Mandatory Findings of Significance

Does the project:

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

EXPLANATIONS:

a. Potentially Significant Unless Mitigation Incorporated

As described in Section 4.4a, implementation of mitigation measures BIO-1 through BIO-4 would address potential impacts to peninsular bighorn sheep, sensitive bats, and migratory birds. BIO-1 would include general avoidance and minimization measures to be implemented during project construction activities. Implementation of mitigation measure BIO-2 would reduce potential impacts

to peninsular bighorn sheep to a level less than significant. The implementation of BIO-3 would reduce potential impacts to nesting birds, and the implementation of BIO-4 would reduce potential impacts to special-status bat species.

The project does not have the potential to result in any other impacts that would substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of major periods of California history or prehistory.

b. Potentially Significant Unless Mitigation Incorporated

Potential impacts requiring mitigation are limited to biological resources and cultural resources. As described in Section 4.4a, implementation of mitigation measures BIO-1 through BIO-4 would address potential impacts to peninsular bighorn sheep, sensitive bats, and migratory birds. BIO-1 would include general avoidance and minimization measures to be implemented during project construction activities. Implementation of mitigation measure BIO-2 would reduce potential impacts to Peninsular Bighorn Sheep to a level less than significant. The implementation of BIO-3 would reduce potential impacts to nesting birds, and the implementation of BIO-4 would reduce potential impacts to special-status bat species. By mitigating project-level impacts to a level less than significant, the project would not contribute to existing cumulative impacts to biological resources. As described in Section 4.5b, implementation of mitigation measure CUL-1 would reduce impacts on archaeological resources to a level less than significant. As described throughout the IS/MND all other project-level impacts would be less than significant without mitigation. The project would not result in any project-level significant impacts that could contribute to an existing cumulative impact on the environment.

c. Less Than Significant

As described in Section 4.1 through 4.20, the project would not result in any substantial adverse direct or indirect impacts to human beings. Therefore, impacts would be less than significant.

5.0 Determination and Preparers

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE FEE DETERMINATION

(Fish and Game Code Section 711.4, Statutes of 2006 – SB 1535)

[ ] It is hereby found that this project involves no potential for any adverse effect, either individual or cumulatively, on wildlife resources and that a "Certificate of Fee Exemption" shall be prepared for this project.

[x] It is hereby found that this project could potentially impact wildlife, individually or cumulatively, and therefore, fees in accordance with Section 711.4(d) of the Fish and Game Code shall be paid to the County Clerk.

Report Preparers

RECON Environmental, Inc., 3111 Camino del Rio North, Suite 600, San Diego, CA 92108

6.0 Sources Consulted

California Air Pollution Control Officers Association (CAPCOA)

2008 CEQA & Climate Change, Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act, January.

2021 California Emissions Estimator model (CalEEMod), Version 2020.4.0. May 2021.

California Department of Transportation (Caltrans)

2013 Transportation and Construction Vibration Guidance Manual. September.

California State Parks

2005 Anza-Borrego Desert State Park® Final General Plan & EIR. February 11.

County of San Diego

2019 Groundwater Sustainability Plan for the Borrego Springs Groundwater Subbasin. August.

Federal Highway Administration (FHWA)

2006 Roadway Construction Noise Model User's Guide. FHWA-HEP-05-054, SOT-VNTSC-FHWA-05-01. Final Report. January.

2008 Roadway Construction Noise Mode, V1.1. Washington, DC.

Federal Transit Administration (FTA)

2006 Transit Noise and Vibration Impact Assessment. Washington, DC. May.

Sacramento Metropolitan Air Quality Management District (SMAQMD)

2021 Guide to Air Quality Assessment in Sacramento County. Updated April 2021.

San Diego, County of

2007 Guidelines for Determining Significance and Report Format and Content Requirements, Air Quality. Land Use and Environment Group. March 19, 2007.

South Coast Air Quality Management District (SCAQMD)

2009 Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group 14. November 19, 2009.

APPENDICES

APPENDIX A

California Emissions Estimator Model Output

9923 Camp Borrego - San Diego County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

9923 Camp Borrego

San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	40.00	Space	0.36	16,000.00	0
City Park	20.00	Acre	20.00	871,200.00	0
Single Family Housing	1.00	Dwelling Unit	0.32	5,900.00	3

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2022
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 5,900 square feet common camp facilities (kitchen, multi purpose room, staff cabins, restrooms)

Construction Phase -

Demolition - ~5,000 sf amphitheater
~5,000 sf yerts and structures

Grading - 5 acres grading

Architectural Coating - SDAPCD Rule 67.0.1

Vehicle Trips - Groups of 30 students/ 3 chaperones/ 2 staff = 35 total x 2 = 70
50 miles to SD city center

Area Coating - SDAPCD Rule 67.0.1

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Woodstoves - 2 month season
~100 pounds/night

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	100.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	100
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	100
tblFireplaces	FireplaceDayYear	82.00	60.00
tblFireplaces	FireplaceWoodMass	3,078.40	6,000.00
tblFireplaces	NumberGas	0.55	0.00
tblFireplaces	NumberNoFireplace	0.10	0.00
tblFireplaces	NumberWood	0.35	1.00
tblGrading	AcresOfGrading	105.00	5.00
tblGrading	AcresOfGrading	15.00	5.00
tblLandUse	LandUseSquareFeet	1,800.00	5,900.00
tblVehicleTrips	CC_TL	7.30	50.00
tblVehicleTrips	CNW_TL	7.30	50.00
tblVehicleTrips	CW_TL	9.50	50.00
tblVehicleTrips	ST_TR	1.96	3.50
tblVehicleTrips	ST_TR	9.54	0.00
tblVehicleTrips	SU_TR	2.19	3.50
tblVehicleTrips	SU_TR	8.55	0.00
tblVehicleTrips	WD_TR	0.78	3.50

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	WD_TR	9.44	0.00
tblWoodstoves	NumberCatalytic	0.05	0.00
tblWoodstoves	NumberNoncatalytic	0.05	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.4103	3.4896	3.5728	9.9800e-003	0.5973	0.1380	0.7353	0.2151	0.1290	0.3441	0.0000	912.5136	912.5136	0.1167	0.0504	930.4439
2023	0.4021	2.0036	2.5496	7.5500e-003	0.3538	0.0719	0.4256	0.0960	0.0676	0.1635	0.0000	694.5553	694.5553	0.0689	0.0431	709.1165
Maximum	**0.4103**	**3.4896**	**3.5728**	**9.9800e-003**	**0.5973**	**0.1380**	**0.7353**	**0.2151**	**0.1290**	**0.3441**	**0.0000**	**912.5136**	**912.5136**	**0.1167**	**0.0504**	**930.4439**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.4103	3.4896	3.5728	9.9800e-003	0.5973	0.1380	0.7353	0.2151	0.1290	0.3441	0.0000	912.5132	912.5132	0.1167	0.0504	930.4434
2023	0.4021	2.0036	2.5496	7.5500e-003	0.3538	0.0719	0.4256	0.0960	0.0676	0.1635	0.0000	694.5551	694.5551	0.0689	0.0431	709.1162
Maximum	**0.4103**	**3.4896**	**3.5728**	**9.9800e-003**	**0.5973**	**0.1380**	**0.7353**	**0.2151**	**0.1290**	**0.3441**	**0.0000**	**912.5132**	**912.5132**	**0.1167**	**0.0504**	**930.4434**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-3-2022**	**4-2-2022**	1.2042	1.2042
2	**4-3-2022**	**7-2-2022**	0.8843	0.8843
3	**7-3-2022**	**10-2-2022**	0.8943	0.8943
4	**10-3-2022**	**1-2-2023**	0.9071	0.9071
5	**1-3-2023**	**4-2-2023**	0.7861	0.7861
6	**4-3-2023**	**7-2-2023**	0.7814	0.7814
7	**7-3-2023**	**9-30-2023**	0.6430	0.6430
		Highest	1.2042	1.2042

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4671	3.9900e-003	0.3869	6.0000e-004		0.0519	0.0519		0.0519	0.0519	4.6266	0.0132	4.6398	1.0000e-005	4.1000e-004	4.7619
Energy	1.2000e-004	9.9000e-004	4.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	4.4422	4.4422	2.2000e-004	5.0000e-005	4.4613
Mobile	0.1108	0.1907	1.4344	3.4200e-003	0.3480	2.9000e-003	0.3509	0.0929	2.7200e-003	0.0956	0.0000	315.6541	315.6541	0.0175	0.0123	319.7657
Waste						0.0000	0.0000		0.0000	0.0000	0.5988	0.0000	0.5988	0.0354	0.0000	1.4836
Water						0.0000	0.0000		0.0000	0.0000	0.0207	65.1643	65.1850	6.1100e-003	5.3000e-004	65.4964
Total	**0.5780**	**0.1956**	**1.8217**	**4.0300e-003**	**0.3480**	**0.0549**	**0.4029**	**0.0929**	**0.0547**	**0.1476**	**5.2461**	**385.2738**	**390.5199**	**0.0592**	**0.0133**	**395.9688**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4671	3.9900e-003	0.3869	6.0000e-004		0.0519	0.0519		0.0519	0.0519	4.6266	0.0132	4.6398	1.0000e-005	4.1000e-004	4.7619
Energy	1.2000e-004	9.9000e-004	4.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	4.4422	4.4422	2.2000e-004	5.0000e-005	4.4613
Mobile	0.1108	0.1907	1.4344	3.4200e-003	0.3480	2.9000e-003	0.3509	0.0929	2.7200e-003	0.0956	0.0000	315.6541	315.6541	0.0175	0.0123	319.7657
Waste						0.0000	0.0000		0.0000	0.0000	0.5988	0.0000	0.5988	0.0354	0.0000	1.4836
Water						0.0000	0.0000		0.0000	0.0000	0.0207	65.1643	65.1850	6.1100e-003	5.3000e-004	65.4964
Total	**0.5780**	**0.1956**	**1.8217**	**4.0300e-003**	**0.3480**	**0.0549**	**0.4029**	**0.0929**	**0.0547**	**0.1476**	**5.2461**	**385.2738**	**390.5199**	**0.0592**	**0.0133**	**395.9688**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/3/2022	1/28/2022	5	20	
2	Site Preparation	Site Preparation	1/29/2022	2/11/2022	5	10	
3	Grading	Grading	2/12/2022	4/1/2022	5	35	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Building Construction	Building Construction	4/2/2022	9/1/2023	5	370	
5	Paving	Paving	9/2/2023	9/29/2023	5	20	
6	Architectural Coating	Architectural Coating	9/30/2023	10/27/2023	5	20	

Acres of Grading (Site Preparation Phase): 5

Acres of Grading (Grading Phase): 5

Acres of Paving: 0.36

Residential Indoor: 11,948; Residential Outdoor: 3,983; Non-Residential Indoor: 29,445; Non-Residential Outdoor: 9,815; Striped Parking Area: 960 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	45.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	373.00	146.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	75.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.9800e-003	0.0000	4.9800e-003	7.5000e-004	0.0000	7.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0264	0.2572	0.2059	3.9000e-004		0.0124	0.0124		0.0116	0.0116	0.0000	33.9902	33.9902	9.5500e-003	0.0000	34.2289
Total	**0.0264**	**0.2572**	**0.2059**	**3.9000e-004**	**4.9800e-003**	**0.0124**	**0.0174**	**7.5000e-004**	**0.0116**	**0.0123**	**0.0000**	**33.9902**	**33.9902**	**9.5500e-003**	**0.0000**	**34.2289**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-004	3.7900e-003	8.9000e-004	1.0000e-005	3.9000e-004	4.0000e-005	4.2000e-004	1.1000e-004	3.0000e-005	1.4000e-004	0.0000	1.4103	1.4103	7.0000e-005	2.2000e-004	1.4788
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	3.1000e-004	3.6800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9829	0.9829	3.0000e-005	3.0000e-005	0.9922
Total	**5.3000e-004**	**4.1000e-003**	**4.5700e-003**	**2.0000e-005**	**1.5900e-003**	**5.0000e-005**	**1.6300e-003**	**4.3000e-004**	**4.0000e-005**	**4.7000e-004**	**0.0000**	**2.3932**	**2.3932**	**1.0000e-004**	**2.5000e-004**	**2.4710**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.9800e-003	0.0000	4.9800e-003	7.5000e-004	0.0000	7.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0264	0.2572	0.2059	3.9000e-004		0.0124	0.0124		0.0116	0.0116	0.0000	33.9902	33.9902	9.5500e-003	0.0000	34.2289
Total	**0.0264**	**0.2572**	**0.2059**	**3.9000e-004**	**4.9800e-003**	**0.0124**	**0.0174**	**7.5000e-004**	**0.0116**	**0.0123**	**0.0000**	**33.9902**	**33.9902**	**9.5500e-003**	**0.0000**	**34.2289**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-004	3.7900e-003	8.9000e-004	1.0000e-005	3.9000e-004	4.0000e-005	4.2000e-004	1.1000e-004	3.0000e-005	1.4000e-004	0.0000	1.4103	1.4103	7.0000e-005	2.2000e-004	1.4788
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	3.1000e-004	3.6800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9829	0.9829	3.0000e-005	3.0000e-005	0.9922
Total	**5.3000e-004**	**4.1000e-003**	**4.5700e-003**	**2.0000e-005**	**1.5900e-003**	**5.0000e-005**	**1.6300e-003**	**4.3000e-004**	**4.0000e-005**	**4.7000e-004**	**0.0000**	**2.3932**	**2.3932**	**1.0000e-004**	**2.5000e-004**	**2.4710**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0930	0.0000	0.0930	0.0499	0.0000	0.0499	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	**0.0159**	**0.1654**	**0.0985**	**1.9000e-004**	**0.0930**	**8.0600e-003**	**0.1010**	**0.0499**	**7.4200e-003**	**0.0574**	**0.0000**	**16.7197**	**16.7197**	**5.4100e-003**	**0.0000**	**16.8549**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.9000e-004	2.2100e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5897	0.5897	2.0000e-005	2.0000e-005	0.5953
Total	**2.6000e-004**	**1.9000e-004**	**2.2100e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.3000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.5897**	**0.5897**	**2.0000e-005**	**2.0000e-005**	**0.5953**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0930	0.0000	0.0930	0.0499	0.0000	0.0499	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	**0.0159**	**0.1654**	**0.0985**	**1.9000e-004**	**0.0930**	**8.0600e-003**	**0.1010**	**0.0499**	**7.4200e-003**	**0.0574**	**0.0000**	**16.7197**	**16.7197**	**5.4100e-003**	**0.0000**	**16.8549**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.9000e-004	2.2100e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5897	0.5897	2.0000e-005	2.0000e-005	0.5953
Total	**2.6000e-004**	**1.9000e-004**	**2.2100e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.3000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.5897**	**0.5897**	**2.0000e-005**	**2.0000e-005**	**0.5953**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1080	0.0000	0.1080	0.0582	0.0000	0.0582	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0634	0.6798	0.5082	1.0900e-003		0.0286	0.0286		0.0263	0.0263	0.0000	95.4356	95.4356	0.0309	0.0000	96.2072
Total	**0.0634**	**0.6798**	**0.5082**	**1.0900e-003**	**0.1080**	**0.0286**	**0.1367**	**0.0582**	**0.0263**	**0.0845**	**0.0000**	**95.4356**	**95.4356**	**0.0309**	**0.0000**	**96.2072**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0100e-003	7.3000e-004	8.5900e-003	3.0000e-005	2.8100e-003	2.0000e-005	2.8200e-003	7.5000e-004	1.0000e-005	7.6000e-004	0.0000	2.2934	2.2934	7.0000e-005	7.0000e-005	2.3151
Total	**1.0100e-003**	**7.3000e-004**	**8.5900e-003**	**3.0000e-005**	**2.8100e-003**	**2.0000e-005**	**2.8200e-003**	**7.5000e-004**	**1.0000e-005**	**7.6000e-004**	**0.0000**	**2.2934**	**2.2934**	**7.0000e-005**	**7.0000e-005**	**2.3151**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1080	0.0000	0.1080	0.0582	0.0000	0.0582	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0634	0.6798	0.5082	1.0900e-003		0.0286	0.0286		0.0263	0.0263	0.0000	95.4354	95.4354	0.0309	0.0000	96.2071
Total	**0.0634**	**0.6798**	**0.5082**	**1.0900e-003**	**0.1080**	**0.0286**	**0.1367**	**0.0582**	**0.0263**	**0.0845**	**0.0000**	**95.4354**	**95.4354**	**0.0309**	**0.0000**	**96.2071**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0100e-003	7.3000e-004	8.5900e-003	3.0000e-005	2.8100e-003	2.0000e-005	2.8200e-003	7.5000e-004	1.0000e-005	7.6000e-004	0.0000	2.2934	2.2934	7.0000e-005	7.0000e-005	2.3151
Total	**1.0100e-003**	**7.3000e-004**	**8.5900e-003**	**3.0000e-005**	**2.8100e-003**	**2.0000e-005**	**2.8200e-003**	**7.5000e-004**	**1.0000e-005**	**7.6000e-004**	**0.0000**	**2.2934**	**2.2934**	**7.0000e-005**	**7.0000e-005**	**2.3151**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1664	1.5225	1.5954	2.6300e-003		0.0789	0.0789		0.0742	0.0742	0.0000	225.9321	225.9321	0.0541	0.0000	227.2853
Total	**0.1664**	**1.5225**	**1.5954**	**2.6300e-003**		**0.0789**	**0.0789**		**0.0742**	**0.0742**	**0.0000**	**225.9321**	**225.9321**	**0.0541**	**0.0000**	**227.2853**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0315	0.7835	0.2566	3.0400e-003	0.0945	8.2400e-003	0.1028	0.0273	7.8800e-003	0.0352	0.0000	296.8558	296.8558	9.0100e-003	0.0431	309.9312
Worker	0.1049	0.0762	0.8927	2.6000e-003	0.2916	1.6900e-003	0.2933	0.0775	1.5600e-003	0.0791	0.0000	238.3038	238.3038	7.5200e-003	6.9200e-003	240.5550
Total	**0.1364**	**0.8597**	**1.1493**	**5.6400e-003**	**0.3862**	**9.9300e-003**	**0.3961**	**0.1048**	**9.4400e-003**	**0.1142**	**0.0000**	**535.1596**	**535.1596**	**0.0165**	**0.0500**	**550.4862**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1664	1.5225	1.5954	2.6300e-003		0.0789	0.0789		0.0742	0.0742	0.0000	225.9318	225.9318	0.0541	0.0000	227.2850
Total	**0.1664**	**1.5225**	**1.5954**	**2.6300e-003**		**0.0789**	**0.0789**		**0.0742**	**0.0742**	**0.0000**	**225.9318**	**225.9318**	**0.0541**	**0.0000**	**227.2850**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0315	0.7835	0.2566	3.0400e-003	0.0945	8.2400e-003	0.1028	0.0273	7.8800e-003	0.0352	0.0000	296.8558	296.8558	9.0100e-003	0.0431	309.9312
Worker	0.1049	0.0762	0.8927	2.6000e-003	0.2916	1.6900e-003	0.2933	0.0775	1.5600e-003	0.0791	0.0000	238.3038	238.3038	7.5200e-003	6.9200e-003	240.5550
Total	**0.1364**	**0.8597**	**1.1493**	**5.6400e-003**	**0.3862**	**9.9300e-003**	**0.3961**	**0.1048**	**9.4400e-003**	**0.1142**	**0.0000**	**535.1596**	**535.1596**	**0.0165**	**0.0500**	**550.4862**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1376	1.2587	1.4214	2.3600e-003		0.0612	0.0612		0.0576	0.0576	0.0000	202.8292	202.8292	0.0483	0.0000	204.0354
Total	**0.1376**	**1.2587**	**1.4214**	**2.3600e-003**		**0.0612**	**0.0612**		**0.0576**	**0.0576**	**0.0000**	**202.8292**	**202.8292**	**0.0483**	**0.0000**	**204.0354**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0150	0.5672	0.2000	2.6200e-003	0.0848	3.3400e-003	0.0882	0.0245	3.2000e-003	0.0277	0.0000	256.3309	256.3309	7.7500e-003	0.0371	267.5929
Worker	0.0883	0.0611	0.7438	2.2600e-003	0.2617	1.4400e-003	0.2632	0.0696	1.3200e-003	0.0709	0.0000	207.1042	207.1042	6.1400e-003	5.7800e-003	208.9796
Total	**0.1032**	**0.6283**	**0.9438**	**4.8800e-003**	**0.3466**	**4.7800e-003**	**0.3513**	**0.0940**	**4.5200e-003**	**0.0986**	**0.0000**	**463.4350**	**463.4350**	**0.0139**	**0.0429**	**476.5725**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1376	1.2587	1.4214	2.3600e-003		0.0612	0.0612		0.0576	0.0576	0.0000	202.8289	202.8289	0.0483	0.0000	204.0352
Total	**0.1376**	**1.2587**	**1.4214**	**2.3600e-003**		**0.0612**	**0.0612**		**0.0576**	**0.0576**	**0.0000**	**202.8289**	**202.8289**	**0.0483**	**0.0000**	**204.0352**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0150	0.5672	0.2000	2.6200e-003	0.0848	3.3400e-003	0.0882	0.0245	3.2000e-003	0.0277	0.0000	256.3309	256.3309	7.7500e-003	0.0371	267.5929
Worker	0.0883	0.0611	0.7438	2.2600e-003	0.2617	1.4400e-003	0.2632	0.0696	1.3200e-003	0.0709	0.0000	207.1042	207.1042	6.1400e-003	5.7800e-003	208.9796
Total	**0.1032**	**0.6283**	**0.9438**	**4.8800e-003**	**0.3466**	**4.7800e-003**	**0.3513**	**0.0940**	**4.5200e-003**	**0.0986**	**0.0000**	**463.4350**	**463.4350**	**0.0139**	**0.0429**	**476.5725**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0269	20.0269	6.4800e-003	0.0000	20.1888
Paving	4.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0108**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0269**	**20.0269**	**6.4800e-003**	**0.0000**	**20.1888**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	2.8000e-004	3.4200e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9518	0.9518	3.0000e-005	3.0000e-005	0.9605
Total	**4.1000e-004**	**2.8000e-004**	**3.4200e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9518**	**0.9518**	**3.0000e-005**	**3.0000e-005**	**0.9605**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0268	20.0268	6.4800e-003	0.0000	20.1888
Paving	4.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0108**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0268**	**20.0268**	**6.4800e-003**	**0.0000**	**20.1888**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	2.8000e-004	3.4200e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9518	0.9518	3.0000e-005	3.0000e-005	0.9605
Total	**4.1000e-004**	**2.8000e-004**	**3.4200e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9518**	**0.9518**	**3.0000e-005**	**3.0000e-005**	**0.9605**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1461					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**0.1480**	**0.0130**	**0.0181**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0300e-003	1.4000e-003	0.0171	5.0000e-005	6.0100e-003	3.0000e-005	6.0500e-003	1.6000e-003	3.0000e-005	1.6300e-003	0.0000	4.7592	4.7592	1.4000e-004	1.3000e-004	4.8023
Total	**2.0300e-003**	**1.4000e-003**	**0.0171**	**5.0000e-005**	**6.0100e-003**	**3.0000e-005**	**6.0500e-003**	**1.6000e-003**	**3.0000e-005**	**1.6300e-003**	**0.0000**	**4.7592**	**4.7592**	**1.4000e-004**	**1.3000e-004**	**4.8023**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1461					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**0.1480**	**0.0130**	**0.0181**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0300e-003	1.4000e-003	0.0171	5.0000e-005	6.0100e-003	3.0000e-005	6.0500e-003	1.6000e-003	3.0000e-005	1.6300e-003	0.0000	4.7592	4.7592	1.4000e-004	1.3000e-004	4.8023
Total	**2.0300e-003**	**1.4000e-003**	**0.0171**	**5.0000e-005**	**6.0100e-003**	**3.0000e-005**	**6.0500e-003**	**1.6000e-003**	**3.0000e-005**	**1.6300e-003**	**0.0000**	**4.7592**	**4.7592**	**1.4000e-004**	**1.3000e-004**	**4.8023**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1108	0.1907	1.4344	3.4200e-003	0.3480	2.9000e-003	0.3509	0.0929	2.7200e-003	0.0956	0.0000	315.6541	315.6541	0.0175	0.0123	319.7657
Unmitigated	0.1108	0.1907	1.4344	3.4200e-003	0.3480	2.9000e-003	0.3509	0.0929	2.7200e-003	0.0956	0.0000	315.6541	315.6541	0.0175	0.0123	319.7657

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	70.00	70.00	70.00	930,173	930,173
Parking Lot	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Total	70.00	70.00	70.00	930,173	930,173

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	50.00	50.00	50.00	33.00	48.00	19.00	66	28	6
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.548470	0.062992	0.183336	0.122442	0.024733	0.006148	0.008613	0.006191	0.000732	0.000545	0.029420	0.000989	0.005388
Parking Lot	0.548470	0.062992	0.183336	0.122442	0.024733	0.006148	0.008613	0.006191	0.000732	0.000545	0.029420	0.000989	0.005388

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Single Family Housing	0.548470	0.062992	0.183336	0.122442	0.024733	0.006148	0.008613	0.006191	0.000732	0.000545	0.029420	0.000989	0.005388

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3.2905	3.2905	2.0000e-004	2.0000e-005	3.3028
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3.2905	3.2905	2.0000e-004	2.0000e-005	3.3028
NaturalGas Mitigated	1.2000e-004	9.9000e-004	4.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1517	1.1517	2.0000e-005	2.0000e-005	1.1585
NaturalGas Unmitigated	1.2000e-004	9.9000e-004	4.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1517	1.1517	2.0000e-005	2.0000e-005	1.1585

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	21581.5	1.2000e-004	9.9000e-004	4.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1517	1.1517	2.0000e-005	2.0000e-005	1.1585
Total		**1.2000e-004**	**9.9000e-004**	**4.2000e-004**	**1.0000e-005**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**1.1517**	**1.1517**	**2.0000e-005**	**2.0000e-005**	**1.1585**

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	21581.5	1.2000e-004	9.9000e-004	4.2000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1517	1.1517	2.0000e-005	2.0000e-005	1.1585
Total		**1.2000e-004**	**9.9000e-004**	**4.2000e-004**	**1.0000e-005**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**1.1517**	**1.1517**	**2.0000e-005**	**2.0000e-005**	**1.1585**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	5600	1.3716	8.0000e-005	1.0000e-005	1.3767
Single Family Housing	7834.33	1.9189	1.2000e-004	1.0000e-005	1.9260
Total		**3.2905**	**2.0000e-004**	**2.0000e-005**	**3.3028**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	5600	1.3716	8.0000e-005	1.0000e-005	1.3767
Single Family Housing	7834.33	1.9189	1.2000e-004	1.0000e-005	1.9260
Total		**3.2905**	**2.0000e-004**	**2.0000e-005**	**3.3028**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4671	3.9900e-003	0.3869	6.0000e-004		0.0519	0.0519		0.0519	0.0519	4.6266	0.0132	4.6398	1.0000e-005	4.1000e-004	4.7619
Unmitigated	0.4671	3.9900e-003	0.3869	6.0000e-004		0.0519	0.0519		0.0519	0.0519	4.6266	0.0132	4.6398	1.0000e-005	4.1000e-004	4.7619

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0146					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1088					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.3435	3.9000e-003	0.3789	6.0000e-004		0.0519	0.0519		0.0519	0.0519	4.6266	0.0000	4.6266	0.0000	4.1000e-004	4.7483
Landscaping	2.8000e-004	9.0000e-005	7.9900e-003	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0132	0.0132	1.0000e-005	0.0000	0.0136
Total	**0.4671**	**3.9900e-003**	**0.3869**	**6.0000e-004**		**0.0519**	**0.0519**		**0.0519**	**0.0519**	**4.6266**	**0.0132**	**4.6398**	**1.0000e-005**	**4.1000e-004**	**4.7619**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0146					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1088					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.3435	3.9000e-003	0.3789	6.0000e-004		0.0519	0.0519		0.0519	0.0519	4.6266	0.0000	4.6266	0.0000	4.1000e-004	4.7483
Landscaping	2.8000e-004	9.0000e-005	7.9900e-003	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0132	0.0132	1.0000e-005	0.0000	0.0136
Total	**0.4671**	**3.9900e-003**	**0.3869**	**6.0000e-004**		**0.0519**	**0.0519**		**0.0519**	**0.0519**	**4.6266**	**0.0132**	**4.6398**	**1.0000e-005**	**4.1000e-004**	**4.7619**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	65.1850	6.1100e-003	5.3000e-004	65.4964
Unmitigated	65.1850	6.1100e-003	5.3000e-004	65.4964

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 23.8296	64.8447	3.9600e-003	4.8000e-004	65.0870
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.065154 / 0.0410754	0.3402	2.1400e-003	5.0000e-005	0.4094
Total		**65.1850**	**6.1000e-003**	**5.3000e-004**	**65.4964**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 23.8296	64.8447	3.9600e-003	4.8000e-004	65.0870
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.065154 / 0.0410754	0.3402	2.1400e-003	5.0000e-005	0.4094
Total		**65.1850**	**6.1000e-003**	**5.3000e-004**	**65.4964**

8.0 Waste Detail

8.1 Mitigation Measures Waste

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.5988	0.0354	0.0000	1.4836
Unmitigated	0.5988	0.0354	0.0000	1.4836

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	1.72	0.3491	0.0206	0.0000	0.8650
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.23	0.2497	0.0148	0.0000	0.6186
Total		**0.5988**	**0.0354**	**0.0000**	**1.4836**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	1.72	0.3491	0.0206	0.0000	0.8650
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.23	0.2497	0.0148	0.0000	0.6186
Total		**0.5988**	**0.0354**	**0.0000**	**1.4836**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

11.0 Vegetation

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	40.00	Space	0.36	16,000.00	0
City Park	20.00	Acre	20.00	871,200.00	0
Single Family Housing	1.00	Dwelling Unit	0.32	5,900.00	3

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2022
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 5,900 square feet common camp facilities (kitchen, multi purpose room, staff cabins, restrooms)

Construction Phase -

Demolition - ~5,000 sf amphitheater
~5,000 sf yerts and structures

Grading - 5 acres grading

Architectural Coating - SDAPCD Rule 67.0.1

Vehicle Trips - Groups of 30 students/ 3 chaperones/ 2 staff = 35 total x 2 = 70
50 miles to SD city center

Area Coating - SDAPCD Rule 67.0.1

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Woodstoves - 2 month season
~100 pounds/night

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	100.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	100
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	100
tblFireplaces	FireplaceDayYear	82.00	60.00
tblFireplaces	FireplaceWoodMass	3,078.40	6,000.00
tblFireplaces	NumberGas	0.55	0.00
tblFireplaces	NumberNoFireplace	0.10	0.00
tblFireplaces	NumberWood	0.35	1.00
tblGrading	AcresOfGrading	105.00	5.00
tblGrading	AcresOfGrading	15.00	5.00
tblLandUse	LandUseSquareFeet	1,800.00	5,900.00
tblVehicleTrips	CC_TL	7.30	50.00
tblVehicleTrips	CNW_TL	7.30	50.00
tblVehicleTrips	CW_TL	9.50	50.00
tblVehicleTrips	ST_TR	1.96	3.50
tblVehicleTrips	ST_TR	9.54	0.00
tblVehicleTrips	SU_TR	2.19	3.50
tblVehicleTrips	SU_TR	8.55	0.00
tblVehicleTrips	WD_TR	0.78	3.50

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tblVehicleTrips	WD_TR	9.44	0.00
tblWoodstoves	NumberCatalytic	0.05	0.00
tblWoodstoves	NumberNoncatalytic	0.05	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

9923 Camp Borrego - San Diego County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.6832	38.8815	29.5594	0.0860	18.7444	1.6358	20.3578	10.0272	1.5050	11.5115	0.0000	8,736.0380	8,736.0380	1.9486	0.5604	8,922.9221
2023	15.0085	21.2766	27.4511	0.0839	4.0529	0.7543	4.8072	1.0974	0.7100	1.8074	0.0000	8,519.0623	8,519.0623	0.7798	0.5355	8,698.1382
Maximum	**15.0085**	**38.8815**	**29.5594**	**0.0860**	**18.7444**	**1.6358**	**20.3578**	**10.0272**	**1.5050**	**11.5115**	**0.0000**	**8,736.0380**	**8,736.0380**	**1.9486**	**0.5604**	**8,922.9221**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.6832	38.8815	29.5594	0.0860	18.7444	1.6358	20.3578	10.0272	1.5050	11.5115	0.0000	8,736.0380	8,736.0380	1.9486	0.5604	8,922.9221
2023	15.0085	21.2766	27.4511	0.0839	4.0529	0.7543	4.8072	1.0974	0.7100	1.8074	0.0000	8,519.0623	8,519.0623	0.7798	0.5355	8,698.1382
Maximum	**15.0085**	**38.8815**	**29.5594**	**0.0860**	**18.7444**	**1.6358**	**20.3578**	**10.0272**	**1.5050**	**11.5115**	**0.0000**	**8,736.0380**	**8,736.0380**	**1.9486**	**0.5604**	**8,922.9221**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	12.1290	0.1310	12.7187	0.0200		1.7305	1.7305		1.7305	1.7305	170.0000	0.1617	170.1617	1.8000e-004	0.0150	174.6361
Energy	6.4000e-004	5.4500e-003	2.3200e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.9562	6.9562	1.3000e-004	1.3000e-004	6.9975
Mobile	0.6104	0.9786	8.1034	0.0195	1.9584	0.0160	1.9744	0.5217	0.0150	0.5367		1,989.7868	1,989.7868	0.1048	0.0718	2,013.7922
Total	**12.7400**	**1.1150**	**20.8245**	**0.0396**	**1.9584**	**1.7469**	**3.7053**	**0.5217**	**1.7459**	**2.2676**	**170.0000**	**1,996.9047**	**2,166.9047**	**0.1051**	**0.0869**	**2,195.4259**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	12.1290	0.1310	12.7187	0.0200		1.7305	1.7305		1.7305	1.7305	170.0000	0.1617	170.1617	1.8000e-004	0.0150	174.6361
Energy	6.4000e-004	5.4500e-003	2.3200e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.9562	6.9562	1.3000e-004	1.3000e-004	6.9975
Mobile	0.6104	0.9786	8.1034	0.0195	1.9584	0.0160	1.9744	0.5217	0.0150	0.5367		1,989.7868	1,989.7868	0.1048	0.0718	2,013.7922
Total	**12.7400**	**1.1150**	**20.8245**	**0.0396**	**1.9584**	**1.7469**	**3.7053**	**0.5217**	**1.7459**	**2.2676**	**170.0000**	**1,996.9047**	**2,166.9047**	**0.1051**	**0.0869**	**2,195.4259**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/3/2022	1/28/2022	5	20	
2	Site Preparation	Site Preparation	1/29/2022	2/11/2022	5	10	
3	Grading	Grading	2/12/2022	4/1/2022	5	35	
4	Building Construction	Building Construction	4/2/2022	9/1/2023	5	370	
5	Paving	Paving	9/2/2023	9/29/2023	5	20	
6	Architectural Coating	Architectural Coating	9/30/2023	10/27/2023	5	20	

Acres of Grading (Site Preparation Phase): 5

Acres of Grading (Grading Phase): 5

Acres of Paving: 0.36

Residential Indoor: 11,948; Residential Outdoor: 3,983; Non-Residential Indoor: 29,445; Non-Residential Outdoor: 9,815; Striped Parking Area: 960 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	45.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	373.00	146.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	75.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

9923 Camp Borrego - San Diego County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4983	0.0000	0.4983	0.0755	0.0000	0.0755			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**0.4983**	**1.2427**	**1.7410**	**0.0755**	**1.1553**	**1.2307**		**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0101	0.3654	0.0888	1.4100e-003	0.0394	3.5200e-003	0.0429	0.0108	3.3700e-003	0.0142		155.4344	155.4344	7.4800e-003	0.0247	162.9793
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0438	0.0285	0.3884	1.1200e-003	0.1232	7.0000e-004	0.1239	0.0327	6.4000e-004	0.0333		113.6562	113.6562	3.2800e-003	2.9500e-003	114.6171
Total	**0.0539**	**0.3939**	**0.4772**	**2.5300e-003**	**0.1626**	**4.2200e-003**	**0.1668**	**0.0435**	**4.0100e-003**	**0.0475**		**269.0906**	**269.0906**	**0.0108**	**0.0276**	**277.5964**

9923 Camp Borrego - San Diego County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4983	0.0000	0.4983	0.0755	0.0000	0.0755			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**0.4983**	**1.2427**	**1.7410**	**0.0755**	**1.1553**	**1.2307**	**0.0000**	**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0101	0.3654	0.0888	1.4100e-003	0.0394	3.5200e-003	0.0429	0.0108	3.3700e-003	0.0142		155.4344	155.4344	7.4800e-003	0.0247	162.9793
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0438	0.0285	0.3884	1.1200e-003	0.1232	7.0000e-004	0.1239	0.0327	6.4000e-004	0.0333		113.6562	113.6562	3.2800e-003	2.9500e-003	114.6171
Total	**0.0539**	**0.3939**	**0.4772**	**2.5300e-003**	**0.1626**	**4.2200e-003**	**0.1668**	**0.0435**	**4.0100e-003**	**0.0475**		**269.0906**	**269.0906**	**0.0108**	**0.0276**	**277.5964**

9923 Camp Borrego - San Diego County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.5965	0.0000	18.5965	9.9879	0.0000	9.9879			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**18.5965**	**1.6126**	**20.2091**	**9.9879**	**1.4836**	**11.4715**		**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0525	0.0342	0.4661	1.3500e-003	0.1479	8.4000e-004	0.1487	0.0392	7.7000e-004	0.0400		136.3874	136.3874	3.9400e-003	3.5400e-003	137.5405
Total	**0.0525**	**0.0342**	**0.4661**	**1.3500e-003**	**0.1479**	**8.4000e-004**	**0.1487**	**0.0392**	**7.7000e-004**	**0.0400**		**136.3874**	**136.3874**	**3.9400e-003**	**3.5400e-003**	**137.5405**

9923 Camp Borrego - San Diego County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.5965	0.0000	18.5965	9.9879	0.0000	9.9879			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**18.5965**	**1.6126**	**20.2091**	**9.9879**	**1.4836**	**11.4715**	**0.0000**	**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0525	0.0342	0.4661	1.3500e-003	0.1479	8.4000e-004	0.1487	0.0392	7.7000e-004	0.0400		136.3874	136.3874	3.9400e-003	3.5400e-003	137.5405
Total	**0.0525**	**0.0342**	**0.4661**	**1.3500e-003**	**0.1479**	**8.4000e-004**	**0.1487**	**0.0392**	**7.7000e-004**	**0.0400**		**136.3874**	**136.3874**	**3.9400e-003**	**3.5400e-003**	**137.5405**

9923 Camp Borrego - San Diego County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1736	0.0000	6.1736	3.3266	0.0000	3.3266			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**6.1736**	**1.6349**	**7.8085**	**3.3266**	**1.5041**	**4.8307**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0584	0.0380	0.5179	1.5000e-003	0.1643	9.3000e-004	0.1652	0.0436	8.6000e-004	0.0444		151.5416	151.5416	4.3800e-003	3.9300e-003	152.8228
Total	**0.0584**	**0.0380**	**0.5179**	**1.5000e-003**	**0.1643**	**9.3000e-004**	**0.1652**	**0.0436**	**8.6000e-004**	**0.0444**		**151.5416**	**151.5416**	**4.3800e-003**	**3.9300e-003**	**152.8228**

9923 Camp Borrego - San Diego County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1736	0.0000	6.1736	3.3266	0.0000	3.3266			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**6.1736**	**1.6349**	**7.8085**	**3.3266**	**1.5041**	**4.8307**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0584	0.0380	0.5179	1.5000e-003	0.1643	9.3000e-004	0.1652	0.0436	8.6000e-004	0.0444		151.5416	151.5416	4.3800e-003	3.9300e-003	152.8228
Total	**0.0584**	**0.0380**	**0.5179**	**1.5000e-003**	**0.1643**	**9.3000e-004**	**0.1652**	**0.0436**	**8.6000e-004**	**0.0444**		**151.5416**	**151.5416**	**4.3800e-003**	**3.9300e-003**	**152.8228**

9923 Camp Borrego - San Diego County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3253	7.7644	2.5974	0.0311	0.9888	0.0844	1.0732	0.2847	0.0808	0.3654		3,355.4541	3,355.4541	0.1020	0.4871	3,503.1447
Worker	1.0886	0.7086	9.6580	0.0280	3.0641	0.0173	3.0814	0.8127	0.0160	0.8287		2,826.2503	2,826.2503	0.0817	0.0733	2,850.1453
Total	**1.4139**	**8.4730**	**12.2555**	**0.0591**	**4.0529**	**0.1017**	**4.1546**	**1.0974**	**0.0967**	**1.1941**		**6,181.7044**	**6,181.7044**	**0.1837**	**0.5604**	**6,353.2899**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3253	7.7644	2.5974	0.0311	0.9888	0.0844	1.0732	0.2847	0.0808	0.3654		3,355.4541	3,355.4541	0.1020	0.4871	3,503.1447
Worker	1.0886	0.7086	9.6580	0.0280	3.0641	0.0173	3.0814	0.8127	0.0160	0.8287		2,826.2503	2,826.2503	0.0817	0.0733	2,850.1453
Total	**1.4139**	**8.4730**	**12.2555**	**0.0591**	**4.0529**	**0.1017**	**4.1546**	**1.0974**	**0.0967**	**1.1941**		**6,181.7044**	**6,181.7044**	**0.1837**	**0.5604**	**6,353.2899**

9923 Camp Borrego - San Diego County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1744	6.2587	2.2554	0.0299	0.9888	0.0381	1.0269	0.2847	0.0365	0.3211		3,227.2855	3,227.2855	0.0978	0.4673	3,368.9821
Worker	1.0193	0.6330	8.9516	0.0271	3.0641	0.0164	3.0805	0.8127	0.0151	0.8279		2,736.5669	2,736.5669	0.0742	0.0682	2,758.7500
Total	**1.1937**	**6.8917**	**11.2071**	**0.0570**	**4.0529**	**0.0546**	**4.1075**	**1.0974**	**0.0516**	**1.1490**		**5,963.8524**	**5,963.8524**	**0.1720**	**0.5355**	**6,127.7321**

9923 Camp Borrego - San Diego County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1744	6.2587	2.2554	0.0299	0.9888	0.0381	1.0269	0.2847	0.0365	0.3211		3,227.2855	3,227.2855	0.0978	0.4673	3,368.9821
Worker	1.0193	0.6330	8.9516	0.0271	3.0641	0.0164	3.0805	0.8127	0.0151	0.8279		2,736.5669	2,736.5669	0.0742	0.0682	2,758.7500
Total	**1.1937**	**6.8917**	**11.2071**	**0.0570**	**4.0529**	**0.0546**	**4.1075**	**1.0974**	**0.0516**	**1.1490**		**5,963.8524**	**5,963.8524**	**0.1720**	**0.5355**	**6,127.7321**

9923 Camp Borrego - San Diego County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0472					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0799**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0410	0.0255	0.3600	1.0900e-003	0.1232	6.6000e-004	0.1239	0.0327	6.1000e-004	0.0333		110.0496	110.0496	2.9800e-003	2.7400e-003	110.9417
Total	**0.0410**	**0.0255**	**0.3600**	**1.0900e-003**	**0.1232**	**6.6000e-004**	**0.1239**	**0.0327**	**6.1000e-004**	**0.0333**		**110.0496**	**110.0496**	**2.9800e-003**	**2.7400e-003**	**110.9417**

9923 Camp Borrego - San Diego County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0472					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0799**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0410	0.0255	0.3600	1.0900e-003	0.1232	6.6000e-004	0.1239	0.0327	6.1000e-004	0.0333		110.0496	110.0496	2.9800e-003	2.7400e-003	110.9417
Total	**0.0410**	**0.0255**	**0.3600**	**1.0900e-003**	**0.1232**	**6.6000e-004**	**0.1239**	**0.0327**	**6.1000e-004**	**0.0333**		**110.0496**	**110.0496**	**2.9800e-003**	**2.7400e-003**	**110.9417**

9923 Camp Borrego - San Diego County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	14.6118					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**14.8035**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2050	0.1273	1.7999	5.4400e-003	0.6161	3.3000e-003	0.6194	0.1634	3.0400e-003	0.1665		550.2480	550.2480	0.0149	0.0137	554.7084
Total	**0.2050**	**0.1273**	**1.7999**	**5.4400e-003**	**0.6161**	**3.3000e-003**	**0.6194**	**0.1634**	**3.0400e-003**	**0.1665**		**550.2480**	**550.2480**	**0.0149**	**0.0137**	**554.7084**

9923 Camp Borrego - San Diego County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	14.6118					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**14.8035**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2050	0.1273	1.7999	5.4400e-003	0.6161	3.3000e-003	0.6194	0.1634	3.0400e-003	0.1665		550.2480	550.2480	0.0149	0.0137	554.7084
Total	**0.2050**	**0.1273**	**1.7999**	**5.4400e-003**	**0.6161**	**3.3000e-003**	**0.6194**	**0.1634**	**3.0400e-003**	**0.1665**		**550.2480**	**550.2480**	**0.0149**	**0.0137**	**554.7084**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.6104	0.9786	8.1034	0.0195	1.9584	0.0160	1.9744	0.5217	0.0150	0.5367		1,989.7868	1,989.7868	0.1048	0.0718	2,013.7922
Unmitigated	0.6104	0.9786	8.1034	0.0195	1.9584	0.0160	1.9744	0.5217	0.0150	0.5367		1,989.7868	1,989.7868	0.1048	0.0718	2,013.7922

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	70.00	70.00	70.00	930,173	930,173
Parking Lot	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Total	70.00	70.00	70.00	930,173	930,173

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	50.00	50.00	50.00	33.00	48.00	19.00	66	28	6
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.548470	0.062992	0.183336	0.122442	0.024733	0.006148	0.008613	0.006191	0.000732	0.000545	0.029420	0.000989	0.005388
Parking Lot	0.548470	0.062992	0.183336	0.122442	0.024733	0.006148	0.008613	0.006191	0.000732	0.000545	0.029420	0.000989	0.005388
Single Family Housing	0.548470	0.062992	0.183336	0.122442	0.024733	0.006148	0.008613	0.006191	0.000732	0.000545	0.029420	0.000989	0.005388

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	6.4000e-004	5.4500e-003	2.3200e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.9562	6.9562	1.3000e-004	1.3000e-004	6.9975
NaturalGas Unmitigated	6.4000e-004	5.4500e-003	2.3200e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.9562	6.9562	1.3000e-004	1.3000e-004	6.9975

9923 Camp Borrego - San Diego County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	59.1273	6.4000e-004	5.4500e-003	2.3200e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.9562	6.9562	1.3000e-004	1.3000e-004	6.9975
Total		**6.4000e-004**	**5.4500e-003**	**2.3200e-003**	**3.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**		**6.9562**	**6.9562**	**1.3000e-004**	**1.3000e-004**	**6.9975**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.0591273	6.4000e-004	5.4500e-003	2.3200e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.9562	6.9562	1.3000e-004	1.3000e-004	6.9975
Total		**6.4000e-004**	**5.4500e-003**	**2.3200e-003**	**3.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**		**6.9562**	**6.9562**	**1.3000e-004**	**1.3000e-004**	**6.9975**

6.0 Area Detail

6.1 Mitigation Measures Area

9923 Camp Borrego - San Diego County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	12.1290	0.1310	12.7187	0.0200		1.7305	1.7305		1.7305	1.7305	170.0000	0.1617	170.1617	1.8000e-004	0.0150	174.6361
Unmitigated	12.1290	0.1310	12.7187	0.0200		1.7305	1.7305		1.7305	1.7305	170.0000	0.1617	170.1617	1.8000e-004	0.0150	174.6361

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0801					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5959					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	11.4500	0.1300	12.6300	0.0200		1.7300	1.7300		1.7300	1.7300	170.0000	0.0000	170.0000	0.0000	0.0150	174.4700
Landscaping	3.0700e-003	1.0100e-003	0.0887	0.0000		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004		0.1617	0.1617	1.8000e-004		0.1661
Total	**12.1290**	**0.1310**	**12.7187**	**0.0200**		**1.7305**	**1.7305**		**1.7305**	**1.7305**	**170.0000**	**0.1617**	**170.1617**	**1.8000e-004**	**0.0150**	**174.6361**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0801					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5959					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	11.4500	0.1300	12.6300	0.0200		1.7300	1.7300		1.7300	1.7300	170.0000	0.0000	170.0000	0.0000	0.0150	174.4700
Landscaping	3.0700e-003	1.0100e-003	0.0887	0.0000		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004		0.1617	0.1617	1.8000e-004		0.1661
Total	**12.1290**	**0.1310**	**12.7187**	**0.0200**		**1.7305**	**1.7305**		**1.7305**	**1.7305**	**170.0000**	**0.1617**	**170.1617**	**1.8000e-004**	**0.0150**	**174.6361**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

9923 Camp Borrego

San Diego County APCD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	40.00	Space	0.36	16,000.00	0
City Park	20.00	Acre	20.00	871,200.00	0
Single Family Housing	1.00	Dwelling Unit	0.32	5,900.00	3

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2022
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 5,900 square feet common camp facilities (kitchen, multi purpose room, staff cabins, restrooms)

Construction Phase -

Demolition - ~5,000 sf amphitheater
~5,000 sf yerts and structures

Grading - 5 acres grading

Architectural Coating - SDAPCD Rule 67.0.1

Vehicle Trips - Groups of 30 students/ 3 chaperones/ 2 staff = 35 total x 2 = 70
50 miles to SD city center

Area Coating - SDAPCD Rule 67.0.1

9923 Camp Borrego - San Diego County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Woodstoves - 2 month season
~100 pounds/night

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	100.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	100
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	100
tblFireplaces	FireplaceDayYear	82.00	60.00
tblFireplaces	FireplaceWoodMass	3,078.40	6,000.00
tblFireplaces	NumberGas	0.55	0.00
tblFireplaces	NumberNoFireplace	0.10	0.00
tblFireplaces	NumberWood	0.35	1.00
tblGrading	AcresOfGrading	105.00	5.00
tblGrading	AcresOfGrading	15.00	5.00
tblLandUse	LandUseSquareFeet	1,800.00	5,900.00
tblVehicleTrips	CC_TL	7.30	50.00
tblVehicleTrips	CNW_TL	7.30	50.00
tblVehicleTrips	CW_TL	9.50	50.00
tblVehicleTrips	ST_TR	1.96	3.50
tblVehicleTrips	ST_TR	9.54	0.00
tblVehicleTrips	SU_TR	2.19	3.50
tblVehicleTrips	SU_TR	8.55	0.00
tblVehicleTrips	WD_TR	0.78	3.50

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	WD_TR	9.44	0.00
tblWoodstoves	NumberCatalytic	0.05	0.00
tblWoodstoves	NumberNoncatalytic	0.05	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

9923 Camp Borrego - San Diego County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.6880	38.8862	29.5325	0.0845	18.7444	1.6358	20.3578	10.0272	1.5050	11.5115	0.0000	8,581.9901	8,581.9901	1.9489	0.5671	8,770.9838
2023	15.0258	21.6188	27.0737	0.0825	4.0529	0.7545	4.8074	1.0974	0.7102	1.8076	0.0000	8,373.2378	8,373.2378	0.7842	0.5422	8,554.4057
Maximum	**15.0258**	**38.8862**	**29.5325**	**0.0845**	**18.7444**	**1.6358**	**20.3578**	**10.0272**	**1.5050**	**11.5115**	**0.0000**	**8,581.9901**	**8,581.9901**	**1.9489**	**0.5671**	**8,770.9838**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.6880	38.8862	29.5325	0.0845	18.7444	1.6358	20.3578	10.0272	1.5050	11.5115	0.0000	8,581.9901	8,581.9901	1.9489	0.5671	8,770.9838
2023	15.0258	21.6188	27.0737	0.0825	4.0529	0.7545	4.8074	1.0974	0.7102	1.8076	0.0000	8,373.2378	8,373.2378	0.7842	0.5422	8,554.4057
Maximum	**15.0258**	**38.8862**	**29.5325**	**0.0845**	**18.7444**	**1.6358**	**20.3578**	**10.0272**	**1.5050**	**11.5115**	**0.0000**	**8,581.9901**	**8,581.9901**	**1.9489**	**0.5671**	**8,770.9838**

9923 Camp Borrego - San Diego County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

9923 Camp Borrego - San Diego County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	12.1290	0.1310	12.7187	0.0200		1.7305	1.7305		1.7305	1.7305	170.0000	0.1617	170.1617	1.8000e-004	0.0150	174.6361
Energy	6.4000e-004	5.4500e-003	2.3200e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.9562	6.9562	1.3000e-004	1.3000e-004	6.9975
Mobile	0.6170	1.0550	7.9572	0.0187	1.9584	0.0160	1.9744	0.5217	0.0150	0.5367		1,900.5769	1,900.5769	0.1069	0.0752	1,925.6570
Total	**12.7467**	**1.1914**	**20.6783**	**0.0387**	**1.9584**	**1.7469**	**3.7053**	**0.5217**	**1.7459**	**2.2676**	**170.0000**	**1,907.6948**	**2,077.6948**	**0.1072**	**0.0903**	**2,107.2907**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	12.1290	0.1310	12.7187	0.0200		1.7305	1.7305		1.7305	1.7305	170.0000	0.1617	170.1617	1.8000e-004	0.0150	174.6361
Energy	6.4000e-004	5.4500e-003	2.3200e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.9562	6.9562	1.3000e-004	1.3000e-004	6.9975
Mobile	0.6170	1.0550	7.9572	0.0187	1.9584	0.0160	1.9744	0.5217	0.0150	0.5367		1,900.5769	1,900.5769	0.1069	0.0752	1,925.6570
Total	**12.7467**	**1.1914**	**20.6783**	**0.0387**	**1.9584**	**1.7469**	**3.7053**	**0.5217**	**1.7459**	**2.2676**	**170.0000**	**1,907.6948**	**2,077.6948**	**0.1072**	**0.0903**	**2,107.2907**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/3/2022	1/28/2022	5	20	
2	Site Preparation	Site Preparation	1/29/2022	2/11/2022	5	10	
3	Grading	Grading	2/12/2022	4/1/2022	5	35	
4	Building Construction	Building Construction	4/2/2022	9/1/2023	5	370	
5	Paving	Paving	9/2/2023	9/29/2023	5	20	
6	Architectural Coating	Architectural Coating	9/30/2023	10/27/2023	5	20	

Acres of Grading (Site Preparation Phase): 5

Acres of Grading (Grading Phase): 5

Acres of Paving: 0.36

Residential Indoor: 11,948; Residential Outdoor: 3,983; Non-Residential Indoor: 29,445; Non-Residential Outdoor: 9,815; Striped Parking Area: 960 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	45.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	373.00	146.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	75.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4983	0.0000	0.4983	0.0755	0.0000	0.0755			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**0.4983**	**1.2427**	**1.7410**	**0.0755**	**1.1553**	**1.2307**		**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.8200e-003	0.3791	0.0902	1.4100e-003	0.0394	3.5300e-003	0.0429	0.0108	3.3700e-003	0.0142		155.5002	155.5002	7.4600e-003	0.0247	163.0482
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0474	0.0321	0.3682	1.0600e-003	0.1232	7.0000e-004	0.1239	0.0327	6.4000e-004	0.0333		107.3920	107.3920	3.4900e-003	3.1900e-003	108.4299
Total	**0.0572**	**0.4112**	**0.4584**	**2.4700e-003**	**0.1626**	**4.2300e-003**	**0.1668**	**0.0435**	**4.0100e-003**	**0.0475**		**262.8922**	**262.8922**	**0.0110**	**0.0279**	**271.4781**

9923 Camp Borrego - San Diego County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4983	0.0000	0.4983	0.0755	0.0000	0.0755			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**0.4983**	**1.2427**	**1.7410**	**0.0755**	**1.1553**	**1.2307**	**0.0000**	**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.8200e-003	0.3791	0.0902	1.4100e-003	0.0394	3.5300e-003	0.0429	0.0108	3.3700e-003	0.0142		155.5002	155.5002	7.4600e-003	0.0247	163.0482
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0474	0.0321	0.3682	1.0600e-003	0.1232	7.0000e-004	0.1239	0.0327	6.4000e-004	0.0333		107.3920	107.3920	3.4900e-003	3.1900e-003	108.4299
Total	**0.0572**	**0.4112**	**0.4584**	**2.4700e-003**	**0.1626**	**4.2300e-003**	**0.1668**	**0.0435**	**4.0100e-003**	**0.0475**		**262.8922**	**262.8922**	**0.0110**	**0.0279**	**271.4781**

9923 Camp Borrego - San Diego County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.5965	0.0000	18.5965	9.9879	0.0000	9.9879			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**18.5965**	**1.6126**	**20.2091**	**9.9879**	**1.4836**	**11.4715**		**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0568	0.0385	0.4419	1.2700e-003	0.1479	8.4000e-004	0.1487	0.0392	7.7000e-004	0.0400		128.8704	128.8704	4.1900e-003	3.8300e-003	130.1159
Total	**0.0568**	**0.0385**	**0.4419**	**1.2700e-003**	**0.1479**	**8.4000e-004**	**0.1487**	**0.0392**	**7.7000e-004**	**0.0400**		**128.8704**	**128.8704**	**4.1900e-003**	**3.8300e-003**	**130.1159**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.5965	0.0000	18.5965	9.9879	0.0000	9.9879			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**18.5965**	**1.6126**	**20.2091**	**9.9879**	**1.4836**	**11.4715**	**0.0000**	**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0568	0.0385	0.4419	1.2700e-003	0.1479	8.4000e-004	0.1487	0.0392	7.7000e-004	0.0400		128.8704	128.8704	4.1900e-003	3.8300e-003	130.1159
Total	**0.0568**	**0.0385**	**0.4419**	**1.2700e-003**	**0.1479**	**8.4000e-004**	**0.1487**	**0.0392**	**7.7000e-004**	**0.0400**		**128.8704**	**128.8704**	**4.1900e-003**	**3.8300e-003**	**130.1159**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1736	0.0000	6.1736	3.3266	0.0000	3.3266			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**6.1736**	**1.6349**	**7.8085**	**3.3266**	**1.5041**	**4.8307**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0631	0.0427	0.4910	1.4200e-003	0.1643	9.3000e-004	0.1652	0.0436	8.6000e-004	0.0444		143.1893	143.1893	4.6500e-003	4.2500e-003	144.5732
Total	**0.0631**	**0.0427**	**0.4910**	**1.4200e-003**	**0.1643**	**9.3000e-004**	**0.1652**	**0.0436**	**8.6000e-004**	**0.0444**		**143.1893**	**143.1893**	**4.6500e-003**	**4.2500e-003**	**144.5732**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1736	0.0000	6.1736	3.3266	0.0000	3.3266			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**6.1736**	**1.6349**	**7.8085**	**3.3266**	**1.5041**	**4.8307**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0631	0.0427	0.4910	1.4200e-003	0.1643	9.3000e-004	0.1652	0.0436	8.6000e-004	0.0444		143.1893	143.1893	4.6500e-003	4.2500e-003	144.5732
Total	**0.0631**	**0.0427**	**0.4910**	**1.4200e-003**	**0.1643**	**9.3000e-004**	**0.1652**	**0.0436**	**8.6000e-004**	**0.0444**		**143.1893**	**143.1893**	**4.6500e-003**	**4.2500e-003**	**144.5732**

9923 Camp Borrego - San Diego County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3224	8.0574	2.6775	0.0312	0.9888	0.0847	1.0735	0.2847	0.0810	0.3657		3,357.1766	3,357.1766	0.1016	0.4877	3,505.0617
Worker	1.1774	0.7969	9.1569	0.0264	3.0641	0.0173	3.0814	0.8127	0.0160	0.8287		2,670.4799	2,670.4799	0.0868	0.0793	2,696.2899
Total	**1.4998**	**8.8543**	**11.8345**	**0.0576**	**4.0529**	**0.1020**	**4.1549**	**1.0974**	**0.0970**	**1.1944**		**6,027.6565**	**6,027.6565**	**0.1884**	**0.5671**	**6,201.3516**

9923 Camp Borrego - San Diego County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3224	8.0574	2.6775	0.0312	0.9888	0.0847	1.0735	0.2847	0.0810	0.3657		3,357.1766	3,357.1766	0.1016	0.4877	3,505.0617
Worker	1.1774	0.7969	9.1569	0.0264	3.0641	0.0173	3.0814	0.8127	0.0160	0.8287		2,670.4799	2,670.4799	0.0868	0.0793	2,696.2899
Total	**1.4998**	**8.8543**	**11.8345**	**0.0576**	**4.0529**	**0.1020**	**4.1549**	**1.0974**	**0.0970**	**1.1944**		**6,027.6565**	**6,027.6565**	**0.1884**	**0.5671**	**6,201.3516**

9923 Camp Borrego - San Diego County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1695	6.5221	2.3236	0.0299	0.9888	0.0383	1.0271	0.2847	0.0367	0.3213		3,231.8737	3,231.8737	0.0973	0.4684	3,373.8843
Worker	1.1053	0.7119	8.5062	0.0256	3.0641	0.0164	3.0805	0.8127	0.0151	0.8279		2,586.1542	2,586.1542	0.0790	0.0738	2,610.1154
Total	**1.2749**	**7.2339**	**10.8297**	**0.0555**	**4.0529**	**0.0548**	**4.1077**	**1.0974**	**0.0518**	**1.1492**		**5,818.0279**	**5,818.0279**	**0.1763**	**0.5422**	**5,983.9996**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1695	6.5221	2.3236	0.0299	0.9888	0.0383	1.0271	0.2847	0.0367	0.3213		3,231.8737	3,231.8737	0.0973	0.4684	3,373.8843
Worker	1.1053	0.7119	8.5062	0.0256	3.0641	0.0164	3.0805	0.8127	0.0151	0.8279		2,586.1542	2,586.1542	0.0790	0.0738	2,610.1154
Total	**1.2749**	**7.2339**	**10.8297**	**0.0555**	**4.0529**	**0.0548**	**4.1077**	**1.0974**	**0.0518**	**1.1492**		**5,818.0279**	**5,818.0279**	**0.1763**	**0.5422**	**5,983.9996**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0472					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0799**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0445	0.0286	0.3421	1.0300e-003	0.1232	6.6000e-004	0.1239	0.0327	6.1000e-004	0.0333		104.0008	104.0008	3.1800e-003	2.9700e-003	104.9644
Total	**0.0445**	**0.0286**	**0.3421**	**1.0300e-003**	**0.1232**	**6.6000e-004**	**0.1239**	**0.0327**	**6.1000e-004**	**0.0333**		**104.0008**	**104.0008**	**3.1800e-003**	**2.9700e-003**	**104.9644**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0472					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0799**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0445	0.0286	0.3421	1.0300e-003	0.1232	6.6000e-004	0.1239	0.0327	6.1000e-004	0.0333		104.0008	104.0008	3.1800e-003	2.9700e-003	104.9644
Total	**0.0445**	**0.0286**	**0.3421**	**1.0300e-003**	**0.1232**	**6.6000e-004**	**0.1239**	**0.0327**	**6.1000e-004**	**0.0333**		**104.0008**	**104.0008**	**3.1800e-003**	**2.9700e-003**	**104.9644**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	14.6118					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**14.8035**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2223	0.1431	1.7104	5.1400e-003	0.6161	3.3000e-003	0.6194	0.1634	3.0400e-003	0.1665		520.0042	520.0042	0.0159	0.0148	524.8221
Total	**0.2223**	**0.1431**	**1.7104**	**5.1400e-003**	**0.6161**	**3.3000e-003**	**0.6194**	**0.1634**	**3.0400e-003**	**0.1665**		**520.0042**	**520.0042**	**0.0159**	**0.0148**	**524.8221**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	14.6118					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**14.8035**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2223	0.1431	1.7104	5.1400e-003	0.6161	3.3000e-003	0.6194	0.1634	3.0400e-003	0.1665		520.0042	520.0042	0.0159	0.0148	524.8221
Total	**0.2223**	**0.1431**	**1.7104**	**5.1400e-003**	**0.6161**	**3.3000e-003**	**0.6194**	**0.1634**	**3.0400e-003**	**0.1665**		**520.0042**	**520.0042**	**0.0159**	**0.0148**	**524.8221**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.6170	1.0550	7.9572	0.0187	1.9584	0.0160	1.9744	0.5217	0.0150	0.5367		1,900.5769	1,900.5769	0.1069	0.0752	1,925.6570
Unmitigated	0.6170	1.0550	7.9572	0.0187	1.9584	0.0160	1.9744	0.5217	0.0150	0.5367		1,900.5769	1,900.5769	0.1069	0.0752	1,925.6570

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	70.00	70.00	70.00	930,173	930,173
Parking Lot	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Total	70.00	70.00	70.00	930,173	930,173

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	50.00	50.00	50.00	33.00	48.00	19.00	66	28	6
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.548470	0.062992	0.183336	0.122442	0.024733	0.006148	0.008613	0.006191	0.000732	0.000545	0.029420	0.000989	0.005388
Parking Lot	0.548470	0.062992	0.183336	0.122442	0.024733	0.006148	0.008613	0.006191	0.000732	0.000545	0.029420	0.000989	0.005388
Single Family Housing	0.548470	0.062992	0.183336	0.122442	0.024733	0.006148	0.008613	0.006191	0.000732	0.000545	0.029420	0.000989	0.005388

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	6.4000e-004	5.4500e-003	2.3200e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.9562	6.9562	1.3000e-004	1.3000e-004	6.9975
NaturalGas Unmitigated	6.4000e-004	5.4500e-003	2.3200e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.9562	6.9562	1.3000e-004	1.3000e-004	6.9975

9923 Camp Borrego - San Diego County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	59.1273	6.4000e-004	5.4500e-003	2.3200e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.9562	6.9562	1.3000e-004	1.3000e-004	6.9975
Total		**6.4000e-004**	**5.4500e-003**	**2.3200e-003**	**3.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**		**6.9562**	**6.9562**	**1.3000e-004**	**1.3000e-004**	**6.9975**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.0591273	6.4000e-004	5.4500e-003	2.3200e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.9562	6.9562	1.3000e-004	1.3000e-004	6.9975
Total		**6.4000e-004**	**5.4500e-003**	**2.3200e-003**	**3.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**		**6.9562**	**6.9562**	**1.3000e-004**	**1.3000e-004**	**6.9975**

6.0 Area Detail

6.1 Mitigation Measures Area

9923 Camp Borrego - San Diego County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	12.1290	0.1310	12.7187	0.0200		1.7305	1.7305		1.7305	1.7305	170.0000	0.1617	170.1617	1.8000e-004	0.0150	174.6361
Unmitigated	12.1290	0.1310	12.7187	0.0200		1.7305	1.7305		1.7305	1.7305	170.0000	0.1617	170.1617	1.8000e-004	0.0150	174.6361

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0801					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5959					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	11.4500	0.1300	12.6300	0.0200		1.7300	1.7300		1.7300	1.7300	170.0000	0.0000	170.0000	0.0000	0.0150	174.4700
Landscaping	3.0700e-003	1.0100e-003	0.0887	0.0000		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004		0.1617	0.1617	1.8000e-004		0.1661
Total	**12.1290**	**0.1310**	**12.7187**	**0.0200**		**1.7305**	**1.7305**		**1.7305**	**1.7305**	**170.0000**	**0.1617**	**170.1617**	**1.8000e-004**	**0.0150**	**174.6361**

9923 Camp Borrego - San Diego County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0801					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5959					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	11.4500	0.1300	12.6300	0.0200		1.7300	1.7300		1.7300	1.7300	170.0000	0.0000	170.0000	0.0000	0.0150	174.4700
Landscaping	3.0700e-003	1.0100e-003	0.0887	0.0000		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004		0.1617	0.1617	1.8000e-004		0.1661
Total	**12.1290**	**0.1310**	**12.7187**	**0.0200**		**1.7305**	**1.7305**		**1.7305**	**1.7305**	**170.0000**	**0.1617**	**170.1617**	**1.8000e-004**	**0.0150**	**174.6361**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B

Biological Resources Letter Report

RECON

An Employee-Owned Company

August 2, 2021

Ms. Bri Fordem
Executive Director
Anza-Borrego Foundation
PO Box 2001
Borrego Springs, CA 92004

Reference: Biological Resources Letter Report for the Camp Borrego Education Center and Special Events Venue Project, Borrego Springs, California (RECON Number 9923)

Dear Ms. Fordem:

This report summarizes the biological resources survey methods and results, assessment of potential impacts to biological resources, and recommended mitigation measures for the proposed Camp Borrego Education Center and Special Events Venue Project (project).

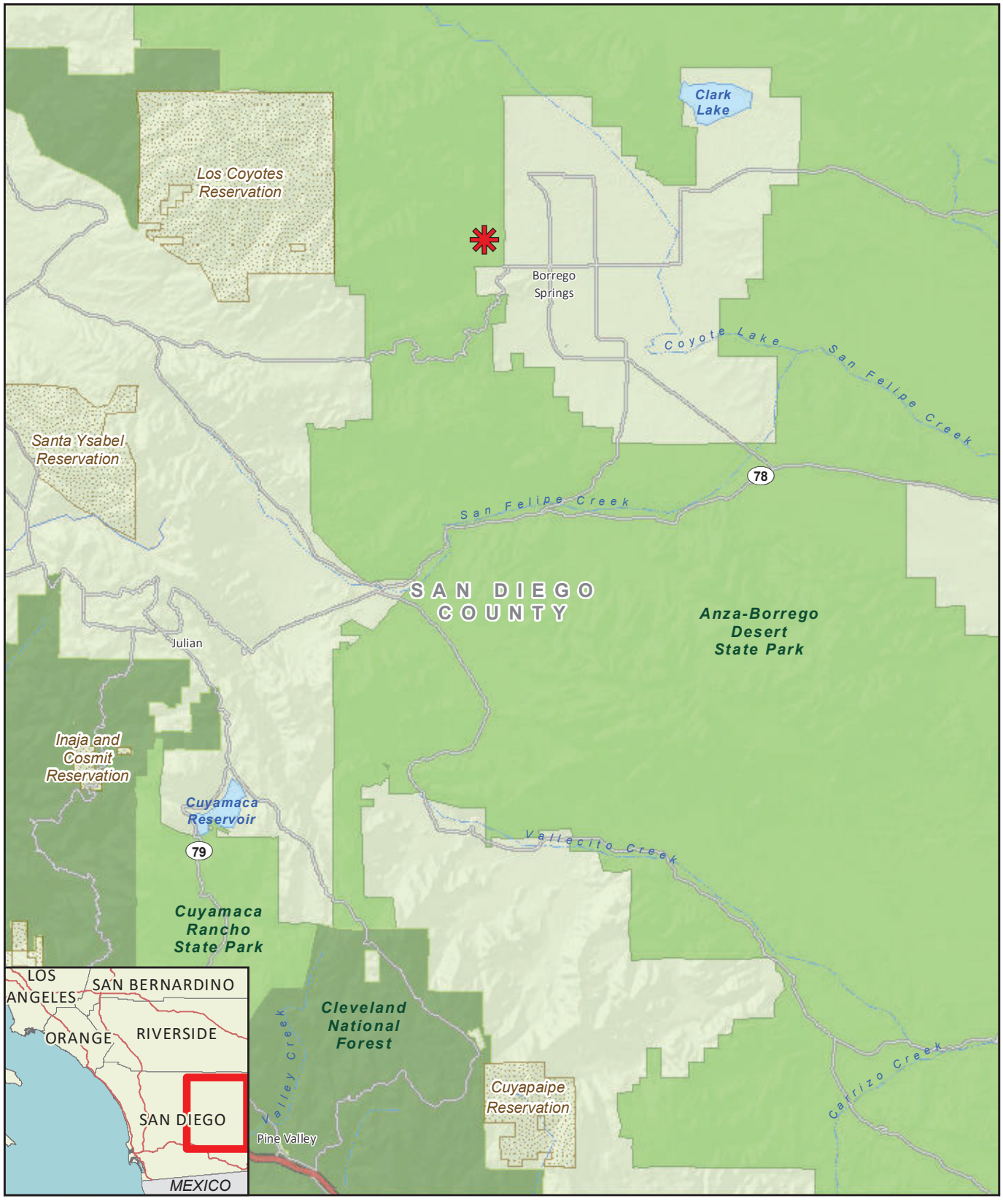
PROJECT DESCRIPTION

The proposed project is located in the Anza-Borrego Desert State Park in Borrego Springs, California (Figures 1 through 3). The project site consists of yurts and other facilities associated with the former Camp Borrego, which was operated for environmental programs by the Anza-Borrego Foundation and require reconstruction to conform to State Fire Marshal requirements. The proposed project would involve the construction and operation of new overnight camping facilities and associated infrastructure, including six overnight cabins, restroom and shower facilities, a kitchen facility, and common area with an attached staff cabin, trails, and parking (Figure 4).

METHODS AND SURVEY LIMITATIONS

RECON Environmental, Inc. (RECON) biologists Cailin Lyons and Jade Woll performed a general biological survey on June 24, 2021. The biological study area (BSA) included a 24.6-acre area surrounding the existing Camp Borrego (see Figure 4). Vegetation communities were mapped on high resolution aerial imagery using ESRI Collector. Wildlife species were observed directly or detected from calls or other sign. All plant species observed during the survey were also noted, and plants that could not be identified in the field were identified later using taxonomic keys. Databases reviewed included California Natural Diversity Database (CNDDB; California Department of Fish and Wildlife [CDFW] 2021a), the All Species Occurrence Database (U.S. Fish and Wildlife Service [USFWS] 2021), and SanBIOS (County of San Diego 2021), as well as botanical survey data collected by Larry Hendricksen (California State Parks) on June 11, 2021.

Vegetation community classifications follow Holland (1986) as modified by Oberbauer et al. (2008). Scientific and common names of plants were primarily derived from the Jepson Online Interchange (Jepson Flora Project 2021). In instances where common names were not provided in this resource, common names were obtained from Rebman and Simpson (2014), the U.S. Department of Agriculture (USDA) maintained database (USDA 2013), or the *Sunset Western Garden Book* (Brenzel 2001). Nomenclature for birds was obtained from the American Ornithological Society (Chesser et al. 2021) and Unitt (2004), for mammals from Bradley et al. (2014), for amphibians and reptiles from Crother (2017). Plant and animal species inventories were limited by seasonal and temporal factors, primarily as surveys were conducted while most plant species were dormant and native annuals were no longer identifiable.



Project Location

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FIGURE 1
Regional Location

Map Source: USGS 7.5 minute topographic map series, Borrego Palm Canyon quadrangle, 1974, T10S R05E

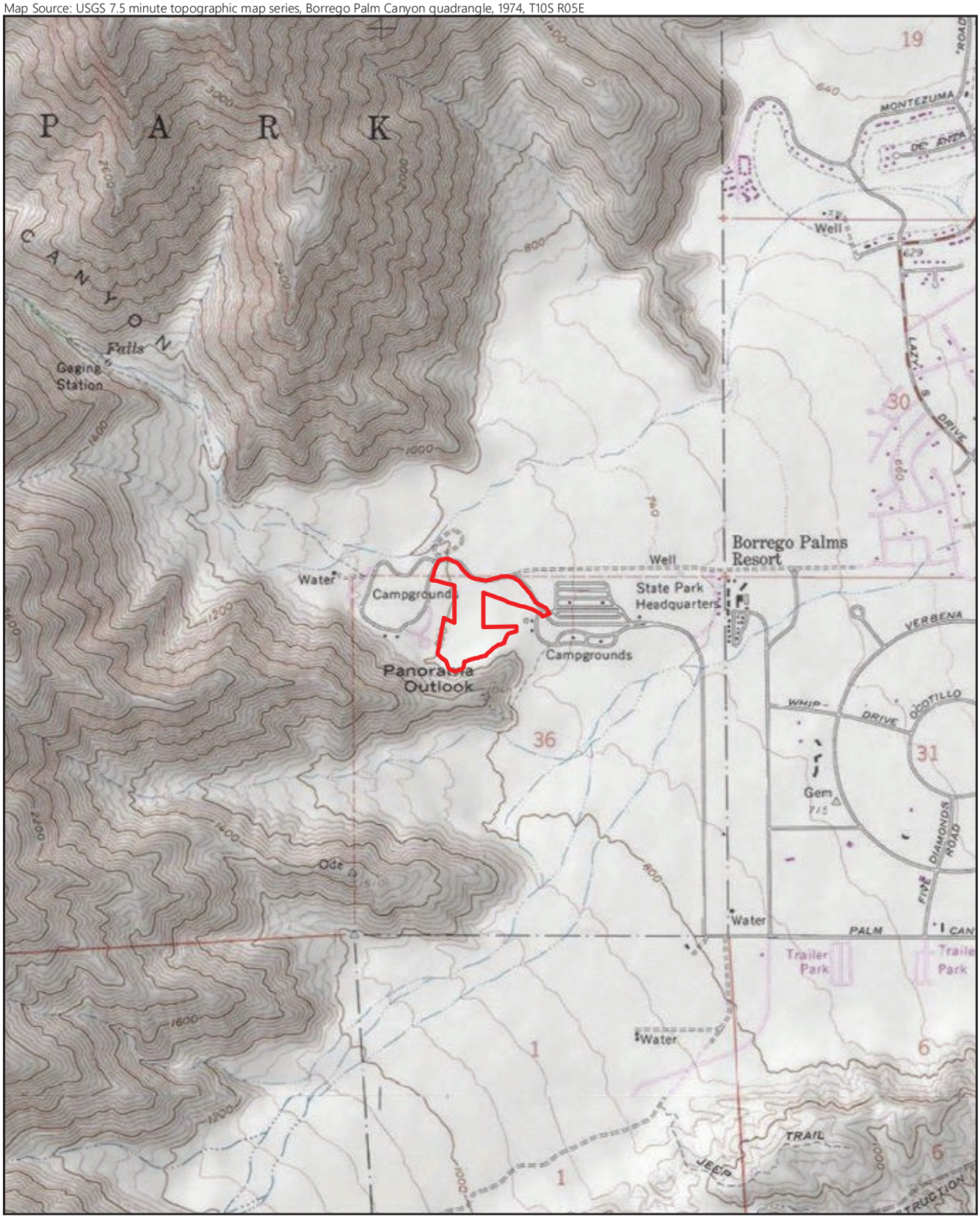

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FIGURE 2
Project Location
on USGS Map

Image Source: NearMap (flown April 2021)

Project Boundary

FIGURE 3
Project Location
on Aerial Photograph

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Image Source: NearMap (flown April 2021)

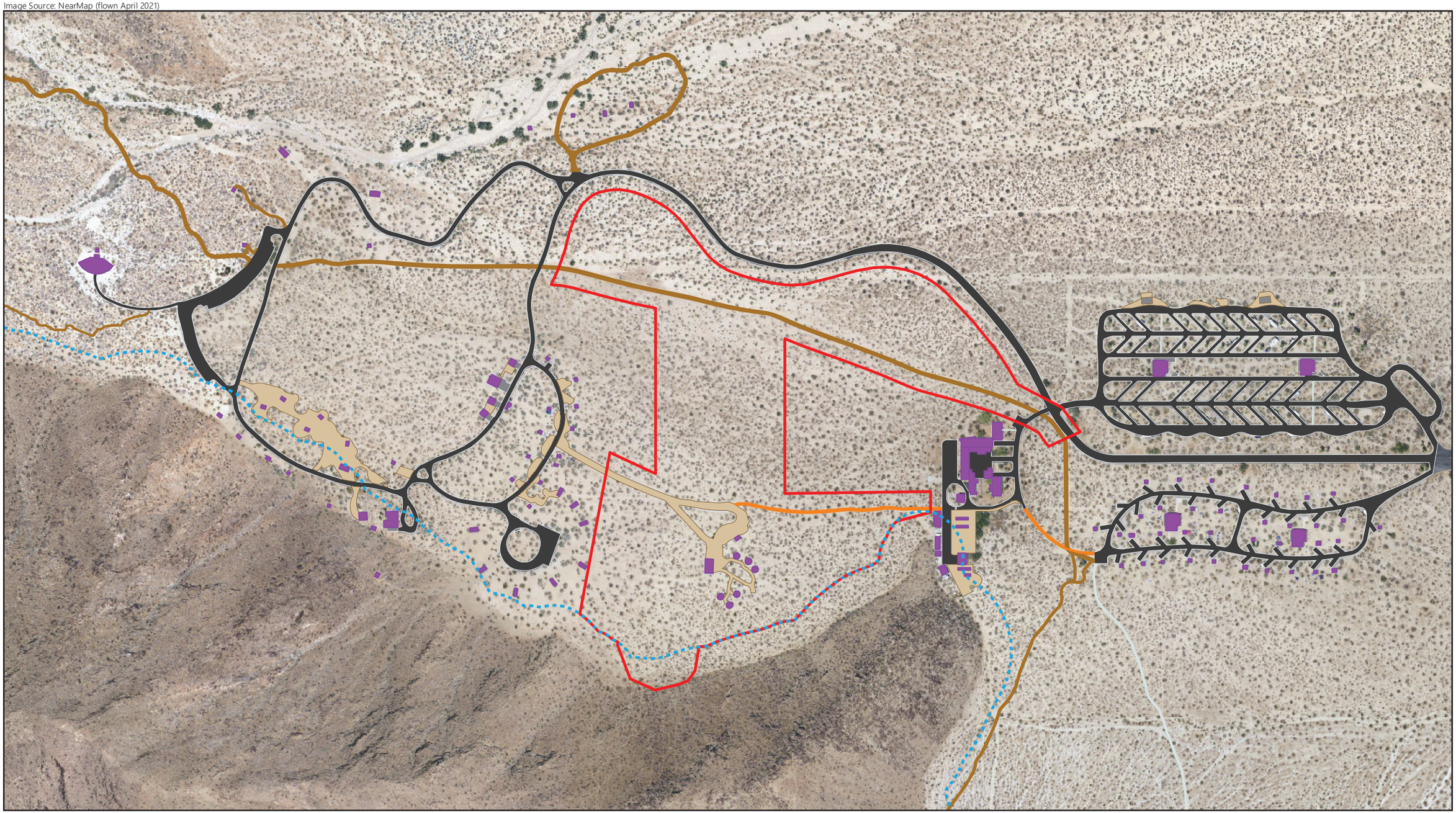

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FIGURE 4
Existing Site Conditions

SURVEY RESULTS

Physical Characteristics/Setting

The BSA is located in the Anza-Borrego State Park between the Borrego Palm Canyon Campground and the Borrego Palm Canyon Trailhead (see Figure 2). The BSA occurs within an alluvial floodplain at the base of San Ysidro Mountain and Borrego Palm Canyon (see Figure 2). The BSA is further surrounded by a mosaic of park facilities and natural desert habitats, with the town of Borrego Springs to the east. Elevation within the BSA ranges from approximately 770 to 865 feet above mean sea level.

Vegetation Communities

The BSA contains three vegetation community/land cover types: Sonoran creosote bush scrub, disturbed habitat, and urban/developed (Table 1; Figure 4). A complete list of the plant species identified within the biological study area is provided as Attachment 1.

Table 1
Vegetation Communities and Land Cover Types within the Biological Study Area

Vegetation Community	Code	Biological Study Area
Sonoran creosote bush scrub	33100	23.2
Disturbed Land	N/A	0.6
Urban/Developed Land	N/A	0.8
TOTAL	-	24.6

Sonoran Creosote Bush Scrub. Sonoran creosote bush scrub occurs on slopes, fans, and valleys below 3,000 feet, and is dominated by creosote bush (*Larrea tridentata*) intermixed with white bur-sage (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), and ocotillo (*Fouquieria splendens*) (Oberbauer et al. 2008). Within the BSA, the Sonoran creosote bush scrub is dominated by white bur-sage with indigo bush (*Amorpha fruticosa*) as a co-dominant and has low species diversity. Surrounding areas have higher species diversity, and include both brittlebush, ocotillo, creosote, and various cactus. The creosote bush scrub alliance and its associations have a rank of G5S5 in the California Natural Communities List, meaning that it is secure both globally and within the state (CDFW 2020). Therefore, this vegetation community is not considered sensitive.

Disturbed Habitat. Disturbed habitat consists of areas that have been physically disturbed and are no longer recognizable as a native or naturalized vegetation community but continue to retain a soil substrate (Oberbauer et al. 2008). Within the BSA, disturbed habitat consists of bare ground associated with a trail and maintenance road that do not appear heavily used.

Urban/Developed. Urban/developed areas consist of areas that no longer support native vegetation due to physical alteration. This may include the construction of structures, hardscaping, pavement, and/or landscaping (Oberbauer et al. 2008). Within the BSA, the urban/developed consists of access roads and structures associated with former Camp Borrego.

Wildlife

Wildlife species detected within the biological study area include species commonly found in desert habitats. A complete list of the wildlife species identified within the BSA is provided as Attachment 2.

SENSITIVE RESOURCES

For purposes of this report, species will be considered sensitive if they are listed by state or federal agencies as threatened, endangered, fully protected, or are candidates for listing (CDFW 2021b, 2021c) or have a California Rare Plant Rank (CRPR) of 1B (considered endangered throughout its range), CRPR of 2 (considered endangered in California but more common elsewhere), CRPR of 3 (more information about the plant's distribution and rarity needed), and CRPR of 4 (plants of limited distribution) on the California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California (CNPS 2021). Sensitive vegetation communities are those identified by California Natural Community List (CDFW 2020).

Sensitive Plants

No sensitive plant species were identified within the BSA. However, a total of four sensitive plant species have a high potential to occur within the biological study area: hellhole scaleseed (*Spermolepis infernensis*), Arizona carlowrightia (*Carlowrightia arizonica*), Arizona spurge (*Euphorbia arizonica*), and Colorado desert larkspur (*Delphinium parishii* ssp. *subglobosum*). Sensitive plant species known to occur within two miles of the BSA, based on a database review, are presented with an evaluation of their potential for occurrence in Attachment 2.

Hellhole scaleseed. Hellhole scaleseed has a CNPS rare plant ranking of 1B.2. This species is known to occur within open, sandy Sonoran desert scrub (Reiser 2001). Hellhole scaleseed has a high potential to occur within the BSA due to the presence of suitable desert scrub habitat.

Arizona carlowrightia. Arizona carlowrightia has a CNPS rare plant ranking of 1B.2. This species is known to occur within Sonoran desert scrub, and has been mapped off-site (Reiser 2001; California State Parks 2021). Arizona carlowrightia has a high potential to occur within the BSA due to the presence of suitable desert scrub habitat.

Arizona spurge. Arizona spurge has a CNPS rare plant ranking of 2B.3. This species is known to occur in open, sandy Sonoran desert scrub (Reiser 2001). Arizona spurge has a high potential to occur within the BSA due to the presence of suitable desert scrub habitat with sandy openings.

Colorado desert larkspur. Colorado desert larkspur has a CNPS rare plant ranking of 4.3. This species is known to occur in open Sonoran desert scrub (Reiser 2001). Colorado desert larkspur has a high potential to occur within the BSA due to the presence of open desert scrub.

Sensitive Wildlife

No sensitive wildlife species were identified within the project boundary; however, two sensitive wildlife species, peninsular bighorn sheep (*Ovis canadensis*) and black-tailed gnatcatcher (*Polioptila melanura*), were observed approximately 0.25 mile outside of the BSA. In addition, a total of four sensitive wildlife species have a high or moderate potential to occur within the biological study area: pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), California leaf-nosed bat (*Macrotus californicus*), and Palm Springs round-tailed ground squirrel (*Xerospermophilus tereticaudus chlorus*). These species are discussed in detail below. Sensitive wildlife species known to occur within two miles of the BSA, based on a database review, are presented with an evaluation of their potential for occurrence in Attachment 3.

Peninsular Bighorn sheep. The peninsular bighorn sheep is listed as federally threatened under the Endangered Species Act, state threatened and CDFW fully protected (CDFW 2021b). Peninsular bighorn sheep is typically associated with steep, rugged mountainous terrain, but also use canyon bottoms, alluvial fans, and sandy washes to find water and forage (CDFW 2021c). The BSA is located along the eastern edge of a federally-designated critical habitat for this species (Figure 5). The BSA is located in an area currently being used for park operations and thus provides low quality foraging and lambing habitat for peninsular bighorn sheep, though bighorn sheep are anticipated to travel through this area at times due the presence of high-quality rocky terrain and water sources in the immediately surrounding area. This species was also observed off-site near the manmade water source at the Borrego Palm Canyon trailhead, approximately 0.25 mile from the BSA.

Black-tailed gnatcatcher. The black-tailed gnatcatcher is a CDFW watch list species (CDFW 2021b). Black-tailed gnatcatchers typically occur in halophytic scrub or badlands with spiny trees and shrubs for nesting (Unitt 2004). This species was observed off-site to the northwest and has a high potential to occur within the BSA due to the presence of suitable scrub with spiny trees and shrubs for nesting.

Palm Springs round-tailed ground squirrel. The Palm Springs round-tailed ground squirrel is a CDFW species of special concern (CDFW 2021b). Palm Springs round-tailed ground squirrel typically occurs in creosote bush scrub (Bradford et al. 2017). This species has a high potential to occur within the BSA due to the presence of suitable creosote bush scrub.

Pallid bat. The pallid bat is a CDFW species of special concern (CDFW 2021b). Pallid bat typically occurs in arid desert habitats, and roosts in cliffs, caves, mines, trees, bridges, and other manmade structures (Bradford et al. 2017). This species has a moderate potential to roost and forage within the BSA due to the presence of unoccupied structures and suitable arid scrub with a nearby perennial water source.

Townsend's big-eared bat. The Townsend's big-eared bat is a CDFW species of special concern (CDFW 2021b). Townsend's big-eared bat typically roosts in cliffs and caves, though it may also roost in manmade structures (Bradford et al. 2017). This species has a moderate potential to roost and forage within the BSA due to the presence of unoccupied structures and suitable arid scrub with a nearby perennial water source.

California leaf-nosed bat. The California leaf-nosed bat is a CDFW species of special concern (CDFW 2021b). California leaf-nosed bat typically occurs in desert lowlands and roosts in caves, fallen palms, and other manmade structures (Bradford et al. 2017). This species has a moderate potential to roost and forage within the BSA due to the presence of unoccupied structures and suitable desert habitat with a nearby perennial water source.

Jurisdictional Resources

No potential jurisdictional resources, including waters or wetlands, were observed within the project BSA.

Wildlife Corridors

Wildlife movement corridors are defined as areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as canyon drainages, ridgelines, or areas with vegetation cover provide corridors for wildlife travel. Wildlife movement corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas; and facilitate the exchange of genetic traits between populations (Beier and Loe 1992).

Map Source: Ware Malcomb (2021)

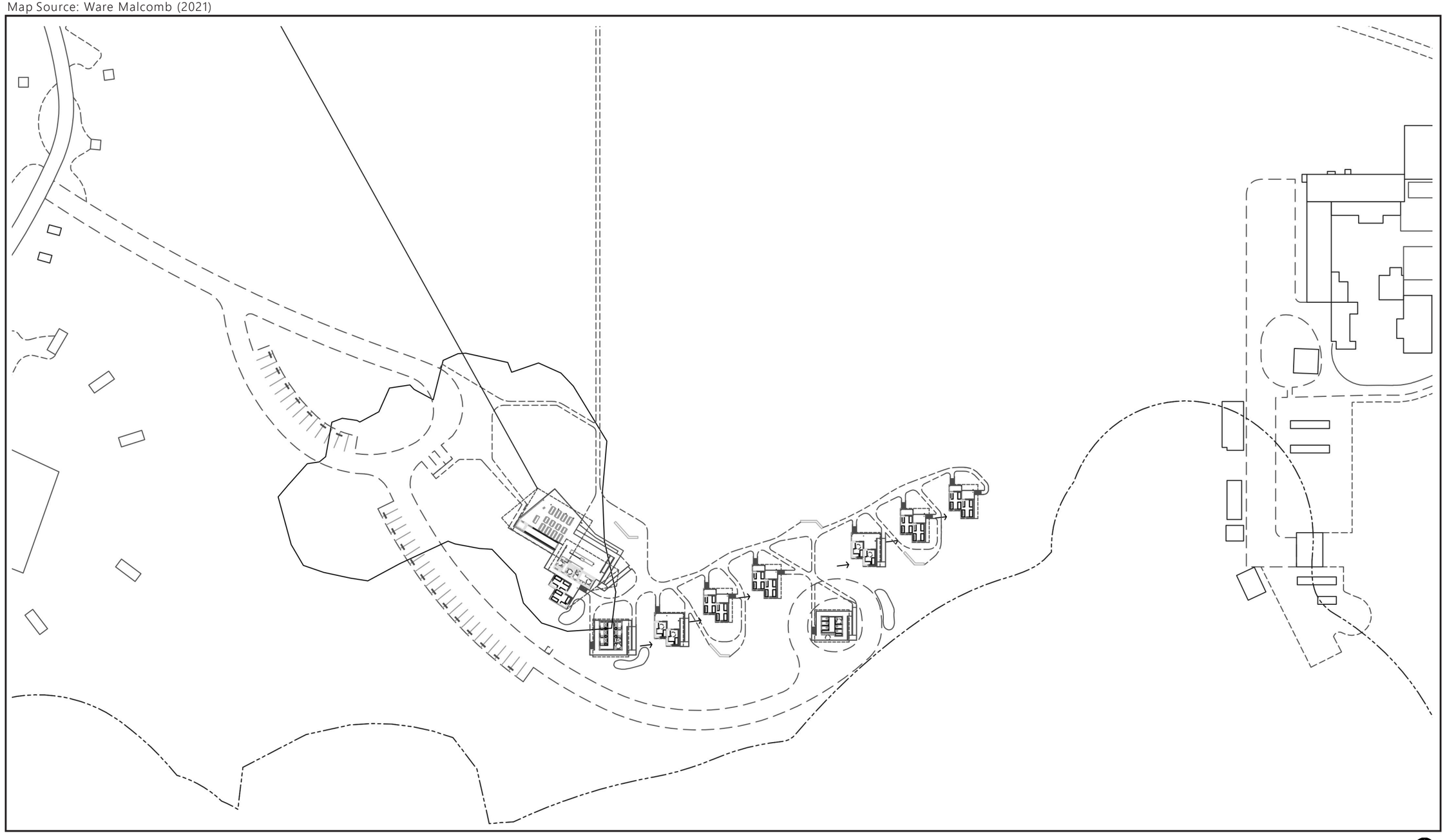

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FIGURE 5
Project Site Plan

The BSA is surrounded by vast expanses of intact desert habitats associated with Anza-Borrego State Park and other public lands to the south, west, and north, which provide opportunities for both local and regional wildlife movements. The BSA is located within an alluvial floodplain located at the base of San Ysidro Mountain and provides a connection from these off-site areas of open space to Borrego Palm Canyon, which provides a perennial water source for wildlife west of the biological study area. In addition, a large wash occurs immediately north of the BSA, providing an additional route for east-west movements (see Figure 2). Though the biological study area itself is located in an area associated with park operations, park facilities and roads in this area are scattered and wildlife movement associated with this corridor is expected to occur relatively unobstructed through this area.

IMPACTS

Direct Impacts

Vegetation Communities

The proposed project would result in a total of 4.4 acres of direct impacts to Sonoran creosote scrub, disturbed habitat, and urban/developed associated with the construction of new facilities within Camp Borrego (Table 2; Figure 6). Impacts to Sonoran creosote bush scrub, disturbed habitat, and urban/developed are not considered significant as they are not considered sensitive by the California Natural Community List and do not require mitigation (CDFW 2020).

Table 2
Impacts to Vegetation Communities/Land Cover Types

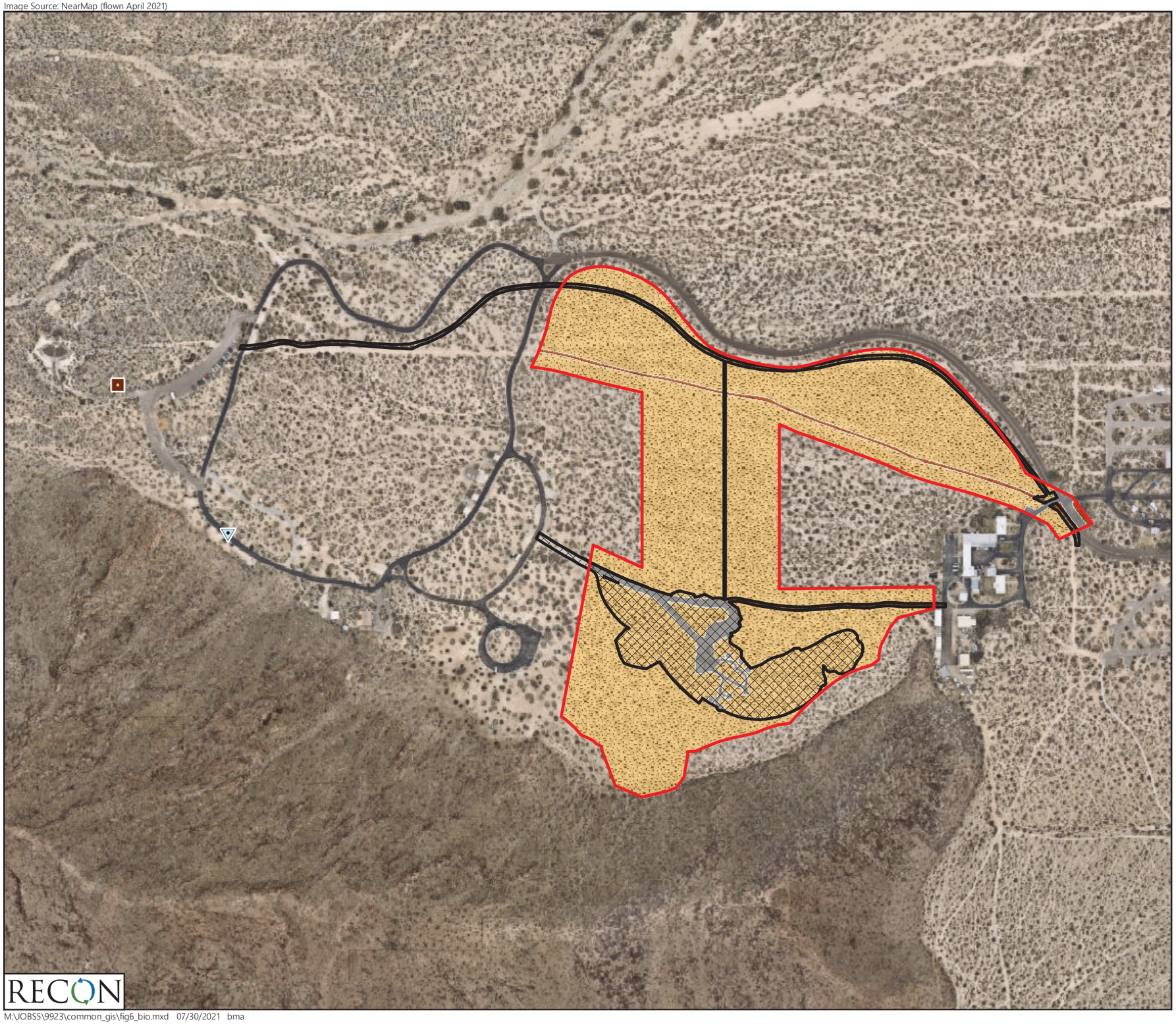
Vegetation Community/Land Cover Type	Direct Impacts (acres)
Sonoran creosote bush scrub	3.5
Disturbed land	0.2
Urban/developed land	0.7
TOTAL	4.4

Sensitive Plants and Wildlife

Sensitive Plants. Direct impacts to hellhole scaleseed, Arizona carlowrightia, Arizona spurge, and Colorado desert larkspur could potentially result from vegetation removal and other construction activities in Sonoran creosote bush scrub. However, because suitable habitat for these species within Anza-Borrego State Park is generally widespread, and these impacts would occur to a relatively small amount of habitat (3.4 acres) in an area already influenced by park operations, this loss would not impact the regional long-term survival of these species. Therefore, potential direct impacts would be considered less than significant and no mitigation would be required.

Peninsular Bighorn Sheep. Direct impacts to peninsular bighorn sheep habitat are less than significant as the project occurs in an area that is currently being used for park operations and is not anticipated to limit access to bedding areas or water sources. Furthermore, the project impact footprint was designed to avoid high-quality habitat and is set back a minimum of 150 feet away from all rocky slopes and is not directly visible from any water sources, with the closest water source being a manmade basin located 0.25 mile to the west. However, potential indirect impacts to peninsular bighorn sheep could result from noise and increased human activity during project construction. Potential indirect impacts to peninsular bighorn sheep would be considered significant and require mitigation.

Image Source: NearMap (flown April 2021)



Biological Study Area

Project Impacts

Sensitive Wildlife Observations

Black-tailed Gnatcatcher (*Polioptila melanura*)

Peninsular Bighorn Sheep (*Ovis canadensis nelsoni*))

Vegetation Community

Sonoran Creosote Bush Scrub

Disturbed Habitat

Urban/Developed

0 Feet 300

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FIGURE 6
Impacts to Biological Resources

Palm Springs Round-tailed Ground Squirrel. Direct impacts to Palm Springs round-tailed ground squirrel could potentially result from grading and other construction activities in Sonoran creosote bush scrub occurring within the project impact footprint. However, because suitable habitat for Palm Spring round-tailed ground squirrel within Anza-Borrego State Park is generally widespread, and these impacts would occur to a relatively small amount of habitat (3.4 acres) in an area already influenced by park operations, this loss would not impact the regional long-term survival of these species. Therefore, potential direct impacts would be considered less than significant and no mitigation would be required.

Sensitive Bats. Direct impacts to roosting pallid bat, Townsend's big-eared bat, and California leaf-nosed bat could potentially result should the removal of structures within the project impact footprint occur during the maternity season (March 1 through August 31). Potential direct impacts to sensitive roosting bats would be considered significant and require mitigation.

Nesting and Migratory Birds. Direct impacts to nesting and migratory birds, including nesting black-tailed gnatcatcher could potentially result should vegetation removal or grading within the project impact footprint occur during the general avian breeding season for the Colorado Desert (January 15 through July 15). Potential direct impacts to nesting and migratory birds, including black-tailed gnatcatcher, would be considered significant and require mitigation.

Wildlife Corridors

The proposed project would occur within a wildlife movement corridor associated with Borrego Palm Canyon, in an area associated with park operations. In addition, the proposed project would be rebuilding existing structures associated with Camp Borrego and does not propose any new uses within the project impact footprint. In addition, the project is consistent with adjacent uses, which include park maintenance buildings to the east and a campground to the west. The proposed project would be limited to a small 3.4-acre area of habitat, with a 150-foot setback from the adjacent slopes and away from any canyon mouths, allowing for existing wildlife movement to continue unobstructed through the project impact area. As a result, the project would not cause any loss of functionality of the wildlife corridor, so impacts to corridors would be less than significant and no mitigation would be required.

AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

As discussed above, project impacts to Sonoran creosote bush scrub, disturbed habitat, and urban/developed land would be less than significant and would not require mitigation. The project would also not impact any jurisdictional areas or wildlife movement corridors; therefore, no mitigation would be required. Direct and/or indirect impacts to sensitive bats, migratory and nesting birds, and peninsular bighorn sheep would be addressed through the mitigation measures below.

AMM-BIO-1: General Avoidance and Minimization Measures

The following avoidance and minimization measures shall be implemented during project construction activities.

- Construction limits of the project shall be clearly flagged so that adjacent native vegetation is avoided.
- Construction work and operations and maintenance areas shall be kept clean of debris, such as trash and construction materials. Fully covered trash receptacles that are animal-proof will be installed and used during construction to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. Trash contained within the receptacles will be removed at least once a week from the proposed project site.

- Staging and storage areas for spoils, equipment, materials, fuels, lubricants, and solvents shall be located within the project impact footprint or adjacent developed areas.

- To prevent inadvertent entrapment of special-status wildlife during construction, all excavated steep-walled holes or trenches shall be covered with plywood or similar materials at the close of each working day. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped wildlife. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape.

- All pipes, culverts, or similar structures with a diameter of 4 inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until the animal has either moved from the structure on its own accord or until the animal has been captured and relocated by a qualified biologist.

- No night-time construction will occur.

- Construction vehicles will be limited to 10 miles per hour when in the state park.

AMM-BIO-2: Peninsular Bighorn Sheep Avoidance

Prior to the initiation of any vegetation removal, grading, or construction activities, California State Parks shall develop and implement a strategic construction plan in consultation with CDFW and USFWS that anticipates peninsular bighorn sheep response to construction activities. Measures shall include biological monitoring during construction and avoidance of construction during the summer season (July 1 to September 30) to ensure that construction does not disrupt bighorn sheep movements, including access to water sources. Any necessary permit requirements from CDFW and USFWS as a result of the federal and state Endangered Species Acts would be fulfilled prior to initiation of any project activities.

AMM-BIO-3: Nesting Bird Avoidance

If ground disturbance and/or vegetation clearance activities are scheduled to occur during the general avian breeding season for the Colorado Desert (January 15 through July 15), a pre-construction nesting bird survey shall be conducted by a qualified biologist within the project impact footprint and a 100-foot buffer around the project footprint. Surveys shall be conducted within three days prior to initiation of activity and will be conducted between dawn and noon. If an active nest is detected during the pre-construction survey, avoidance buffers shall be implemented as determined by a qualified biologist. The buffer will be of a distance to ensure avoidance of adverse effects to the nesting bird by accounting for topography, ambient conditions, species, nest location, and activity type. All nests will be monitored as determined by the qualified biologist until nestlings have fledged and dispersed or it is confirmed that the nest has been unsuccessful or abandoned.

AMM-BIO-4: Maternity Roosting Bat Avoidance

Prior to demolition of any buildings or structures, a qualified bat biologist shall conduct presence/absence surveys for maternity roosting bats within the project impact footprint during the maternity roosting season (March 1 through August 31). If a potential maternity roost is present, the following measures shall be implemented to reduce the potential impact on special-status bat species to a less than significant level:

a. Maternity Roosting Season Avoidance. All demolition activities, or bat roost exclusion, shall occur outside the general bat maternity roosting season of March 1 through August 31 to reduce any potentially significant

impact to maternity roosting bats. The qualified bat biologist shall have at least three years of experience in conducting bat habitat assessments, day roosting surveys, and acoustic monitoring, and have adequate experience identifying local bat species (visual and acoustic identification), type of habitat, and differences in roosting behavior and types (i.e., day, night, maternity). Items b and c below will be required to ensure no impacts occur to roosting bats during the exclusion process.

b. Replacement Roost Installation. If there is a potential or known maternity roost within a structure to be demolished, a replacement roost installation shall occur outside of the maternity roosting. At least one month prior to the exclusion of bats from the roost(s), two bat boxes from a reputable vendor, such as Bat Conservation and Management, will be installed to allow bats sufficient time to acclimate to a new potential roost location. The bat boxes shall be installed in an area that is close to suitable foraging habitat as determined by a qualified bat biologist. Additionally, the bat boxes will be oriented to the south or southwest, and the area chosen for the bat boxes must receive sufficient sunlight (at least 6 hours daily) to allow the bat boxes to reach an optimum internal temperature (approximately 90 degrees Fahrenheit) to mimic the existing bat roost. The bat boxes will be suitable to house crevice-roosting bat species, and large enough to contain a minimum of 50 bats (e.g., Four Chamber Premium Bat House or Bat Bunker Plus). The bat boxes shall be installed on a 20-foot-tall steel pole. Monitoring will be conducted each month during construction and quarterly thereafter until it can be established that the bat box is being used by bats and the species of bats using the box is determined.

c. Survey Report. Following completion of the survey, the bat biologist will complete a survey report which records the findings.

If you have any questions or require further information, please contact me at clyons@reconenvironmental.com or (619) 308-9333 extension 108.

Sincerely,

Cailin Lyons
Director, Biology Group

CML:jg

Attachments

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ATTACHMENTS

ATTACHMENT 1

Plant Species Observed

Attachment 1 Plant Species Observed			
Scientific Name	Common Name	Habitat	Origin
ANGIOSPERMS: MONOCOTS			
POACEAE (GRAMINEAE)	GRASS FAMILY		
Schismus barbatus	Mediterranean schismus	SCS	I
ANGIOSPERMS: DICOTS			
ACANTHACEAE	ACANTHUS FAMILY		
Justicia californica	chuparosa, beloperone	SCS	N
ASTERACEAE	SUNFLOWER FAMILY		
Ambrosia dumosa	white bur-sage, burro-weed	SCS	N
Ambrosia salsola var. *salsola*	cheesebush	SCS	N
Chaenactis fremontii	Fremont's pincushion	SCS	N
BIGNONIACEAE	BIGNONIA FAMILY		
Chilopsis linearis ssp. *arcuata*	desert-willow	SCS	N
BORAGINACEAE	BORAGE FAMILY		
Cryptantha [=*Johnstonella*] *angustifolia*	Narrow-leaf johnstonella	SCS	N
BRASSICACEAE (CRUCIFERAE)	MUSTARD FAMILY		
Descurainia pinnata	tansy-mustard	SCS	N
CACTACEAE	CACTUS FAMILY		
Cylindropuntia echinocarpa	Gander's cholla	SCS	N
Cylindropuntia [=*Opuntia*] *echinocarpa*	golden cholla, silver cholla	SCS	N
FABACEAE (LEGUMINOSAE)	LEGUME FAMILY		
Psorothamnus schottii	Indigo bush	SCS	N
KRAMERIACAE	RHATANY FAMILY		
Krameria bicolor	White rhatany	SCS	N
POLEMONIACEAE	PHLOX FAMILY		
Eriastrum eremicus ssp. *eremicum*	desert woolly-star	SCS	N

Attachment 1
Plant Species Observed

Notes: Scientific and common names were primarily derived from Jepson eFlora (Jepson Flora Project 2021). In instances where common names were not provided in this resource, common names were obtained from Rebman and Simpson (2014). Additional common names were obtained from the USDA maintained database (USDA 2013) or the Sunset Western Garden Book (Brenzel 2001) for ornamental/horticultural plants. Common names denoted with * are from County of San Diego 2010.

HABITATS

SCS = Sonoran creosote bush scrub

ORIGIN

N = Native to locality
I = Introduced species from outside locality
(I) = Introduced species to the ecoregion in which the survey occurred; however, native to other ecoregions within San Diego County.

ATTACHMENT 2

Wildlife Species Observed

Attachment 2 Wildlife Species Observed				
Scientific Name	Common Name	Occupied Habitat	On-Site Abundance/ Seasonality (Birds Only)	Evidence of Occurrence
BIRDS (Nomenclature from Chesser et al. 2020 and CDFW 2021b)				
ACCIPITRIDAE	**HAWKS, KITES, & EAGLES**			
Buteo jamaicensis	red-tailed hawk	MS	/ Y	O
COLUMBIDAE	**PIGEONS & DOVES**			
Zenaida macroura	mourning dove	U	/ Y	V
TROGLODYTIDAE	**WRENS**			
Campylorhynchus brunneicapillus	cactus wren	MS	/ Y	V
POLIOPTILIDAE	**GNATCATCHERS**			
Polioptila melanura	black-tailed gnatcatcher	MS	/ Y	O
PASSERELLIDAE	**NEW WORLD PASSERINES**			
Amphispiza bilineata	black-throated sparrow	MS	/ Y	O
MAMMALS (Nomenclature from Bradley et al. 2014; American Society of Mammalogists 2020; CDFW 2020)				
LEPORIDAE	**RABBITS & HARES**			
Lepus californicus deserticola	desert black-tailed jackrabbit	MS		O
Sylvilagus audubonii	desert cottontail	MS		O
SCIURIDAE	**SQUIRRELS & CHIPMUNKS**			
Ammospermophilus leucurus	white-tailed antelope squirrel	MS		O
BOVIDAE	**BOVIDS**			
Ovis canadensis nelsoni pop 2 [=*cremnobates*]	Peninsular bighorn sheep	MS		O

Attachment 2
Wildlife Species Observed

(I) = Introduced species

HABITATS ABUNDANCE (birds only; based on Garrett and Dunn 1981)

Ag = Agriculture
B = Bays
C = Coastal waters
CD = Coastal strand, coastal dunes
CF = Coniferous forest
CMC = Coastal mixed, mixed, or chamise chaparral
CSS = Coastal sage scrub, inland sage scrub
F = Flying overhead
FM = Freshwater marsh
FW = Foothill woodland
G = Grassland, pasturelands, etc.
ISS = Inland sage scrub
M = Mesic areas and wetlands
Mu = Mud flats
O = Open places, waste places, roadsides, burns, etc.
OW = Open water (reservoirs, ponds, streams, lakes)
P = Pelagic
RW = Riparian woodlands
SDS = Sonoran desert scrub
SM = Saltwater marsh
U = Urban
W = Woodlands

C = Common to abundant; almost always encountered in proper habitat, usually in moderate to large numbers
F = Fairly common; usually encountered in proper habitat, generally not in large numbers
U = Uncommon; occurs in small numbers or only locally

SEASONALITY (birds only)

A = Accidental; species not known to occur under normal conditions; may be an off-course migrant
M = Migrant; uses site for brief periods of time, primarily during spring and fall months
S = Spring/summer resident; probable breeder on-site or in vicinity
T = Transient; uses site regularly but unlikely to breed on-site
V = Rare vagrant
W = Winter visitor; does not breed locally
Y = Year-round resident; probable breeder on-site or in vicinity

EVIDENCE OF OCCURRENCE

B = Burrow
C = Carcass/remains
D = Den site
M = Midden
N = Nest
O = Observed
S = Scat
T = Track
V = Vocalization

ATTACHMENT 3

Sensitive Plant Species Occurring or with the Potential to Occur within the Camp Borrego Project Boundary

Attachment 3 Sensitive Plant Species Occurring or with the Potential to Occur within the Project Boundary						
Scientific Name Common Name	Sensitivity Code & Status State/Federal Status	CNPS Rank	Habitat/Preference/ Requirements/ Blooming Period	Detected On-Site Yes/No	Potential to Occur On-Site (Observed or L/M/H/U)	Basis for Determination of Occurrence Potential
LYCOPODS						
SELAGINELLACEAE SPIKE-MOSS FAMILY						
Selaginella eremophila desert spike-moss	–/–	2B.2	Perennial rhizomatous herb; rocky terrain in Sonoran desert scrub; May-July; elevation 655–4,250 feet.	No	Low	This species was not observed and has low potential to occur due to lack of rocky terrain, though present in the surrounding area. Additionally, this species would have likely been visible at the time surveys were conducted. Desert spike-moss has been known to occur within two miles of the survey area (CDFW 2021a).
ANGIOSPERMS: DICOTS						
APIACEAE CARROT FAMILY						
Spermolepis infernensis Hellhole scaleseed	–/–	1B.2	Annual herb; rocky desert terrain or sandy flats; blooms March–April; elevation 755–2,200 feet.	No	High	This species was not observed but has a high potential to occur based on the presence of suitable open, sandy Sonoran desert scrub. Hellhole scaleseed has been known to occur within two miles of the survey area (CDFW 2021a).
ACANTHACEAE ACANTHUS FAMILY						
Carlowrighta arizonica Arizona carlowrightia	–/–	2B.2	Perennial sub-shrub; Sonoran desert scrub; blooms March–May; elevation 935–1,410 feet.	No	High	This species was not observed but has a high potential to occur based on the presence of Sonoran desert scrub. Arizona carlowrightia has been known to occur within two miles of the survey area (CDFW 2021a).

Attachment 3 Sensitive Plant Species Occurring or with the Potential to Occur within the Project Boundary						
Scientific Name Common Name	Sensitivity Code & Status State/Federal Status	CNPS Rank	Habitat/Preference/ Requirements/ Blooming Period	Detected On-Site Yes/No	Potential to Occur On-Site (Observed or L/M/H/U)	Basis for Determination of Occurrence Potential
BORAGINACEAE BORAGE FAMILY						
Cryptantha ganderi Gander's cryptantha	–/–	1B.1	Annual herb; desert dunes; blooms February-May; elevation from 525-1,310 feet.	No	Not expected	This species was not observed and is not expected to occur due to lack of suitable dune habitat. Gander's cryptantha has been known to occur within two miles of the survey area (CDFW 2021a).
Phacelia nashiana Charlotte's phacelia	–/–	1B.2	Annual herb; Joshua tree woodland, pinyon and juniper woodland; blooms March–June; elevation 1,970–7,220 feet.	No	Not expected	This species was not observed and is not expected to occur due to lack of suitable Joshua tree, pinyon, or juniper woodland habitat. Charlotte's phacelia has been known to occur within two miles of the survey area (CDFW 2021a).
EUPHORBIACEAE SPURGE FAMILY						
Euphorbia arizonica Arizona spurge	–/–	2B.3	Perennial herb; Sonoran desert scrub (sandy); blooms March-April; elevation from 165-985 feet.	No	High	This species was not observed but has a high potential to occur based on the presence of suitable open, sandy Sonoran desert scrub. Hellhole scaleseed has been known to occur within two miles of the survey area (CDFW 2021a).
RUBIACEAE BEDSTRAW FAMILY						
Galium angustifolium ssp. *borregoense* Borrego bedstraw	–/–	1B.3	Perennial herb; rocky terrain within Sonoran desert scrub, usually areas with protected slopes or more mesic conditions; March–May; 1,150 – 4,100 feet.	No	Low	This species was not observed and has low potential to occur due to the absence of rocky desert terrain, though present in the surrounding area. Arizona spurge has been known to occur within two miles of the survey area (CDFW 2021a).

Attachment 3 Sensitive Plant Species Occurring or with the Potential to Occur within the Project Boundary						
Scientific Name Common Name	Sensitivity Code & Status State/Federal Status	CNPS Rank	Habitat/Preference/ Requirements/ Blooming Period	Detected On-Site Yes/No	Potential to Occur On-Site (Observed or L/M/H/U)	Basis for Determination of Occurrence Potential
APOCYNACEAE DOG AWAY FAMILY						
Matelea parvifolia spear-leaf matelea	–/–	2B.3	Perennial herb; sandy to rocky, granitic, eastern facing slopes, generally Joshua tree or pinyon/juniper woodland, March–July; elevation 1,445–3,595 feet.	No	Low	This species was not observed and has low potential to occur due to the absence of rocky, eastern facing slopes, though present in the surrounding area. Spear-leaf matelea been known to occur within two miles of the survey area from the Plum Canyon area (CDFW 2021a).
NYCTAGINACEAE FOUR O'CLOCK FAMILY						
Mirabilis tenuiloba long-lobe four o'clock	–/–	4.2	Perennial herb; Sonoran desert scrub on sandy, rocky, or gravelly slopes; blooms February-May; elevation 755-3,595	No	Low	This species was not observed and has low potential to occur due to the absence of sandy, gravelly, or rocky slopes, though present in the surrounding area. Long-lobe four-o'clock been known to occur within two miles of the survey area from the Plum Canyon area (CDFW 2021a).
MALVACEAE MALLOW FAMILY						
Ayenia compacta California ayenia	–/–	2B.3	Perennial herb; rocky canyons and desert arroyos; blooms March-April; elevation 490-3595 feet.	No	Low	This species was not observed and has low potential to occur due to the absence of rocky canyons and desert arroyos, though present in the surrounding area. California ayenia has been known to occur within two miles of the survey area (CDFW 2021a).

Attachment 3 Sensitive Plant Species Occurring or with the Potential to Occur within the Project Boundary						
Scientific Name Common Name	Sensitivity Code & Status State/Federal Status	CNPS Rank	Habitat/Preference/ Requirements/ Blooming Period	Detected On-Site Yes/No	Potential to Occur On-Site (Observed or L/M/H/U)	Basis for Determination of Occurrence Potential
Horsfordia newberryi yellow feltplant	–/–	4.3	Perennial shrub; rocky areas of Sonoran desert scrub; blooms February-December; elevation 10-2,625 feet.	No	Low	This species was not observed and has low potential to occur due to the absence of rocky areas, though present in the surrounding area. Yellow feltplant has been known to occur within two miles of the survey area (CDFW 2021a).
RANUNCULACEAE BUTTERCUP FAMILY						
Delphinium parishii ssp. *subglobosum* Colorado Desert larkspur	–/–	4.3	Perennial herb; open Sonoran desert scrub; blooms March–May; elevation 1,970–5,905 feet.	No	High	This species was not observed but has a high potential to occur based on the presence of suitable open Sonoran desert scrub.

CALIFORNIA NATIVE PLANT SOCIETY (CNPS): CALIFORNIA RARE PLANT RANKS (CRPR)

1B = Species rare, threatened, or endangered in California and elsewhere. These species are eligible for state listing.
2B = Species rare, threatened, or endangered in California but more common elsewhere. These species are eligible for state listing.
4 = A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.
.1 = Species seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat).
.2 = Species fairly threatened in California (20-80% occurrences threatened; moderate degree and immediacy of threat).
.3 = Species not very threatened in California (<20% of occurrences threatened; low degree and immediacy of threat or no current threats known).

POTENTIAL TO OCCUR ON-SITE

L = Low
M = Medium
H = High
U = Unexpected

ATTACHMENT 4

Sensitive Wildlife Species Occurring or with the Potential to Occur within the Camp Borrego Project Boundary

Attachment 4 Sensitive Wildlife Species Occurring or with the Potential to Occur within the Project Boundary					
Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site (Observed or L/M/H/U)	Basis for Determination of Occurrence Potential
FISHES (Nomenclature from Page et al. 2013)					
CYPRINODONTIDAE **PUPFISH**					
Desert pupfish *Cyprinodon macularius*	FE, CE	Desert pools and streams.	No	Not expected	This species was not observed and is not expected to occur due to the absence of desert pool and stream habitat. Desert pupfish has been known to occur within a two-mile buffer of the biological study area (CDFW 2021a).
REPTILES (Nomenclature from Crother et al. 2017)					
GEKKONIDAE **GECKOS**					
San Diego banded gecko *Coleonyx variegatus abbotti*	CSC	Granite and rocky outcrops in coastal sage scrub and chaparral.	No	Not expected	This species was not observed and is not expected to occur due to lack of coastal sage and chaparral habitat. San Diego banded gecko records within a two-mile buffer of the biological study area are likely the desert subspecies, desert banded gecko (County of San Diego 2021).

Attachment 4 Sensitive Wildlife Species Occurring or with the Potential to Occur within the Project Boundary					
Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site (Observed or L/M/H/U)	Basis for Determination of Occurrence Potential
Barefoot gecko *Coleonyx switaki*	CT	Volcanic flows and hillsides, granite boulder strewn hillsides, sand-stone dominated habitats, washes and arroyos.	No	High within western biological study area; low within eastern biological study area	This species was not observed and has a high potential to occur within boulders and rocky outcrops in the western biological study area. However, this species is not expected to occur in areas with flat sand in the eastern biological study area. Barefoot gecko has been known to occur within a two-mile radius of the biological study area (State of California 2021a).
BIRDS (Nomenclature from Chesser et al. 2019 and CDFW 2021)					
VIREONIDAE **VIREOS**					
Least Bell's vireo (nesting) *Vireo bellii pusillus*	FE, CE	Willow riparian woodlands. Summer resident.	No	Not expected	This species was not observed and is not expected to occur due to lack of willow habitat. Least Bell's vireo has been known to occur within a two-mile buffer of the biological study area (CDFW 2021a; (County of San Diego 2021; USFWS 2021).

Attachment 4 Sensitive Wildlife Species Occurring or with the Potential to Occur within the Project Boundary					
Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site (Observed or L/M/H/U)	Basis for Determination of Occurrence Potential
POLIOPTILIDAE **GNATCATCHERS**					
Black-tailed gnatcatcher *Polioptila melanura*	WL	Halophytic scrub, badlands. Spiny trees and shrubs for nesting. Resident.	No	High	This species was observed immediately outside of the biological study area and has a high potential to occur within the project impact footprint due to the presence of suitable Sonoran creosote scrub.
PASSERELLIDAE **NEW WORLD PASSERINES**					
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	WL	Coastal sage scrub, chaparral, grassland. Resident.	No	Not expected	This species was not observed and is not expected to occur due to a lack of suitable coastal sage scrub, chaparral, and grassland habitat. This species is known to occur within two-miles of the biological study area from the Vallecitos Mountains area (County of San Diego 2021).

Attachment 4 Sensitive Wildlife Species Occurring or with the Potential to Occur within the Project Boundary					
Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site (Observed or L/M/H/U)	Basis for Determination of Occurrence Potential
MAMMALS (Nomenclature from Jones et al. 1997 and Hall 1981)					
VESPERTILIONIDAE **VESPER BATS**					
Pallid bat *Antrozous pallidus*	CSC	Arid deserts and grasslands. Day and night roosts in rock crevices in outcrops and cliffs, caves, mines, trees, bridges, and other human structures. Roosts tend to be warm and elevated. Forage for large-bodied arthropods over open shrublands, grasslands, and orchards.	No	Moderate	This species was not observed and has a moderate potential to roost on-site due to the presence of suitable structures and rock crevices, as well as suitable arid scrub with a perennial water source nearby for foraging. Pallid bat has been known to occur within a two-mile radius of the biological study area (County of San Diego 2021).
Townsend's [=western] big-eared bat *Corynorhinus townsendii*	CSC	Roosts primarily in large caves and mines, but will occasionally use buildings. Forages in edge habitats along streams, especially near woodlands. Travels up to 100 miles while foraging (WBWG 2017). Roosts extremely sensitive to disturbance.	No	Moderate	This species was not observed and has a moderate potential to roost on-site due to the presence of suitable structures, as well as potential foraging habitat with a perennial water source nearby. Townsend's big-eared bat has been known to occur within a two-mile radius of the biological study area (County of San Diego 2021).

Attachment 4 Sensitive Wildlife Species Occurring or with the Potential to Occur within the Project Boundary					
Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site (Observed or L/M/H/U)	Basis for Determination of Occurrence Potential
Western red bat *Lasiurus blossevillii*	CSC	Occurs throughout California, and western Nevada, east into Arizona and Utah. Roosts in foliage of riparian trees, particularly willows, sycamores, and cottonwoods. Feeds on a variety of moths and other flying insects.	No	Not expected	This species was not observed and is not expected to roost on-site due to lack of suitable trees for roosting. Western red bat has been known to occur within a two-mile radius of the biological study area (County of San Diego 2021).
MOLOSSIDAE FREE-TAILED BATS					
Western mastiff bat *Eumops perotis californicus*	CSC	Roosts mainly in cliff crevices at least 10 feet above ground. Occurs in coastal and desert scrub, riparian woodland, and pine forests. Forages on large moths and other flying insects (Tremor et al 2017).	No	Not expected	This species was not observed and is not expected to roost on-site due to lack of suitable cliff crevices and cliff surrogates of suitable height for roosting. This species may forage on-site due to the presence of suitable arid scrub with a perennial water source nearby. Western mastiff bat has been known to occur within a two-mile radius of the biological study area (State of California 2021a).

Attachment 4 Sensitive Wildlife Species Occurring or with the Potential to Occur within the Project Boundary					
Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site (Observed or L/M/H/U)	Basis for Determination of Occurrence Potential
PHYLLOSTOMIDAE **NEW WORLD LEAF-NOSED BATS**					
California leaf-nosed bat *Macrotus californicus*	CSC	Roosts in caves, fallen palm trunks, and cave-like man-made structures. Occurs in desert lowlands. Forages in desert washes and floodplains.	No	Moderate	This species was not observed and has a moderate potential to roost on-site due to the presence of suitable structures, as well as potential foraging habitat. California leaf-nosed bat has been known to occur within a two-mile radius of the biological study area (County of San Diego 2021).
LEPORIDAE **RABBITS & HARES**					
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	CSC	Open areas of scrub, grasslands, agricultural fields.	No	Not expected	This species was not observed and is not expected to occur due to lack of scrub, grassland, and agricultural field habitat. San Diego black-tailed jackrabbit records within a two-mile buffer of the biological study area are likely the desert subspecies, *L. californicus deserticola*, which is not sensitive (County of San Diego 2021, State of California 2021a).

Attachment 4 Sensitive Wildlife Species Occurring or with the Potential to Occur within the Project Boundary					
Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site (Observed or L/M/H/U)	Basis for Determination of Occurrence Potential
SCIURIDAE **SQUIRRELS & CHIPMUNKS**					
Palm Springs (=Coachella Valley round-tailed) round-tailed ground squirrel *Xerospermophilus* [=*spermophilus*] *tereticaudus chlorus*	CSC	Alkali sink, creosote bush scrub, sandy desert.	No	High	This species was not observed and has a high potential to occur on-site due to the presence of suitable creosote bush scrub. Palm Springs round-tailed ground squirrel has been known to occur within a two-mile radius of the biological study area (County of San Diego 2021).
HETEROMYIDAE **POCKET MICE & KANGAROO RATS**					
Pallid San Diego pocket mouse *Chaetodipus fallax pallidus*	CSC	Along eastern slope of coast range mountains: Victorville–Twenty-nine Palms–Jacumba.	No	Low	This species was not observed and has a low potential to occur on-site. This species is excluded from the flat parts of Anza Borrego desert (Tremor, et al. 2017). Pallid San Diego pocket mouse has been known to occur within a two-mile radius of the biological study area (County of San Diego 2021).

Attachment 4 Sensitive Wildlife Species Occurring or with the Potential to Occur within the Project Boundary					
Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site (Observed or L/M/H/U)	Basis for Determination of Occurrence Potential
MUSTELIDAE WEASELS, OTTERS, & BADGERS					
American badger *Taxidea taxus*	CSC	Grasslands, Sonoran desert scrub.	No	Low	This species was not observed and has a low potential to occur within the project impact footprint due to the presence of human activity from adjacent park facilities and as this species occurs at extremely low densities throughout the County. American badger has been known to occur within a two-mile radius of the biological study area (County of San Diego 2021).

Attachment 4 Sensitive Wildlife Species Occurring or with the Potential to Occur within the Project Boundary					
Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site (Observed or L/M/H/U)	Basis for Determination of Occurrence Potential
FELIDAE **CATS**					
Mountain lion *Puma concolor*	CFP, SCET	Many habitats.	No	Low	This species was not observed and has a low potential to occur within the project impact footprint due to the presence of human activity from adjacent park facilities and as this species occurs at extremely low densities throughout the County. Mountain lion has been known to occur within a two-mile radius of the biological study area (County of San Diego 2021).
BOVIDAE **CATTLE, ANTELOPE, GOATS, & SHEEP**					
Penisular bighorn sheep *Ovis canadensis nelsoni pop 2* [=*cremnobates*]	FE, CT, CFP	Open, rocky habitat, sparse vegetated desert slopes. Rocky ridges. Mainly within San Jacintos, Santa Rosas, San Ysidros (San Diego County).	Yes	Observed	This species was observed outside the biological study area and has a high potential to occur within the project impact footprint due to the presence of suitable Sonoran creosote scrub adjacent to rocky habitat. Big-horn sheep has been known to occur within a two-mile radius of the biological study area (County of San Diego 2021).

Attachment 4
Sensitive Wildlife Species Occurring or with the Potential to Occur within the Camp Borrego Project Boundary

(I) = Introduced species

STATUS CODES

Listed/Proposed

FE = Listed as endangered by the federal government
FPE = Federally proposed endangered
FPT = Federally proposed threatened
FT = Listed as threatened by the federal government
CE = Listed as endangered by the state of California
CT = Listed as threatened by the state of California

Other

BEPA = Bald and Golden Eagle Protection Act
CFP = California fully protected species
CSC = California Department of Fish and Wildlife species of special concern
FC = Federal candidate for listing (taxa for which the U.S. Fish and Wildlife Service has on file sufficient information on biological vulnerability and threat(s) to support proposals to list as endangered or threatened; development and publication of proposed rules for these taxa are anticipated)
WL = California Department of Fish and Wildlife watch list species
MSCP = City and County of San Diego Multiple Species Conservation Program covered species
SCET = State candidate for listing as Endangered or Threatened
* = Taxa listed with an asterisk fall into one or more of the following categories:

- Taxa considered endangered or rare under Section 15380(d) of CEQA guidelines
- Taxa that are biologically rare, very restricted in distribution, or declining throughout their range
- Population(s) in California that may be peripheral to the major portion of a taxon's range but which are threatened with extirpation within California
- Taxa closely associated with a habitat that is declining in California at an alarming rate (e.g., wetlands, riparian, old growth forests, desert aquatic systems, native grasslands)

APPENDIX C

Archaeological Survey Report

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

ARCHAEOLOGICAL SURVEY REPORT

STATE PARK SYSTEM UNIT: Anza Borrego Desert State Park
NAME OF PROJECT: Camp Borrego Renovation **PROJECT NUMBER**: n/a
USGS QUADRANGLE: Cuyamaca Peak **COUNTY**: San Diego
TOWNSHIP/RANGE/SECTIONS: T10s, R05e, Sections 36, 25 and 35

RECORDS SEARCH CONDUCTED AT: SCIC
DATE OF MOST RECENT RECORD SEARCH: 6/24/2021
RECORD SEARCH RESULTS: ☒Positive ☐Negative. Other Information:
PROJECT DESCRIPTION: This project is for the rebuild of Camp Borrego, a facility for local fifth grade classes to attend outdoor camp. The camp is run by the Anza Borrego Foundation, which is the official partner of Anza Borrego Desert State Park. The camp currently includes storage, sleeping yurts and a shade structure.
APPROXIMATE ACREAGE OF PROJECT AREA (S): 28 acres

ACRES SURVEYED: 42 acres
SURVEY DESCRIPTION:

Dates	6/4/21, 7/13/21, 7/14/21, 7/16/21
Person(s) Present	H. Elsken, Associate State Archaeologist
Description of Survey (plant type, slope, weather, etc.)	Survey area was mainly across the flood plain of Borrego Palm Canyon. The vegetation is moderate with desert shrubs covering 40% of the ground. Soils were mainly loose sand with no slope. The survey area around the campground amphitheater was a large boulder field that was broken up only by drainages from the canyon. Surveys were conducted between 6:30am to 10am when temperatures ranged from 85-93°
Survey Method	Pedestrian Survey was conducted in 10 meter East/West transects. The survey is for the Borrego Palm Canyon Camp Borrego Project.
Survey Results	POSITIVE

SITE(S) RECORDED/UPDATED/ASSESSED:
UPDATED CULTURAL RESOURCES
CA-SDi-1943: Site was first recorded in 1973 by P. Misner. Site consists of five schist boulders with milling features. Most of the milling features are small mortars, though there are some slicks. The only artifacts observed in the site were 8 potsherds and one pestle.

ASSESSED CULTURAL RESOURCES
P-37-17696: This resource was first recorded by Stephen R. Van Wormer in 1998. The resource consists of two residences, the maintenance yard and storeroom at the maintenance yard in Borrego Palm Canyon Campground. The residential buildings are made wit concrete blocks with a concrete slab foundation. The roofs are slightly pitched gabled end roofs covered with asphalt roofing material. The storeroom is steal framed and the sides and moderately pitched hipped roof are covered with corrugated steel. The black topped service maintenance yard is surrounded by 7 foot high concrete black wall. The shop area is located along the north and south walls and are also built from concrete blocks. No changes to resource were observed in the 2021 survey.

P-37-17964: This resource was first recorded by Stephen R. Van Wormer in 1998. The resource is the campground amphitheater for Borrego Palm Canyon Campground. The Amphitheater consists of wooden benches mounted on concrete piers. The stage is located at the center of the north end and consists of a

wooden platform with a wooden backdrop. Rows of granite cobble shave been stacked along the edge of the stages and pathways to the stage. No changes to resource were observed in the 2021 survey.

NEWLY RECORDED CULTURAL RESOURCES

BPC5 (temporary number): This site is a very dispersed pottery and lithic scatter. The site is located across a flood plain and is likely the artifacts are not in situ, but instead have travelled down the canyon from dense habitation sites in upper Borrego Palm Canyon to the flood plains in the lower canyon.

AMP1 (temporary number): The site has three slicks across three different granitic boulders.

RECOMMENDATIONS/REMARKS: Borrego Palm Canyon experiences extreme flooding events periodically. The last major flooding event occurred in 2004 and destroyed campsites in the Borrego Palm Canyon. Evidence of the flooding was visible across the survey area with large palm trunks that floated down from the palm groves in the 2004 flood. BPC5 is located across the area where the majority of the palm trunks and flood debris where visible. The potsherds and lithics at this site have likely been moved from their original deposition to be scattered across the flood plain. BPC5 contains no integrity and does not contain scientific data due to how the artifacts were deposited.

REPORT PREPARED BY: Hayley Elsken
Title: Associate State Archaeologist
Date: 7/16/21

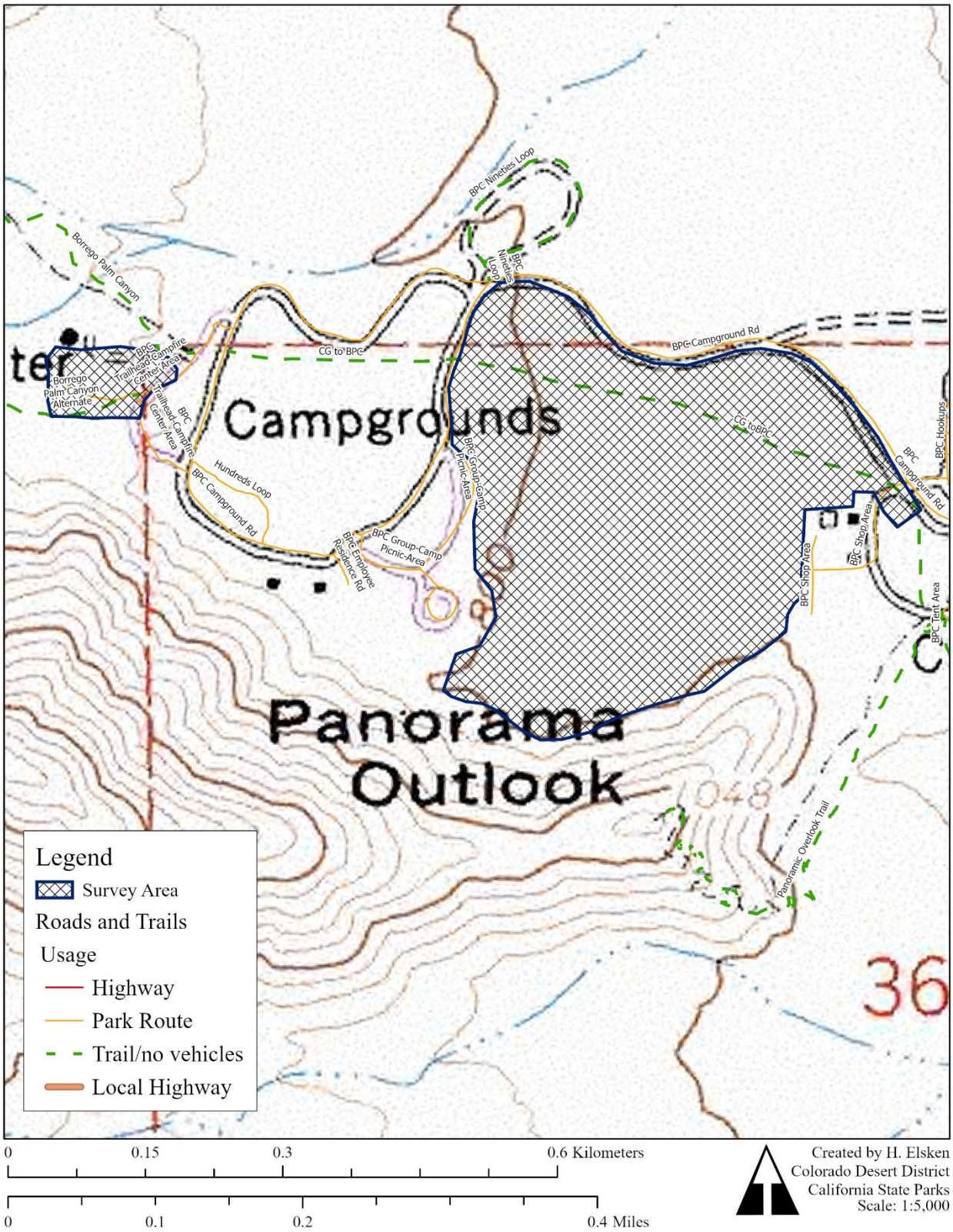
ATTACHMENTS: ☒ Coverage Map ☐ Site Records and Location Map ☐ Continuation sheet

DISTRIBUTION: ☒ District (original) ☐ Service Center ☐ Cultural Division

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

ARCHEOLOGICAL SURVEY REPORT- LOCATION MAP

Map Name: Borrego Palm Canyon Scale: 1:5000 Date Map Prepared: 7/16/2021



APPENDIX D

Geocon Industrial Geotechnical Investigation

GEOTECHNICAL INVESTIGATION

CAMP BORREGO IMPROVEMENTS
200 PALM CANYON DRIVE
BORREGO SPRINGS, CALIFORNIA

GEOCON
INCORPORATED

GEOTECHNICAL
ENVIRONMENTAL
MATERIALS

PREPARED FOR

SPURLOCK
LANDSCAPE ARCHITECTS

SEPTEMBER 29, 2021
PROJECT NO. G2796-52-01

Project No. G2796-52-01
September 29, 2021

Spurlock Landscape Architects
2122 Hancock Street
San Diego, California 92110

Attention: Ms. Amelia Capron

Subject: GEOTECHNICAL INVESTIGATION
CAMP BORREGO IMPROVEMENTS
200 PALM CANYON DRIVE
BORREGO SPRINGS, CALIFORNIA 92004

Dear Ms. Capron:

In accordance with your request and authorization of our Proposal No. LG-21354 dated July 21, 2021, we herein submit the results of our geotechnical investigation for the subject project. We performed our investigation to evaluate the underlying soil and geologic conditions and potential geologic hazards, and to assist in the design of the proposed buildings and associated improvements.

The accompanying report presents the results of our study and conclusions and recommendations pertaining to geotechnical aspects of the proposed project. The site is suitable for the proposed buildings and improvements provided the recommendations of this report are incorporated into the design and construction of the planned project.

Should you have questions regarding this report, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON INCORPORATED

Ken W. Haase
Senior Staff Geologist

Shawn Foy Weedon
GE 2714

John Hoobs
CEG 1524

KWH:SFW:JH:arm

(e-mail) Addressee

TABLE OF CONTENTS

GEOTECHNICAL INVESTIGATION

1. PURPOSE AND SCOPE

This report presents the results of our geotechnical investigation for a new educational camp located at the Palm Canyon Campground in Borrego Springs, California as shown on the Vicinity Map.

Vicinity Map

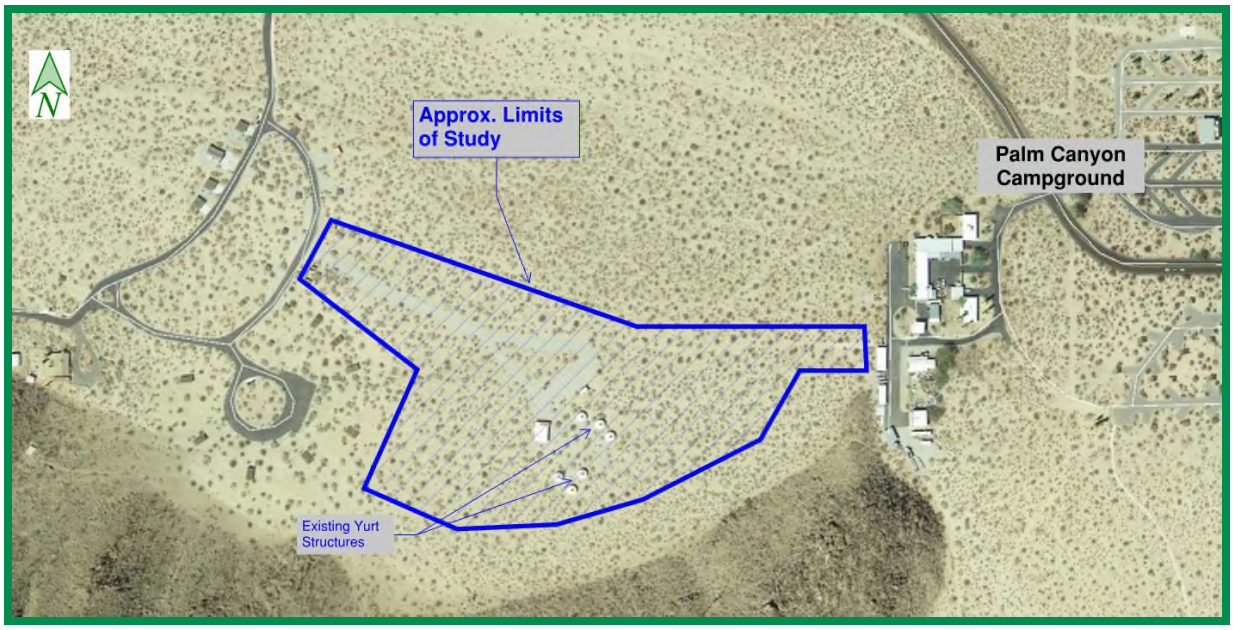
The purpose of the geotechnical investigation is to evaluate the surface and subsurface soil conditions and general site geology, and to identify geotechnical constraints that may affect development of the property including faulting, liquefaction, hydrocollapse and seismic shaking based on the 2019 CBC seismic design criteria. In addition, this report includes recommendations for remedial grading, shallow foundations, concrete slab-on-grade, concrete flatwork, pavement and retaining walls.

We also reviewed the plans titled *Camp Borrego Site Plan, Approximate Area of Disturbance,* prepared by Spurlock Landscape Architects, dated July 16, 2021.

The scope of this investigation included reviewing readily available published and unpublished geologic literature (see List of References), performing engineering analyses and preparing this report. We also advanced 5 exploratory borings to a maximum depth of about 20 feet, sampled soil and performed laboratory testing. Appendix A presents the exploratory boring logs and details of the field investigation. The details of the laboratory tests and a summary of the test results are shown in Appendix B and on the boring logs in Appendix A.

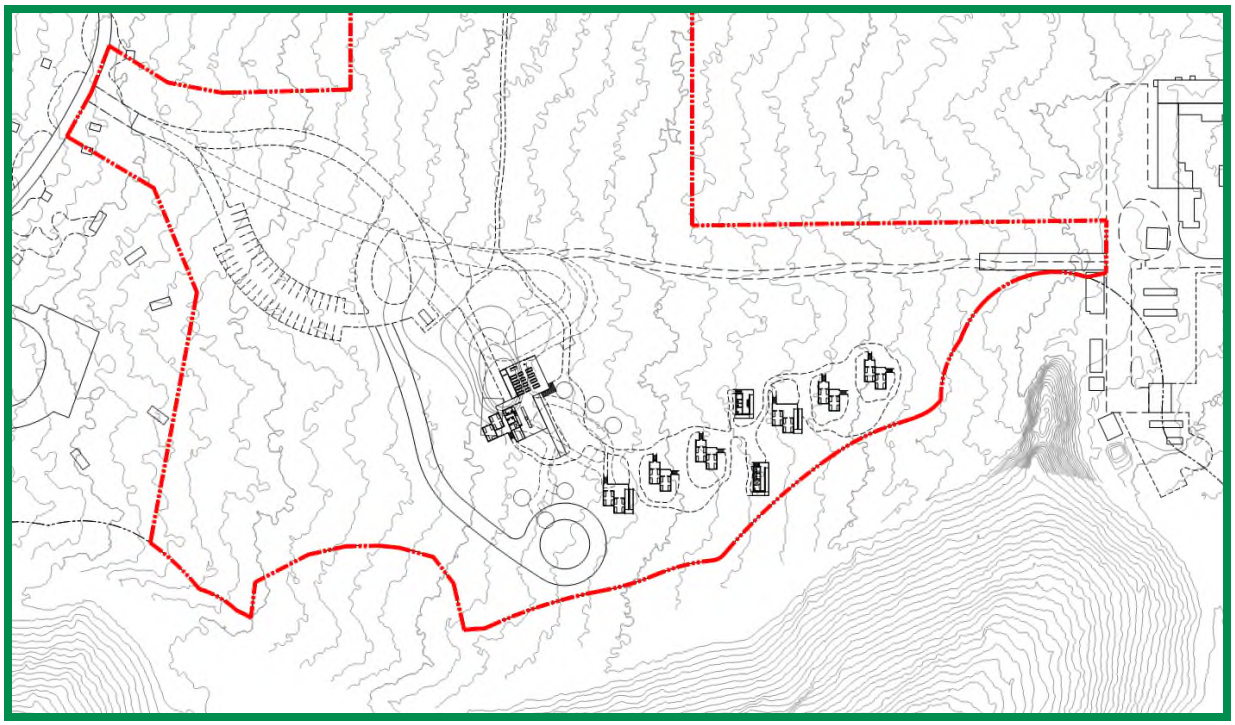
2. SITE AND PROJECT DESCRIPTION

The site is currently located in the southwest area of the existing Palm Canyon Campground. The proposed site is located in the vicinity of a previously constructed camp facility consisting of Yurts founded on concrete pads, ancillary structures housing camp equipment and a restroom facility. A gravel road extending from the main paved campground road is used as access to the site. The site is located within undeveloped areas of the campground with elevations ranging between 780 and 800 feet Mean Sea Level (MSL) across the improvement area. The Existing Site Plan shows the current site conditions.



Existing Site Plan

We understand the project will consist of updating the education center with new camp bunk houses, restrooms, a kitchen, group gathering space, staff bunk houses and storage areas with accompanied utilities and parking areas. We understand the grading for the site will be limited to cuts and fills of less than about 5 feet. The proposed camp bunk houses will be elevated and likely supported on piles. The roadways will follow the approximate existing grades of the area. The Proposed Site Plan shows the planned improvements.

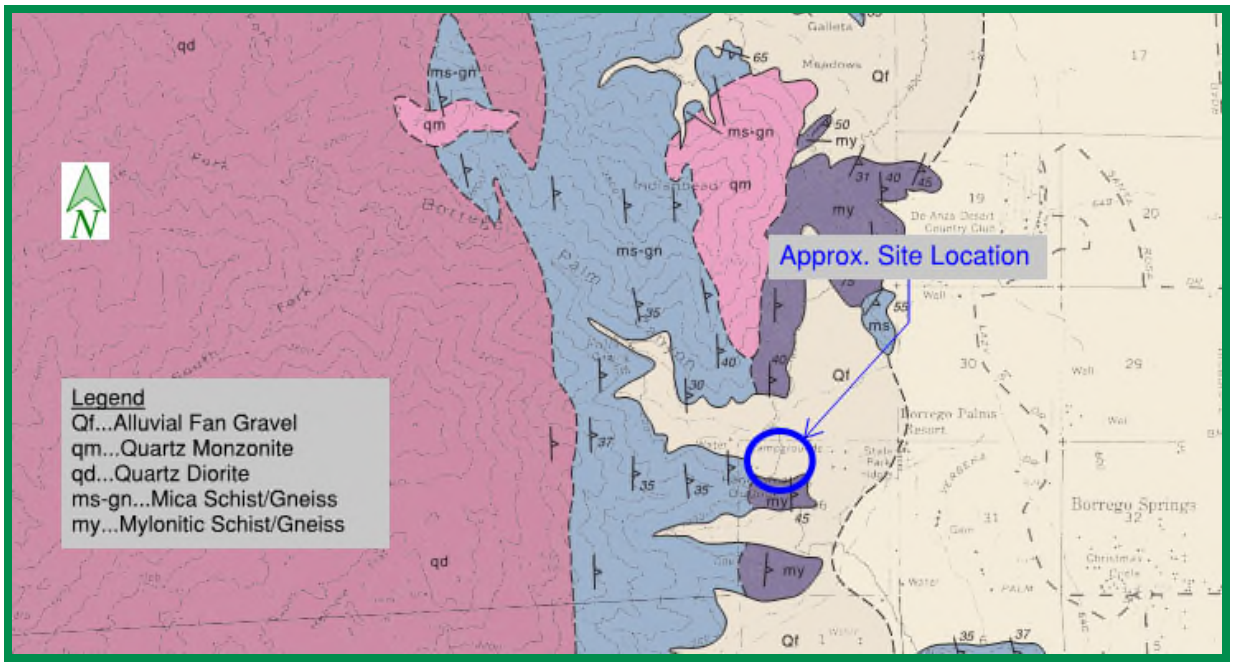


Proposed Site Plan

The locations, site descriptions, and proposed development are based on our site reconnaissance, review of published geologic literature, field investigations, and discussions with project personnel. If development plans differ from those described herein, Geocon Incorporated should be contacted for review of the plans and possible revisions to this report.

3. GEOLOGIC SETTING

The site is located east of the Peninsular Ranges within the Colorado Desert Geomorphic Province of southern California. The Colorado desert is a geologic and geomorphic province that extends from the Transverse Ranges to the north and into Baja California to the south. It is bounded by the Peninsular Ranges to the west and the Mojave Desert to the east. The Salton Trough is located in the central portion of the province and was created by extensional tectonics prior to and during movement on the San Andreas Fault. The Colorado Desert portion of San Diego County is underlain by alluvial materials and Tertiary to Quaternary-aged sedimentary rocks. The basement rocks are comprised of Mesozoic-aged Plutonic and Metasedimentary rocks. The Colorado Desert Province is dissected by the San Jacinto Fault Zone and the San Andreas Fault Zone, which is the plate boundary between the Pacific and North American Plates. The Regional Geologic Map shows the geologic units in the area of the site.



Regional Geologic Map

4. SOIL AND GEOLOGIC CONDITIONS

We encountered one surficial soil unit (consisting of alluvial fan gravel) during our field investigation and observed one formational unit (consisting of Metasedimentary rock) adjacent to the proposed improvements. The occurrence, distribution, and description of each unit encountered is shown on the Geologic Map, Figure 1, and on the boring logs in Appendix A. The Geologic Cross-Section, Figure 2, show the expected subsurface geologic units. We prepared the geologic cross-section using interpolation between exploratory excavations and observations; therefore, actual geotechnical conditions may vary from those illustrated and should be considered approximate. The surficial soil and geologic units are described herein in order of increasing age.

4.1 Alluvial Fan Gravel (Qf)

We encountered alluvial fan gravel in all of our borings to the depths explored of approximately 20 feet. The total depth of the alluvial materials may be up to 150 feet or greater at the site. The alluvial deposits typically consist of loose, dry, brown, silty sand with little to some gravel and cobble. The upper portion of the alluvium is considered unsuitable for the support of foundations or structural fills and will require remedial grading.

4.2 Metasedimentary Rock (Ms-gn & My undifferentiated)

Jurassic- to Cretaceous-age (Mesozoic) Metasedimentary Rock is mapped within the mountainous terrain to the south of the site. This unit is comprised of a metamorphosed rock consisting of Mica

Gneiss, Mylonitic schist, and Gneiss. This unit is normally very strong, moderately fractured, and excavations within the unit normally encounter refusal. We do not expect to encounter this unit during construction.

5. GROUNDWATER

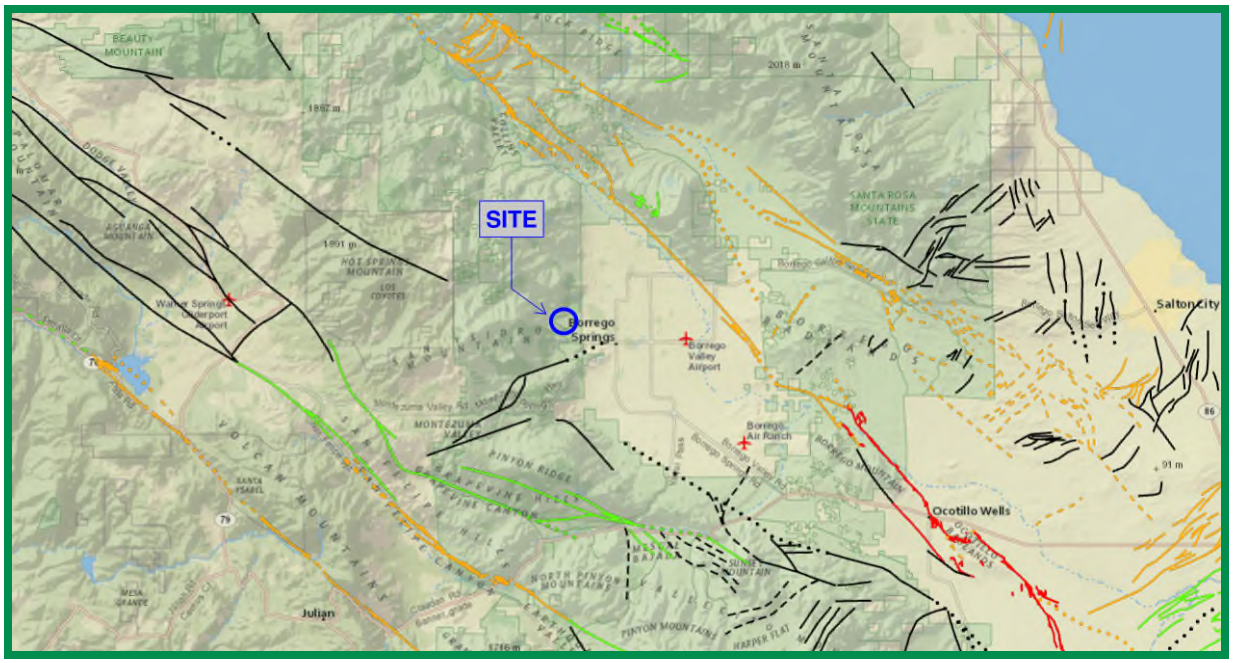
We did not encounter groundwater or seepage during our site investigation. However, it is not uncommon for shallow seepage conditions to develop where none previously existed when sites are irrigated or infiltration is implemented. Seepage is dependent on seasonal precipitation, irrigation, land use, among other factors, and varies as a result. Proper surface drainage will be important to future performance of the project. We expect groundwater is deeper than about 150 feet below existing grade. We do not expect groundwater to be encountered during construction of the proposed development. The proposed improvements are planned within a flood zone so seepage or surface water could be encountered if the construction operations occur during the rainy season.

6. GEOLOGIC HAZARDS

6.1 Regional Faulting and Seismicity

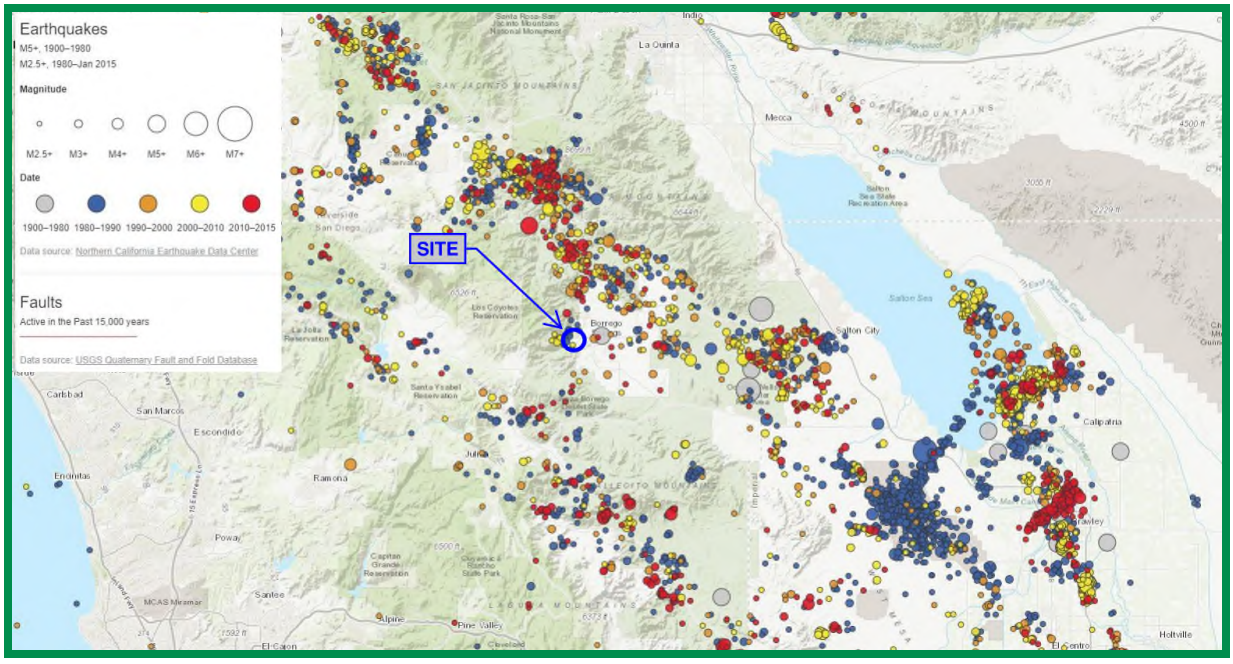
A review of the referenced geologic materials and our knowledge of the general area indicate that the site is not underlain by active, potentially active, or inactive faults. An active fault is defined by the California Geological Survey (CGS) as a fault showing evidence for activity within the last 11,700 years. The site is not located within a State of California Earthquake Fault Zone.

The USGS has developed a program to evaluate the approximate location of faulting in the area of properties. The following figure shows the location of the existing faulting in the Imperial County and Southern California region. The fault traces are shown as solid, dashed and dotted that represent well-constrained, moderately constrained and inferred, respectively. The fault line colors represent faults with ages less than 150 years (red), 15,000 years (orange), 130,000 years (green), 750,000 years (blue)(not shown on map) and 1.6 million years (black).



Faults in Southern California

The San Diego County and Southern California region is seismically active. The following figure presents the occurrence of earthquakes with a magnitude greater than 2.5 from the period of 1900 through 2015 according to the Bay Area Earthquake Alliance website.



Earthquakes in Southern California

Considerations important in seismic design include the frequency and duration of motion and the soil conditions underlying the site. Seismic design of structures should be evaluated in accordance with the California Building Code (CBC) guidelines currently adopted by the local agency.

6.2 Ground Rupture

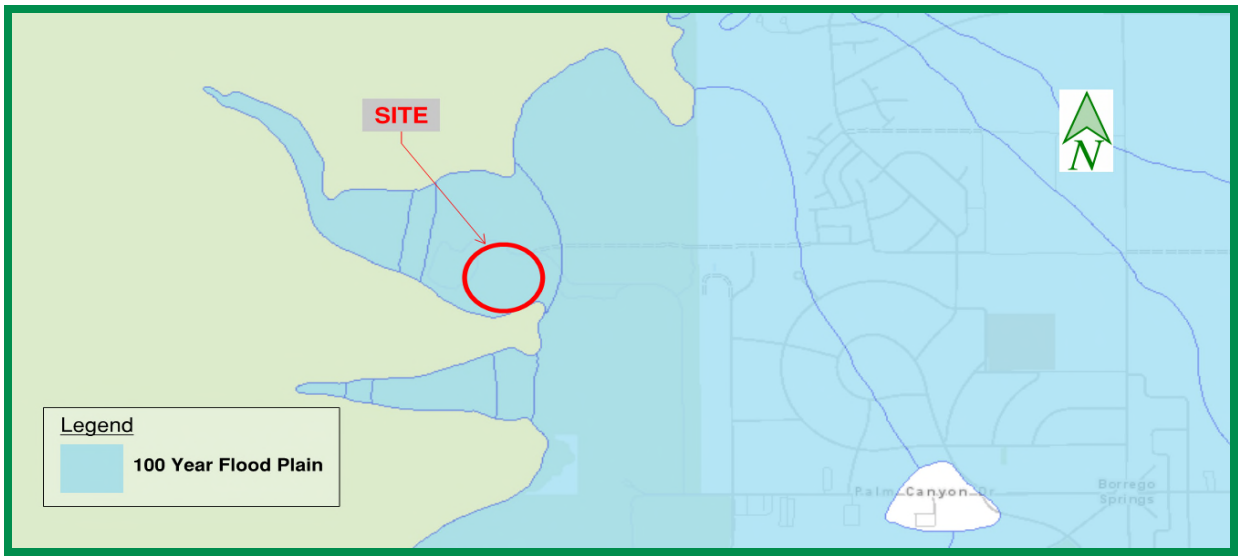
Ground surface rupture occurs when movement along a fault is sufficient to cause a gap or rupture where the upper edge of the fault zone intersects the ground surface. The potential for ground rupture is considered to be very low due to the absence of active faults at the subject site.

6.3 Liquefaction

Liquefaction typically occurs when a site is located in a zone with seismic activity, onsite soils are cohesionless or silt/clay with low plasticity, groundwater is encountered within 50 feet of the surface, and soil densities are less than about 70 percent of the maximum dry densities. If the four previous criteria are met, a seismic event could result in a rapid pore water pressure increase from the earthquake-generated ground accelerations. Due to the anticipated depth of the groundwater table greater than 50 feet below the ground surface, we opine that the liquefaction potential is low.

6.4 Flooding

Flooding is a condition that occurs when the volume of water exceeds the capacity of the waterway channels. Based on the County of San Diego Flood Hazard Map, the site is located within the 100-year flood plain which is described as an area vulnerable to flooding from the 1% annual chance of flood. We understand that the sleeping structures and restrooms will be constructed on piers approximately 4 feet above the existing ground surface. The Flood Hazard Map shows the site in relation to the 100-year flood plain.



Flood Hazard Map

6.5 Storm Surge, Tsunamis, and Seiches

Storm surges are large ocean waves that sweep across coastal areas when storms make landfall. Storm surges can cause inundation, severe erosion and backwater flooding along the water front. The site is located over 58 miles from the Pacific Ocean and is at an elevation of about 780 feet or greater above Mean Sea Level (MSL). Therefore, the potential of storm surges affecting the site is considered very low.

A tsunami is a series of long period waves generated in the ocean by a sudden displacement of large volumes of water. Causes of tsunamis include underwater earthquakes, volcanic eruptions, or offshore slope failures. The potential for the site to be affected by a tsunami is negligible due to the distance from the Pacific Ocean and the site elevation.

A seiche is a run-up of water within a lake or embayment triggered by fault- or landslide-induced ground displacement. The site is located roughly 28 miles from the Salton Sea and is not located in the vicinity of or downstream from any body of water. Therefore, the risk of seiches affecting the site is negligible.

6.6 Subsidence

Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil or natural gas. Soil particularly subject to subsidence include those with high silt or clay content. The site is not located within an area of known ground subsidence. We understand known large-scale extraction of groundwater, gas, oil or geothermal energy is not occurring or planned at the site or in the general site vicinity. Therefore, the potential for ground subsidence due to withdrawal of fluids or gases at the site is considered low.

6.7 Hydrocollapse

Hydrocollapse is the tendency of unsaturated soil structure to collapse upon saturation resulting in the overall settlement of the effected soil and overlying foundations or improvements supported thereon. Potentially compressible surficial soil underlying the proposed structures and existing fill is typically removed and recompacted during remedial site grading. However, if compressible soil is left in-place, a potential for settlement due to hydrocollapse of the soil exists. The potential for hydrocollapse can be mitigated by remedial grading and the use of stiffer foundation systems. Based on the laboratory test results, the potential for hydrocollapse ranges up to 1 percent. However, we expect the potential would be limited to about a 10-foot thick layer. We expect the upper 5 feet of alluvial material to undergo remedial grading while most of the alluvial material will be left in place; therefore, we expect the total and differential settlement due to hydrocollapse is approximately 1.2 and 0.6 inches, respectively.

6.8 Landslides

We did not observe evidence of previous or incipient slope instability at or adjacent to the site during our study and the property is relatively flat. Published geologic mapping indicates landslides are not present on or adjacent to the site. Therefore, we opine the potential for a landslide is not a significant concern for this project.

6.9 Erosion

The site is relatively flat and is not located adjacent to the Salton Sea or a free-flowing drainage where active erosion is occurring. Provided the engineering recommendations herein are followed and the project civil engineer prepares the grading plans in accordance with generally-accepted regional standards, we do not expect erosion to be greater than the surrounding area. In addition, we expect the proposed development would not increase the potential for erosion if properly designed.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 General

7.1.1 We did not encounter soil or geologic conditions during our exploration that would preclude the proposed development, provided the recommendations presented herein are followed and implemented during design and construction. We will provide supplemental recommendations if we observe variable or undesirable conditions during construction, or if the proposed construction will differ from that anticipated herein.

7.1.2 The site may be subject to geologic hazards, including moderate to strong seismic shaking, seismically induced settlement and settlement due to hydrocollapse. This report includes recommendations for the mitigation of these geologic hazards.

7.1.3 The alluvial fan gravels are potentially compressible and unsuitable in their present condition for the support of compacted fill or settlement-sensitive improvements. Remedial grading of the upper portion of these materials should be performed as discussed herein.

7.1.4 We did not encounter groundwater during our subsurface exploration and we do not expect it to be a constraint to project development. However, seepage within surficial soils may be encountered during the grading operations, especially during the rainy seasons.

7.1.5 Excavation of the alluvial fan gravel should generally be possible with moderate effort using conventional, heavy-duty equipment during grading and trenching operations. Due to the dry sandy nature of the existing materials, excavations will likely encounter instability and will need to be properly laid back or shored in accordance with OSHA requirements.

7.1.6 Proper drainage should be maintained in order to preserve the engineering properties of the fill in both the building pads and slope areas. Recommendations for site drainage are provided herein.

7.1.7 Based on our review of the project plans, we opine the planned development can be constructed in accordance with our recommendations provided herein. We do not expect the planned development will destabilize or result in settlement of adjacent properties if properly constructed.

7.1.8 Surface settlement monuments and canyon subdrains will not be required on this project.

7.2 Excavation and Soil Characteristics

7.2.1 Excavation of the in-situ soil should be possible with moderate effort using conventional heavy-duty equipment.

7.2.2 The soil encountered in the field investigation is considered to be "non-expansive" (expansion index [EI] of 20 or less) as defined by 2019 California Building Code (CBC) Section 1803.5.3. We expect a majority of the soil encountered possess a "very low" expansion potential (EI of 20 or less) in accordance with ASTM D 4829. Table 7.2 presents soil classifications based on the expansion index.

TABLE 7.2
EXPANSION CLASSIFICATION BASED ON EXPANSION INDEX

Expansion Index (EI)	ASTM D 4829 Expansion Classification	2019 CBC Expansion Classification
0 – 20	Very Low	Non-Expansive
21 – 50	Low	Expansive
51 – 90	Medium	
91 – 130	High	
Greater Than 130	Very High	

7.2.3 We performed laboratory tests on samples of the site materials to evaluate the percentage of water-soluble sulfate content. Appendix B presents results of the laboratory water-soluble sulfate content tests. The test results indicate the on-site materials at the locations tested possess "S0" sulfate exposure to concrete structures as defined by 2019 CBC Section 1904 and ACI 318-14 Chapter 19. The presence of water-soluble sulfates is not a visually discernible characteristic; therefore, other soil samples from the site could yield different concentrations. Additionally, over time landscaping activities (i.e., addition of fertilizers and other soil nutrients) may affect the concentration.

7.2.4 Geocon Incorporated does not practice in the field of corrosion engineering. Therefore, further evaluation by a corrosion engineer may be performed if improvements susceptible to corrosion are planned.

7.3 Grading

7.3.1 Grading should be performed in accordance with the recommendations provided in this report, the Recommended Grading Specifications contained in Appendix C and the County

of San Diego's Grading Ordinance. Geocon Incorporated should observe the grading operations on a full-time basis and provide testing during the fill placement.

7.3.2 Prior to commencing grading, a preconstruction conference should be held at the site with the county inspector, developer, grading and underground contractors, civil engineer, and geotechnical engineer in attendance. Special soil handling and/or the grading plans can be discussed at that time.

7.3.3 Site preparation should begin with the removal of deleterious material, debris, and vegetation. The depth of vegetation removal should be such that material exposed in cut areas or soil to be used as fill is relatively free of organic matter. Material generated during stripping and/or site demolition should be exported from the site. Asphalt and concrete should not be mixed with the fill soil unless approved by the Geotechnical Engineer.

7.3.4 Abandoned foundations and buried utilities (if encountered) should be removed and the resultant depressions and/or trenches should be backfilled with properly compacted material as part of the remedial grading.

7.3.5 We expect the proposed structures will be supported on a shallow foundation system and pier foundation system. The upper 5 feet of materials below the proposed grade or 2 feet below the deepest shallow footing (whichever results in a deeper removal) should be removed and replaced with properly compacted fill. The removals should extend at least 10 feet outside of the proposed foundation zones.

7.3.6 In areas of proposed improvements outside of the building areas, the upper 2 feet of existing soil should be processed, moisture conditioned as necessary and recompacted. Deeper removals may be required in areas where loose or saturated materials are encountered. The removals should extend at least 2 feet outside of the improvement area, where possible. Table 7.3.1 provides a summary of the grading recommendations.

7.3.7 Prior to fill soil being placed, the existing ground surface should be scarified, moisture conditioned as necessary, and compacted to a depth of at least 12 inches. Deeper removals may be required if loose soil is encountered. A representative of Geocon should be on-site during removals to evaluate the limits of the remedial grading.

TABLE 7.3.1
SUMMARY OF GRADING RECOMMENDATIONS

Area	Removal Requirements
Building Pads (Shallow Foundations)	Excavate Upper 5 Feet of Existing Materials or 2 Feet Below Footing (Whichever is Deeper)
Building Pads (Deep Foundations)	Excavate Upper 3 Feet of Existing Materials
Site Improvements	Process Upper 2 Feet of Existing Materials
Lateral Grading Limits	10 Feet Outside of Buildings/2 Feet Outside of Improvement Areas, Where Possible
Exposed Bottoms of Remedial Grading	Scarify Upper 12 Inches

7.3.8 The site should then be brought to final subgrade elevations with fill compacted in layers. In general, soil native to the site is suitable for use from a geotechnical engineering standpoint as fill if relatively free from vegetation, debris and other deleterious material. Layers of fill should be about 6 to 8 inches in loose thickness and no thicker than will allow for adequate bonding and compaction. Fill, including backfill and scarified ground surfaces, should be compacted to a dry density of at least 90 percent of the laboratory maximum dry density near to slightly above optimum moisture content in accordance with ASTM Test Procedure D 1557. Fill materials placed below optimum moisture content may require additional moisture conditioning prior to placing additional fill. We expect that large quantities of water will be needed during remedial grading operations to achieve near optimum moisture contents for new fill and the scarified bottom removals since the existing alluvial soils are dry. The upper 12 inches of subgrade soil underlying pavement should be compacted to a dry density of at least 95 percent of the laboratory maximum dry density near to slightly above optimum moisture content shortly before paving operations.

7.3.9 Import fill (if necessary) should consist of the characteristics presented in Table 7.3.2. Geocon Incorporated should be notified of the import soil source and should perform laboratory testing of import soil prior to its arrival at the site to determine its suitability as fill material.

TABLE 7.3.2
SUMMARY OF IMPORT FILL RECOMMENDATIONS

Soil Characteristic	Values
Expansion Potential	“Very Low” to “Low” (Expansion Index of 50 or less)
Particle Size	Maximum Dimension Less Than 3 Inches
	Generally Free of Debris

7.4 Subdrains

7.4.1 We do not expect the installation of subdrains at the site.

7.5 Seismic Design Criteria – 2019 California Building Code

7.5.1 Table 7.5.1 summarizes site-specific design criteria obtained from the 2019 California Building Code (CBC; Based on the 2018 International Building Code [IBC] and ASCE 7-16), Chapter 16 Structural Design, Section 1613 Earthquake Loads. We used the computer program *U.S. Seismic Design Maps*, provided by the Structural Engineers Association (SEA) to calculate the seismic design parameters. The short spectral response uses a period of 0.2 second. We evaluated the Site Class based on the discussion in Section 1613.2.2 of the 2019 CBC and Table 20.3-1 of ASCE 7-16. However, we expect the proposed buildings possess a period of less than 0.5 second; therefore, building improvements can be designed based on the soil conditions (ASCE 7-16, Section 20.3.1). The values presented herein are for the risk-targeted maximum considered earthquake (MCE_R). Sites designated as Site Class D, E and F may require additional analyses if requested by the project structural engineer and/or client.

TABLE 7.5.1
2019 CBC SEISMIC DESIGN PARAMETERS

Parameter	Value	2019 CBC Reference
Site Class	E	Section 1613.2.2
MCE_R Ground Motion Spectral Response Acceleration – Class B (short), S_S	1.551g	Figure 1613.2.1(1)
MCE_R Ground Motion Spectral Response Acceleration – Class B (1 sec), S_1	0.602g	Figure 1613.2.1(2)
Site Coefficient, F_A	1.200	Table 1613.2.3(1)
Site Coefficient, F_V	1.700*	Table 1613.2.3(2)
Site Class Modified MCE_R Spectral Response Acceleration (short), S_{MS}	1.862g	Section 1613.2.3 (Eqn 16-36)
Site Class Modified MCE_R Spectral Response Acceleration – (1 sec), S_{M1}	1.023g*	Section 1613.2.3 (Eqn 16-37)
5% Damped Design Spectral Response Acceleration (short), S_{DS}	1.241g	Section 1613.2.4 (Eqn 16-38)
5% Damped Design Spectral Response Acceleration (1 sec), S_{D1}	0.682g*	Section 1613.2.4 (Eqn 16-39)

***Note:** Using the code-based values presented in this table, in lieu of a performing a ground motion hazard analysis, requires the exceptions outlined in ASCE 7-16 Section 11.4.8 be followed by the project structural engineer. Per Section 11.4.8 of ASCE/SEI 7-16, a ground motion hazard analysis should be performed for projects for Site Class "E" sites with Ss greater than or equal to 1.0g and for Site Class "D" and "E" sites with S1 greater than 0.2g. Section 11.4.8 also provides exceptions which indicates that the ground motion hazard analysis may be waived provided the exceptions are followed.

7.5.2 Table 7.5.2 presents the mapped maximum considered geometric mean (MCE_G) seismic design parameters for projects located in Seismic Design Categories of D through F in accordance with ASCE 7-16.

TABLE 7.5.2
ASCE 7-16 PEAK GROUND ACCELERATION

Parameter	Value	ASCE 7-16 Reference
Mapped MCE_G Peak Ground Acceleration, PGA	0.658g	Figure 22-9
Site Coefficient, F_{PGA}	1.200	Table 11.8-1
Site Class Modified MCE_G Peak Ground Acceleration, PGA_M	0.790g	Section 11.8.3 (Eqn 11.8-1)

7.5.3 Conformance to the criteria in Tables 7.5.1 and 7.5.2 for seismic design does not constitute any kind of guarantee or assurance that significant structural damage or ground failure will not occur in the event of a large earthquake. The primary goal of seismic design is to protect life, not to avoid all damage, since such design may be economically prohibitive.

7.5.4 The project structural engineer and architect should evaluate the appropriate Risk Category and Seismic Design Category for the planned structures. The values presented herein assume a Risk Category of II and resulting in a Seismic Design Category D. Table 7.5.3 presents a summary of the risk categories in accordance with ASCE 7-16.

TABLE 7.5.3
ASCE 7-16 RISK CATEGORIES

Risk Category	Building Use	Examples
I	Low risk to Human Life at Failure	Barn, Storage Shelter
II	Nominal Risk to Human Life at Failure (Buildings Not Designated as I, III or IV)	Residential, Commercial and Industrial Buildings
III	Substantial Risk to Human Life at Failure	Theaters, Lecture Halls, Dining Halls, Schools, Prisons, Small Healthcare Facilities, Infrastructure Plants, Storage for Explosives/Toxins
IV	Essential Facilities	Hazardous Material Facilities, Hospitals, Fire and Rescue, Emergency Shelters, Police Stations, Power Stations, Aviation Control Facilities, National Defense, Water Storage

7.6 Shallow Foundations

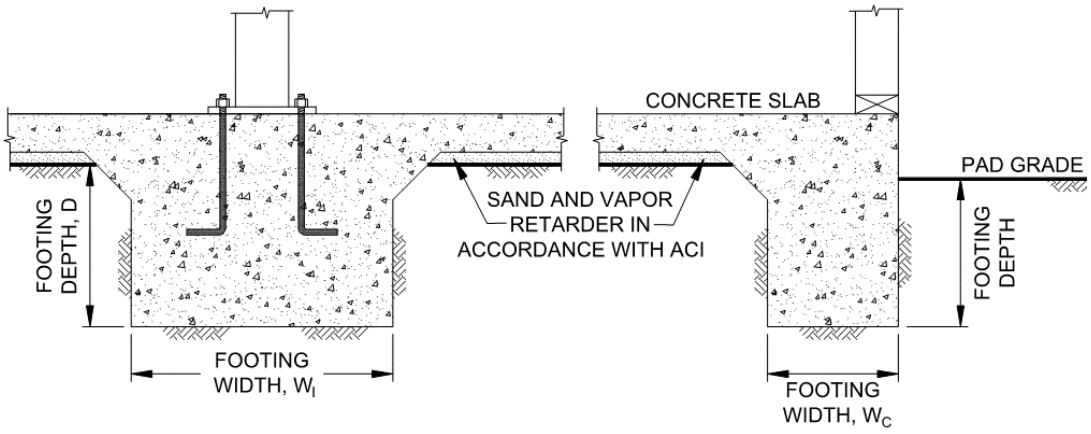
7.6.1 The proposed structures can be supported on a shallow foundation system founded in compacted fill. Foundations for the structure should consist of continuous strip footings and/or isolated spread footings. Table 7.6 provides a summary of the foundation design recommendations.

TABLE 7.6
SUMMARY OF FOUNDATION RECOMMENDATIONS

Parameter	Value
Minimum Continuous Foundation Width, W_C	12 inches
Minimum Isolated Foundation Width, W_I	24 inches
Minimum Foundation Depth, D	24 Inches Below Lowest Adjacent Grade
Minimum Steel Reinforcement	4 No. 5 Bars, 2 at the Top and 2 at the Bottom
Allowable Bearing Capacity	2,000 psf
Estimated Total Settlement* – Foundation Loads	½ Inch
Estimated Differential Settlement* – Foundation Loads	½ Inch in 40 Feet
Footing Size Used for Settlement	8-Foot Square
Design Expansion Index	50 or less

*Does not include 1.2 and 0.6 total and differential settlement due to hydrocollapse.

7.6.2 The foundations should be embedded in accordance with the recommendations herein and the Wall/Column Footing Dimension Detail. The embedment depths should be measured from the lowest adjacent pad grade for both interior and exterior footings. Footings should be deepened such that the bottom outside edge of the footing is at least 7 feet horizontally from the face of the slope (unless designed with a post-tensioned foundation system as discussed herein).



Wall/Column Footing Dimension Detail

7.6.3 The bearing capacity values presented herein are for dead plus live loads and may be increased by one-third when considering transient loads due to wind or seismic forces.

7.6.4 We should observe the foundation excavations prior to the placement of reinforcing steel and concrete to check that the exposed soil conditions are similar to those expected and that they have been extended to the appropriate bearing strata. Foundation modifications may be required if unexpected soil conditions are encountered.

7.6.5 Geocon Incorporated should be consulted to provide additional design parameters as required by the structural engineer.

7.7 Post-Tensioned Foundations

7.7.1 As an alternative to the conventional foundation recommendations, consideration should be given to the use of post-tensioned concrete slab and foundation systems for the support of the proposed structures. The post-tensioned systems should be designed by a structural engineer experienced in post-tensioned slab design and design criteria of the Post-Tensioning Institute (PTI) DC10.5 as required by the 2019 California Building Code (CBC Section 1808.6.2). Although this procedure was developed for expansive soil conditions, we understand it can also be used to reduce the potential for foundation distress due to differential fill settlement. The post-tensioned design should incorporate the geotechnical parameters presented on Table 7.7.1. The parameters presented in Table 7.7.1 are based on the guidelines presented in the PTI, DC10.5 design manual.

TABLE 7.7.1
POST-TENSIONED FOUNDATION SYSTEM DESIGN PARAMETERS

Post-Tensioning Institute (PTI) DC10.5 Design Parameters	Value
Thornthwaite Index	-20
Equilibrium Suction	3.9
Edge Lift Moisture Variation Distance, e_M (feet)	4.9
Edge Lift, y_M (inches)	0.61
Center Lift Moisture Variation Distance, e_M (feet)	9.0
Center Lift, y_M (inches)	0.30

7.7.2 Foundation systems for the lots that possess a “very low” expansion potential (expansion index of 20 or less) can be designed using the method described in Section 1808 of the 2019 CBC. If post-tensioned foundations are planned, an alternative, commonly accepted design method (other than PTI) can be used.

7.7.3 The foundations for the post-tensioned slabs should be embedded in accordance with the recommendations of the structural engineer. If a post-tensioned mat foundation system is planned, the slab should possess a thickened edge with a minimum width of 12 inches and extend below the clean sand or crushed rock layer.

7.7.4 If the structural engineer proposes a post-tensioned foundation design method other than the 2019 CBC (PTI DC10.5):

- The criteria presented in Table 7.7.1 are still applicable.
- Interior stiffener beams should be used.
- The width of the perimeter foundations should be at least 12 inches.
- The perimeter footing embedment depths should be at least 24 inches. The embedment depths should be measured from the lowest adjacent pad grade.

7.7.5 Our experience indicates post-tensioned slabs are susceptible to excessive edge lift, regardless of the underlying soil conditions. Placing reinforcing steel at the bottom of the perimeter footings and the interior stiffener beams may mitigate this potential. Current PTI design procedures primarily address the potential center lift of slabs but, because of the placement of the reinforcing tendons in the top of the slab, the resulting eccentricity after tensioning reduces the ability of the system to mitigate edge lift. The structural engineer should design the foundation system to reduce the potential of edge lift occurring for the proposed structures.

7.7.6 During the construction of the post-tension foundation system, the concrete should be placed monolithically. Under no circumstances should cold joints form between the footings/grade beams and the slab during the construction of the post-tension foundation system unless designed by the project structural engineer.

7.7.7 The proposed structures can be supported on a shallow foundation system founded in the compacted fill/formational materials. Table 7.7.2 provides a summary of the foundation design recommendations.

TABLE 7.7.2
SUMMARY OF FOUNDATION RECOMMENDATIONS

Parameter	Value
Allowable Bearing Capacity	2,000 psf
Bearing Capacity Increase	500 psf per Foot of Depth
	300 psf per Foot of Width
Maximum Allowable Bearing Capacity	3,500 psf
Estimated Total Settlement* – Foundation Loads	½ Inch
Estimated Differential Settlement* – Foundation Loads	½ Inch in 40 Feet

*Does not include 1.2 and 0.6 total and differential settlement due to hydrocollapse.

7.7.8 The bearing capacity values presented herein are for dead plus live loads and may be increased by one-third when considering transient loads due to wind or seismic forces.

7.7.9 Isolated footings, if present, should have the minimum embedment depth and width recommended for conventional foundations. The use of isolated footings, which are located beyond the perimeter of the building and support structural elements connected to the building, are not recommended. Where this condition cannot be avoided, the isolated footings should be connected to the building foundation system with grade beams in both directions.

7.7.10 Consideration should be given to using interior stiffening beams and connecting isolated footings and/or increasing the slab thickness.

7.7.11 Slabs that may receive moisture-sensitive floor coverings or may be used to store moisture-sensitive materials should be underlain by a vapor retarder. The vapor retarder design should be consistent with the guidelines presented in the American Concrete Institute's (ACI) *Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials* (ACI 302.2R-06). In addition, the membrane should be installed in accordance with manufacturer's recommendations and ASTM requirements and installed in a manner that prevents puncture. The vapor retarder used should be specified by the project architect or developer based on the type of floor covering that will be installed and if the structure will possess a humidity-controlled environment.

7.7.12 The bedding sand thickness should be determined by the project foundation engineer, architect, and/or developer. It is common to have 3 to 4 inches of sand in the southern California region. However, we should be contacted to provide recommendations if the bedding sand is thicker than 6 inches. The foundation design engineer should provide appropriate concrete mix design criteria and curing measures to assure proper curing of the slab by reducing the potential for rapid moisture loss and subsequent cracking and/or slab curl. We suggest that the foundation design engineer present the concrete mix design and proper curing methods on the foundation plans. It is critical that the foundation contractor understands and follows the recommendations presented on the foundation plans.

7.7.13 We should observe the foundation excavations prior to the placement of reinforcing steel to check that the exposed soil conditions are similar to those expected and that they have been extended to the appropriate bearing strata. If unexpected soil conditions are encountered, foundation modifications may be required.

7.8 Mat Foundation

7.8.1 We understand the proposed structures may be supported on a mat foundation. A mat foundation consists of a thick, rigid concrete mat that allows the entire footprint of the structure to carry building loads. In addition, the mat can tolerate significantly greater differential movements such as those associated with expansive soils or differential settlement. Table 7.8 provides a summary of the foundation design recommendations.

TABLE 7.8
SUMMARY OF MAT FOUNDATION RECOMMENDATIONS

Parameter	Value
Design Perimeter Foundation Width	12 inches
Minimum Foundation Depth	Extend Below Slab Underlayment
Minimum Steel Reinforcement	Per Structural Engineer
Bearing Capacity	1,000 psf
Estimated Mat Foundation Size	12 Feet by 25 Feet
Estimated Total Settlement* – Foundation Loads	¾ Inch
Estimated Differential Settlement* – Foundation Loads	½ Inch in 40 Feet
Modulus of Subgrade Reaction	100 to 150 pci
Design Expansion Index	50 or less

*Does not include 1.2 and 0.6 total and differential settlement due to hydrocollapse.

7.8.2 The modulus of subgrade reaction values should be modified as necessary using standard equations for mat size as required by the structural engineer. This value is a unit value for use with a 1-foot square footing. The modulus should be reduced in accordance with the following equation when used with larger foundations:

$$K_R = K\left[\frac{B+1}{2B}\right]^2$$

where: K_R = reduced subgrade modulus
K = unit subgrade modulus
B = foundation width (in feet)

7.8.3 A mat foundation system will allow the structure to settle with the ground and should have sufficient rigidity to allow the structure to move as a single unit. Re-leveling of the mat foundation could be necessary through the use of mud jacking, compaction grouting or other similar techniques if differential settlement occurs.

7.8.4 Slabs that may receive moisture-sensitive floor coverings or may be used to store moisture-sensitive materials should be underlain by a vapor retarder. The vapor retarder design should be consistent with the guidelines presented in the American Concrete Institute's (ACI) *Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials* (ACI 302.2R-06). In addition, the membrane should be installed in accordance with manufacturer's recommendations and ASTM requirements and installed in a manner that prevents puncture. The vapor retarder used should be specified by the project architect or developer based on the type of floor covering that will be installed and if the structure will possess a humidity controlled environment.

7.8.5 The bedding sand thickness should be determined by the project foundation engineer, architect, and/or developer. However, we should be contacted to provide recommendations if the bedding sand is thicker than 6 inches. The foundation design engineer should provide appropriate concrete mix design criteria and curing measures to assure proper curing of the slab by reducing the potential for rapid moisture loss and subsequent cracking and/or slab curl. We suggest that the foundation design engineer present the concrete mix design and proper curing methods on the foundation plans. It is critical that the foundation contractor understands and follows the recommendations presented on the foundation plans.

7.9 Drilled Pier Recommendations

7.9.1 We understand that drilled piers may be used for foundation support of the elevated sleeping and restroom structures due to their location within the existing flood plain. Due to the thickness of the underlying alluvial materials, we do not anticipate the piers will extend into rock and skin friction piles will be used.

7.9.2 Additional borings or cone penetrometer tests (CPTs) should be performed to verify the pile recommendations including depths. The additional exploratory excavations can be performed during the design phase or prior to the construction of the piles.

7.9.3 Piers can be designed to develop support by skin friction within the existing materials using the design parameters presented in Table 7.9.1. The upper 3 feet of the soil should not be relied upon for skin friction capacity. In addition, the upper soil that is susceptible to scour, if present, should not be relied upon.

TABLE 7.9.1
SUMMARY OF DRILLED PIER RECOMMENDATIONS

Parameter	Value
Minimum Pile Diameter	18 Inches
Minimum Pile Spacing	3 Times Pile Diameter
Minimum Foundation Embedment Depth	15 Feet
Allowable End Bearing Capacity	8,000 psf
Allowable Skin Friction Capacity	250 psf
Estimated Total Settlement* – Foundation Loads	½ Inch
Estimated Differential Settlement* – Foundation Loads	½ Inch in 40 Feet

*Does not include 1.2 and 0.6 total and differential settlement due to hydrocollapse.

7.9.4 The design length of the drilled piers should be determined by the designer based on the elevation of the pile cap or grade beam and the required loads.

7.9.5 If pier spacing is at least three times the maximum dimension of the pier, no reduction in axial capacity for group effects is considered necessary. If piles are spaced between 2 and 3 pile diameters (center to center), the single pile axial capacity should be reduced by 25 percent. The planned piers should not be spaced closer than 2 diameters.

7.9.6 The allowable downward capacity may be increased by one-third when considering transient wind or seismic loads.

7.9.7 The uplift capacity of the planned piles can be evaluated as 75 percent of the downward skin friction values.

7.9.8 The existing materials may contain gravel and cobble and may possess very dense zones; therefore, the drilling contractor should expect difficult drilling conditions during excavations for the piers. If end bearing will be used, the bottom of the borehole should be cleaned of loose cuttings prior to the placement of steel and concrete. Experience indicates that backspinning the auger does not remove loose material and a flat cleanout plate may be necessary.

7.9.9 We expect cohesionless materials and caving may be encountered if an open hole drilling technique is used during the drilling operations; therefore, casing may be required to maintain the integrity of the pier excavation if sidewall instability is encountered. Concrete should be placed within the excavation as soon as possible after the auger/cleanout plate is withdrawn to reduce the potential for discontinuities or caving.

7.9.10 Pile settlement of production piers is expected to be on the order of ½ inch if the piers are loaded to their allowable capacities. Geocon should provide updated settlement estimates once the foundation plans are available. Settlements should be essentially complete shortly after completion of the structures.

7.9.11 We can provide a lateral pile capacity analysis using the *LPILE* computer program once the pile type, size, and approximate length has been provided. The total capacity of pile groups should be considered less than the sum of the individual pile capacities for pile spacing of less than 8D (where D is pile diameter) for lateral loads parallel to the pile group and 3D for loads perpendicular to the pile group. The reduction in capacity is based on pile spacing and positioning and can result in group efficiency on the order of 50 percent of the sum of single-pile capacities. We can evaluate the lateral capacity of pile groups using the *GROUP* computer program, if requested.

7.10 Concrete Slabs-On-Grade

7.10.1 Concrete slabs-on-grade for the structures should be constructed in accordance with Table 7.10. The project structural engineer should design the structural slabs that will be required for the elevated buildings.

TABLE 7.10
MINIMUM CONCRETE SLAB-ON-GRADE RECOMMENDATIONS

Parameter	Value
Minimum Concrete Slab Thickness	5 inches
Minimum Steel Reinforcement	No. 4 Bars 18 Inches on Center, Both Directions
Typical Slab Underlayment	3 to 4 Inches of Sand/Gravel/Base
Design Expansion Index	50 or less

7.10.2 Slabs that may receive moisture-sensitive floor coverings or may be used to store moisture-sensitive materials should be underlain by a vapor retarder. The vapor retarder design should be consistent with the guidelines presented in the American Concrete Institute's (ACI) *Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials* (ACI 302.2R-06). In addition, the membrane should be installed in accordance with manufacturer's recommendations and ASTM requirements and installed in a manner that prevents puncture. The vapor retarder used should be specified by the project architect or developer based on the type of floor covering that will be installed and if the structure will possess a humidity controlled environment.

7.10.3 The bedding sand thickness should be determined by the project foundation engineer, architect, and/or developer. It is common to have 3 to 4 inches of sand in the southern California region. However, we should be contacted to provide recommendations if the bedding sand is thicker than 6 inches. The foundation design engineer should provide appropriate concrete mix design criteria and curing measures to assure proper curing of the slab by reducing the potential for rapid moisture loss and subsequent cracking and/or slab curl. We suggest that the foundation design engineer present the concrete mix design and proper curing methods on the foundation plans. It is critical that the foundation contractor understands and follows the recommendations presented on the foundation plans.

7.10.4 Concrete slabs should be provided with adequate crack-control joints, construction joints and/or expansion joints to reduce unsightly shrinkage cracking. The design of joints should consider criteria of the American Concrete Institute (ACI) when establishing crack-control spacing. Crack-control joints should be spaced at intervals no greater than 12 feet. Additional steel reinforcing, concrete admixtures and/or closer crack control joint spacing should be considered where concrete-exposed finished floors are planned.

7.10.5 Special subgrade presaturation is not deemed necessary prior to placing concrete; however, the exposed foundation and slab subgrade soil should be moisturized to maintain a moist condition as would be expected in any such concrete placement.

7.10.6 The concrete slab-on-grade recommendations are based on soil support characteristics only. The project structural engineer should evaluate the structural requirements of the concrete slabs for supporting expected loads.

7.10.7 The recommendations of this report are intended to reduce the potential for cracking of slabs due to expansive soil (if present), differential settlement of existing soil or soil with varying thicknesses. However, even with the incorporation of the recommendations presented herein, foundations, stucco walls, and slabs-on-grade placed on such conditions may still exhibit some cracking due to soil movement and/or shrinkage. The occurrence of concrete shrinkage cracks is independent of the supporting soil characteristics. Their occurrence may be reduced and/or controlled by limiting the slump of the concrete, proper concrete placement and curing, and by the placement of crack control joints at periodic intervals, in particular, where re-entrant slab corners occur.

7.11 Exterior Concrete Flatwork

7.11.1 Exterior concrete flatwork not subject to vehicular traffic should be constructed in accordance with the recommendations presented in Table 7.11. The recommended steel reinforcement would help reduce the potential for cracking.

TABLE 7.11
MINIMUM CONCRETE FLATWORK RECOMMENDATIONS

Expansion Index, EI	Minimum Steel Reinforcement* Options	Minimum Thickness
EI $\leq$ 90	6x6-W2.9/W2.9 (6x6-6/6) welded wire mesh	4 Inches
	No. 3 Bars 18 inches on center, Both Directions	

*In excess of 8 feet square.

7.11.2 The subgrade soil should be properly moisturized and compacted prior to the placement of steel and concrete. The subgrade soil should be compacted to a dry density of at least 90 percent of the laboratory maximum dry density near to slightly above optimum moisture content in accordance with ASTM D 1557.

7.11.3 Even with the incorporation of the recommendations of this report, the exterior concrete flatwork has a potential to experience some uplift due to expansive soil beneath grade. The steel reinforcement should overlap continuously in flatwork to reduce the potential for vertical offsets within flatwork. Additionally, flatwork should be structurally connected to the curbs, where possible, to reduce the potential for offsets between the curbs and the flatwork.

7.11.4 Concrete flatwork should be provided with crack control joints to reduce and/or control shrinkage cracking. Crack control spacing should be determined by the project structural engineer based upon the slab thickness and intended usage. Criteria of the American Concrete Institute (ACI) should be taken into consideration when establishing crack control spacing. Subgrade soil for exterior slabs not subjected to vehicle loads should be compacted in accordance with criteria presented in the grading section prior to concrete placement. Subgrade soil should be properly compacted and the moisture content of subgrade soil should be verified prior to placing concrete. Base materials will not be required below concrete improvements.

7.11.5 Where exterior flatwork abuts the structure at entrant or exit points, the exterior slab should be dowelled into the structure's foundation stemwall. This recommendation is intended to reduce the potential for differential elevations that could result from differential settlement or minor heave of the flatwork. Dowelling details should be designed by the project structural engineer.

7.11.6 The recommendations presented herein are intended to reduce the potential for cracking of exterior slabs as a result of differential movement. However, even with the incorporation of the recommendations presented herein, slabs-on-grade will still crack. The occurrence of

concrete shrinkage cracks is independent of the soil supporting characteristics. Their occurrence may be reduced and/or controlled by limiting the slump of the concrete, the use of crack control joints and proper concrete placement and curing. Crack control joints should be spaced at intervals no greater than 12 feet. Literature provided by the Portland Concrete Association (PCA) and American Concrete Institute (ACI) present recommendations for proper concrete mix, construction, and curing practices, and should be incorporated into project construction.

7.12 Retaining Walls

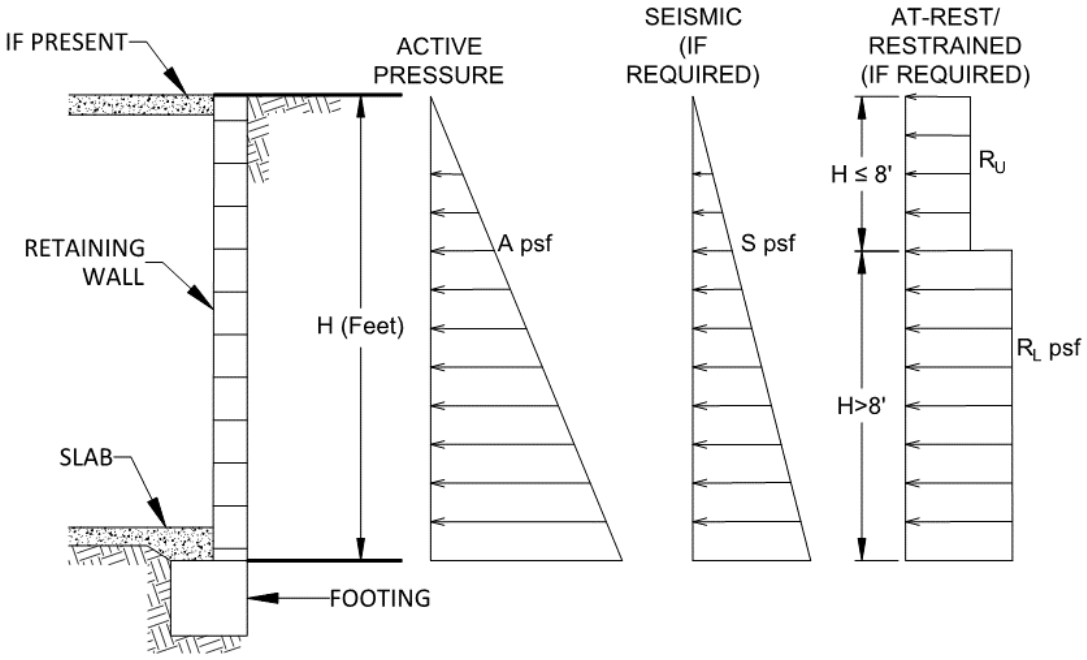
7.12.1 Retaining walls should be designed using the values presented in Table 7.12.1. Soil with an expansion index (EI) of greater than 50 should not be used as backfill material behind retaining walls.

TABLE 7.12.1
RETAINING WALL DESIGN RECOMMENDATIONS

Parameter	Value
Active Soil Pressure, A (Fluid Density, Level Backfill)	35 pcf
Active Soil Pressure, A (Fluid Density, 2:1 Sloping Backfill)	50 pcf
Seismic Pressure, S	15H psf
At-Rest/Restrained Walls Additional Uniform Pressure (0 to 8 Feet High)	7H psf
At-Rest/Restrained Walls Additional Uniform Pressure (8+ Feet High)	13H psf
Expected Expansion Index for the Subject Property	EI≤50

H equals the height of the retaining portion of the wall

7.12.2 The project retaining walls should be designed as shown in the Retaining Wall Loading Diagram.



Retaining Wall Loading Diagram

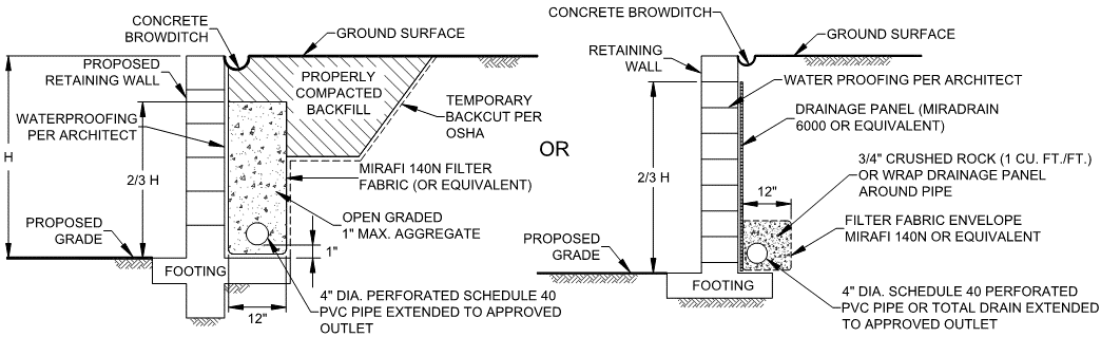
7.12.3 Unrestrained walls are those that are allowed to rotate more than 0.001H (where H equals the height of the retaining portion of the wall) at the top of the wall. Where walls are restrained from movement at the top (at-rest condition), an additional uniform pressure should be applied to the wall. For retaining walls subject to vehicular loads within a horizontal distance equal to two-thirds the wall height, a surcharge equivalent to 2 feet of fill soil should be added.

7.12.4 The structural engineer should determine the Seismic Design Category for the project in accordance with Section 1613.3.5 of the 2019 CBC or Section 11.6 of ASCE 7-10. For structures assigned to Seismic Design Category of D, E, or F, retaining walls that support more than 6 feet of backfill should be designed with seismic lateral pressure in accordance with Section 1803.5.12 of the 2019 CBC. The seismic load is dependent on the retained height where H is the height of the wall, in feet, and the calculated loads result in pounds per square foot (psf) exerted at the base of the wall and zero at the top of the wall.

7.12.5 Retaining walls should be designed to ensure stability against overturning sliding, and excessive foundation pressure. Where a keyway is extended below the wall base with the intent to engage passive pressure and enhance sliding stability, it is not necessary to consider active pressure on the keyway.

7.12.6 Drainage openings through the base of the wall (weep holes) should not be used where the seepage could be a nuisance or otherwise adversely affect the property adjacent to the base

of the wall. The recommendations herein assume a properly compacted granular (EI of 90 or less) free-draining backfill material with no hydrostatic forces or imposed surcharge load. The retaining wall should be properly drained as shown in the Typical Retaining Wall Drainage Detail. If conditions different than those described are expected, or if specific drainage details are desired, Geocon Incorporated should be contacted for additional recommendations.



Typical Retaining Wall Drainage Detail

7.12.7 The retaining walls may be designed using either the active and restrained (at-rest) loading condition or the active and seismic loading condition as suggested by the structural engineer. Typically, it appears the design of the restrained condition for retaining wall loading may be adequate for the seismic design of the retaining walls. However, the active earth pressure combined with the seismic design load should be reviewed and also considered in the design of the retaining walls.

7.12.8 In general, wall foundations should be designed in accordance with Table 7.12.2. The proximity of the foundation to the top of a slope steeper than 3:1 could impact the allowable soil bearing pressure. Therefore, retaining wall foundations should be deepened such that the bottom outside edge of the footing is at least 7 feet horizontally from the face of the slope.

TABLE 7.12.2
SUMMARY OF RETAINING WALL FOUNDATION RECOMMENDATIONS

Parameter	Value
Minimum Retaining Wall Foundation Width	12 inches
Minimum Retaining Wall Foundation Depth	12 Inches
Minimum Steel Reinforcement	Per Structural Engineer
Allowable Bearing Capacity	2,000 psf
Estimated Total Settlement	½ Inch
Estimated Differential Settlement	½ Inch in 40 Feet

7.12.9 The recommendations presented herein are generally applicable to the design of rigid concrete or masonry retaining walls. In the event that other types of walls (such as mechanically stabilized earth [MSE] walls, soil nail walls, or soldier pile walls) are planned, Geocon Incorporated should be consulted for additional recommendations.

7.12.10 Unrestrained walls will move laterally when backfilled and loading is applied. The amount of lateral deflection is dependent on the wall height, the type of soil used for backfill, and loads acting on the wall. The retaining walls and improvements above the retaining walls should be designed to incorporate an appropriate amount of lateral deflection as determined by the structural engineer.

7.12.11 Soil contemplated for use as retaining wall backfill, including import materials, should be identified in the field prior to backfill. At that time, Geocon Incorporated should obtain samples for laboratory testing to evaluate its suitability. Modified lateral earth pressures may be necessary if the backfill soil does not meet the required expansion index or shear strength. City or regional standard wall designs, if used, are based on a specific active lateral earth pressure and/or soil friction angle. In this regard, on-site soil to be used as backfill may or may not meet the values for standard wall designs. Geocon Incorporated should be consulted to assess the suitability of the on-site soil for use as wall backfill if standard wall designs will be used.

7.13 Lateral Loading

7.13.1 Table 7.13 should be used to help design the proposed structures and improvements to resist lateral loads for the design of footings or shear keys. The allowable passive pressure assumes a horizontal surface extending at least 5 feet, or three times the surface generating the passive pressure, whichever is greater. The upper 12 inches of material in areas not protected by floor slabs or pavement should not be included in design for passive resistance.

TABLE 7.13
SUMMARY OF LATERAL LOAD DESIGN RECOMMENDATIONS

Parameter	Value
Passive Pressure Fluid Density	350 pcf
Coefficient of Friction (Concrete and Soil)	0.35
Coefficient of Friction (Along Vapor Barrier)	0.2 to 0.25*

*Per manufacturer's recommendations.

7.13.2 The passive and frictional resistant loads can be combined for design purposes. The lateral passive pressures may be increased by one-third when considering transient loads due to wind or seismic forces.

7.14 Preliminary Pavement Recommendations

7.14.1 We calculated the flexible pavement sections in general conformance with the *Caltrans Method of Flexible Pavement Design* (Highway Design Manual, Section 608.4) using an estimated Traffic Index (TI) of 5.0, 5.5, 6.0, and 7.0 for parking stalls, driveways, medium truck traffic areas, and heavy truck traffic areas, respectively. The project civil engineer and owner should review the pavement designations to determine appropriate locations for pavement thickness. The final pavement sections for the parking lot should be based on the R-Value of the subgrade soil encountered at final subgrade elevation. We used an R-Value of 50 and 78 for the subgrade soil and base materials, respectively, for the purposes of this preliminary analysis. Table 7.14.1 presents the preliminary flexible pavement section options for asphalt concrete over base materials and full-depth asphalt concrete sections.

TABLE 7.14.1
PRELIMINARY FLEXIBLE PAVEMENT SECTION

Location	Assumed Traffic Index	Assumed Subgrade R-Value	Option 1		Option 2
			Asphalt Concrete (inches)	Class 2 Aggregate Base (inches)	Full Depth Asphalt Concrete (Inches)
Parking stalls for automobiles and light-duty vehicles	5.0	50	3	4	4.5
Driveways for automobiles and light-duty vehicles	5.5	50	3	4	5
Medium truck traffic areas	6.0	50	3.5	4	5.5
Driveways for heavy truck traffic	7.0	50	4	5	7

7.14.2 Prior to placing base materials, the upper 12 inches of the subgrade soil should be scarified, moisture conditioned as necessary, and recompacted to a dry density of at least 95 percent of the laboratory maximum dry density near to slightly above optimum moisture content as determined by ASTM D 1557. Similarly, the base material should be compacted to a dry density of at least 95 percent of the laboratory maximum dry density near to slightly above optimum moisture content. Asphalt concrete should be compacted to a density of at least 95 percent of the laboratory Hveem density in accordance with ASTM D 2726.

7.14.3 Base materials should conform to Section 26-1.028 of the *Standard Specifications for The State of California Department of Transportation (Caltrans)* with a ¾-inch maximum size aggregate. The asphalt concrete should conform to Section 203-6 of the *Standard Specifications for Public Works Construction (Greenbook).*

7.14.4 A rigid Portland cement concrete (PCC) pavement section should be placed in roadway aprons and cross gutters. We calculated the rigid pavement section in general conformance with the procedure recommended by the American Concrete Institute report ACI 330R-08 Guide for Design and Construction of Concrete Parking Lots using the parameters presented in Table 7.14.2.

TABLE 7.14.2
RIGID PAVEMENT DESIGN PARAMETERS

Design Parameter	Design Value
Modulus of subgrade reaction, k	100 pci
Modulus of rupture for concrete, M_R	500 psi
Concrete Compressive Strength	3,000 psi
Traffic Category, TC	A and C
Average daily truck traffic, ADTT	10 and 100

7.14.5 Based on the criteria presented herein, the PCC pavement sections should have a minimum thickness as presented in Table 7.14.3.

TABLE 7.14.3
RIGID VEHICULAR PAVEMENT RECOMMENDATIONS

Location	Portland Cement Concrete (Inches)
Automobile Parking Stalls (TC=A, ADTT=10)	5.5
Driveways (TC=C, ADTT=100)	7.0

7.14.6 The PCC vehicular pavement should be placed over subgrade soil that is compacted to a dry density of at least 95 percent of the laboratory maximum dry density near to slightly above optimum moisture content.

7.14.7 Reinforcing steel will not be necessary within the concrete for geotechnical purposes with the possible exception of dowels at construction joints as discussed herein.

7.14.8 To control the location and spread of concrete shrinkage cracks, crack-control joints (weakened plane joints) should be included in the design of the concrete pavement slab. Crack-control joints should be sealed with an appropriate sealant to prevent the migration of water through the control joint to the subgrade materials. The depth of the crack-control joints should be determined by the referenced ACI report.

7.14.9 The rigid pavement should also be designed and constructed incorporating the parameters presented in Table 7.14.4.

TABLE 7.14.4
ADDITIONAL RIGID PAVEMENT RECOMMENDATIONS

Subject	Value
Thickened Edge	1.2 Times Slab Thickness
	Minimum Increase of 2 Inches
	4 Feet Wide
Crack Control Joint Spacing	30 Times Slab Thickness
	Max. Spacing of 12 feet for 5.5-Inch-Thick
	Max. Spacing of 15 Feet for Slabs 6 Inches and Thicker
Crack Control Joint Depth	Per ACI 330R-08
	1 Inch Using Early-Entry Saws on Slabs Less Than 9 Inches Thick
Crack Control Joint Width	¼-Inch for Sealed Joints
	⅜-Inch is Common for Sealed Joints
	$^{1}/_{10}$- to $^{1}/_{8}$-Inch is Common for Unsealed Joints

7.14.10 To provide load transfer between adjacent pavement slab sections, a butt-type construction joint should be constructed. The butt-type joint should be thickened by at least 20 percent at the edge and taper back at least 4 feet from the face of the slab. As an alternative to the butt-type construction joint, dowelling can be used between construction joints for pavements of 7 inches or thicker. As discussed in the referenced ACI guide, dowels should consist of smooth, 1-inch-diameter reinforcing steel 14 inches long embedded a minimum of 6 inches into the slab on either side of the construction joint. Dowels should be located at the midpoint of the slab, spaced at 12 inches on center and lubricated to allow joint movement while still transferring loads. In addition, tie bars should be installed as recommended in Section 3.8.3 of the referenced ACI guide. The structural engineer should provide other alternative recommendations for load transfer.

7.14.11 Concrete curb/gutter should be placed on soil subgrade compacted to a dry density of at least 90 percent of the laboratory maximum dry density near to slightly above optimum

moisture content. Cross-gutters that receives vehicular should be placed on subgrade soil compacted to a dry density of at least 95 percent of the laboratory maximum dry density near to slightly above optimum moisture content. Base materials should not be placed below the curb/gutter, or cross-gutters so water is not able to migrate from the adjacent parkways to the pavement sections. Where flatwork is located directly adjacent to the curb/gutter, the concrete flatwork should be structurally connected to the curbs to help reduce the potential for offsets between the curbs and the flatwork.

7.15 Site Drainage and Moisture Protection

7.15.1 Adequate site drainage is critical to reduce the potential for differential soil movement, erosion and subsurface seepage. Under no circumstances should water be allowed to pond adjacent to footings. The site should be graded and maintained such that surface drainage is directed away from structures in accordance with 2019 CBC 1804.4 or other applicable standards. In addition, surface drainage should be directed away from the top of slopes into swales or other controlled drainage devices. Roof and pavement drainage should be directed into conduits that carry runoff away from the proposed structure.

7.15.2 In the case of basement walls or building walls retaining landscaping areas, a water-proofing system should be used on the wall and joints, and a Miradrain drainage panel (or similar) should be placed over the waterproofing. The project architect or civil engineer should provide detailed specifications on the plans for all waterproofing and drainage.

7.15.3 Underground utilities should be leak free. Utility and irrigation lines should be checked periodically for leaks, and detected leaks should be repaired promptly. Detrimental soil movement could occur if water is allowed to infiltrate the soil for prolonged periods of time.

7.15.4 Landscaping planters adjacent to paved areas are not recommended due to the potential for surface or irrigation water to infiltrate the pavement's subgrade and base course. Area drains to collect excess irrigation water and transmit it to drainage structures or impervious above-grade planter boxes can be used. In addition, where landscaping is planned adjacent to the pavement, construction of a cutoff wall along the edge of the pavement that extends at least 6 inches below the bottom of the base material should be considered.

7.15.5 We should prepare a storm water infiltration feasibility report of storm water management devices are planned.

7.16 Grading and Foundation Plan Review

7.16.1 Geocon Incorporated should review the grading and building foundation plans for the project prior to final design submittal to evaluate if additional analyses and/or recommendations are required.

7.17 Testing and Observation Services During Construction

7.17.1 Geocon Incorporated should provide geotechnical testing and observation services during the grading operations, foundation construction, utility installation, retaining wall backfill and pavement installation. Table 7.17 presents the typical geotechnical observations we would expect for the proposed improvements.

TABLE 7.17
EXPECTED GEOTECHNICAL TESTING AND OBSERVATION SERVICES

Construction Phase	Observations	Expected Time Frame
Grading	Base of Removal	Part Time During Removals
	Fill Placement and Soil Compaction	Full Time
Foundations	Foundation Excavation Observations	Part Time
	Deep Foundation Observations	Full Time
Utility Backfill	Fill Placement and Soil Compaction	Part Time to Full Time
Retaining Wall Backfill	Fill Placement and Soil Compaction	Part Time to Full Time
Subgrade for Sidewalks, Curb/Gutter and Pavement	Soil Compaction	Part Time
Pavement Construction	Base Placement and Compaction	Part Time
	Asphalt Concrete Placement and Compaction	Full Time

LIMITATIONS AND UNIFORMITY OF CONDITIONS

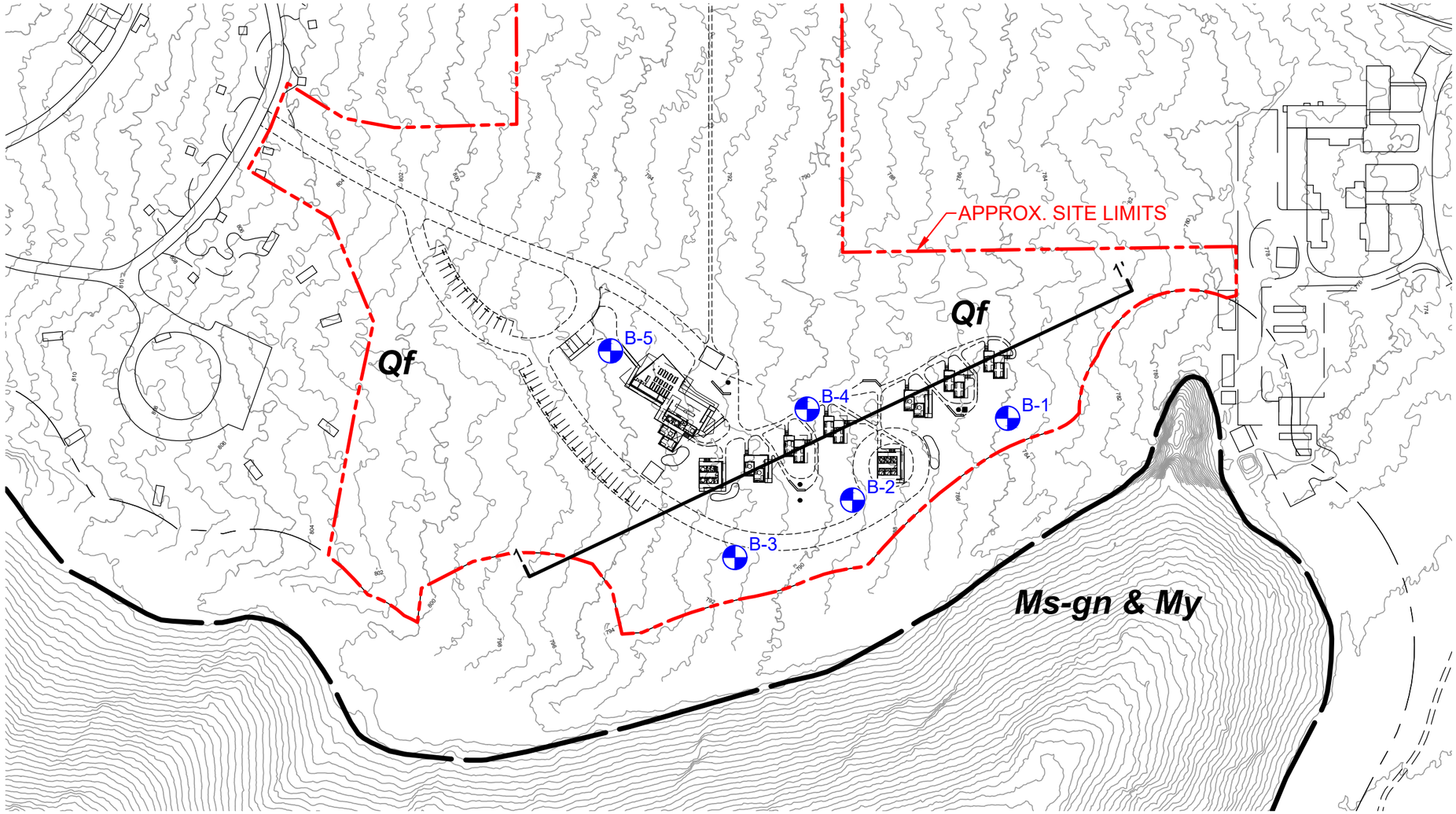
1. The firm that performed the geotechnical investigation for the project should be retained to provide testing and observation services during construction to provide continuity of geotechnical interpretation and to check that the recommendations presented for geotechnical aspects of site development are incorporated during site grading, construction of improvements, and excavation of foundations. If another geotechnical firm is selected to perform the testing and observation services during construction operations, that firm should prepare a letter indicating their intent to assume the responsibilities of project geotechnical engineer of record. A copy of the letter should be provided to the regulatory agency for their records. In addition, that firm should provide revised recommendations concerning the geotechnical aspects of the proposed development, or a written acknowledgement of their concurrence with the recommendations presented in our report. They should also perform additional analyses deemed necessary to assume the role of Geotechnical Engineer of Record.

2. The recommendations of this report pertain only to the site investigated and are based upon the assumption that the soil conditions do not deviate from those disclosed in the investigation. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that anticipated herein, Geocon Incorporated should be notified so that supplemental recommendations can be given. The evaluation or identification of the potential presence of hazardous or corrosive materials was not part of the scope of services provided by Geocon Incorporated.

3. This report is issued with the understanding that it is the responsibility of the owner or his representative to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

4. The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they be due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of three years.

CAMP BORREGO IMPROVEMENTS
200 PALM CANYON DRIVE
BORREGO SPRINGS, CALIFORNIA



0' 150' 300'
SCALE 1"= 150' (On 11x17)

GEOCON LEGEND

Qf .....ALLUVIAL FAN GRAVEL

Ms-gn & My .....METASEDIMENTARY ROCK (Undifferentiated)

B-5 .....APPROX. LOCATION OF GEOTECHNICAL BORING

.....APPROX. LOCATION OF GEOLOGIC CONTACT

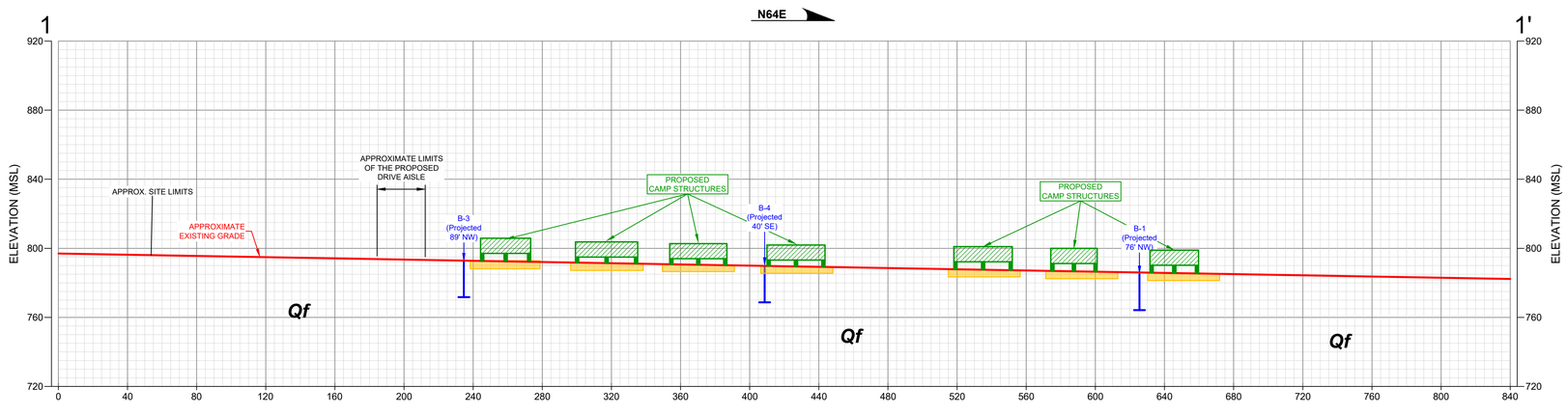
1 1' .....APPROX. LOCATION OF GEOLOGIC CROSS-SECTION

GEOCON
INCORPORATED

GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS
6960 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 2974
PHONE 858 558-6900 - FAX 858 558-6159
PROJECT NO. G2796 - 52 - 01
FIGURE 1
DATE 09 - 29 - 2021

GEOLOGIC MAP

Plotted:09/29/2021 2:15PM | By:JONATHAN WILKINS | File Location:Y:\PROJECTS\G2796-52-01 Camp Borrego\SHEETS\G2796-52-01 GeologicMAP.dwg



GEOLOGIC CROSS-SECTION 1-1'

SCALE: 1" = 40' (Vert. = Horiz.)

GEOCON LEGEND

Qf .....ALLUVIUM FAN GRAVEL

B-3 .....APPROX. LOCATION OF GEOTECHNICAL BORING

.....APPROX. DEPTH AND LIMITS OF REMEDIAL GRADING

GEOLOGIC CROSS - SECTION

CAMP BORREGO IMPROVEMENTS
200 PALM CANYON DRIVE
BORREGO SPRINGS, CALIFORNIA

GEOCON INCORPORATED
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS
6960 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 2974
PHONE 858 558-6900 - FAX 858 558-6159

SCALE	1" = 40'
DATE	09 - 29 - 2021
PROJECT NO.	G2796 - 52 - 01
FIGURE	2
SHEET	1 OF 1

Plotted:09/29/2021 2:10PM | By:JONATHAN WILKINS | File Location:Y:\PROJECTS\G2796-52-01 Camp Borrego\SHEETS\G2796-52-01 GeologicCross-Section.dwg

APPENDIX A

APPENDIX A

FIELD INVESTIGATION

We performed the drilling operations on the night of August 26 and the morning of August 27, 2021. Borings extended to maximum depth of approximately 20 feet. The locations of the current exploratory borings are shown on the Geologic Map, Figure 1. The boring logs are presented in this Appendix. We located the borings in the field using a measuring tape and existing reference points; therefore, actual boring locations may deviate slightly.

The geotechnical borings were drilled to depths ranging from approximately 11 to 20 feet below existing grade using a Sabercat drill rig equipped with hollow-stem augers. Pacific Drilling Co. performed the drilling operations.

We obtained samples during our subsurface exploration in the borings using either a California sampler or a Standard Penetration Test (SPT) sampler. Both samplers are composed of steel and are driven to obtain ring samples. The California sampler has an inside diameter of 2.5 inches and an outside diameter of 3 inches. Up to 18 rings are placed inside the sampler that is 2.4 inches in diameter and 1 inch in height. The SPT sampler has an inside diameter of 1.5 inches and an outside diameter of 2 inches. We obtained ring samples at appropriate intervals, placed them in moisture-tight containers, and transported them to the laboratory for testing. The type of sample is noted on the exploratory boring logs.

The samplers were driven 18 inches. The sampler is connected to A rods and driven into the bottom of the excavation using a 140-pound hammer with a 30-inch drop. Blow counts are recorded for every 6 inches the sampler is driven. The penetration resistances shown on the boring logs are shown in terms of blows per foot. The values indicated on the boring logs are the sum of the last 12 inches of the sampler. If the sampler was not driven for 12 inches, an approximate value is calculated in term of blows per foot or the final 6-inch interval is reported. These values are not to be taken as N-values as adjustments have not been applied. We estimated elevations shown on the boring logs either from a topographic map or by using a benchmark. Each excavation was backfilled as noted on the boring logs.

We visually examined, classified, and logged the soil encountered in the borings in general accordance with American Society for Testing and Materials (ASTM) practice for Description and Identification of Soils (Visual-Manual Procedure D 2488). The logs depict the soil and geologic conditions observed and the depth at which samples were obtained.

PROJECT NO. G2796-52-01

BORING B 1

ELEV. (MSL.) ~784' DATE COMPLETED 08-27-2021

EQUIPMENT SABERCAT W/ 6" AUGER BY: K. HAASE

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0				SM	**ALLUVIAL FAN GRAVEL (Qf)** Loose to medium dense, dry, light brown, Silty, fine to coarse SAND; little gravel and cobble			
2								
4								
6	B1-1				-Disturbed sample	24		0.3
8								
10	B1-2				-Partially disturbed sample	26		0.7
12								
14								
16	B1-3					26		0.5
18								
20	B1-4					21		1.8
					BORING TERMINATED AT 20 FEET No groundwater encountered			

Figure A-1,
Log of Boring B 1, Page 1 of 1

G2796-52-01.GPJ

SAMPLE SYMBOLS

... SAMPLING UNSUCCESSFUL ... STANDARD PENETRATION TEST ... DRIVE SAMPLE (UNDISTURBED)

... DISTURBED OR BAG SAMPLE ... CHUNK SAMPLE ... WATER TABLE OR ... SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. G2796-52-01

BORING B 2

ELEV. (MSL.) ~787' DATE COMPLETED 08-27-2021

EQUIPMENT SABERCAT W/ 6" AUGER BY: K. HAASE

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	B2-1			SM	**ALLUVIAL FAN GRAVEL (Qf)** Loose to medium dense, dry, light brown, Silty, fine to coarse SAND			
2								
4								
6	B2-2				-Disturbed sample	20		0.4
8								
10	B2-3				-Disturbed sample	26		0.6
12								
14								
16	B2-4				-Partially disturbed sample	27		1.1
18								
20	B2-5					32		0.8
					BORING TERMINATED AT 20 FEET No groundwater encountered			

Figure A-2,
Log of Boring B 2, Page 1 of 1

G2796-52-01.GPJ

SAMPLE SYMBOLS

... SAMPLING UNSUCCESSFUL ... STANDARD PENETRATION TEST ... DRIVE SAMPLE (UNDISTURBED)

... DISTURBED OR BAG SAMPLE ... CHUNK SAMPLE ... WATER TABLE OR ... SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. G2796-52-01

BORING B 3

ELEV. (MSL.) **~790'** DATE COMPLETED **08-27-2021**

EQUIPMENT **SABERCAT W/ 6" AUGER** BY: **K. HAASE**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					**ALLUVIAL FAN GRAVEL (Qf)** Loose to medium dense, dry, light brown to brown, Silty, fine to coarse SAND; little gravel and cobble			
2								
4								
6	B3-1				-Partially disturbed sample	19		0.8
8								
10	B3-2					42		1.0
12								
14								
16	B3-3					22		0.6
18					-Hard drilling			
20	B3-4					44		1.3
					BORING TERMINATED AT 20 FEET No groundwater encountered			

Figure A-3,
Log of Boring B 3, Page 1 of 1

G2796-52-01.GPJ

SAMPLE SYMBOLS

... SAMPLING UNSUCCESSFUL ... STANDARD PENETRATION TEST ... DRIVE SAMPLE (UNDISTURBED)

... DISTURBED OR BAG SAMPLE ... CHUNK SAMPLE ... WATER TABLE OR ... SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. G2796-52-01

BORING B 4

ELEV. (MSL.) ~792 DATE COMPLETED 08-27-2021

EQUIPMENT SABERCAT W/ 6" AUGER BY: K. HAASE

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0				SM	**ALLUVIAL FAN GRAVEL (Qf)** Loose to medium dense, dry, light brown, Silty, fine to coarse SAND; some gravel and cobble			
2								
4								
6	B4-1				-Disturbed sample	18		0.3
8								
10	B4-2				-Disturbed sample	37		0.6
12								
14								
16	B4-3					76/11"		0.5
18					-Hard drilling on cobble			
	B4-4				-No recovery	50/0"		
					BORING TERMINATED AT 19 FEET No groundwater encountered			

Figure A-4,
Log of Boring B 4, Page 1 of 1

G2796-52-01.GPJ

SAMPLE SYMBOLS

... SAMPLING UNSUCCESSFUL ... STANDARD PENETRATION TEST ... DRIVE SAMPLE (UNDISTURBED)

... DISTURBED OR BAG SAMPLE ... CHUNK SAMPLE ... WATER TABLE OR ... SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. G2796-52-01

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**BORING B 5** ELEV. (MSL.) **~797** DATE COMPLETED **08-27-2021** EQUIPMENT **SABERCAT W/ 6" AUGER** BY: **K. HAASE** MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	B5-1			SM	**ALLUVIAL FAN GRAVEL (Qt)** Loose to medium dense, dry, light brown, Silty, fine to coarse SAND; little gravel and cobble			
2								
4								
6	B5-2				-Disturbed sample	56/11"		1.0
8								
10	B5-3				-No recovery	93		
					BORING TERMINATED AT 11 FEET No groundwater encountered			

Figure A-5,
Log of Boring B 5, Page 1 of 1

G2796-52-01.GPJ

SAMPLE SYMBOLS

... SAMPLING UNSUCCESSFUL ... STANDARD PENETRATION TEST ... DRIVE SAMPLE (UNDISTURBED)

... DISTURBED OR BAG SAMPLE ... CHUNK SAMPLE ... WATER TABLE OR ... SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

APPENDIX B

APPENDIX B

LABORATORY TESTING

We performed laboratory tests in accordance with generally accepted test methods of the American Society for Testing and Materials (ASTM) or other suggested procedures. We tested selected soil samples for in-place dry and moisture content, maximum density/optimum moisture content, expansion index, water-soluble sulfate, R-Value, consolidation, gradation and direct shear strength. The results of our current laboratory tests are presented herein. The in-place dry density and moisture content of the samples tested are presented on the boring logs in Appendix A.

SUMMARY OF LABORATORY MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT TEST RESULTS ASTM D 1557

Sample No.	Description	Maximum Dry Density (pcf)	Optimum Moisture Content (% dry wt.)
B2-1	Light brown, Silty, fine to coarse SAND	122.1	12.3

SUMMARY OF LABORATORY EXPANSION INDEX TEST RESULTS ASTM D 4829

Sample No.	Moisture Content (%)		Dry Density (pcf)	Expansion Index	2019 CBC Expansion Classification	ASTM Soil Expansion Classification
	Before Test	After Test				
B2-1	8.9	15.6	112.8	0	Non-Expansive	Very Low

SUMMARY OF LABORATORY WATER-SOLUBLE SULFATE TEST RESULTS CALIFORNIA TEST NO. 417

Sample No.	Depth (feet)	Geologic Unit	Water-Soluble Sulfate (%)	ACI 318 Sulfate Exposure
B2-1	0-5	Qf	0.001	S0

SUMMARY OF LABORATORY RESISTANCE VALUE (R-VALUE) TEST RESULTS ASTM D 2844

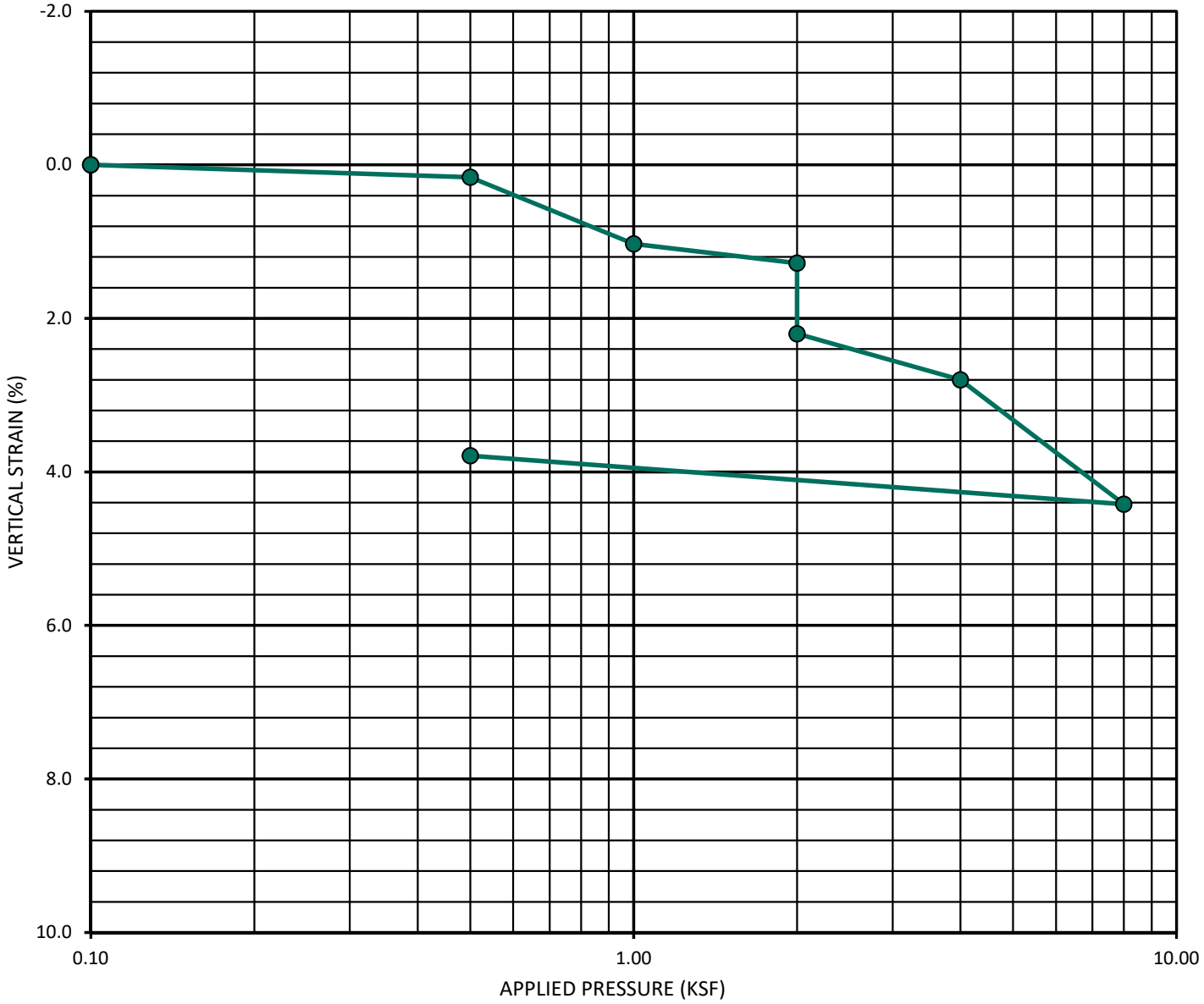
Sample No.	Depth (Feet)	Description (Geologic Unit)	R-Value
B5-1	0-5	Light brown, Silty, fine to coarse SAND; little gravel and cobble	70

SAMPLE NO.: **B1-4**

SAMPLE DEPTH (FT): **19'**

GEOLOGIC UNIT: **Qf**

TEST INFORMATION	
INITIAL DRY DENSITY (PCF):	100.3
INITIAL WATER CONTENT (%):	1.8%
SAMPLE SATURATED AT (KSF):	2.0
INITIAL SATURATION (%):	8.1%



CONSOLIDATION CURVE - ASTM D 2435

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CAMP BORREGO SITE IMPROVEMENTS

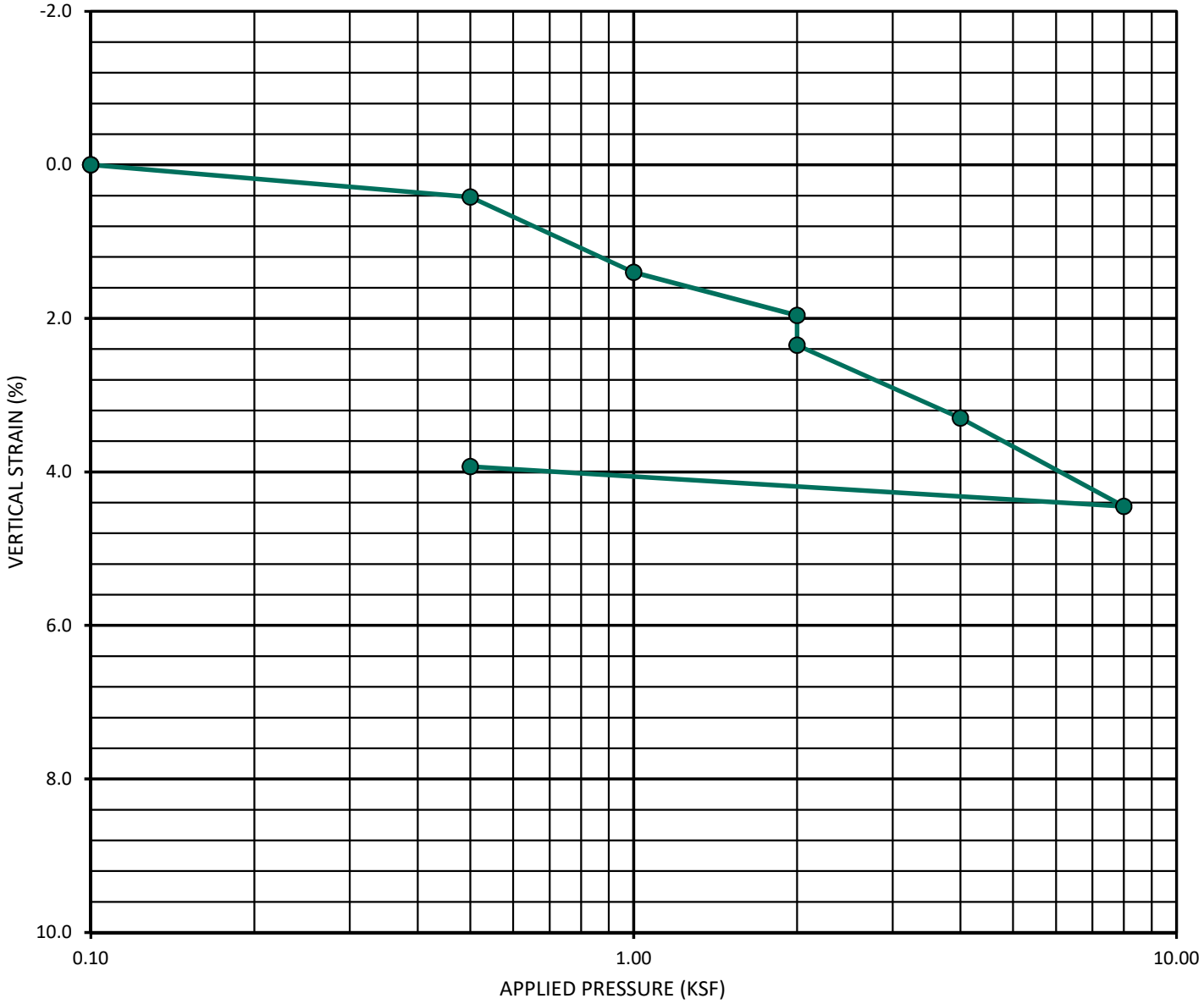
PROJECT NO.: G2796-52-01

SAMPLE NO.: **B3-4**

SAMPLE DEPTH (FT): **19'**

GEOLOGIC UNIT: **Qf**

TEST INFORMATION	
INITIAL DRY DENSITY (PCF):	105.8
INITIAL WATER CONTENT (%):	1.3%
SAMPLE SATURATED AT (KSF):	2.0
INITIAL SATURATION (%):	6.1%



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CONSOLIDATION CURVE - ASTM D 2435

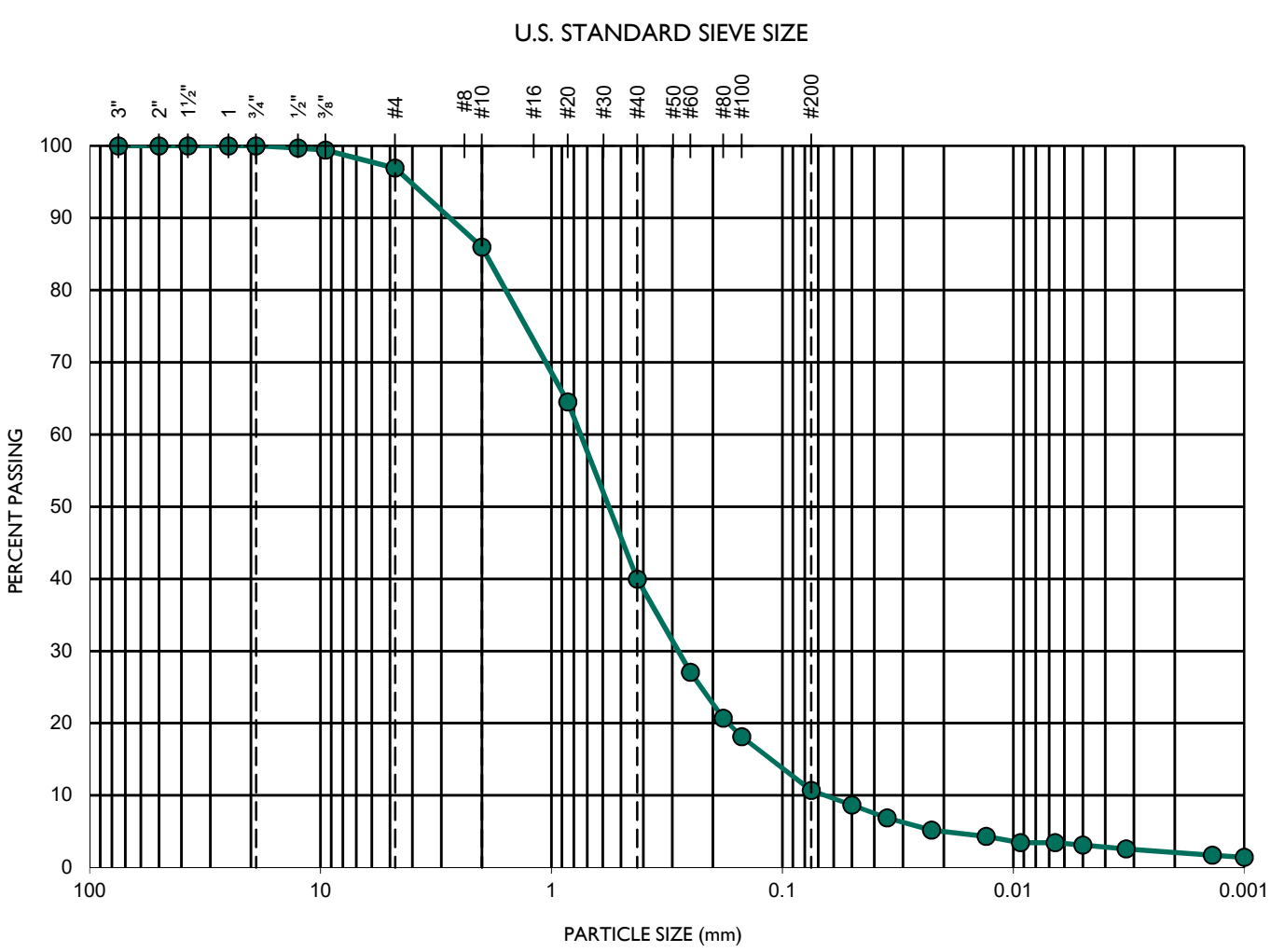
CAMP BORREGO SITE IMPROVEMENTS

PROJECT NO.: G2796-52-01

SAMPLE NO.: **B5-1** GEOLOGIC UNIT: **Qf**

SAMPLE DEPTH (FT.): **0**

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	



TEST DATA					
D_{10} (mm)	D_{30} (mm)	D_{60} (mm)	C_c	C_u	SOIL DESCRIPTION
0.06681	0.29006	0.77205	1.6	11.6	Silty SAND

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SIEVE ANALYSES - ASTM D 135 & D 422

CAMP BORREGO SITE IMPROVEMENTS

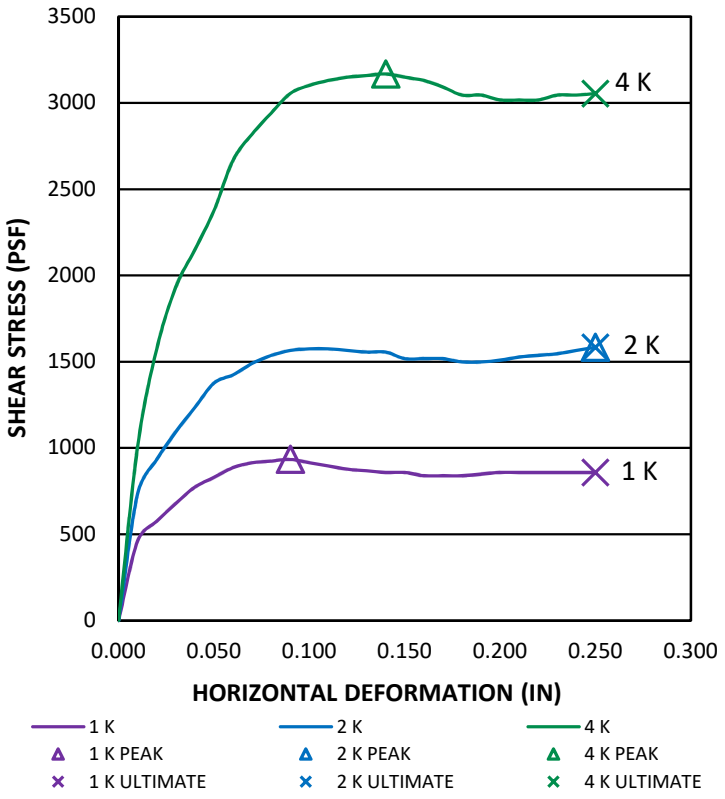
PROJECT NO.: G2796-52-01

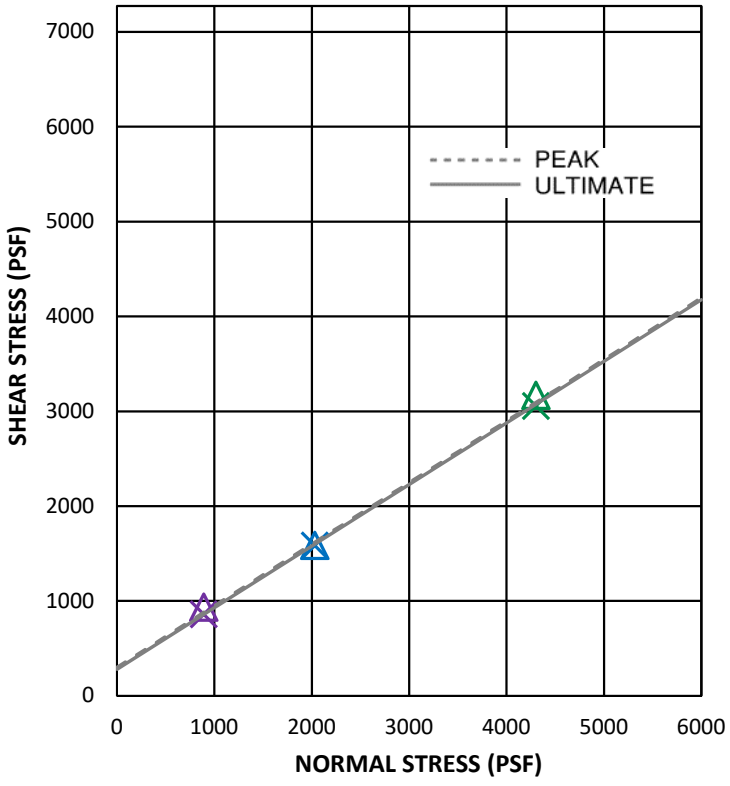
SAMPLE NO.:	**B2-1**	GEOLOGIC UNIT:	**Qf**
SAMPLE DEPTH (FT):	**0**	NATURAL/REMOLDED:	**R**

INITIAL CONDITIONS				
NORMAL STRESS TEST LOAD	**1 K**	**2 K**	**4 K**	**AVERAGE**
ACTUAL NORMAL STRESS (PSF):	890	2030	4300	--
WATER CONTENT (%):	12.8	12.7	12.4	12.6
DRY DENSITY (PCF):	109.6	110.0	110.2	109.9

AFTER TEST CONDITIONS				
NORMAL STRESS TEST LOAD	**1 K**	**2 K**	**4 K**	**AVERAGE**
WATER CONTENT (%):	16.7	16.7	16.2	16.5
PEAK SHEAR STRESS (PSF):	933	1584	3168	--
ULT.-E.O.T. SHEAR STRESS (PSF):	858	1584	3054	--

RESULTS		
PEAK	COHESION, C (PSF)	300
	FRICTION ANGLE (DEGREES)	33
ULTIMATE	COHESION, C (PSF)	280
	FRICTION ANGLE (DEGREES)	33





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DIRECT SHEAR - ASTM D 3080

CAMP BORREGO SITE IMPROVEMENTS

PROJECT NO.: G2796-52-01

APPENDIX C

APPENDIX C

RECOMMENDED GRADING SPECIFICATIONS

FOR

CAMP BORREGO IMPROVEMENTS
200 PALM CANYON DRIVE
BORREGO SPRINGS, CALIFORNIA

PROJECT NO. G2796-52-01

RECOMMENDED GRADING SPECIFICATIONS

1. GENERAL

1.1 These Recommended Grading Specifications shall be used in conjunction with the Geotechnical Report for the project prepared by Geocon. The recommendations contained in the text of the Geotechnical Report are a part of the earthwork and grading specifications and shall supersede the provisions contained hereinafter in the case of conflict.

1.2 Prior to the commencement of grading, a geotechnical consultant (Consultant) shall be employed for the purpose of observing earthwork procedures and testing the fills for substantial conformance with the recommendations of the Geotechnical Report and these specifications. The Consultant should provide adequate testing and observation services so that they may assess whether, in their opinion, the work was performed in substantial conformance with these specifications. It shall be the responsibility of the Contractor to assist the Consultant and keep them apprised of work schedules and changes so that personnel may be scheduled accordingly.

1.3 It shall be the sole responsibility of the Contractor to provide adequate equipment and methods to accomplish the work in accordance with applicable grading codes or agency ordinances, these specifications and the approved grading plans. If, in the opinion of the Consultant, unsatisfactory conditions such as questionable soil materials, poor moisture condition, inadequate compaction, and/or adverse weather result in a quality of work not in conformance with these specifications, the Consultant will be empowered to reject the work and recommend to the Owner that grading be stopped until the unacceptable conditions are corrected.

2. DEFINITIONS

2.1 **Owner** shall refer to the owner of the property or the entity on whose behalf the grading work is being performed and who has contracted with the Contractor to have grading performed.

2.2 **Contractor** shall refer to the Contractor performing the site grading work.

2.3 **Civil Engineer** or **Engineer of Work** shall refer to the California licensed Civil Engineer or consulting firm responsible for preparation of the grading plans, surveying and verifying as-graded topography.

2.4 **Consultant** shall refer to the soil engineering and engineering geology consulting firm retained to provide geotechnical services for the project.

2.5 **Soil Engineer** shall refer to a California licensed Civil Engineer retained by the Owner, who is experienced in the practice of geotechnical engineering. The Soil Engineer shall be responsible for having qualified representatives on-site to observe and test the Contractor's work for conformance with these specifications.

2.6 **Engineering Geologist** shall refer to a California licensed Engineering Geologist retained by the Owner to provide geologic observations and recommendations during the site grading.

2.7 **Geotechnical Report** shall refer to a soil report (including all addenda) which may include a geologic reconnaissance or geologic investigation that was prepared specifically for the development of the project for which these Recommended Grading Specifications are intended to apply.

3. MATERIALS

3.1 Materials for compacted fill shall consist of any soil excavated from the cut areas or imported to the site that, in the opinion of the Consultant, is suitable for use in construction of fills. In general, fill materials can be classified as *soil* fills, *soil-rock* fills or *rock* fills, as defined below.

3.1.1 **Soil fills** are defined as fills containing no rocks or hard lumps greater than 12 inches in maximum dimension and containing at least 40 percent by weight of material smaller than ¾ inch in size.

3.1.2 **Soil-rock fills** are defined as fills containing no rocks or hard lumps larger than 4 feet in maximum dimension and containing a sufficient matrix of soil fill to allow for proper compaction of soil fill around the rock fragments or hard lumps as specified in Paragraph 6.2. **Oversize rock** is defined as material greater than 12 inches.

3.1.3 **Rock fills** are defined as fills containing no rocks or hard lumps larger than 3 feet in maximum dimension and containing little or no fines. Fines are defined as material smaller than ¾ inch in maximum dimension. The quantity of fines shall be less than approximately 20 percent of the rock fill quantity.

3.2 Material of a perishable, spongy, or otherwise unsuitable nature as determined by the Consultant shall not be used in fills.

3.3 Materials used for fill, either imported or on-site, shall not contain hazardous materials as defined by the California Code of Regulations, Title 22, Division 4, Chapter 30, Articles 9

and 10; 40CFR; and any other applicable local, state or federal laws. The Consultant shall not be responsible for the identification or analysis of the potential presence of hazardous materials. However, if observations, odors or soil discoloration cause Consultant to suspect the presence of hazardous materials, the Consultant may request from the Owner the termination of grading operations within the affected area. Prior to resuming grading operations, the Owner shall provide a written report to the Consultant indicating that the suspected materials are not hazardous as defined by applicable laws and regulations.

3.4 The outer 15 feet of *soil-rock* fill slopes, measured horizontally, should be composed of properly compacted *soil* fill materials approved by the Consultant. *Rock* fill may extend to the slope face, provided that the slope is not steeper than 2:1 (horizontal:vertical) and a soil layer no thicker than 12 inches is track-walked onto the face for landscaping purposes. This procedure may be utilized provided it is acceptable to the governing agency, Owner and Consultant.

3.5 Samples of soil materials to be used for fill should be tested in the laboratory by the Consultant to determine the maximum density, optimum moisture content, and, where appropriate, shear strength, expansion, and gradation characteristics of the soil.

3.6 During grading, soil or groundwater conditions other than those identified in the Geotechnical Report may be encountered by the Contractor. The Consultant shall be notified immediately to evaluate the significance of the unanticipated condition.

4. CLEARING AND PREPARING AREAS TO BE FILLED

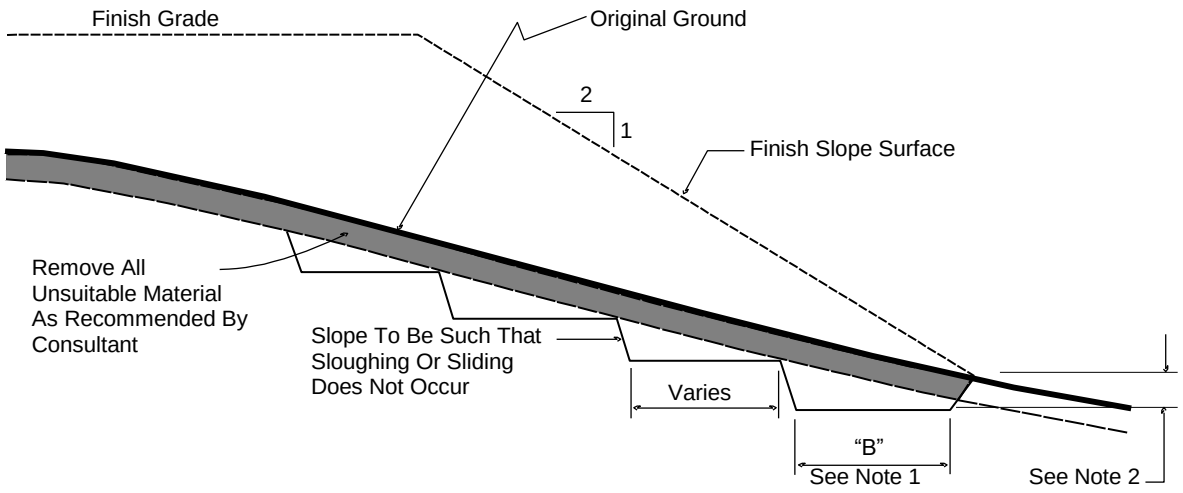
4.1 Areas to be excavated and filled shall be cleared and grubbed. Clearing shall consist of complete removal above the ground surface of trees, stumps, brush, vegetation, man-made structures, and similar debris. Grubbing shall consist of removal of stumps, roots, buried logs and other unsuitable material and shall be performed in areas to be graded. Roots and other projections exceeding 1½ inches in diameter shall be removed to a depth of 3 feet below the surface of the ground. Borrow areas shall be grubbed to the extent necessary to provide suitable fill materials.

4.2 Asphalt pavement material removed during clearing operations should be properly disposed at an approved off-site facility or in an acceptable area of the project evaluated by Geocon and the property owner. Concrete fragments that are free of reinforcing steel may be placed in fills, provided they are placed in accordance with Section 6.2 or 6.3 of this document.

4.3 After clearing and grubbing of organic matter and other unsuitable material, loose or porous soils shall be removed to the depth recommended in the Geotechnical Report. The depth of removal and compaction should be observed and approved by a representative of the Consultant. The exposed surface shall then be plowed or scarified to a minimum depth of 6 inches and until the surface is free from uneven features that would tend to prevent uniform compaction by the equipment to be used.

4.4 Where the slope ratio of the original ground is steeper than 5:1 (horizontal:vertical), or where recommended by the Consultant, the original ground should be benched in accordance with the following illustration.

TYPICAL BENCHING DETAIL



No Scale

DETAIL NOTES:

(1) Key width "B" should be a minimum of 10 feet, or sufficiently wide to permit complete coverage with the compaction equipment used. The base of the key should be graded horizontal, or inclined slightly into the natural slope.

(2) The outside of the key should be below the topsoil or unsuitable surficial material and at least 2 feet into dense formational material. Where hard rock is exposed in the bottom of the key, the depth and configuration of the key may be modified as approved by the Consultant.

4.5 After areas to receive fill have been cleared and scarified, the surface should be moisture conditioned to achieve the proper moisture content, and compacted as recommended in Section 6 of these specifications.

5. COMPACTION EQUIPMENT

5.1 Compaction of *soil* or *soil-rock* fill shall be accomplished by sheepsfoot or segmented-steel wheeled rollers, vibratory rollers, multiple-wheel pneumatic-tired rollers, or other types of acceptable compaction equipment. Equipment shall be of such a design that it will be capable of compacting the *soil* or *soil-rock* fill to the specified relative compaction at the specified moisture content.

5.2 Compaction of *rock* fills shall be performed in accordance with Section 6.3.

6. PLACING, SPREADING AND COMPACTION OF FILL MATERIAL

6.1 *Soil* fill, as defined in Paragraph 3.1.1, shall be placed by the Contractor in accordance with the following recommendations:

6.1.1 *Soil* fill shall be placed by the Contractor in layers that, when compacted, should generally not exceed 8 inches. Each layer shall be spread evenly and shall be thoroughly mixed during spreading to obtain uniformity of material and moisture in each layer. The entire fill shall be constructed as a unit in nearly level lifts. Rock materials greater than 12 inches in maximum dimension shall be placed in accordance with Section 6.2 or 6.3 of these specifications.

6.1.2 In general, the *soil* fill shall be compacted at a moisture content at or above the optimum moisture content as determined by ASTM D 1557.

6.1.3 When the moisture content of *soil* fill is below that specified by the Consultant, water shall be added by the Contractor until the moisture content is in the range specified.

6.1.4 When the moisture content of the *soil* fill is above the range specified by the Consultant or too wet to achieve proper compaction, the *soil* fill shall be aerated by the Contractor by blading/mixing, or other satisfactory methods until the moisture content is within the range specified.

6.1.5 After each layer has been placed, mixed, and spread evenly, it shall be thoroughly compacted by the Contractor to a relative compaction of at least 90 percent. Relative compaction is defined as the ratio (expressed in percent) of the in-place dry density of the compacted fill to the maximum laboratory dry density as determined in accordance with ASTM D 1557. Compaction shall be continuous over the entire area, and compaction equipment shall make sufficient passes so that the specified minimum relative compaction has been achieved throughout the entire fill.

6.1.6 Where practical, soils having an Expansion Index greater than 50 should be placed at least 3 feet below finish pad grade and should be compacted at a moisture content generally 2 to 4 percent greater than the optimum moisture content for the material.

6.1.7 Properly compacted *soil* fill shall extend to the design surface of fill slopes. To achieve proper compaction, it is recommended that fill slopes be over-built by at least 3 feet and then cut to the design grade. This procedure is considered preferable to track-walking of slopes, as described in the following paragraph.

6.1.8 As an alternative to over-building of slopes, slope faces may be back-rolled with a heavy-duty loaded sheepsfoot or vibratory roller at maximum 4-foot fill height intervals. Upon completion, slopes should then be track-walked with a D-8 dozer or similar equipment, such that a dozer track covers all slope surfaces at least twice.

6.2 *Soil-rock* fill, as defined in Paragraph 3.1.2, shall be placed by the Contractor in accordance with the following recommendations:

6.2.1 Rocks larger than 12 inches but less than 4 feet in maximum dimension may be incorporated into the compacted *soil* fill, but shall be limited to the area measured 15 feet minimum horizontally from the slope face and 5 feet below finish grade or 3 feet below the deepest utility, whichever is deeper.

6.2.2 Rocks or rock fragments up to 4 feet in maximum dimension may either be individually placed or placed in windrows. Under certain conditions, rocks or rock fragments up to 10 feet in maximum dimension may be placed using similar methods. The acceptability of placing rock materials greater than 4 feet in maximum dimension shall be evaluated during grading as specific cases arise and shall be approved by the Consultant prior to placement.

6.2.3 For individual placement, sufficient space shall be provided between rocks to allow for passage of compaction equipment.

6.2.4 For windrow placement, the rocks should be placed in trenches excavated in properly compacted *soil* fill. Trenches should be approximately 5 feet wide and 4 feet deep in maximum dimension. The voids around and beneath rocks should be filled with approved granular soil having a Sand Equivalent of 30 or greater and should be compacted by flooding. Windrows may also be placed utilizing an "open-face" method in lieu of the trench procedure, however, this method should first be approved by the Consultant.

6.2.5 Windrows should generally be parallel to each other and may be placed either parallel to or perpendicular to the face of the slope depending on the site geometry. The minimum horizontal spacing for windrows shall be 12 feet center-to-center with a 5-foot stagger or offset from lower courses to next overlying course. The minimum vertical spacing between windrow courses shall be 2 feet from the top of a lower windrow to the bottom of the next higher windrow.

6.2.6 Rock placement, fill placement and flooding of approved granular soil in the windrows should be continuously observed by the Consultant.

6.3 *Rock* fills, as defined in Section 3.1.3, shall be placed by the Contractor in accordance with the following recommendations:

6.3.1 The base of the *rock* fill shall be placed on a sloping surface (minimum slope of 2 percent). The surface shall slope toward suitable subdrainage outlet facilities. The *rock* fills shall be provided with subdrains during construction so that a hydrostatic pressure buildup does not develop. The subdrains shall be permanently connected to controlled drainage facilities to control post-construction infiltration of water.

6.3.2 *Rock* fills shall be placed in lifts not exceeding 3 feet. Placement shall be by rock trucks traversing previously placed lifts and dumping at the edge of the currently placed lift. Spreading of the *rock* fill shall be by dozer to facilitate *seating* of the rock. The *rock* fill shall be watered heavily during placement. Watering shall consist of water trucks traversing in front of the current rock lift face and spraying water continuously during rock placement. Compaction equipment with compactive energy comparable to or greater than that of a 20-ton steel vibratory roller or other compaction equipment providing suitable energy to achieve the required compaction or deflection as recommended in Paragraph 6.3.3 shall be utilized. The number of passes to be made should be determined as described in Paragraph 6.3.3. Once a *rock* fill lift has been covered with *soil* fill, no additional *rock* fill lifts will be permitted over the *soil* fill.

6.3.3 Plate bearing tests, in accordance with ASTM D 1196, may be performed in both the compacted *soil* fill and in the *rock* fill to aid in determining the required minimum number of passes of the compaction equipment. If performed, a minimum of three plate bearing tests should be performed in the properly compacted *soil* fill (minimum relative compaction of 90 percent). Plate bearing tests shall then be performed on areas of *rock* fill having two passes, four passes and six passes of the compaction equipment, respectively. The number of passes required for the *rock* fill shall be determined by comparing the results of the plate bearing tests for the *soil* fill and the *rock* fill and by evaluating the deflection

variation with number of passes. The required number of passes of the compaction equipment will be performed as necessary until the plate bearing deflections are equal to or less than that determined for the properly compacted *soil* fill. In no case will the required number of passes be less than two.

6.3.4 A representative of the Consultant should be present during *rock* fill operations to observe that the minimum number of "passes" have been obtained, that water is being properly applied and that specified procedures are being followed. The actual number of plate bearing tests will be determined by the Consultant during grading.

6.3.5 Test pits shall be excavated by the Contractor so that the Consultant can state that, in their opinion, sufficient water is present and that voids between large rocks are properly filled with smaller rock material. In-place density testing will not be required in the *rock* fills.

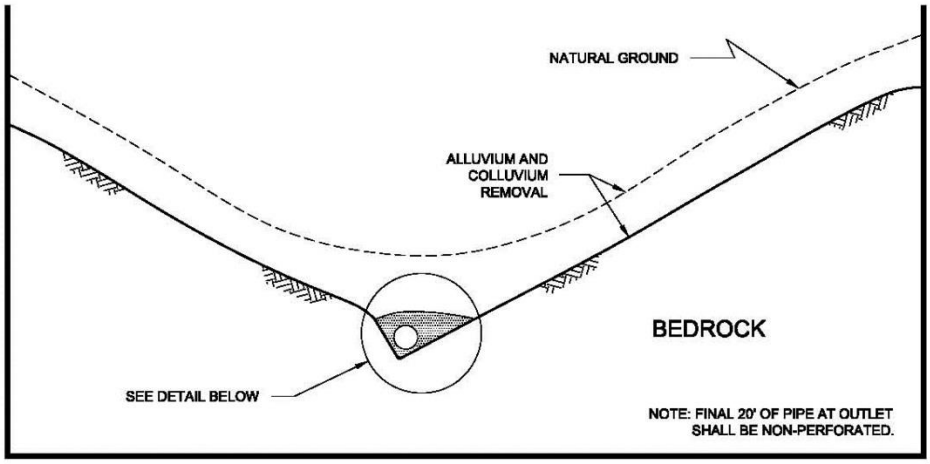
6.3.6 To reduce the potential for "piping" of fines into the *rock* fill from overlying *soil* fill material, a 2-foot layer of graded filter material shall be placed above the uppermost lift of *rock* fill. The need to place graded filter material below the *rock* should be determined by the Consultant prior to commencing grading. The gradation of the graded filter material will be determined at the time the *rock* fill is being excavated. Materials typical of the *rock* fill should be submitted to the Consultant in a timely manner, to allow design of the graded filter prior to the commencement of *rock* fill placement.

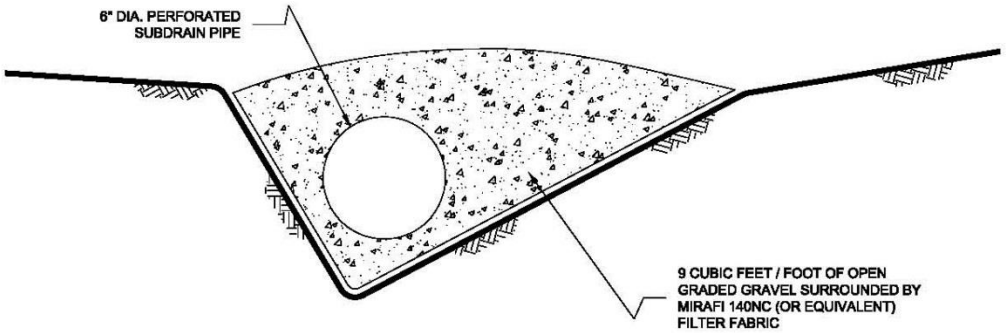
6.3.7 *Rock* fill placement should be continuously observed during placement by the Consultant.

7. SUBDRAINS

7.1 The geologic units on the site may have permeability characteristics and/or fracture systems that could be susceptible under certain conditions to seepage. The use of canyon subdrains may be necessary to mitigate the potential for adverse impacts associated with seepage conditions. Canyon subdrains with lengths in excess of 500 feet or extensions of existing offsite subdrains should use 8-inch-diameter pipes. Canyon subdrains less than 500 feet in length should use 6-inch-diameter pipes.

TYPICAL CANYON DRAIN DETAIL





NOTES:

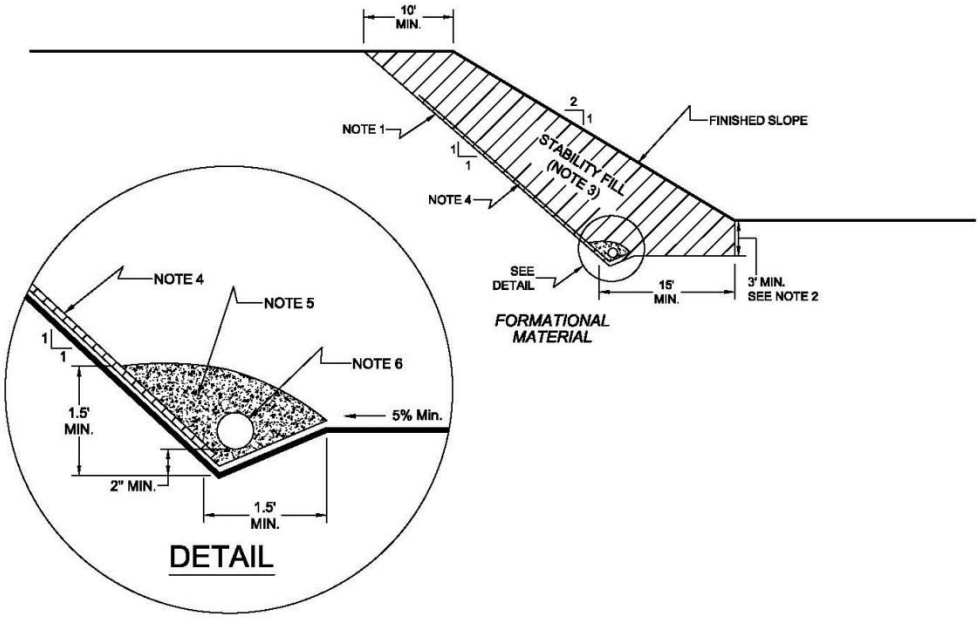
1.....6-INCH DIAMETER, SCHEDULE 80 PVC PERFORATED PIPE FOR FILLS
IN EXCESS OF 100-FEET IN DEPTH OR A PIPE LENGTH OF LONGER THAN 500 FEET.

2.....6-INCH DIAMETER, SCHEDULE 40 PVC PERFORATED PIPE FOR FILLS
LESS THAN 100-FEET IN DEPTH OR A PIPE LENGTH SHORTER THAN 500 FEET.

NO SCALE

7.2 Slope drains within stability fill keyways should use 4-inch-diameter (or lager) pipes.

TYPICAL STABILITY FILL DETAIL



NOTES:

1.....EXCAVATE BACKCUT AT 1:1 INCLINATION (UNLESS OTHERWISE NOTED).

2.....BASE OF STABILITY FILL TO BE 3 FEET INTO FORMATIONAL MATERIAL, SLOPING A MINIMUM 5% INTO SLOPE.

3.....STABILITY FILL TO BE COMPOSED OF PROPERLY COMPACTED GRANULAR SOIL.

4.....CHIMNEY DRAINS TO BE APPROVED PREFABRICATED CHIMNEY DRAIN PANELS (MIRADRAIN G200N OR EQUIVALENT) SPACED APPROXIMATELY 20 FEET CENTER TO CENTER AND 4 FEET WIDE. CLOSER SPACING MAY BE REQUIRED IF SEEPAGE IS ENCOUNTERED.

5.....FILTER MATERIAL TO BE 3/4-INCH, OPEN-GRADED CRUSHED ROCK ENCLOSED IN APPROVED FILTER FABRIC (MIRAFI 140NC).

6.....COLLECTOR PIPE TO BE 4-INCH MINIMUM DIAMETER, PERFORATED, THICK-WALLED PVC SCHEDULE 40 OR EQUIVALENT, AND SLOPED TO DRAIN AT 1 PERCENT MINIMUM TO APPROVED OUTLET.

NO SCALE

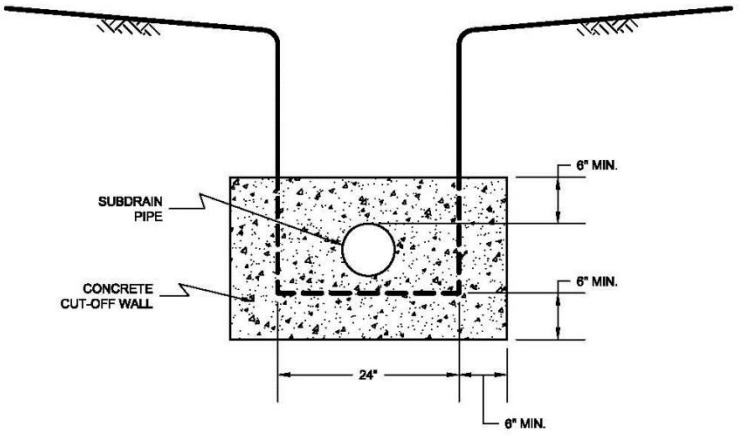
7.3 The actual subdrain locations will be evaluated in the field during the remedial grading operations. Additional drains may be necessary depending on the conditions observed and the requirements of the local regulatory agencies. Appropriate subdrain outlets should be evaluated prior to finalizing 40-scale grading plans.

7.4 *Rock* fill or *soil-rock* fill areas may require subdrains along their down-slope perimeters to mitigate the potential for buildup of water from construction or landscape irrigation. The subdrains should be at least 6-inch-diameter pipes encapsulated in gravel and filter fabric. *Rock* fill drains should be constructed using the same requirements as canyon subdrains.

7.5 Prior to outletting, the final 20-foot segment of a subdrain that will not be extended during future development should consist of non-perforated drainpipe. At the non-perforated/ perforated interface, a seepage cutoff wall should be constructed on the downslope side of the pipe.

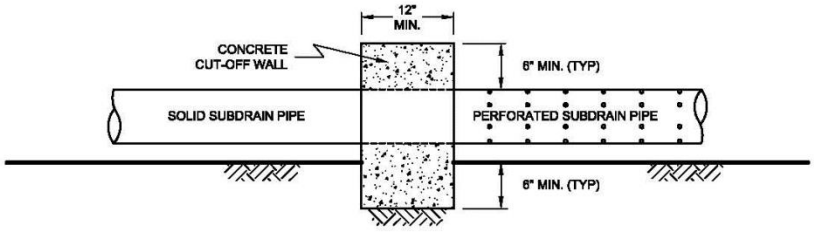
TYPICAL CUT OFF WALL DETAIL

FRONT VIEW



NO SCALE

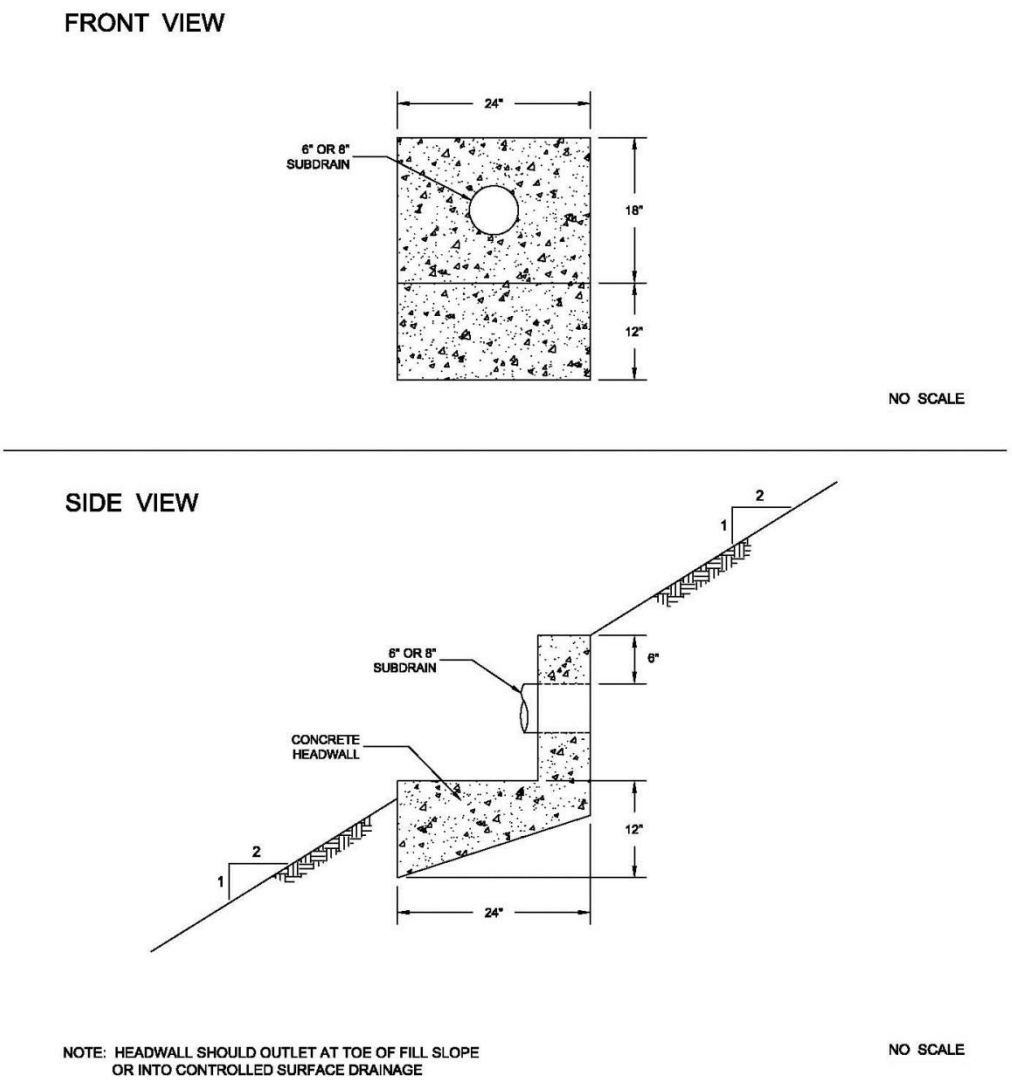
SIDE VIEW



NO SCALE

7.6 Subdrains that discharge into a natural drainage course or open space area should be provided with a permanent headwall structure.

TYPICAL HEADWALL DETAIL



7.7 The final grading plans should show the location of the proposed subdrains. After completion of remedial excavations and subdrain installation, the project civil engineer should survey the drain locations and prepare an "as-built" map showing the drain locations. The final outlet and connection locations should be determined during grading operations. Subdrains that will be extended on adjacent projects after grading can be placed on formational material and a vertical riser should be placed at the end of the subdrain. The grading contractor should consider videoing the subdrains shortly after burial to check proper installation and functionality. The contractor is responsible for the performance of the drains.

8. OBSERVATION AND TESTING

8.1 The Consultant shall be the Owner's representative to observe and perform tests during clearing, grubbing, filling, and compaction operations. In general, no more than 2 feet in vertical elevation of *soil* or *soil-rock* fill should be placed without at least one field density test being performed within that interval. In addition, a minimum of one field density test should be performed for every 2,000 cubic yards of *soil* or *soil-rock* fill placed and compacted.

8.2 The Consultant should perform a sufficient distribution of field density tests of the compacted *soil* or *soil-rock* fill to provide a basis for expressing an opinion whether the fill material is compacted as specified. Density tests shall be performed in the compacted materials below any disturbed surface. When these tests indicate that the density of any layer of fill or portion thereof is below that specified, the particular layer or areas represented by the test shall be reworked until the specified density has been achieved.

8.3 During placement of *rock* fill, the Consultant should observe that the minimum number of passes have been obtained per the criteria discussed in Section 6.3.3. The Consultant should request the excavation of observation pits and may perform plate bearing tests on the placed *rock* fills. The observation pits will be excavated to provide a basis for expressing an opinion as to whether the *rock* fill is properly seated and sufficient moisture has been applied to the material. When observations indicate that a layer of *rock* fill or any portion thereof is below that specified, the affected layer or area shall be reworked until the *rock* fill has been adequately seated and sufficient moisture applied.

8.4 A settlement monitoring program designed by the Consultant may be conducted in areas of *rock* fill placement. The specific design of the monitoring program shall be as recommended in the Conclusions and Recommendations section of the project Geotechnical Report or in the final report of testing and observation services performed during grading.

8.5 We should observe the placement of subdrains, to check that the drainage devices have been placed and constructed in substantial conformance with project specifications.

8.6 Testing procedures shall conform to the following Standards as appropriate:

8.6.1 Soil and Soil-Rock Fills:

8.6.1.1 Field Density Test, ASTM D 1556, *Density of Soil In-Place By the Sand-Cone Method.*

8.6.1.2 Field Density Test, Nuclear Method, ASTM D 6938, *Density of Soil and Soil-Aggregate In-Place by Nuclear Methods (Shallow Depth).*

8.6.1.3 Laboratory Compaction Test, ASTM D 1557, *Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10-Pound Hammer and 18-Inch Drop*.

8.6.1.4. Expansion Index Test, ASTM D 4829, *Expansion Index Test*.

9. PROTECTION OF WORK

9.1 During construction, the Contractor shall properly grade all excavated surfaces to provide positive drainage and prevent ponding of water. Drainage of surface water shall be controlled to avoid damage to adjoining properties or to finished work on the site. The Contractor shall take remedial measures to prevent erosion of freshly graded areas until such time as permanent drainage and erosion control features have been installed. Areas subjected to erosion or sedimentation shall be properly prepared in accordance with the Specifications prior to placing additional fill or structures.

9.2 After completion of grading as observed and tested by the Consultant, no further excavation or filling shall be conducted except in conjunction with the services of the Consultant.

10. CERTIFICATIONS AND FINAL REPORTS

10.1 Upon completion of the work, Contractor shall furnish Owner a certification by the Civil Engineer stating that the lots and/or building pads are graded to within 0.1 foot vertically of elevations shown on the grading plan and that all tops and toes of slopes are within 0.5 foot horizontally of the positions shown on the grading plans. After installation of a section of subdrain, the project Civil Engineer should survey its location and prepare an *as-built* plan of the subdrain location. The project Civil Engineer should verify the proper outlet for the subdrains and the Contractor should ensure that the drain system is free of obstructions.

10.2 The Owner is responsible for furnishing a final as-graded soil and geologic report satisfactory to the appropriate governing or accepting agencies. The as-graded report should be prepared and signed by a California licensed Civil Engineer experienced in geotechnical engineering and by a California Certified Engineering Geologist, indicating that the geotechnical aspects of the grading were performed in substantial conformance with the Specifications or approved changes to the Specifications.

LIST OF REFERENCES

1. *2019 California Building Code, California Code of Regulations, Title 24, Part 2, based on the 2018 International Building Code*, prepared by California Building Standards Commission, dated July 2019.

2. American Concrete Institute, *ACI 318-11, Building Code Requirements for Structural Concrete and Commentary*, dated August, 2011.

3. American Concrete Institute, *ACI 330-08, Guide for the Design and Construction of Concrete Parking Lots*, dated June, 2008.

4. American Society of Civil Engineers (ASCE), *ASCE 7-16, Minimum Design Loads and Associated Criteria for Buildings and Other Structures*, 2017.

5. California Department of Conservation, Division of Mines and Geology, *Probabilistic Seismic Hazard Assessment for the State of California*, Open File Report 96-08, 1996.

6. California Geological Survey, *Seismic Shaking Hazards in California*, Based on the USGS/CGS Probabilistic Seismic Hazards Assessment (PSHA) Model, 2002 (revised April 2003). 10% probability of being exceeded in 50 years. *http://redirect.conservation.ca.gov/cgs/rghm/pshamap/pshamain.html*

7. Dibblee, Jr., Thomas W., 2008, *Geologic Map of the Clark Lake & Rabbit Peak 15 Minute Quadrangles, Riverside, San Diego, and Imperial Counties, California*, Dibblee Geology Center Map #DF-374, Scale 1:62,500

8. Historical Aerial Photos. *http://www.historicaerials.com*

9. SANDAG, *Parcel Lookup Tool and Geographic Boundary Viewer, Ecology, Flood Plain*, prepared by SanGIS, *https://sdgis.sandag.org*

10. Special Publication 117A, *Guidelines For Evaluating and Mitigating Seismic Hazards in California 2008*, California Geological Survey, Revised and Re-adopted September 11, 2008.

11. Unpublished reports, aerial photographs, and maps on file with Geocon Incorporated.

12. USGS computer program, Seismic Hazard Curves and Uniform Hazard Response Spectra, *http://geohazards.usgs.gov/designmaps/us/application.php*